

# **PAYNES CREEK NATIONAL PARK**

## **ANNUAL REPORT 2017**



*Jaguar caught on camera trap in pine savanna in PCNP*

***Prepared by:***

***Toledo Institute for Development & Environment (TIDE)***

***Submitted to the Forest Department – Belmopan***



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**Words from the Manager:**



Mario Muschamp

On behalf of the Management and staff of the Payne's Creek National Park we present to you our annual report for 2017. With assistance from the Protected Areas Conservation Trust through a Multi Grant with BAS and YCT, DARWIN Initiative grant entitled Conserving pine woodland biodiversity in Belize through community fire management as well as counterpart funding from MASS Audubon, OVERBROOK and the Summit Foundation the park enjoyed another great year. Through these grants we were able to continue with the implementation of the park's management and Fire Management plans, continued reaching out to the buffer Communities via community meetings and meetings with community leaders on fire awareness and Yellow Headed Parrot, as well as working with buffer communities' schools via the fresh water cup and the development of community run businesses with groups in Medina Bank, Trio and San Isidro. As part of the Local Early Action Plans for Punta Negra and Monkey River communities to make community more aware of the impacts of climate change and how they can mitigate/adapt to these impacts the Monkey River Watershed Association was born.

We also have been able to improve the infrastructure at the park to housed overnight guests at the park with upgrades to the kitchen and Toilet facilities with Funding from TIDE Tours via their Ridge to Reef Expedition program. We were also able to build fire management capacity of the Southern Belize Fire Working Group (SBFWG) and staff from the Forest Department, Belize Audubon Society, Programme for Belize and Corozal Sustainable Future initiative with the provision of Advance Fire Management Training and the acquisition of new fire-fighting equipment. We were able to conduct prescribed burns in some 8000 acres of savanna in Deep River Forest Reserve and PCNP with assistance from UB/ERI, and SBFWG members with some 90% survival rate in young pine saplings 3m and above thus continuing the process of restoring the pine stands to the uneven age structure we want to accomplish as part of the management goal of the area.

We continue with the research and monitoring focusing on species of concern and indicator species of ecosystems' health in our biodiversity monitoring via camera trapping, we also continue the Yellow headed parrot nest season monitoring and increase the number of artificial nest to now 50

covering PCNP, DRFR and BNR. We continued with our fire effects monitoring with the photo point monitoring at 14 plots set up using the new protocol and collaboration with UB/ERI to ensure we are meeting our objectives with our fire program.

This year we were also able to build the capacity of the staff and communities through trainings, workshops and exchanges to other protected areas and we were able to share our work on the Local and international scene participating in the NRM symposium and for the first time by any Belizean Group at the international Fire Ecology and Management Conference held in Orlando Florida November 27<sup>th</sup> to Dec 1<sup>st</sup> 2017. As a result, we were able to promote TIDE Fire Management Consultancy and have been awarded our first fire consultancy to develop an Integrated Fire Management plan and provide training for the staff at THE RESERVE in the Sittee River Area as well as developing proposals for consultancies in fire management for Programme for Belize and Monkey Bay Wildlife Sanctuary

In closing I would like to thank the Forest Department for the support they have been giving both in and outside protected areas, PACT, Darwin Initiative, Summit Foundation and MASS Audubon and Over Brook for their financial contribution to the management of the park. I would also like to thank the members of the Southern Belize Fire working Group for the hard work they have put in the address the issue of unwanted fires and for partaking in the prescribed burns, trainings and meetings and to the communities who saw the need to participate in the community fire training to address the issue of escaped agricultural fires that are impacting people's livelihoods and property as well as biodiversity. We look forward to continue working with all our partners to continue managed the natural resources of Toledo and Belize for the benefit of all.

Sincerely

## 2017 Accomplishments

### 1. Protection and Surveillance:

#### *1.1 Surveillance/Patrols*

A total of 208 patrols (water 156/Land 52) were conducted within the boundaries and adjacent areas of the park in the Deep River Forest reserve and the Port Honduras Marine Reserve. Of these 5 land patrols were multi agency patrols that include staff from the Forest Department, BDF, Ya'axche'

Conservation Trust and Thomas Gomez and Sons Lumber Limited and 52 water patrols were joint patrols with staff of Port Honduras Marine Reserve covering both protected areas. The table below highlights the findings of these patrols.

