

# **PCNP Annual REPORT 2015**

# Prepared by: Toledo Institute for Development & Environment Submitted to the Forest Department - Belmopan



Jaguar caught on camera trap in pine savannah in PCNP

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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 2015. With assistance from the Protected Areas Conservation trust through a grant entitled "Payne's Creek National Park Conservation and Sustainable Development". DARWIN Initiative grant entitled Conserving pine woodland biodiversity in Belize through community fire management as well as counterpart funding from MASS Audubon and the Summit Foundation the park enjoyed another great year. Through these grants we were able to revised the park's management plan, continue reaching out to the buffer communities through 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 boardwalk on trails use by the Monkey River Tour Guide Association improving visitors experience to the area and 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.

We also have been able to improve the infrastructure at the park to housed overnight guests at the park with the construction of 3 new cabanas enabling us to now housed 20 guests comfortably. We were also able to build fire management capacity of the Southern Belize Fire Working Group (SBFWG) and staff from the Forest Department. We were able to conduct prescribed burns in some 8000 acres of savanna in Deep River Forest Reserve with assistance from UB/ERI, and SBFWG members with some 80% 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, we also continue the Yellow headed parrot nest season monitoring and increase the number of artificial nest to now 40 covering PCNP, DRFR and BNR. We continued with our fire effects monitoring with the photo point monitoring at 8 plots set up in 2013 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 through trainings, workshops and exchanges to other protected areas and this year we also were able to follow the recommendation of the institutional assessment to streamline TIDE managed protected areas under the supervision of a Protected Areas Manager and as a result PCNP manager was awarded the Protected Areas Manager post and a new ranger from the community of Bladen was hires for PCNP. 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 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
Mario Muschamp
Protected Areas Manager, TIDE
2014 Accomplishments:

#### 1. Protection and Surveillance:

# 1.1 Surveillance/Patrols

A total of 251 patrols (water 214/Land 32) 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
219 water patrols	none	107 Boats with 201 guests conducting tourism related activities in park. Boats were from PG, Placencia and Monkey River	24 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	37 manatee sightings recorded in lagoon and along PHMR coastline in the Deep River and Rio Grande area
32 Land patrols	Found sign where vehicle and Motor cycle had enter park near boundary line with DRFR. We believe motor bike rider started fire that burnt portions of park and DRFR covering some 3500 acres in April and 1 of fires in May in DRFR was started by kids cutting fire wood	None	Bicycles, vehicle and motor cycle with Bladen, Medina Bank, Independence and Trio Village residents hand-line fishing, harvesting palmetto seeds 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

in the	forest	
reserv	ve	

#### 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. We also did the cleaning of the boat and ensured that running lights were working properly. 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 Conflict Resolution Training

Rangers participated in a Conflict Resolution and Anger Management Training facilitated by Mr. Jerry Enriquez held at TIDE Conference Room on July 30th 2015. The training was done to assist Rangers in dealing with conflict while exercising their duties on the job.



# 2.1.2 Court Procedures Training

All Rangers participated in a court procedures training held on August 26<sup>th</sup> at TIDE conference room facilitated by Fisheries persecutor Lyndon Rodney. The training covered from boarding procedures, search, evidence gathering, handling and labeling of exhibits, report writing and presentation of evidence to ensure conviction in court.

# 2.1.3 SMART Training

Assistant terrestrial manager Eugenio Ah attended a one day session on SMART with the Forest Department to look at the tool and see if it can be used in terrestrial areas and started designing the data fields needed to be in the program for collection while in the field.

# 2.1.4 BIOPAMA Training

Park lead Ranger Leonard Williams participated in 4 days training session facilitated by Julio Maaz of WCS focusing on Research and Monitoring and the use of SMART to for data collection and storage.

# 2.1.5 Solar System Maintenance Training

Park staff participated in a two days training session at Maya Mountain Research Farm in San Pedro Colombia Village on November 28<sup>th</sup> and 29<sup>th</sup> facilitated by Christopher Nesbitt and Mark Miller in Solar System Maintenance and some aspects of system design. The purpose of the training was to ensure Rangers have the skills needed to properly care for the system at the Ranger Station.

