

FINAL REPORT

BLADEN NATURE RESERVE PROTECTION PROGRAM



An Aerial Photo of the Bladen Nature Reserve Photo credit: BFREE

SUBMITTED TO:

**Conservation International Foundation/
Critical Ecosystem Partnership Fund**

Submitted by:

**Belize Foundation for Research and Environmental Education
(BFREE)**

**Submitted on:
November 28th, 2006**

CEPF SMALL GRANT FINAL PROJECT COMPLETION REPORT

I. BASIC DATA

Organization Legal Name: Belize Foundation for Research and Environmental Education

Project Title (as stated in the grant agreement): Bladen Nature Reserve Protection Program

Implementation Partners for This Project: Bladen Management Consortium

Project Dates (as stated in the grant agreement): August 1, 2005 –July 31, 2006

Date of Report (month/year): November, 2006

II. OPENING REMARKS

Provide any opening remarks that may assist in the review of this report.

The term of the Grant Agreement was extended from July 31, 2006 to September 30, 2006 with the authorization of CEPF signed by the CEPF Executive Director on July 13, 2006.

The original budget of the Grant Agreement was altered by the request of the “grantee” on September 22nd, 2005 to include a 10% indirect cost line item for administration, as well as a modification on equipment to be purchased, from \$1,500.00 in the original grant agreement to \$2,387.00. This amendment was authorized by the CEPF Executive Director on November 7, 2005.

III. NARRATIVE QUESTIONS

1. What was the initial objective of this project?

The objective of the project was to establish a full-time 3-man ranger team for the course of one year to monitor the Bladen Nature Reserve (BNR), focusing primarily on critical areas where incursions were expected as a result of recent agricultural development and road construction near the eastern border of BNR. Expected outcomes resulting from project implementation included 1) Increase ranger patrols in the BNR by 150%. 2) Reduce level of human incursions, logging, and presence of hunters in the BNR by 90%.

2. Did the objectives of your project change during implementation? If so, please explain why and how.

The objectives were not changed or altered during the course of project implementation.

3. How was your project successful in achieving the expected objectives?

Results of Project:

Increase Ranger Patrols in BNR by 150%

From October 2005 through September 2006, a full time, 3 man ranger team was hired and equipped for the first time since the establishment of the Bladen Nature Reserve in 1990. During the previous 4 years, from 2002-2004, members of the Bladen Management Consortium (BMC), conducted consistent yet infrequent patrols within BNR. These infrequent patrols took place twice a month consisting of 3 rangers per patrol each lasting 4 days. During the year between November 2004 and October 2005, a total of 20 patrols took place within BNR with a total of 240 man days of service. With the implementation of the BNR Protection Program from CEPF, a total of 51 patrols took place with a total of 828 man days of service. This is an increase of over 150% in actual patrols, and an increase in almost 300% of actual man days of patrolling.

The ranger team was hired through a transparent process from villages that buffer BNR. Once the team was established and equipped, patrols began. These patrols focused at first in the areas in and around BNR where there were signs of illegal activities coming from the new Trio development, as this was identified as the area under the most threat. Once these patrols were deemed effective in slowing down and in most cases halting incursions coming out of Trio, the patrol routes began to focus on the broader BNR.



**BNR Rangers:
Sipriano Canti
Clemente Pop
Martin Coy
crossing Bladen River
on patrol in BNR.**

- **Joint Patrol**

During the course of the project, one six day joint patrol took place in BNR and adjacent reserves in January of 2006. The patrol consisted of personnel from the Belize Defense Force, the Belize Police Department, the Belize Audubon Society, Ya'axche Conservation Trust, and the BNR ranger team. During the patrol, an illegal Mahogany chainsaw logging operation was discovered in an area within Maya Mountain Forest Reserve, less than four miles from BNR.

GPS points were taken and the lumber was destroyed at the request of the Police Department. Further investigations revealed the persons responsible for this illegal activity, and appropriate action was taken by the Forest Department.

Some members of the joint patrol taking GPS points and recording information concerning the illegal harvesting of Mahogany. BNR ranger, Clemente Pop on left with GPS unit supplied by CEPF.



