

PCNP Annual REPORT 2013 Prepared by: Toledo Institute for Development & Environment Submitted to the Forest Department - Belmopan



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## **Executive Summary**

## Words from the Manager:

On behalf of the Management and staff of the Payne's Creek National Park we present to you our annual report for 2013. With assistance from the Protected Areas Conservation trust through a grant entitled "Payne's Creek National Park Conservation and Sustainable Development" and counterpart funding from MASS Audubon and the Summit Foundation the park enjoyed another great year. Through this grant we were able to reach out to the buffer communities through the development of a poster and leaflet done by the communities on the importance of Toledo's Protected Areas via a consultation headed by Ya'axche' Conservation Trust and meetings with community leaders, acquire equipment such as the Polaris Ranger to assist with enforcement, fire management etc.

We also have been able to improve our fire management capacity and preparedness by constructing fire breaks demarcating burn units as specified in the fire management plan for the park, conduct prescribed burns in some 8000 acres of savanna in the park with assistance from UB/ERI, SBFWG members and TIDE staff which assisted with some 70 survival rate in young pine saplings 3m and above thus starting 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 have also got additional signs which were installed along the main access routes into the park to inform the public when they are entering the protected area and the rules and regulations of the area. We have improve and increase our research and monitoring to now include amphibians and also have increased our fire effects monitoring by establishing link with UB/ERI where by the NRM students came to PCNP and established 6 1km line transects representative of the savannas to do fire effects monitoring on the vegetation and park staff has established 8 monitoring plots 50mx20m for photo point monitoring also as part of our fire effects monitoring to ensure the goals and objectives of the prescribed burns and our fire program are being met. In closing I would like to thank the Forest Department for the support they have been giving and for playing their role in the formation of the Southern Enforcement Group where we hope we can continue to work together to address the issues facing the management of the natural resources both in and outside protected areas. 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.

Sincerely Mario Muschamp Terrestrial manager TIDE

## 2013 Accomplishments:

## 1. Protection and Surveillance:

## 1.1 Surveillance/Patrols

A total of 288 patrols (water 215/Land 73) 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 4 were multi agency patrols that include staff from the Forest Department and Thomas Gomez and Sons Lumber Limited and 5 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
215 water patrols	none	73 Boats with 204 guests conducting tourism related activities in park. Boats were from PG, Placencia and Monkey River	43 boats with local fishers from PN, PG, MR & nearby caye hand-line fishing in general use zone of PHMR some just outside park at entrance to the Punta Ycacos Lagoon	18 manatee sightings recorded in lagoon and along PHMR coastline in the Deep River and Rio Grande area, 1 was a dad manatee found in Deep River to which we were unable to determine cause of death.
73 Land patrols	Ruben Solis of Bladen Village encountered hunting in DRFR without a valid hunting License. Was given a verbal warning as it was his first offence.	None	Bicycles, vehicle and motor cycle with Bladen, Medina Bank, Independence and Trio Village residents hand-line fishing and hunting along Thousand Creek in DRFR and on one occasion in October Vehicle had enter park we	Tracks from White-tailed Deer and Jaguars along patrol routes, 15 White-tailed Deer sightings and tracks from Tapir recorded in park and adjacent DRFR

believe to hunt.
Several expended
12 gauge shells
were found on
boundary line with
DRFR.

## 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 regreased during the servicing. Out board engine is getting water into the lower unit and will need some repairs to fix this now small problem before it affect the engine performance. We also did the cleaning of the boat and ensured that running lights were working properly. As a result of these regular and timely servicing of the engine we still had some issues with the engine blowing the fuse regularly and sometimes we had some problems with the remote control that affected the engine going into reverse gear at times and later in the year it broke gear in lower unit which affected water patrols for a few days. Park staff also did the maintenance of our bicycles used for land patrols, research and monitoring.

#### 1.3 Signage

With funding through the PACT Funded project entitled "PCNP Conservation and Sustainable Development" we developed and installed 10 new regulatory signs along the major access routes into the protected area via land and water, along the southern highway at the access gate into DRFD and PCNP and along coastline between Punta Negra and Monkey River villages where the park touches the coastline.



#### 2. Institutional Management and Strengthening

### 2.1 Capacity Building

SBFWG members participated in an in-house refresher course in basic fire management on February 7-8, 2013 with classroom session at TIDE's conference room and field practical at DRFR where the 14 participants did a prescribed burn of some 350 acres. Topics covered during the training include; Fire effects and Fire Ecology/Basic fire behavior concepts, Fire Weather and prescribed fire, Mop-up, Managing the Burn, Safety and contingencies, Ignition and firing techniques and why use prescribed fire.