#### 2.1.6 Project Management Training

Protected Areas Manager Mario Muschamp participated in day one of a two days training session in Project Management Training facilitated by Sai Info Tech held on December 16<sup>th</sup> held at TIDE conference Room. The purpose of the training was to improve project management capacity for personnel responsible for managing the projects being implemented at the TIDE.

# 2.1.7 Climate Change Workshop

Protected Areas Manager attended a workshop facilitated by GCFI on February 23<sup>rd</sup> to 25<sup>th</sup> at TIDE conference room focusing on MPA management through a climate change lens. This was a regional workshop to assist protected Areas Managers with building resilient ecosystems to adapt/mitigate the impacts of climate change.

# 2.1.8 Fisheries Regulations Training

Terrestrial staff attended a one day training session on Fisheries Regulations facilitated by Fisheries Department personnel with an aim to get all TIDE Rangers deputized as Fisheries Officers as we travel through the marine reserve a lot as well as we do joint patrol with the

marine reserve staff so if any infraction as it relates to the fisheries regulations any TIDE Ranger can enforce the regulations.

# 2.1.9 Creative Communications Training

Protected Areas Manager attended a two days training session on February 5<sup>th</sup> and 6<sup>th</sup> with Artcorp in creative communications to improve and use different ways of communication to get the message out to stakeholders on the importance of conservation using art in various forms such as story book, murals, drama etc.

# 2.1.10 Systems Thinking Training

Protected Areas Manager participated in a three days training with Artcorp held at Marian's Bay-view Restaurant from March 23<sup>rd</sup> to 25<sup>th</sup> entitled "Systems Thinking" to improve our communications to our stakeholders to create an avenue for Behavior Change in respect to the conservation and management of our Natural Resources.



# 2.1.11 GIS Training

Terrestrial Staff participated in a three days training session in GIS with Jaume Rusadella from Ya'axche' and Peter O'Connor a GIS intern at TIDE to build rangers capacity in GIS to improve protected areas management to be more efficient and cost effective and so that rangers can

properly map an area as in PCNP to determine extent of wildfires etc. an create maps of where incursions are occurring etc.

# 2.1.12 Exchange to Iguana Project and visit to Belize Wildlife Referral Clinic and Belize Bird Rescue

Terrestrial staff conducted a one day familiarization visit on April 28<sup>th</sup> to San Ignacio Hotel to view their Iguana project to learn what they are doing and hopefully one day we will be able to do something similar at Tide Private Protected Lands with an aim to ensure viable populations remains in the watersheds of the MMMC. Also visited Belize Wildlife Referral Clinic to learn more o about the care for wildlife species and to see how the small Hicatee we had their was doing and to Belize Bird Rescue facility also to learn more of their operation and to visit the young Yellow headed parrots form our artificial nest program they were taking care of for us before they are returned to PCNP for release back into the wild.

# 2.1.14 MPA enforcement in Roatan, Honduras

Head Ranger Egbert Valencio along with Ranger Aaron Garbutt, Protected Areas Manager Mario Muschamp and PCNP Ranger Leonard Williams participated in a MPA Enforcement Training in Roatan Honduras from 9<sup>th</sup> to 15<sup>th</sup> August 2015. The training focus on all aspect of enforcement to ensure compliance in protected areas.



#### **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 ranger was hired for PCNP in Mr.

Agustin Sho from Bladen Village one of the buffer community 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 community as Mr. Sho is also the Alcalde of that village.

#### **Park Improvement**

#### **Revision of Management Plan**

The Ya'axche' Conservation trust was hired to revised the park's management plan which was done with input from communities and the Park's Advisory Council. The plan focuses on 6 program areas namely site Protection, Fire Management, Alternative Livelihood Development, Administrative Capacity Enhancement, Research and Monitoring and, Education and Awareness.

#### Networking

Park manager and staff attended the regular management and all staff meetings which takes place biweekly 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.