- **Aerial Monitoring of BNR**

In April of 2006, BFREE coordinated 2 flights for the BNR Ranger team with LIGHTHAWK, an environmental air force based in the U.S.A. that has been flying conservation missions in Belize with BFREE for over 10 years. The objective of the two flights was to monitor BNR for illegal access points, potential illegal logging roads, signs of fire, hunting camps, and other signs of illegal activities or threats to BNR. The new roads coming to the eastern border of BNR from the new Trio Agricultural development was a major focus of these flights. No new roads were observed, however, clearing for agriculture use was underway.



Trio Road close to BNR with associated agricultural clearing



Far Right: Lead BNR Ranger, Sipriano Canti on LightHawk Flight over BNR

Reduce Level of Human Incursions/logging/Presence of Hunters in the BNR by 90%

Because of a lack of definitive quantifiable data, it is somewhat difficult to determine the exact reduction in illegal human incursions and activities during the course of the project. In the year before this project was implemented, patrols were infrequent, and data collection was minimal. However, during the course of the project, a significant reduction in hunting camps occurred, from 6 camps within the first 5 months of the program, to one camp found within the last 7 months of the program. In addition, illegal fishing within BNR was reduced dramatically from three illegal fishing activities found within the first 2 months of the program, to zero during the last 10 months. Details of these and other illegal activities are described below.

- **Illegal Fishing**

During a patrol November of 2005, in the extreme south eastern portion of BNR adjacent to the Trio agricultural development and associated roads, BNR Rangers encountered a team of fishermen from Trio village fishing with nets in the Bladen River within the BNR boundary. These men were educated about the laws and regulations pertaining to BNR and were given a warning because it was their first offence. Net fishing in rivers in Belize is illegal, and the nets were confiscated by the rangers. In total, three illegal fishing activities were found, all based out of the Trio area, and in each case warnings were given. These activities all occurred in the early period of project implementation, and by the end of the project, virtually no signs of fishing within the BNR were found.



Illegal fishing nets confiscated by BNR rangers during patrol



Local fisherman carry shotguns for hunting as well; note fish in canoe



The BNR is abundant with freshwater organisms such as Morelet's Crocodiles and 23 species of fish, including 6 species of game fish.(note fish in river)

- **Illegal Hunting**

A total of 6 illegal hunting camps were found within BNR. 2 were found in November 2005, 1 in December 2005, 2 in January 2006, and 1 in February 2006. GPS coordinates and a description of each camp were taken, and they were all destroyed. From March through September 2006, no further hunting camps were found. This is a marked decrease in hunting activity during the course of the program, and can be explained by the outreach activities undertaken in the buffer communities, as well as the increased awareness in these communities that full time rangers were now working in BNR.



Illegal hunting camp found within BNR. Ranger Clemente Pop taking GPS point of camp, afterwards, it was destroyed



Lead Ranger, Sipriano Canti, pointing out used shotgun shells found inside BNR, a sure sign of hunting activities



Remains of slaughtered turtles, *Trachemys scripta*, found at the fishing camp within BNR near the Trio area.



Remains of fish and an armadillo found at the same camp where turtle shells were recovered

- **Illegal Logging**

No illegal logging activities were found within BNR during the course of the project. However, as previously mentioned, one illegal chainsaw operation was found during the joint patrol in Deep River Forest Reserve, only a few miles from the BNR boundary. These individuals were from the Trio area, since appropriate action was taken against these people, no further logging activities have been found.

- **Xate Harvesting**

The harvesting of Xate in BNR has never been recorded or documented in the past. Because BNR is on the eastern side of the main divide of the Maya Mountains, and is quite a distance from the western border of Belize with Guatemala, where most of the illegal incursions and xate activity are taking place, BNR has never been under much direct threat. However, at the tail end of this program, the BNR Rangers encountered two new xate camps in the area.

One was found in Deep River Forest Reserve, within about 3 miles of the BNR eastern boundary line. This camp had evidence of xate being harvested and exported out of the reserve. GPS coordinates were taken. Further investigations proved that the xate being collected was not taken from within BNR itself, and the persons responsible for this activity are believed to be the same persons responsible for the illegal Mahogany extraction, based out of Trio village. At the current time, no further xate activities have been found in this area, although we believe that is because of the rainy season which has been in effect since July. We believe that similar activities will inevitably start to take place very soon as the rainy season is drawing to a close, and due diligence will need to be taken in order to stop such activities from continuing.