Fire Training (classroom)

**Field Session** 

PCNP Senior Ranger Leonard Williams attended the training course from 18<sup>th</sup> to 22<sup>nd</sup> March in Belmopan on basic conservation finance offered through the national protected areas capacity building program to improve the management of Belize's protected areas through the University of Belize and also completed the three sessions that included the online portion and the two six days workshop on the Management Planning Course in May and June.

Terrestrial Manager along with Education and Outreach Coordinator attended a two days' Climate Change workshop organized by the Southern Environmental Association and facilitated by WWF personnel on the 8<sup>th</sup> and 9<sup>th</sup> May held at the multi-purpose building in Seine Bight Village. The take home for me were communicating climate change and planning for climate change mitigation and adaptation. This was very beneficial for me as we are preparing to revise the park's management plan and addressing and mitigating impacts of climate change must be address in this new plan.

Field Staff participated in an exchange with WCS Guatemala to Laguna Del Tigre National Park on 20<sup>th</sup> to 23<sup>rd</sup> August with focus on Hicatee Turtle and Scarlet Macaws conservation, Community involvement in protected areas management including education and outreach and park management. Take home for us is the work being done with both endangered species and their education and outreach in the communities using art as a way of engaging youths in conservation and fund raising with the sale of the art work produced by the Kids.



**Exchange at Laguna Del Tigre National Park** 

Park staff attended a field course on Butterflies, Skippers, Moths and Orchid Bees held at Hickatee Cottages on September 11<sup>th</sup> 2013, topics covered include Taxonomy, Family Group,

Life Cycle, Host Plants, Adult food source and Field identification-eggs, caterpillar (larvae), pupae (chrysalis), and adults.

Park staff is currently assisting Ya'axche' Conservation Trust via a consultancy form a GIZ funded project with providing basic fire management training to communities of protected areas in the MMMC managed by both Ya'axche' and TIDE to address the issue of escaped agricultural fires impacting biodiversity as well as peoples properties. The first set of training was done on September 28<sup>th</sup> and 29<sup>th</sup>, the second on October 26<sup>th</sup> and the third on November 9<sup>th</sup> and include topics such as Why Use Prescribed Fire, Basic fire behavior concepts, Basic fire weather and prescribed burns, Fire breaks and ignition techniques, Safety and contingencies, Managing the Burn and Mop Up during day one and for day two we dealt with fire tools and their use, Directional Felling to assist with easing work to do fire breaks, fire break cleaning practice and attempted to conduct a small burn to demonstrate fire behavior using different firing techniques but was unable due to wet weather conditions. Some 40 participants from the villages of Big Falls, San Miguel and Indian Creek, Silver Creek, Golden Stream, Medina Bank, trio and Bella Vista Villages attended the training. Final session (practical) of the training will be done in 2014 when farmers from the communities have agricultural plots to burn.



Park Ranger Andrew Williams attended Training at the Golden Stream Corridor Preserve Field Station on October 8<sup>th</sup> and 9<sup>th</sup> entitled "Bird Sleuth" geared towards education and outreach on the conservation of Birds to Youths. The workshop was facilitated by Cornell University Department of Natural Resources personnel. As a result of this training Andrew will be working with the outreach team implementing the Yellow headed parrot conservation grant received form Neotropical Bird Club with focus on education and outreach in the communities which we hope will lead into the development of a restoration program in collaboration with Belize Bird Rescue for captured birds rendered by community residents for rehabilitation and reintroduction into the wild where possible and a captive breeding program with the intention to release the young hatchlings from this program back into the wild.

PCNP Ranger participated in the Open Water Scuba Diving training facilitated by TIDE's Science Director from 28<sup>th</sup> October to 1<sup>st</sup> November 2014 and was successful in completing the course as the top student. The aim is to train as many staff to assist with research and demarcation buoys maintenance at the marine reserve.

Park staff Leonard Williams attended the two day training sessions on November 28<sup>th</sup> and 29<sup>th</sup> on the Spatial Monitoring and Reporting Tool (SMART). SMART is a tool that can be used to generate reports after inputs from the field to management and donors and can be used to track changes over time on the things going on in and around the protected areas etc.

Park staff attended a 1/2 day session on GPS use, mapping and introduction to GIS on November 30<sup>th</sup> facilitated by International Volunteer at TIDE Julia Baker with this background. The day's session was for her to familiarize herself with the staff's background as it relates to GPS Use, mapping and GIS, looked at ways how GIS can be used by us and did an introduction to the program and how it works.