No. Of Patrols	Illegal Activities	Tourism Activities	Fishing/Hunting Activities	Wildlife Sightings
156 water patrols	none	74 Boats with 139 guests conducting tourism related activities in park. Boats were from PG, Placencia and Monkey River	9 boats with local fishers from PN, PG, MR & nearby caye hand-line fishing and free diving in general use zone of PHMR some just outside park at entrance to the Punta Ycacos Lagoon	23 manatee sightings recorded in lagoon and along PHMR coastline in the Deep River and Rio Grande area

52 Land patrols	Found sign where vehicle, Motor cycles and bicycles were entering DRFR to Fish and Hunt and we believe folks on bicycles were responsible for poaching YHP chicks form Nest Box in DRFR in April and wild fire in PCNP/DRFR in May. PCNP and FD Staff in joint operation in April confiscated 5 parrots (3 Yellow-heads/2 red-lored) from folks in Bladen Community.	None	Bicycles, vehicle and motor cycle with Bladen, Medina Bank, Independence and Trio Village residents hand-line fishing and hunting in DRFR	Tracks from White-tailed Deer, Puma, jaguarondi, Grey Fox and Jaguars along patrol routes, 45 White-tailed Deer and 2 Jaguar sightings and tracks from Tapir recorded in park and adjacent DRFR
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**1.2 Maintenance (Patrol equipment):**

Park staff conducted the regular servicing of our outboard engine, changing engine oil, oil filter and gear oil as recommended in the owner’s manual. Outboard engine was also given a fresh water wash and re-greased during the servicing. We also did the cleaning of the boat and ensured that running lights were working properly and did some refurbishing of inside of vessel. Park staff



along with assistance from Dale Gomez also did the maintenance of our Polaris ranger used for land patrols, research and monitoring, Fire management etc.

## **2. Institutional Management and Strengthening**

### **2.1 Capacity Building**

#### **2.1.1 SMART Training**

Park staff was able to participate in two sets of trainings in the use of the SMART Technology under the Multi-grant from PACT and the European Union funded project. Staff got training in the use of the tool for data collection while doing enforcement, Research and Monitoring etc as well as data base development and report generation using the software. As a result park staff have developed the data base for the terrestrial protected areas managed by TIDE and are running a pilot to see how it goes then will look at the data and do changes where necessary before fully implementing it at the terrestrial protected areas managed by TIDE.

#### **2.1.2 Baton Training**

Park staff participated in a one day Training in the use of Batons with assistance from members of the Belize Coast Guard held at Abalone Caye on 16<sup>th</sup> August 2017. The purpose of the training was to ensure Rangers know how to properly use the Baton by demonstrating the proper techniques etc.



### **2.1.3 Boarding Procedures Training**

Park staff participated in a one-day training in Boarding Procedures with assistance from members of the Belize Cost Guard held on August 17<sup>th</sup> at Abalone Caye. Purpose of the training was to enhance boarding procedures for Ranger Teams at Protected areas managed by TIDE. Rangers walked away with a better understanding of the basic concepts involved in a routing boarding, understand the importance of an ISI (Initial Safety Inspection) and can help construct a mental check-list for carrying out a safe routing boarding.



### **2.1.4 Project Reporting and Communications Training**

Terrestrial manager participated in 3 in house training sessions under the PACT Funded multi-grant with BAS and YCT focusing on Grant Reporting and Communications held on August 31<sup>st</sup>, September 28<sup>th</sup> and October 26<sup>th</sup>. The purpose for these trainings was to improve the reporting on project implementation and communicating the results of these projects to Funders and stakeholders.

### **2.1.5 Camera Trapping Training**

Park staff participated in two days training session with PANTHERA personnel in the site selection, installation, down loading, tagging and data entry and management of data etc. held on September 19<sup>th</sup> and 20<sup>th</sup> 2017. Rangers are now able to select sites, install, download, tag and enter data on database and can trouble shoot the cameras if need be. As a result camera trapping sites

were set up in PCNP and data collection have started focusing the first 3 months in the pine savannas of PCNP (Oct to DEC).



### **2.1.6 Pine/Palmetto Monitoring Methodology Training**

Park staff participated in the Pine/palmetto methodology training held here at PCNP on April 3-6, 2017 with participants from Protected Areas across Belize including staff from the Forest Department with assistance from Dr. Elma Kay from ERI and Rick Anderson, Fire Ecologist from Florida USA. Participants are now equipped with the skills to set up and collect data from these sites to look at fire effects on pine, palmetto and other vegetation in the pine savannas of their respective sites.



## **Staffing**

In an effort to be more strategic and cost effective TIDE has streamline the Protected Areas Management with the appointment of Terrestrial Manager Mario Muschamp to post of Protected Areas Manager. His role is to ensure all three protected areas managed by TIDE are under one manager with teams at the three areas led by a Head ranger. As a result of this a new rangers were hired for PCNP /TPPL in Mr. Pedro Shol from San Isidro and Mr. William Garcia from Trio Village, two of the communities that interacts with the area on a daily basis. We believe that this will help with the infractions (Wildfire incidents)we are seeing in the adjacent Deep River Forest Reserve that are impacting the integrity of the park and also this will help with us having direct contact with that communities as both persons are leaders of well established community groups in their respective communities.