The second xate camp was found in BNR in June of 2003. This camp also had evidence of xate collection and removal from the reserve. GPS points were taken of the camp location and associated trails, and immediately the program coordinator called the Belize Defense Force and the Forest Department to request a joint patrol be undertaken in this area. The BNR rangers, along with assistance from one ranger from the Golden Stream Corridor Reserve, a nearby private protected area managed by Ya'axche Conservation Trust, undertook a constant monitoring of the access trails and roads used by the xateros. No further activity has been found, due we believe to the onset of the rainy season just after this new camp was found. This area will be a focus of future monitoring and patrols in BNR, particularly as dry season kicks in and the area is more easily accessible.

- **Fire Management**

Due to constant monitoring of BNR and the surrounding areas, very little fire management was required during the course of the year. On only one occasion, in May of 2006, the BNR Rangers were required to put out two small fires started presumably by hunters near the eastern access road into BFREE and BNR. The fires were small and easily extinguished.

- **Boundary Line Demarcation**

In March of 2006, BNR rangers met with Belize Forest Department officer Percival Cho in BNR to determine and mark the exact location of the BNR southern boundary line. GPS points were taken and maps were developed the same day at the BFREE Research Station. This information was then used to demarcate the BNR southern boundary line so that legal logging operators in the Deep River Forest Reserve that borders BNR did not cross the BNR boundary line during the dry season timber extraction activities. In addition, the BNR Rangers constructed and placed approximately 18 wooden signs marking the southern boundary line of BNR where encroachment was most likely, as well as near the Trio agricultural development. These signs were written in Spanish and English. The materials for the signs were donated by BFREE.

Additional Results:

- **Ranger Base Upgrade**

1. As soon as the CEPF small grant to BFREE was signed, BFREE, as an active member on the BMC, submitted a Support Grant application via BMC to PACT for the purchase and installation of a 12' by 24' wooden Ranger Base. Previous to the installation of the base, the BNR wardens had stayed in an open thatch with a raised wooden floor. The new ranger base provides a dry and secure shelter for the rangers and their equipment, and will serve as the main base for BNR Rangers in the future.



Old BNR Ranger Base



**New BNR Ranger Base
funded by PACT**

2. Dr. Steven Brewer, a professor at the University of North Carolina at Wilmington, U.S.A. and a plant ecologist and long time scientist working in BNR, donated \$625.00 for the purchase and installation of a water system for the BNR Ranger Base. This system is being purchased during the month of November, 2006, and should be installed by December of the same year.

3. At the PACT 10 year anniversary celebration held in Belmopan in May, 2006, BMC was awarded a small solar system as well as one base radio and one hand held radio for the outstanding work that BMC has undertaken to improve the management and conservation of BNR. These items were installed in the BNR Ranger Base shortly after. In addition, it is worth noting that the Chairman of BMC, Mr. Bartolo Teul was awarded the "Protected Area Manager of the Year", for his service as the Chairman of BMC and the coordinator of Ya'axche Conservation Trust (YCT) programs. This was the first time such an award was ever offered in Belize.

- **BNR Ranger Capacity Building**

- 1. Medical and First Aid Training Course**

In May of 2006, BFREE in conjunction with the British Army Support Training Unit Belize (BATSUB) offered a Medical First Aid Training course which took place at the BFREE Research Station. Protected area managers and staff from 4 organizations including BFREE, BMC, Ya'axche Conservation Trust (YCT), and Toledo Institute for Development and Environment (Tide), participated in the one day course. The BNR rangers received training on back woods emergency medical procedures, including the use of splints, controlling bleeding, methods of carrying out injured persons from remote locations, trauma and head injuries, and the use of basic medical supplies.

Medical training participants getting a briefing by Chief Medical Officer of BATSUB on safety procedures during a Helivac in case of emergency at BFREE helicopter landing site. BNR Rangers in background.



