

Belize Cacao-based Agroforestry Restoration Program

BCARP:

The Belize Cacao-based Agroforestry Restoration Project (BCARP) is a small-scale tropical forest restoration program. BCARP encourages cacao-based agroforestry, preventing clearing of tropical forests for crops like pineapple, plantain, corn and citrus. Growing cacao will maintain the migratory bird habitat in the Trio Agricultural Community, Toledo District, Belize, Central America.

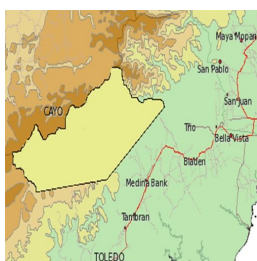
This program is funded from the U.S. Department of the Interior, Fish and Wildlife Service, on behalf of the Nyanza Natural Resource Damage Trustee Council – comprised of the Service, Commonwealth of Massachusetts and National Oceanic and Atmospheric Administration.

Project time frame:

Initiated in October 2012 to 2018

Project Area:

Trio Village, Toledo District, Belize



Objectives:



- ⇒ 1. Identification and selection of farms in the Trio agricultural community
- ⇒ 2. Monitoring continuously the Neotropical migratory bird populations in the selected project area
- ⇒ 3. Training workshops for farmers in shade grown organic cacao
- ⇒ 4. Development of nurseries of Cacao



- ⇒ 5. Planting of Cacao as understorey within farms, preventing clear felling of tropical forests
- ⇒ 6. Educational outreach programs for farmers, community members and BFREE visitors about this conservation initiative.
- ⇒ 7. Marketing strategies for organic Cacao



In attempts to conserve and restore migratory bird habitat in Belize. Five farmers entered a five-year contract to allocate a portion of their 30+acre farms for conversion from slash & burn agriculture to bird friendly cacao-based agroforestry.



Farmers received :

- ⇒ payment for ecosystem services including financial support for each converted acre,
- ⇒ training in organic agriculture and agroforestry,
- ⇒ supplies including saplings, seeds and planting bags, and

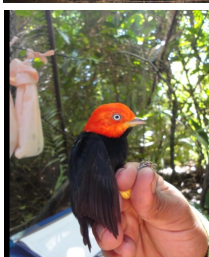
- ⇒ technical assistance,
- ⇒ and will receive support identifying and offering products to various markets



2012-2013



- ⇒ In the first year ten **plus stakeholder meetings** held in the Trio community to determine interest, develop contracts, and to initiate the project. Site visits followed the meetings to determine whether the plots were suitable for shade-grown cacao.



- ⇒ University of Florida's, Levin College of Law, Conservation Law Clinic helped to develop contracts **in both English and Spanish.**

- ⇒ Baseline **bird monitoring activities** by point counts / Mist-netting/ bird banding in 2 plots in Nov 2012. 26 species of NT Migrants and 65 residents identified.
- ⇒ Contracts signed and payments for **environmental services** begin from 28 Feb, 2013 (once every 4 months/ \$200/acre/year)
- ⇒ **Exposure visits** to BFREE field station

- ⇒ **Three training workshops** for farmers from Dec 2012 to Aug 2013
- ⇒ **Nursery** established by Feb 2013
- ⇒ Over **10,000 trees** were **planted** between August 15 and September 5, 2013
- ⇒ Cacao farm manager participated in the first **Cacao Forum** in Belize on 19 June, 2013 organized by MNRA