## **Park Improvement**

### **Budget/Workplan Development**

Park staff has developed and submitted a 3 years Budget and workplan for 2018 to 2020 to management for approval. The budget covers activities from the Park's Management and Fire Management plans as well as TIDE's Strategic plan with annual budget running just over \$200,000 annually.

### **TIDE Fire Management Consultancy**

Protected Areas Manager and Fire Management Expert with assistance from the field staff and Fire ecologist from Florida have been promoting TIDE's Fire Management Consultancy and as a result we have been granted 1 consultancy to provide Fire Training for the staff at THE RESERVE and to develop an Integrated Fire Management Plan for the Area, work has started on the development of the fire management plan and dates have been set for the basic fire training (27<sup>th</sup>/28<sup>th</sup> Feb 2018) also we have also submitted proposal to Monkey Bay Wildlife Sanctuary to provide the basic fire training and to Program for Belize to provide Advance Fire Management Training for their staff and buffer communities residents, response for those consultancies are expected early January 2018. These consultancies are all part of TIDE's Financial Sustainability program.

## *Networking*

### ***Management Meeting***

Park manager and staff attended the regular management and all staff meetings which takes place bi-weekly where the management team is updated on projects being implemented at protected areas and to discuss where resources can be pooled to effectively and efficiently implement the projects. This is also accompanied by project review meetings where we look at all projects and update their progress and see where resources can be pooled to improve the implementation where needed. These meetings assist with the smooth implementation of the projects being implemented and assist with the reporting to co-management partner and donors.

### **Assist at PHMR/TPPL**

Park staff from time has been called upon to assist at the two other protected areas managed by TIDE. At these protected areas staff assists with patrols and surveillance, boundary line maintenance, research and monitoring, education and outreach, riparian reforestation among others. The time spent at the other protected areas are beneficial to us as we get to know the protected areas better, build healthy relationship with the staff and the communities that buffer these areas and allow for deeper appreciation of the work of field staff.

### **Advisory Council Meetings**

Payne's Creek National Park Management Committee and the Port Honduras Advisory Council have merged to form one group to advise TIDE on the management of both PCNP and PHMR. For 2017 the committee held 3 meetings to discuss the implementation of projects at both sites and participated in the revision of PHMR management plan.

### **Management Effectiveness of Protected Area**

Conducted Management Effectiveness of the Protected Area with NPAS personnel in November 2017. Park staff filled out evaluation form and held subsequent meeting for with Mr. Ansel Dubon on November 22<sup>nd</sup> to complete the evaluation. Preliminary result shows a good score for PCNP.

### **Meetings/workshops with Forest Department**

Protected areas staff also participated in several workshops and meetings focusing on National policies and plans such as the Compliance Management Strategy, Wild-land Fire Management Communications Strategy, National Bird Working Group and National Wild-land Fire Working Group which meetings looking at management of Bird Species in Belize and was focusing on developing a national list of threatened and endangered species for Belize and Fire management and fire management needs at the National Level. Park staff also attended meeting to look at identifying wildlife crimes.

### **Forestry Research Cross-Sectoral Group meetings**

Protected Areas Manager Attended the first meeting of the National Forestry Research Cross-sectoral Group representing TIDE held at ERI Conference Room. Represented at the meeting were the Forest Department, TIDE, Ya'axche" Conservation Trust, Pfb, CSFI, ERI, and TEC. Purpose of meeting was to officially organized the group and to discuss how we will share information from research being conducted in terrestrial areas of Belize. The group has only met once for 2017 and we are not sure where it will go from here.

### **Revision of CZMA&I Act**

Protected Areas Manager represented TIDE at the consultation meeting on the revision of the Coastal Zone Management Authority and Institute ACT held in Punta Gorda at Charlston Inn Conference Room on 24<sup>th</sup> July 2017. The Management of Belize's Coastal Zone is looking at a Ridge to Reef approach.

### **MPA and Terrestrial Protected Areas Enforcement Strategy and Protocol**

Park staff has participated in the development of Marine Protected Areas Enforcement Strategy under a projected by the Gulf and Caribbean Fisheries Institute with assistance from MPA Enforcement International held in Punta Gorda Town at TIDE's Conference Room on July 26<sup>th</sup> and 27<sup>th</sup>. The workshop had participation of staff from MPAs managed by TIDE, Fisheries Dept. SEA and BAS with participation from staff from the Roatan Marine Park in Honduras and the Bahamas. Staff is also participating in the development of an enforcement protocol under a PACT funded project being implemented between TIDE, Ya'axche' Conservation Trust and Belize

Audubon Society for terrestrial protected areas in southern Belize. Both documents should be available early 2018 for approval and implementation.