- 2. Police Constable Practical Training Course**

BMC Chief Ranger, Sipriano Canti, participated in a 4 day Police constable lessons training exercise that was sponsored by Tide from October 20-21, and 27-28. The training was a Ranger law enforcement theory and practical with a mock trial done at the end of the fourth day. The first two days of practical was held at Tides conference room in Punta Gorda, and the field exercise took place in one of Tides managed protected areas. This exercise proved to be very useful to the BNR Chief Ranger, who will be passing on lessons learned to the other Rangers during the orientation period to take place during the month of November. Although the CEPF grant had expired just previous to this course, never the less, the BNR Lead Ranger participated showing his commitment and interest in fulfilling his obligations as a guardian of BNR.

- 3. Bladen Nature Reserve Management Meeting**

In May of 2006, a BNR Management Planning Workshop was held at BFREE attended by over 28 individuals from 14 organizations including PACT, CI, BFREE, U. of Michigan, U. of California, U. of North Carolina, the Belize Forest Department, FCD, Tide, BAS, YCT, Wildtracks, WCS, and BMC to discuss the management planning for BNR. The 3 day workshop was attended by the BNR Rangers.



Chief Forest Officer, Wiber Sabido, giving presentation on the National Protected Areas System Plan at BFREE



BNR Rangers, Sipriano Canti and Clemente Pop (right front) attending workshop

- **BNR Base Map**

During the course of the project, BNR Rangers kept a written daily log and were able to collect GPS points of hunting camps, trails, dispensed shotgun shells, signs of hunting, and illegal activities in general. This information was used during the BNR Management Plan development and production, which was ongoing during the course of this project. In particular, this data was used to develop a Critical Areas map for the management plan.

- **BNR Entrance Road Upgrade**

BFREE was in contact with the Commander of the British Army Support Training Unit Belize (BATSUB) concerning the condition of the service road leading into BNR and BFREE. This road has remained un-maintained for decades. With the implementation of a full-time ranger presence at BNR, and the likely hood that such a presence will remain and increase with time, BFREE was able to secure the assistance of the BATSUB engineers to attempt to upgrade the entrance road. The project started in mid-May of 2006, and a continued for about 6 days until rainy weather prevented the unit from completing their desired tasks.



Acquisition of materials for road upgrade paid for by BFREE



BATSUB conducting road upgrade

- **Education and Information Sharing in Buffer Communities**

Throughout the course of the program, BMC, through their Outreach and Education Officer, Oscar Hernandez, conducted a number of outreach and community meetings in buffer communities adjacent to BNR. These were funded by BMC itself, but often included the BNR Ranger team. Meetings were held at Trio and Bladen villages on April 7th, 8th, July 12th, August 11th, and September 5th. In addition, Mr. Hernandez conducted a written survey of both Bladen and Trio villages in August of 2006, to determine the knowledge base of community members about the BNR, protected areas, and conservation in general. This report was delivered to the BMC board of Directors, which will be used in future planning for community participation and educational activities.

These village meetings have proved very productive and valuable in providing a doorway for open communication and linkages from the buffer villages to BMC and BNR in general. Mr. Hernandez has proved to be a vital link between BNR and the communities, and is a powerful and effective advocate for the reserve. Since these meetings have taken place, villagers, particularly from Trio village, now understand the importance of BNR, its legal designation, the rules and regulations pertaining to the park, and see the benefits of the reserve for their own livelihoods. The future for better linkages and alternative livelihood strengthening activities for these communities looks bright.

Mr. Hernandez produced the first ever BNR informational flyers and posters in both English and Spanish, that were distributed to community members in these villages. All of the educational activity reports and materials will be made available to the Environmental Education Officer being funded through the FCD grants from CEPF and PACT.

- **Employment Opportunities for Buffer Community Members**

BFREE in collaboration with BMC undertook the process of hiring the three BNR rangers from communities buffering BNR to provide a link between communities and the protected area, and provide direct financial benefits in the form of employment from the reserve. The three Rangers represented two communities, namely Golden Stream Village located approximately 8 miles from BNR and Big Falls Village, located about 15 miles from BNR.



BNR Ranger team.