2014

- ⇒ Baseline **bird monitoring activities** by point counts /Mist-netting/ bird banding in 3 plots in Nov 2013. 31 species of NT Migrants and 79 residents identified.
- ⇒ BCARP Coordinator, William Garcia, led an educational meeting with farmers interested in cacao at Trio Government School on March 16, 2014.
- ⇒ Jacob Marlin, BFREE Executive Director, and William Garcia held three farmer and stakeholder meetings in the Trio community during 2014 (April 13, June 7, and August 31) to discuss progress on existing farms, answer questions, and trouble shoot issues.
- ⇒ Additional farmers who signed on began receiving support in the form of seeds, bags, labor and supplies for creation of their backyard nurseries, extension services and training.
- ⇒ Six nurseries were established during the spring of 2014. BCARP funds covered the labor for activities of collecting the soil for bags, small trees for posts, palm fronds for thatched roofing and fences of various materials.
- ⇒ Total seedlings planted since inception 20,000. Total land dedicated to cacao-based agroforestry reached 52 acres .Some farmers integrating coffee and plantain as well.
- ⇒ Two USFWS staff members and three students and two faculty members from the University of Florida participated in a visit to the nurseries and two BCARP farms in Trio on March 7.
- ⇒ USFWS Biologist Molly Spurduto, staff visited Golden Stream Community School, starting a pen pal project between Belize and Canterbury Elementary school, New Hampshire.
- ⇒ Two one-day training workshops were held on 30 march 2014 and 5 October for 2014 for 15 individuals including BCARP farmers and Trio Agricultural community members. Topics covered included: Picking Best Seeds for your Nursery, Germination Boxes, Caring for Plants in your Nursery, Planting and Caring for Small Plants, Common Plant Diseases and Organic Fertilizers.

⇒Crop affected by Stem borer beetle, this was a setback

⇒14 Oct 2014 meeting with farmers to check the health of the cacao saplings and offer guidance in disease and pest control, caring for young trees, and managing shade.

⇒Gentry Mander, a MS student at UF , after a BFREE field course reviewed the cacao industry in Belize and created the associated “*Cacao Value Chain Analysis in Toledo District, Belize.*”

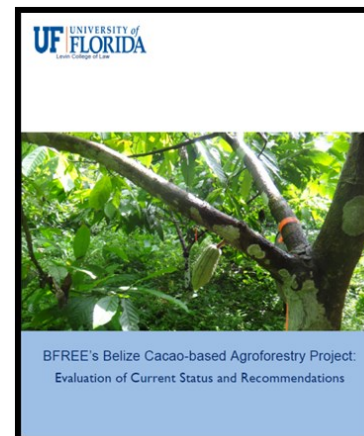
⇒With guidance from BFREE staff and led by professor Dr. James Rotenberg six graduate students in the Department of Environmental Studies, University of North Carolina, Wilmington created a template and partial content for the BFREE **Cacao Agroforestry Handbook**



2015

- ⇒ Baseline **bird monitoring activities** by point counts /Mist-netting/ bird banding in 5 plots in Nov 2015. Out of a total of 90 species, 69 species of NT Migrants and 20 residents identified.
- ⇒ 10 Sep 2015 A report submitted by Greg Toth and Tom Ankersen of Levin college of Law, UF. It details the impacts of payments for ecosystem services and its results. The report concluded that all

participants expressed interest in continuing the program despite lost investment of their own time and money. This willingness, however, was caveated with request for improved conditions; including more financial aid and technical assistance



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Challenges



- ⇒ Stem borer Beetle
- ⇒ Forest fires
- ⇒ land tenure issues
- ⇒ Poor infrastructure

Outcomes

- ⇒ Migratory Birds using the habitat
- ⇒ Participating area up to 48 Acres.
- ⇒ Economic and Environmental advantage of Cacao recognized by farmers
- ⇒ Despite losses, farmers willing to discuss alternatives

Learnings

- ⇒ Extension efforts very important in any agroforestry system
- ⇒ Good communication and documentation
- ⇒ Payment for Environmental Services (PES) not the only motivator

BFREE



The Belize Foundation for Research and Environmental Education (BFREE) is a US non-profit organization, 501 (c) 3, that manages a field station and private reserve in southern Belize. The BFREE land is 1,153 acres (467 hectares) and is surrounded on three sides by national protected areas and with the farming community of Trio on the fourth side. Trio serves as base for the BCARP pilot program.

<http://www.bfreebz.org/>

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