### **SMART Video**

Terrestrial rangers worked with WCS personnel to get footage to develop a video on the use of Spatial Monitoring and Reporting Tool (SMART). The purpose of the video is to promote the technology as a Protected Areas Management tool especially as it relates to enforcement and for it to be adopted across the Protected Areas System in protected areas management.

### **3. Administration:**

#### ***3.1 Report Writing***

Terrestrial manager and park staff produced Quarterly reports that were submitted to TIDE Board of Directors to update them on projects and project activities being implemented in the park.

#### ***3.2 Hurricane Preparedness***

Park staff reviewed and revised the park's Hurricane Preparedness Plan and submitted changes to management for inclusion into the organization's Hurricane preparedness Plan for the 2017 hurricane season.

#### **3.3 Procurement of equipment**

With funding from PACT we were able to purchase equipment for the implementation of SMART such as GPS with Android capabilities and external Hard Drives for data storage. We were also able to purchase much needed fire fighting equipment such as Nomex Clothing, Helmets, smoke masks, Back pack pumps, swatters, gloves and hand held radios to assist with fire management activities of the SBFWG.

### **4. Public Use Planning, Recreation Management, Visitor Safety and Control**

#### ***4.1 Visitors to PCNP***

The monitoring and collection of data visitation to the park remains a challenge as most of the visitation to the protected area is to conduct tourism related activities (fly fishing and manatee watching) occurring in the estuary system so fee collection is difficult. During patrols 74 vessels

with some 139 guests were sighted doing recreational activities; however no fees were collected since we got final word from the Forest Department to go ahead and implement the fee system. Most visitations to the park's facility were from buffer community schools and community leaders on field trips to the protected area and potential donor agencies on site visits done through the organization. Visitation is minimal and has little to no negative impact on the integrity to the protected area. Only impact we foresee is the boating traffic in the estuary which can impact manatee movement in and out of the system.

#### **4.2 Infrastructure Development**

Major upgrades of park's facilities were done during 2017. The refurbishing of the shower stalls, toilet facility and tiling of kitchen floors were done with funding through TIDE Tours and the purchase of a solar freezer to accommodate the increase visitation via the Ridge to Reef Expedition.

### **5. Community Development and Education**

Environmental Education and Outreach plays a key role in creating awareness on the sustainable development, use and management of the natural resources in southern Belize. Some of the major education initiatives include; The TIDE Freshwater Cup, Other outreach activities include national and international environmental awareness day activities such as earth day and world wetland day. Educational school visits, presentations and field days to protected areas are integral to this program. All these activities are integrated across seven conservation targets.

#### **5.1 Freshwater Cup**

The TIDE education coordinator organized the TIDE Freshwater Cup football competition for the participating primary and high school teams with assistance from six other members of staff, volunteer referees, parents and the teams' teachers. In the 2016-2017 school year, there were 32 primary school teams participating, 15 female and 17 male, and each team had 18 members. The high schools entered 8 teams, 4 male and 4 female. The competition began with a one-day football marathon at 3 football fields to kick off the competition for all the primary school teams. The teams then divided into four groups by geographic area for school games. Each group played a league competition with three or four matches per team. The winners of the four groups went to the semi-



finals. The finals were played on one day, followed by a recognition ceremony. Winning 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> place teams in the football competition won plaques and framed photographs. Along with FWC games for primary school students, TIDE organizes FWC football marathon and fun games for students of 4 high schools in the region. Teams travelled to one school field for the marathon and to each other's high school for the fun games, semi-finals and final games. Winning 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> place teams were recognized with medals, uniforms and trophies provided through other donor.



## **5.2 Conception of the Monkey River Watershed Association**

As part of the Local Early Action Plan developed in 2015 with the assistance of Megan Gombos, The MRWA was born with representation of the 14 communities (Red Bank, San Pablo, San Juan/Cowpen, San Isidro, Bella Vista, Trio, Bladen, Esperanza and Monkey River to name a few) living on the watershed, 4 NGOs (TIDE, YCT, SEA, BFREE) working in the area and the Banana Growers Association. The Association was registered in January of 2017 and has submitted 2 proposals to PACT for \$27,000 and UNDP GEF/Small Grants Program for \$1000,000 to “Develop a Road Map to restore the functionality of the watershed so it can become the provider of water and sediment to the PHMR and Monkey River Coastline”.