Park staff attended a one day session on public relations and communication training facilitated by Mrs. Kamela Palma on November 29<sup>th</sup> held at the TIDE;s Conference Room. Purpose of the training was to equip field staff with the tools improve the organization's relations with the users of the resources we managed and improve the communications in-house and with the public.

Park staff Leonard Williams participated in an international exchange to Banco Chinchorro in Quintana Roo Mexico from December 12-15, 2013. Purpose of the exchange was for TIDE Marine Ranger Team to see first-hand what the Mexican counterparts were doing as it relates to fisheries management at the site.



#### 2.2 Networking

Park manager and staff attended the regular management 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.

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.

Payne's Creek National Park management committee and the PHMR Advisory Council held their four meetings for 2013 on February 1<sup>st</sup>, May 3<sup>rd</sup>, 12<sup>th</sup> September and 8<sup>th</sup> November where the major topic on the agenda was the oil exploration block hold by Providence Energy Belize Limited in which they are proposing to carry out seismic testing in PCNP and PHMR to which the committees agreed that if

development can be done with the least impact on the environment and that the benefit sharing is more favorable to the country and that the local communities must benefit fully from this venture. They also believed that proper plans must be in place in case of any major spill and the company must be prepared to deal with this if and when it occurs. All these things are to be in writing. The November meeting was focused on the councils input into the revision of TIDE's Strategic Plan 2014-2019.

TIDE, Ya'axche and Forest Department personnel met on January 21<sup>st</sup> and on April 15<sup>th</sup> at TIDE Conference Room and on July 25<sup>th</sup> and December 11<sup>th</sup> at Ya'axche' conference room to discuss the challenges faced with the Inter-agency coordination, the over exploitation of forest resources in southern Belize, coordination opportunities and next steps. At this meeting the Southern Enforcement Group was formed to which other partners will be invited such as Southern Environmental Association and SATIIM. Police and BDF will be invited to participate when needed. Forest Department has committed to assist with enforcement and education and outreach with the protected areas managers in buffer communities with an aim to increase resources users' knowledge of the laws and that TIDE and other protected areas managers are not enforcing their own laws but rather are assisting the department with implementing laws under the Department's mandate.

Park staff along with terrestrial biologist and UB students accompanied by community leader from Monkey River on April 10<sup>th</sup> went upstream Monkey River to look at new developments along watershed to determine impacts these activities will have on the watershed, Monkey River Community, TIDE's Private Lands across form development and PHMR. Banana farm has drain dug from river into farm to extract water for irrigation purposes while other lands were being cleared for the cultivation of corn as we were told by folks met at these sites.

On May 10<sup>th</sup> Terrestrial manager was part of a team from TIDE that include the program manager, TIDE TOURS manager and the Accounts Clerk assisting the Rio Blanco Mayan Association with assessing their management and providing training and guidance where needed as part of an ongoing project funded by UNDP/GEF to improve the management of the protected area. As the Terrestrial Manager at TIDE my focus was on park management and based on observations and information received from the association members determined that there is a need for increase and improved patrols and surveillance, improve signage at the park and the need to implement some sort of research and monitoring program to monitor the effectiveness of the management of the area. This monitoring program should also focus on area buffering the protected area.

#### 3. Administration:

#### 3.1 Report Writing

Terrestrial manager and park staff produced monthly reports that were submitted to TIDE Board of Directors to update them on projects and project activities being implemented in the park. We also provided information for reports to donors and produced end of year (2012) report to the Forest department.

#### 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.

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

With assistance from James Lord, Stave Morrison and Rick Anderson in the USA we got quotes on Polaris UTV from Dealers in the US and here at home from BENQUIP and with assistance from TIDE's

Operations Manager and Forest Department with support letter got duty exemption and made payments and arrangements for shipping for the UTV which we received in November. With Assistance from Thomas Gomez and Sons Ltd. We completed the broke in process of the equipment making it ready for use come 2014.

### 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 73 vessels with some 204 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 on field trip 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. Park staff has placed signs to deter speeding in areas where manatee sightings are recorded on a regular basis.

#### 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 Objective of the Freshwater Cup Environmental League is to develop a greater Awareness and commitment to the ecosystems or Natural resources amongst the people of Toledo, and Belize. It highlight's the importance of local species and their conservation.

The program uses sport as an incentive and a driving force for change, affecting both the players and entire community. The



program has two components, the Football game and the environmental project. Without the environmental projects, the football competition is not possible.

#### **Environmental projects:**

Each primary school teams are responsible to develop an environmental project in order to participate in the program. Some of the projects include; Fresh water pond preservation, Community Litter free project, Estuary Rescue project, Reforestation, Freshwater Creek preservation, Mural of Fresh water & Marine water uses, River Restoration and waste management through recycling. This year 14 primary schools (14 males & 10 females) clubs participated from within the Maya Mountain Marine Corridor (MMMC), of TIDE work region. Each school implemented an environmental project, hence were able to participate in the competition.