Protected areas staff also participated in several workshops focusing on National and Regional policies and plans such as the Forest Policy Validation workshop in February, Regional Fire Policy/Strategy in El Salvador in January, National Biodiversity Strategy and Action Plan, Meeting to develop protocols to monitor Yellow headed Parrots which will be used to determine population status in Belize and meeting with Forest Department and Agriculture Department to discuss the governance of Rural fires with an aim to ease the process of acquiring burn permits for agricultural fires as recommended in the National Wildland Fire Policy and Strategy for Belize. As a result of the meeting with Agriculture Department we submitted a request for aspects on fire are included in the revised Agriculture Policy. Protected Areas Manager also attended a one day workshop held at the Belize Biltmore Plaza focusing on the development of a national Oil Spill plan.

Payne's Creek National Park Management Committee and the Port Honduras Advisory Council have merged to form one group to advised TIDE on the management of both PCNP and PHMR. For 2015 the committee held 3 meetings to discuss the implementation of projects at both sites and participated in the revision of PCNP management plan.

#### 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.

#### 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 2015 hurricane season.

#### 3.3 Procurement of equipment

With funding from PACT we were able to purchase a new 60 horse power Yamaha four stroke Outboard engine to replace old engine that gave up on us in the latter part of 2013.

#### 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 98 vessels with some 150 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**

The construction of 3 new cabanas to increase capacity for overnight stays at the park were done by local contractor from Monkey River Village with funding provided by PACT and UNDP. With the addition of these new facilities the capacity to sleep 20 people comfortable is now available for use. Also this year, we upgraded our power source with the installation of a new solar system with capacity of 2.0KW to ensure we have enough power to run the additional infrastructure built in 2015.

#### 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

17 primary schools enrolled in the program with 17 environmental projects for 2015. These projects are supported by TIDE jointly with the school management and the community Parent Teachers Association. Traditionally, the football competition was held; this Competition saw the participation of 1,440 children 280 adolescents aside from the teachers and parents who supported the children&

# **5.2 Local Early Action Planning (LEAP)**

TIDE with assistance from Megan Gombos worked with the communities of Monkey River and Punta Negra to share information on the impacts of Climate Change and develop first draft of a Local Early Action plan to address the impacts of Climate Change for these communities.

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

Communities meeting were held in Bladen, Trio, Monkey River, Medina Bank and Bella Vista as well as meetings with community leaders in these communities was done to share information on the park, the Darwin Project and get information for the revision of the park's management plan. Communities are now better informed of activities for their communities under the Darwin project, provide input into the revision of the park's management plan and are better informed on the rules and regulations of the park.



**Community meetings in Bladen and Trio Villages** 



#### 5.4 Boardwalk for Monkey River Tour Guide Association Trail system

Local contractor from Monkey River was contracted to construct boardwalk to improve trail system adjacent to park used by the Tour Guides of Monkey River. This improvement was needed over low lying areas of the trails system to improve visitors experience to the area.

#### 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 San Pedro Colombia. 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 2015 with the team for this year's camp being "

#### 5.7 TIDE Weekend

During the month of October park staff assisted with TIDE WEEKEND (that include the Sea Food gala held on the  $9^{th}$ , the Youth Conservation Competition on the  $10^{th}$  and Annual Fish Fest on the  $11^{th}$ ) pre and post activities setting up and dismantling of booths etc. during the annual fish fest held at the TIDE compound.

# 5.8 Develop and Distribute fire brochure

With assistance from Fire expert from Florida we developed a fire brochure to inform fire users the on the wise use of fire focusing on the good and bad faces of fire. The brochures were distributed in the communities during community meetings and meetings with community leaders.

#### 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 were developed with assistance from Peter O'Connor a GIS Intern with development of maps and submitted to the Forest Department for approval which were approved by German Novelo the person in charge of fire management at the Department.