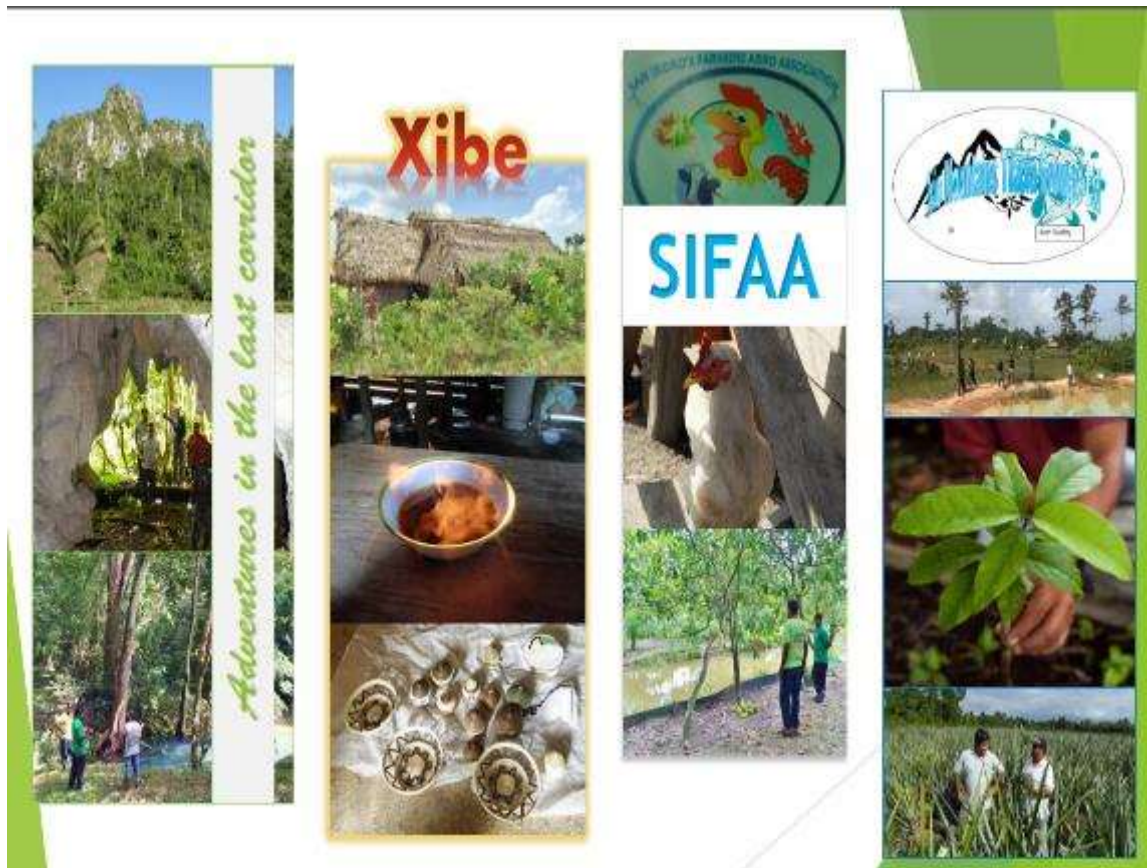
## **5.3 Meetings with Communities and Community Leaders**

### **SFE Development with Community Groups**

#### **Darwin Project**

2017 was a busy year for the community development program, 4 community group businesses were established in the buffering communities of PCNP, a project funded by the Darwin Initiative.

These group businesses are: Adventures in the Last Corridor in Medina Bank, San Isidro Farmers Agroforestry Association (SIFAA) and Xibe Women's Group both in San Isidro Village and United Hands in Trio. The project was able to provide a small grant of Bz. \$1000.00 to each group as startup capital. All groups made major progress, Adventures in the Last Corridor will launch their day tour which includes caving, river tubing, lunch and cultural tour on February 26, 2018. Xibe Women's Group built and are operating a snack shop next to the village primary school, SIFA are in the final stage of completed a chicken coop and continue to plant short term crops and United hands have one sow and have plans to expand their operation. The Darwin project used the business incubation model to work with these community groups.



### **CARSI project**

This project was funded by the US Embassy under the Central American Regional Security Initiative (CARSI). During this year, 12 vocational training were completed targeting unemployed youths from the Toledo District. At the end of 2017, 222 youths graduated from this program. Additionally 110 youths completed life skills courses to improve performance in the workplace.

The goal of this project is to provide the capacity building and tools to unemployed youths so they can be employed or start their business as an alternative to crime.