## 5.2. PCNP Archeology Documentary

On May 18<sup>th</sup> Terrestrial Manager did field trip with Love FM Chief Rene Villanueva and crew to PCNP to do footage on PCNP under water salt works archeology with special focus on the new discovery the Mayan Canoe. The footage will be used in a Belize Watch Program sometime during the archeology symposium schedule for first week of July.



#### **5.3 Meetings with Community Leaders**

Park staff have been visiting the above mentioned villages to meet with community leaders to inform them on the activities planned for the communities through the PACT project with an aim to have their blessings to go into their community to carry out the household surveys and to organize community meetings to update and educate the community on the laws pertaining to the protected areas and the management of the natural resources in Belize.



Meeting with Leaders in Trio Village

#### 5.4 Development of Questionnaire for household surveys

With assistance from the Development Director at TIDE we started the development of a questionnaire to conduct household surveys in PCNP buffer communities to understand the level of the knowledge of the communities' residents as it relates to PCNP, Yellow-headed parrots, forest fires and regulations to hunting etc. We are expecting to complete the questionnaire by the end of July and then carry out the survey in the communities of Trio, Bladen and Bella Vista Villages after which the information will be analyzed and there after staff will go into the communities to educate the residents to increase their knowledge of the protected areas and the laws pertaining to hunting etc.

#### 5.5 Participate in Race against Fire

Park staff assisted the Education and Outreach coordinator at the "**Race against Fire**" event organized by Ya'axche' Conservation Trust held in the Village of Big Falls on March 30<sup>th</sup> 2013. The Information Booth set up by TIDE at the event shared info on fire management in the MMMC being done through the Southern Belize Fire Working Group and info on wise fire use focusing on the two faces of fire (the good and the bad).



## 5.6 TIDE Annual Summer Camp

Park assisted with transporting and hosting campers from the annual TIDE SUMMER CAMP 2013 with the team for this year's camp being "HEALTHY RIVERS EQUALS HEALTHY REEFS" that ran from 15<sup>th</sup> to 24<sup>th</sup> July 2013 and was held in 8 different buffer communities of protected areas managed by TIDE. Some 150 kids attended this year's camp.

## 5.7 National Radio Show/ TIDE Weekend

During the month of October park staff assisted with TIDE WEEKEND (that include the Sea Food gala held on the 11<sup>th</sup>, the Youth Conservation Competition on the 12<sup>th</sup> and Annual Fish Fest on the 13<sup>th</sup>) pre and post activities setting up and dismantling of booths and assisted with activities during the annual fish fest held at the TIDE compound. Included as part of the weekend is the Annual Radio Show where TIDE Staff are featured on the LOVE FM Morning Show to share their accomplishments for the year with the general public.

#### 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

SBFWG group leader and Terrestrial manager at TIDE completed the assessment and writing of burn plans for 4 units in DRFR and 5 units in PCNP and submitted them to the Forest Department for approval.

### 6.1.2 Construct Fire Breaks

With assistance from Thomas Gomez and Sons Ltd (TGS) we constructed two fire breaks in PCNP to demarcate the units for prescribed fire in PCNP for 2013.



## 6.1.3 Conduct Prescribed Burns

On February 23<sup>rd</sup> PCNP staff and 3 Staff from TGS conducted prescribed burn of FMU1 in PCNP of approximately 2500 acres. The objectives of this were to reduce fuel load, prevent wildfire and protect pine regeneration in pine stand in the unit. The burn went well but was very strenuous on the 5 man team that did the burn. Preliminary results are showing that our objectives were met.



Park manager provided a one day basic fire management course to TIDE admin staff on March 20<sup>th</sup> prior to them coming out to assist with conducting prescribed burn schedule for the 22<sup>nd</sup> March 2013.

Park staff along with assistance from SBFWG members, UB and TIDE staff conducted 4 prescribed burns during the month of March totaling approximately 6000 acres in the park. The objectives of these burns were to reduce fuel load, wildfire prevention, training, YHP nest protection, prepare bed for seed fall and protection of pine regeneration occurring in pine stands in the park. Preliminary results are showing that our objectives for the burns were met as we are seeing the grasses are flowering and seeding, 95% of pine regeneration 1m and above are looking great and we lost only one YHP nest site on these burns even though we did all we believed could have been done to save this nest site.