From left to right, Sipriano Canti, Lead Ranger from Golden Stream Village, Clemente Pop, Ranger from Golden Stream Village, Martin Coy, Ranger from Big Falls Village.

4. Did your team experience any disappointments or failures during implementation? If so, please explain and comment on how the team addressed these disappointments and/or failures.

No failures were experienced during the project. However, near the end of the project the ranger team did find evidence of a fresh camp within BNR where there was evidence that extraction occurred of xate palm leaves. This was the first time that the illegal extraction of xate has ever been reported from within the BNR, and this fact pointed to the ever increasing threat of this type of illegal harvesting in the Chiquibul/Maya Mountains KBA, extending so far east into Belize. This was very disappointing, because although threats from the recent agricultural development in the Trio area were being well addressed by this project, other new threats, such as xate harvesting did become apparent, and became an issue which needed to be addressed.

5. Describe any positive or negative lessons learned from this project that would be useful to share with other organizations interested in implementing a similar project.

Lessons learned were generally positive. By implementing the BNR Protection Program, within a very short time the members of communities buffering the BNR, in particular Trio village, became educated and familiar with the rules and regulations pertaining to BNR, and the importance of preserving the integrity of this undisturbed and biologically diverse reserve. Once community members were aware of the park boundaries and the laws pertaining to its management, and the fact that a full time ranger team was monitoring BNR for such illegal activities, virtually all illegal activities halted. Before project implementation, the buffer communities were simply unaware of the reserves existence, its boundaries, and the benefits of keeping the reserve intact.

6. Describe any follow-up activities related to this project.

Follow up activities will be implemented within the scope of the Medium Sized grant from CEPF to FCD, called, "Improving Management in the Core Conservation Areas of the Chiquibul/Maya Mountains Key Biodiversity Area in Belize" See Bellow under **IV. Additional Funding.**

7. Please provide any additional information to assist CEPF in understanding any other aspects of your completed project.

Leveraging of Additional Support

One of the most important aspects of this project, in addition to the activation of a full time ranger presence in BNR and the dramatic decrease in illegal and destructive activities due to the ranger program, was the way in which this project attracted additional support, both financial and otherwise. This initial investment into the protection of BNR has leveraged donors and support from the local, national, and international community, leading to the likelihood of a strong sustainable long term management program for the BNR and the greater CMM/KBA.

IV. ADDITIONAL FUNDING

Provide details of any additional donors who supported this project and any funding secured for the project as a result of the CEPF grant or success of the project.

Donor	Type of Funding*	Amount	Notes
PACT	B	\$5,000.00	Ranger Base
PACT	B	\$3,000.00	Solar System and communications equipment for Ranger Base
BFREE	A	\$1,000.00	Transportation and logistics
BFREE	C	\$2,500.00	Material for road upgrade
British Army Technical Support Unit Belize (BATSUB)	C	\$27,000.00	BNR/BFREE Entrance Road Upgrade
Dr. Steven Brewer Professor, UNCW	C	\$625.00	Water System for Ranger Base
Bladen Management Consortium	A	\$1,000.00	Training Programs for Rangers

**Additional funding should be reported using the following categories:*

- A Project co-financing (Other donors contribute to the direct costs of this CEPF project)*
- B Complementary funding (Other donors contribute to partner organizations that are working on a project linked with this CEPF project)*
- C Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF project.)*
- D Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)*

Provide details of whether this project will continue in the future and if so, how any additional funding already secured or fundraising plans will help ensure its sustainability.

CEPF Medium Sized Grant to FCD

This project will continue with the activation of the medium sized grant to Friends of Conservation and Development (FCD) from CEPF for the total amount of \$370,000 called "Improving Management in the Core Conservation Areas of the Chiquibul/Maya Mountains Key Biodiversity Area in Belize" This project has funds earmarked for BNR in the amount of \$118,250.00 over a 2,2 year period. Other funds within the project will benefit BNR indirectly through administrative, educational, financial management, and program development support.