#### **6.1.3 Conduct Prescribed Burns**

Prescribed burns for the 2015 fire season were done as part of the in February as part of the refresher course done and with assistance of UB/ERI student group. 5 Units in the concession hold by Thomas Gomes and Sons covering approximately 8,000 acres were burnt to meet various objectives. The burns were led by the new Burn Bosses from SBFWG Group members trained in 2014.

# **6.1.4** Wildfire suppression and Use

Wild fire during the month of April 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. A total of approximately 3,500 acres in DRFR and some 400 acres in PCNP were burnt in these fires. The result shows that the fires in DRFR were very detrimental to the ecosystem killing some pine regeneration as well as mature trees due to fire intensity and they also destroyed about 80% of palmetto seed production for this year in DRFR North of the highway and about 20% on the south side of the highway.

# **6.1.5 Fire Effects Monitoring**

Hosted UB/ERI students from March 3<sup>rd</sup> to 6th to get assistance with fire effects monitoring on six 1km long transects set up and monitored last year 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 Deep River Forest reserve.

Park staff did photo point monitoring at 8 plots 50mx 20m in four fire management unit in the park 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. These were the third set of photos taken at these plots since we set up the plots.







#### **Develop Fire Training Materials for Community Fire Training**

Protected Areas Manager with assistance from Fire Expert Thomas Rick Anderson form Florida developed training materials to standardize the training for communities to address the issue of escaped Agricultural fires and to address unwanted fire in the pine savannas of PCNP, DRFR and SBFR. The materials focus on basic fire management skills needed to manage fire safely. The materials we are hoping will be part of the national training program for protected areas staff where fire in a threat or is necessary for ecosystems health.

#### **Basic Fire management Training (S130/190)**

Protected Areas Manager and Fire leader for the Southern Belize Fire Working group conducted two days training sessions in basic fire management techniques with SBFWG members to get all up to speed prior to implementation of prescribed burns and wildfire suppression for the 2015 fire season. The classroom session was held at Ya'axche' s GSCP Field station and practical session was done in deep

River Forest Reserve where we burn some 250 acres as part of the training. At this training we had the participation of 3 Forest Dept. staff.

#### 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. The data also showed that the broadleaf transect in PCNP is the most diverse transect in both PCNP and TPPL.

#### 7.2 Yellow-headed Parrot Nest Monitoring

The 2015 Yellow headed parrot nesting started with the installation of 10 new nest boxes in PCNP, DRFR and BNR bringing the total number to 40 nest boxes but we lost 3 due to trees toppling over leaving us with 37 of which 19 of those being use with a total of 51 eggs laid of which 44 hatched of which 41 chicks were able to fledged. 9 of those chicks were sent to Belize Bird Rescue as the boxes were not able to hold them comfortably. Those chicks along with 4 others were returned to the park in October where they were reintroduced back into the wild successfully

# **Develop Yellow-headed Parrot monitoring Protocol**

The development of a protocol to monitor Yellow headed parrot was developed by Charles Britt and other members of the Yellow Headed Parrot Working Group which will be used to do the national survey to determine the population status nationally and to monitor nesting and nest success with an aim to improve the nesting environment as well as give better protection to nesting sites etc. Also we will be doing health assessment of the chicks and those at risk chicks will be removed and hand raised by BBR for later reintroduction into the wild.

#### 7.3 Assess distribution of pine and palmetto in PCNP, DRFR & SBFR

Park staff as part of the implementation of the Darwin Funded project, assessment of the distribution of palmetto was done in Deep River Forest Reserve and Swasey Bladen Forest Reserve and pine and Palmetto was done for PCNP. Maps were done of the distribution of all three protected areas. PCNP is showing signs of it containing more palmettos than both the forest reserves while the forest reserves are showing better stocks of pine than PCNP.

#### 7.4 Camera Trapping

With camera traps from PANTHERA we did trapping at 4 sites in the savanna of PCNP where Jaguar was recorded at 3 of the 4 sites and white tail deer at all four sites. One site recorded a Collared Peccary.

#### 7.5 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 144 species were recorded on the Rio Grande that include the rare Great Potoo. A second recorded since the count started 14yrs ago.

# 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