**UB Students on RX Fire** 

**RX Fire at Night** 

**TIDE Office Staff on RX Fire** 

Park staff assisted Thomas Gomez & Sons Lumber Ltd. With prescribed burn of some 150 acres near the sawmill site along the highway as a wildfire prevention activity to protect young regeneration in pine stands and protection of the sawmill facilities.



Prescribed Burns at DRFR with TGS

## 6.1.4 Wildfire suppression and Use

Wild fires during the month of May was suppressed using an indirect attack approach to contain and eventually suppress wildfire that burnt all the savanna on the west bank of the lagoon and portion of the Depp River Forest Reserve where the fire started just outside park boundary within the reserve completing the burn of all the savannas of the park as we had burn all on the east bank of the lagoon. Wild fires burnt most of the wetlands in the eastern section of the park that runs form west of Monkey River south to west of Punta Negra. These fires were left to burn as we had plans to go in and burn the area as it has been about 5 years since this area was last burnt.

## 6.1.5 Fire Effects Monitoring

Hosted UB/ERI student group from 1<sup>st</sup> to 4<sup>th</sup> March and did field practical in fire management training conducting a prescribed burn in one of the burn unit planned for prescribed fire this year and set up and

collected data from 6 1km long transects for long term fire effects monitoring here at PCNP.



UB Student Group setting up transects and collects data as part of fire effects monitoring

With assistance from terrestrial biologist and Clare Simms a volunteer at TIDE set up and did the first set of photos in September of 8 plots 50mx 20m in 4 fire management unit in the park to do photo point monitoring as part of our fire effects monitoring to assist with evaluating our fire management program to see if we are meeting the objectives of the Fire management plan.



Setting up and monitoring of Plots for Fire Effects Monitoring (photo point)

#### 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 was to determine species presence or species diversity within the park. These two transects were strategically placed, one in a broadleaf and the other in the pine savannah ecosystem to maintain an adequate representation of the major ecosystems in the Payne's Creek National Park. Monitoring of large mammals and birds on these two transects was carried out during the last week in every month. The point count protocol was utilized for birds, at every 200 meters with a radius of 100 meters, all birds seen or heard were recorded, a total of six point were monitored per transect. Mammals were monitored along the entire length of transect.







Morlet crocodile

**Jaguar Scat** 

**Black Howler Monkey** 

## 7.2 Yellow-headed Parrot Nest Monitoring

This year's yellow headed parrot nest monitoring commenced with the installation of 10 new nest boxes, 9 in PCNP and 1 in Bladen Nature Reserve as a pilot by park staff in conjunction with Ya'axche' Conservation Trust with assistance from Thomas Gomez and Sons Ltd. who constructed and donated the nest boxes. The project seeks to enhance the nesting environment in and around the park for this endangered species. By the end of the nesting season only 5 of the boxes were used with a total of 10 eggs laid of which 7 actually hatched but only 5 survived and fledged the nests.

Park staff also monitored natural YHP nests in the park and adjacent Deep River Forest Reserve, a total of 14 natural nests were monitored this nesting season with park staff able to reach to only 6 of the nests cavities to do proper monitoring. In those six nests some 16 eggs were laid with some 13 hatching but only 9 survived and fledged the nests as we lost three to predation and 1 died naturally giving us a total of 14 chicks fledging from both natural and artificial nests for this nesting season.



**Nest protection** 











YHP Natural and Artificial Nest Monitoring

## 7.3 Rainfall data collection

Park staff collected daily rainfall data at the park during this reporting period. Total rainfall recorded for 2013 is 134 7/10 inches with October (30  $1/2^{"}$ ) being the month with the highest rainfall while April ( $1/5^{"}$ ) received the least.

## 7.4 Amphibian Monitoring

With assistance from terrestrial biologist and volunteer at TIDE we conducted amphibian monitoring in PCNP on the night of the 20<sup>th</sup> May and November 27<sup>th</sup> in the savannas of the park and the broadleaf forest on the 21<sup>st</sup> May and 28<sup>th</sup> November where we found 5 species of frogs (Red eye tree Frog, White lipped frog, Stouffers and Mexican Tree frogs and Rio Grande Leopard Frog) and 2 species of toads (Cane and Gulf Coast toads). These were our first monitoring done during the dry and wet season to see what species would be found in the area. Our findings shows that White lipped frogs were the most abundant. More intensive monitoring will be done during the next year.



#### 7.5 Archeology Research

Louisiana State University completed their 2013 field season that ran from 1<sup>st</sup> to 20<sup>th</sup> May doing excavation of some of the submerged sites in the Punta Yeacos Lagoon of the Park. This season's discovery of great significance was the Ancient Mayan canoe.

#### 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