PACT Large Sized Grant to FCD

Additionally, the Protected Areas Conservation Trust (PACT), has recently granted FCD a large sized grant in the amount of \$417,500.00 for a program called, "A Sustainable Management Program for the Core Conservation Areas of the Chiquibul/Maya Mountains Key Biodiversity Area in Belize, Central America." The focus of this grant is to provide additional funds to strengthen the CEPF grant, and inject much needed added resources to ensue the objectives of the CMM/KBA program can be attained. These additional funds indirectly benefit the BNR and provide a new framework for the consolidated and coordinated efforts to manage the core protected areas of the Chiquibul/Maya Mountains as one integrated unit.

PACT Small Grant to BMC

In September of 2005, BMC received a grant in the amount of \$17,500.00 from PACT for the production of a Management Plan for BNR. The BNR Rangers played a vital role in acquiring and providing information used in the Management Plan, and participated in 3 management planning workshops. A portion of these funds were also directed to the first paid administrative position the BMC has had, namely an Educational Outreach Officer. Oscar Hernandez, a recent graduate from Independence High School and a resident of Trio Village, was identified by BFREE and hired by BMC to fill this position. Mr. Hernandez focused on biology in high school and received the second highest grade in his graduating class. He quickly became a strong advocate for BNR, BMC and BFREE in Trio Village as well as other buffer communities close to BNR, and was very active in his outreach work, including working closely with the BNR rangers. Mr. Hernandez developed the first educational materials ever created for BNR, and conducted approximately 8 village meetings in Trio and Bladen Villages, some of which the BNR rangers participated in. Mr Hernandez has been hired as a BNR Park Ranger under the CEPF Medium Sized grant to FCD, and he continues to show tremendous initiative, skill, and enthusiasm as a advocate for the continued conservation of BNR and the greater CMM/KBA.

TNC Small Grant to BFREE

BFREE recently received a small grant from The Nature Conservancy in the amount of \$15,000.00 for a program entitled, "An Integrated Community Based Harpy Eagle and Avian Conservation Program for the Maya Mountains Massif." The goal is to build capacity for avian conservation in the Maya Mountains by enhancing the links between protected areas and their surrounding communities. The project objectives include: 1) Initiate survey and monitoring of Harpy Eagles in the Bladen Nature Reserve (BNR) as a complement to the current, on-going Belize Harpy Eagle Reintroduction Program (BHERP) in Northern Belize. 2) To initiate survey and monitoring of Neotropical migratory and resident birds in the Bladen Nature Reserve (BNR) to provide base-line data contributing to regional-scale bird conservation and sound management, while providing for community-based alternative livelihood strengthening. 3) To enhance environmental awareness of protected areas and species through environmental education. One of the activities which will take place during the course of the grant, is to provide training on bird identification and research methodology to the BNR Ranger team (under the medium sized CEPF grant to FCD), which will enhance their knowledge and understanding of the natural communities within BNR. In addition, the information gathered during the program can be used in the development of the Environmental Education programs which will be implemented by the Environmental Educator within the framework of the CEPF Medium Sized grant to FCD, as well as the PACT Large Sized grant to FCD.

USFWS NMBCA Grant to BFREE

In addition, BFREE is currently preparing a grant submission to the U.S. Fish and Wildlife Service – Neotropical Migratory Bird Conservation Act grants program for the amount of \$200,000.00 to strengthen the BFREE grant received by TNC, which will also provide much needed training and education to the BNR Ranger Team, as well as provide additional alternative livelihood strengthening to community members living in nearby villages adjacent to BNR.

PACT Large Sized Grant to BMC

BFREE, as an active member of the Bladen Management Consortium (BMC), has been invited by PACT to submit a Large Sized Grant of up to \$400,000.00 for the strengthening of the BNR program and activities outlined in both the CEPF and PACT grants to FCD. The development of this grant submission is underway, and BMC hopes to submit this grant by June 2007.

V. ADDITIONAL COMMENTS AND RECOMMENDATIONS

None

VI. INFORMATION SHARING

CEPF aims to increase sharing of experiences, lessons learned and results among our grant recipients and the wider conservation and donor communities. One way we do this is by making the text of final project completion reports available on our Web site, www.cepf.net, and by marketing these reports in our newsletter and other communications. Please indicate whether you would agree to publicly sharing your final project report with others in this way.

Yes _____

No _____

If yes, please also complete the following:

For more information about this project, please contact:

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