#### **5.4 TIDE Annual Summer Camp “Life Below Water”**

TIDE summer camp has a different theme each year. This year’s theme was “Life below water” and the main objective of this camp was to help the children to develop an appreciation for their personal impact on the environment. This theme was inspired by the 2017 IUCN World Conservation Congress theme and adapted from the United Nations Goal 14.

## Camp Objectives

The TIDE summer camp built on the established theme by accomplishing the following objectives:

1. Foster an appreciation for and knowledge of personal impact on the environment
2. Develop a greater understanding of marine resources and its value.
3. Define climate change and sustainability
4. Highlight everyday actions that affect the environment (positively and negatively)
5. Involve equal numbers of girls and boys in camp, enhancing self-esteem, improving interpersonal skills, and involving them in healthy outdoor activities to promote a healthier lifestyle



**Figure 1:** Students at TIDE Summer Camp in creating poster highlighting week's activities with theme.

## Camp Focus

To promote hand washing and good hygiene behaviours at the camps, each camper was provided with hand soap and toilet paper, and access to washroom facilities was ensured. Children were encouraged to wash their hands after using the restrooms and before eating during camp.

Sports and outdoor activities were incorporated into the lessons each day. These sports foster greater inter-personal and communication skills (team sports), and help the children let off extra energy so that they can behave and focus better during lessons and activities.

“Green Team” was established at the camp location. This team was made up of a different group of campers each day. These Children helped the others to remember to turn off the lights, fans and water while washing their hands. They were aware of the litter was left behind, and collected items to create up-cycled art.



**Figure 2:** Teamwork demonstrated by children attending the TIDE Summer Camp in Punta Gorda.

One of the major lesson topics this year was the importance of marine resources and the value for our economy. The facilitators at camp did an activity with each of the children in small groups, where water was poured out into different containers to show just how much (little) usable freshwater there really is on earth. After, students were engaged in lessons that highlighted the importance of the marine resources. They were able to view videos highlighting the marine life and their contributions to the environment and society. They were then able to design a poster that showcased this concept they acquired.

### **Campers Participate in Field Trips to Port Honduras Marine Reserve and Punta Negra coastal community.**

To complement the lessons and enforce this year's camp theme, the campers went on field trips to understand the management of the marine environment and obtain an opportunity to swim at the reserve. On these field trips, the children learnt about how large the marine protected area was and what species it protects. They were also given the opportunity to swim at West Snake Caye with snorkel gears provided to each of them.

This venture provided appreciation for the marine environment and made students grow physically for the improvement of the environment.

### **5.5 TIDE Weekend**

During the month of October park staff assisted with TIDE WEEKEND celebrating TIDE @ 20 (that include the Sea Food gala held on the 7<sup>th</sup> and Annual Fish Fest on the 8<sup>th</sup>) pre and post activities such as setting up and dismantling of booths etc. and assisting with the various activities held during the annual fish fest held at the TIDE compound.

### **5.8 Develop Fire poster**



**Figure 3:** youth from camp visiting Port Honduras Marine Reserve.

With Funding from PACT TIDE, YCT and BAS personnel developed posters to spread the message about good fire management and focusing on the good and bad faces of fire.

## LET'S CONTROL OUR FIRES

Effects	Good Fire	Bad Fire	Laws regarding the use of fires
<b>Homes &amp; Farms</b>	 Stays within the area you want to burn.	 Escapes and destroys property.	<b>Agricultural Fires Act (1958 Revised 2000)</b> Any person intending to burn a land for agriculture must get a permit from the Agriculture Department. If the authorized officer does not reply to the applicant within 10 days, the fire can be set without incurring any liability or penalty under this Act. A person can be fined \$500 or imprisonment not exceeding 6 months for setting fire to a land without a license.
<b>Soil for Crops</b>	 Produces black ash which contains more nutrients. This happens when burning in cool conditions.	 Produces white ash which contains less nutrients. This happens when burning in hottest times of the day.	<b>Fire (Negligent Use of) Act (1912 Revised 2000)</b> A person or land owner can be charged up to \$500 or put in prison for up to 6 months if he or she negligently, carelessly or improperly uses or manages any fire. The sources can be lighted garbage, pipe, cigar, cigarette, torch, or other thing in a state of ignition.  Note: These are summaries of the laws regarding the use of fires. For the full text visit <a href="http://www.bellzlaw.org">www.bellzlaw.org</a> .
<b>Forest &amp; Savannah</b>	 Does not escape & damage forests. It also helps new pine trees to grow in the Savannah.	 Destroys wildlife habitat, resources used by people and kills young pine trees in the Savannah.	<b>Contacts</b> For more information on fire management, contact: BAS: 223-5004 ( <a href="mailto:web@bellzlaw.com">web@bellzlaw.com</a> ) TIDE: 722-2274 ( <a href="http://web.tidebeles.org">web.tidebeles.org</a> ) Yaaché: 722-0108 ( <a href="mailto:web@yaachee.org">web@yaachee.org</a> ) Forest Department: 822-2079 or 822-1524 Agriculture Department • Toledo: 702-2689   Stam Creek: 302-2514   Caye: 804-2079
<b>Health</b>	 Produces less smoke.	 Produces a lot of smoke.	



