

Annual Report by the US for Belize Foundation for Research and Environmental Education (BFREE) on the Belize Cacao-based Agroforestry Restoration Program (BCARP) February 4, 2015

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Background:

BCARP is a six-year project spear-headed by the U.S. non-profit, US for Belize Foundation for Research and Environmental Education (BFREE), to convert degraded land to cacao-based agroforestry for the purpose of expanding migratory bird habitat in the Trio Agricultural Community, Toledo District, Belize, Central America. This program was initiated in October 2012 with funding 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.

Trio borders BFREE reserve land on the eastern side. Approximately half of the residents of this community are Maya and the other half are Spanish-speaking immigrant farmers primarily from Guatemala and Honduras and, in small part El Salvador, who were granted 30-acre plots of land in 2007. Farms in this area include citrus, pineapple, plantain, corn, and cattle. Some of the land has yet to be converted farmland and is second-growth forest.

Project Activities:

- Annual monitoring activities took place on three plots in November 2013. Point counts and mist-netting and bird banding were implemented on each site to determine resident and migratory species utilizing the plots. Thirty-one species were Neotropical migrants and seventy-nine were residents. NMBs included: Yellow-Breasted Chat, White-Eyed Vireo, Ovenbird, Wood Thrush, Worm-Eating Warbler, Swainson's Warbler, Prothonotary Warbler, Kentucky Warbler, and American Redstart
- BCARP Coordinator, William Garcia, led an educational meeting with farmers interested in cacao at Trio Government School on March 16, 2014. He provided background information about BFREE and its role in conservation and its location in relation to Trio. He then focused the remainder of the morning on migratory birds, the benefits of organic, shade-grown agriculture for both people and birds and also about cacao as the primary crop. Nine Trio community members were in attendance.
- 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. Two meetings were directed to new farmers to determine interest in joining the project without the associated payment for environmental services and to clarify the roles and responsibilities of farmers joining BCARP.

- Five additional farmers agreed to participate and sign contracts of their commitment to the project without the benefit of payment for environmental services. These farmers 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. Five were near the homes of each of the new project farmers and the sixth was re-established in the original location as a communal nursery to be shared by the original group of participating farmers. BCARP funds covered the labor required to build the nurseries, including the multi-day activities of collecting the soil for bags, small trees for posts, and palm fronds for thatched roofing. Additionally, fences made from various materials were installed to protect the nurseries from dogs and chickens.
- Total land dedicated to cacao-based agroforestry reached 52 acres and total cacao trees planted since the project inception is over 20,000. Two farmers have begun integrating coffee and plantain in their understory 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. Two BCARP farmers were on-hand during the visit and a description of the project was delivered to the group.
- Two one-day training workshops were held for 15 individuals including BCARP farmers and Trio Agricultural community members: one led by Kenroy Thomas, Cacao Manager of Belcampo Agritourism Center, Punta Gorda, Belize and held in Trio Village on March 30 and another at the BFREE field station led by BFREE Cacao Farm Manager, Elmer Tzalam, on October 5. 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.
- October 14, BFREE Cacao Farm Manager, Elmer Tzalam, and BFREE Executive Director, Jacob Marlin, met with farmers and visited the original BCARP farms to check the health of the cacao saplings and offer guidance in disease and pest control, caring for young trees, and managing shade.
- During her March visit to review the progress on the BCARP project, USFWS Biologist, Molly Sperduto, and BFREE staff visited Golden Stream Community School, a primary school in a village near the BFREE reserve. This visit spawned a pen pal project in which Standard III students corresponded with third-graders attending Canterbury Elementary School in Canterbury, New Hampshire. Using the theme of migrating birds as described in Cornell's *Bird Sleuth* activities, students began their letter exchange. By December, two additional classes in the states were added to the program: a group of fourth-graders from New Hampshire and a group of sixth-graders from North Carolina.

Additional Results:

- In April 2014, Gentry Mander finalized and presented her Field Practicum Report “Cacao Value Chain Analysis in Belize,” in partial fulfillment of the requirements for a Master of Sustainable Development Practice Degree at the University of Florida. Ms. Mander’s report details her 2013 field work supervised by BFREE staff and focusing on cacao industry in the Toledo District of Southern 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 as the final project for their semester-long course EVS 530: Tropical Environmental Ecology. This illustration-heavy handbook is written in English with Spanish translations and was designed for farmers with no or limited literacy. This template will be verified, refined, and finalized during 2015 in order to distribute to farmers participating in the BCARP project and will also be made available to others interested in growing cacao throughout southern Belize.