### 6 STEPS TO A SAFE BURN

- 1** Pick the safe weather, burn in the cool mornings when the wind is calm.



Avoid burning on extremely hot & windy days. Try to burn in the morning before 10 am or evening after 4 pm when the humidity is higher and the fire is easier to control.
- 2** Clear a fire pass at least six feet wide around the mpa before the burn.



Make sure all materials to be burned fall inside the mpa pass.
- 3** Keep the fire pass clear at all times.



Take extra precautions to make sure fallen trees are inside the mpa pass. Trees which fall across the fire pass may cause the fire to escape.
- 4** Make sure there are enough people to help!



For every two-acre burn, you will need a minimum of 6 people to help. Ask your family, friends, and neighbors for assistance. Avoid being 3 by yourself!  
Most escaped fires start from small burns. If a fire does escape, call the Forest Department immediately.
- 5** Have the right safety & fire control equipment on hand to prevent the fire from escaping.



For large open landscapes you will need a supply of water, ratchet and shovel to dig out the burn.  
Try to wear cotton clothing (big pants & shirt) that doesn't burn easily. Rubber boots are not recommended because they burn easily.
- 6** Do not leave the fire unattended!



Make sure there is no carbon fire or other fires still burning which can start in the area and start a fire across the mpa.  
Check for roots which might be burning under the soil inside the fire pass.  
Do not leave the fire until it is completely extinguished.

## 6. Natural Resource Management

### 6.1 Integrated Fire Management

Integrated Fire Management is a management tool use in the management of fire dependent ecosystems across the world and in the park's largest and fire dependent ecosystem its pine savannas. It's a tool that brings together all stakeholders and incorporates local knowledge, science and technology to conduct safe fire operations.

#### 6.1.1 Development of Prescribes Burn Plans

Prescribed Burn Plans for 5 units in Deep River Forest Reserve and 4 for PCNP were developed and submitted to the Forest Department for approval; which were granted by German Novelo the person in charge of fire management at the Department.

### **6.1.3 Conduct Prescribed Burns**

Prescribed burns for the 2017 fire season were done in February as part of the Advance Fire Training and with assistance of UB/ERI student group. 5 Units in the concession hold by Thomas Gomes and Sons covering approximately 4,000 acres and 4 units in PCNP totaling some 8000 acres were burnt to meet various objectives. The implementation of the burns were led by the newly trained Burn Bosses from SBFWG Group members trained in 2014 and 2017.



### **6.1.4 Wildfire suppression and Use**

Wild fire during the month of May in PCNP was left to burn as weather conditions were good for burning after it was contained and May in the Deep River Forest Reserve 5 wildfires were also contained and left to burn out as well. 1 wildfire in DRFR north in concession held by Wood Stop was suppressed by SBFWG members staff, A total of approximately 3000 acres in DRFR south and north and some 800 acres in PCNP were burnt in these fires. The result shows that the fires in DRFR were not that detrimental as we first thought as it did not kill many of the young pine regeneration occurring in the areas the fires occurred.

### **6.1.5 Fire Effects Monitoring**

Hosted UB/ERI students from 21<sup>st</sup> to 23<sup>rd</sup> February to get assistance with fire effects monitoring on six 1km long transects set focusing on vegetation as part of our collaboration in research and monitoring and did training in fire management techniques during a prescribed burn in the Payne's Creek National Park. This year we also trained the students in the new methodology using permanent sample plots and did data collection at 4 plots focusing on pine and palmetto



### **Advance Fire management Training**

Five persons from the basic training from the 5 communities done in 2016 were chosen for the Advance fire training done in February 2017 where some 10 participants from protected areas across Belize as well as staff from the regulatory agency in this case the Forest Department participated. The 15 participants are now equipped with the skills necessary to develop and



implement fire management activities at their respective sites and can train less experience staff and community members in basic fire management techniques. This training was done over 8 days with both classroom and field practical sessions. Field sessions were done in DRFR where some 5 units totaling about 4000 acres were burned during the training.



### **Fire Awareness**

Tide's Protected Areas Manager appeared on National Radio and Television on Love FM and channel 5 morning shows twice in 2017 to share information with the general public on matters pertaining to wildland fire management in April and October 2017 and was guest on local Radio in Toledo (Sunshine Radio) with staff from the Ya'axche' Conservation Trust in October and November to share information with Toledo residents on the importance of managing our

fires, especially targeting farmers who use fire as a tool for clearing land for farming. The message we send deal with informing people on safe fire practices and the laws pertaining to the agricultural fires.



## **7. Research and Monitoring**

### ***7.1 Biodiversity Monitoring***

Monthly biodiversity Monitoring was conducted along two 1000 meter transects in the Payne’s Creek National Park. The objective of the monitoring program has now switched after analysis was done of the data collected over the past 5 years to now focusing on species of concern and indicators of ecosystems’ health. Even with this switch we are not getting the kind of results we need to make management decisions on the management of these species as all we are getting from the data is species presence and or absence. As a result we are now doing camera trapping as the tool for monitoring of Mammals with specific focus on Jaguars and jaguar prey. We have set up 4 camera trapping sites in the pine savanna of PCNP where they will remain for a 3-month period

(Oct-DEC) and then will be moved to new locations for another three months until we cover the protected area. With this we can start identifying individuals that can then be used to estimate population densities in the area. We have develop a partnership with PANTHERA for the provision of the cameras and assistance with batteries and data analysis



### ***7.2 Yellow-headed Parrot Nest Monitoring***

The 2017 Yellow headed parrot nesting started with the installation of 10 new nest boxes in PCNP, DRFR and BNR bringing the total number to 50 nest boxes but we lost 3 due to trees toppling over leaving us with 47 of which 19 of those being use with a total of 52 eggs laid of which 39 hatched of which 14 chicks were able to fledged from nests, 7 chicks were extracted and sent to Belize

Bird Rescue for fear of them being poached. 1 nest box in DRFR was poached and 1 nest was abandoned and 7 nests were predated thus contributing to the low fledging this year. The 7 chicks along with the 3 Yellow heads and 2 red=lored will return to PCNP for final stage of rehabilitation before returning them to the wild in early 2018. As part of the monitoring we also get help from a Veterinarian to do health assessment on the chicks. The chicks here are in excellent conditions.



### **Chick Health Assessment**



### **Participate in annual Christmas Bird Count for the Punta Gorda Circuit**

Terrestrial Protected areas staff participated in the annual Christmas Bird Count for the Punta Gorda Circuit where a total of 152 species were recorded on the Rio Grande River the area the Ranger Team covered. Total for the count circle was 257 species.

## **8. Infrastructure Management**

### **8.1 Maintenance of Park's infrastructure, solar system and grounds**

The staff is responsible for the upkeep of the park's facilities making sure they are clean at all times. Park staff engage in the daily cleaning of the facilities, the minor repairs such as replacing broken screens, ensure that running water is available at all times by checking water lines for leakage on a regular basis and repair where needed and servicing of water pump. We also do the maintenance of the solar/wind hybrid system that supplies us with power for lighting, charging communications equipment and running our computer. Staff also engages in the cleaning of the grounds around all park's facilities that include the ranger station/visitors center, kitchen, lodge, storage room, toilet facility and water tower to protect them from fire damage in the event of a wild fire or during prescribed fire operations.

## 9. Financial Report

Ordinary Income/Expense			
	Income		
		Grants	<b>\$ 208,574.90</b>
	Expense		
		3001 · Equipment	<b>\$ 14,832.89</b>
		5001 · Salaries & Wages	<b>\$ 82,011.20</b>
		5002 · Travel & Transportation	<b>\$ 449.59</b>
		5007 · Postage & Delivery	<b>\$ 353.00</b>
		5008 · Professional Fees	<b>\$ 10,000.00</b>
		5009 · Public Awareness & Environmental Educator	<b>\$ 837.02</b>
		5010 · Repairs and Maintenance	<b>\$ 15,020.50</b>
		5011 · Supplies	<b>\$ 12,606.16</b>
		5012 · Training	<b>\$ 9,268.42</b>
		5014 · Advisory Board Expense	<b>\$ 699.60</b>
		5016 · Telephone, Comm. & Internet	<b>\$ 1,408.54</b>
		5019 · Reserves & Parks Improvement	<b>\$ 6,364.60</b>
		5020 · Net Working	<b>\$ 536.90</b>
		5025 · Institutional Strengthening	<b>\$ 4,642.94</b>
		5026 · Research & Monitoring	<b>\$ 1,235.57</b>
		5035 · Surveillance, Patrol & Enforce	<b>\$ 20,156.40</b>
		5037 · Community Development	<b>\$ 10,431.13</b>
	Total Expense		<b>190,854.46</b>
Surplus of Income over Expenditure			<b>17,720.44</b>