



Monitoring Reforestation Sites in the San Luis Valley

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Introduction

The mission of University of Georgia (UGA) Costa Rica is to advance its understanding—through instruction, research and outreach—of the interconnected nature of human and environmental systems, particularly the concepts of socio-cultural, ecological, and economic sustainability. Launched in January of 2008, the UGA Costa Rica Carbon Program seeks to fulfill UGA Costa Rica's mission by offsetting carbon emissions related to travel, and restoring critical habitat on degraded pasturelands where tropical rainforests once stood. These new forests will help to improve forest connectivity throughout the Pájaro Campana Biological Corridor, and carbon offset purchases through the UGA Costa Rica Carbon Program will directly contribute to the establishment of new habitat for the three-wattled bellbird (known in Spanish as Pájaro Campana, the flagship species for the corridor) and the resplendent quetzal, two migratory species greatly impacted by habitat loss in this region.



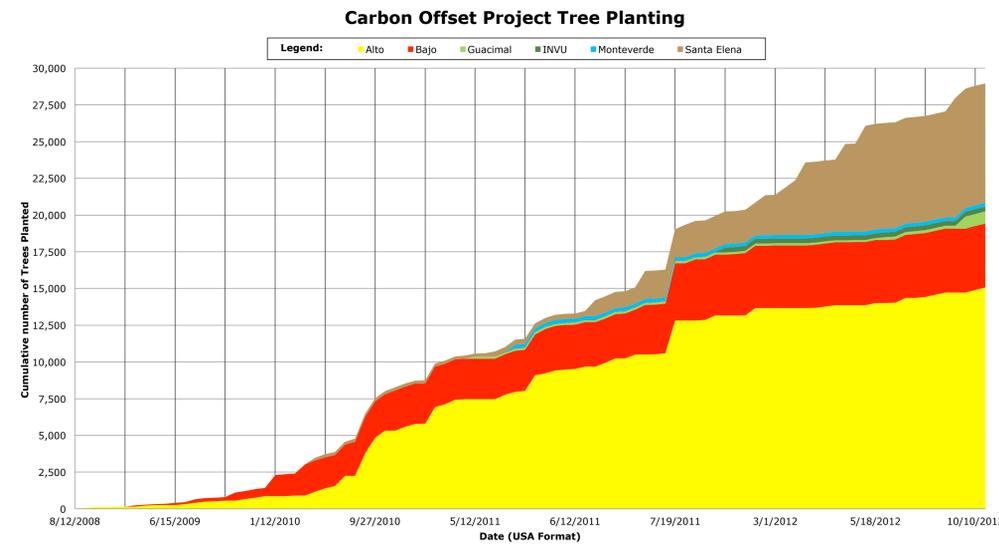
Aerial view of the San Luis Valley

Suggestions

Although the UGA Costa Rica Carbon Program has been underway for five years, it is still a new project that needs refining. More detailed and careful management of the nursery will aid in perfecting the program, as well as obtaining data from the reforestation trees at planting time as opposed to years after they have been given the opportunity to grow will help increase accuracy of the measurements. In addition, establishing a more clear and concise understanding of the expectations of the volunteers who are planting the reforestation trees on their land will decrease tree mortalities and increase the program's overall success rate.

Carbon Neutrality Goals

- Creation of a strategic plan designed to achieve carbon neutrality by 2015 based on a 2011 thorough carbon footprint analysis for the UGA Costa Rica campus
- Grow the carbon offset program to reach a total of 60,000 trees planted in the Pájaro Campana Biological Corridor by 2015

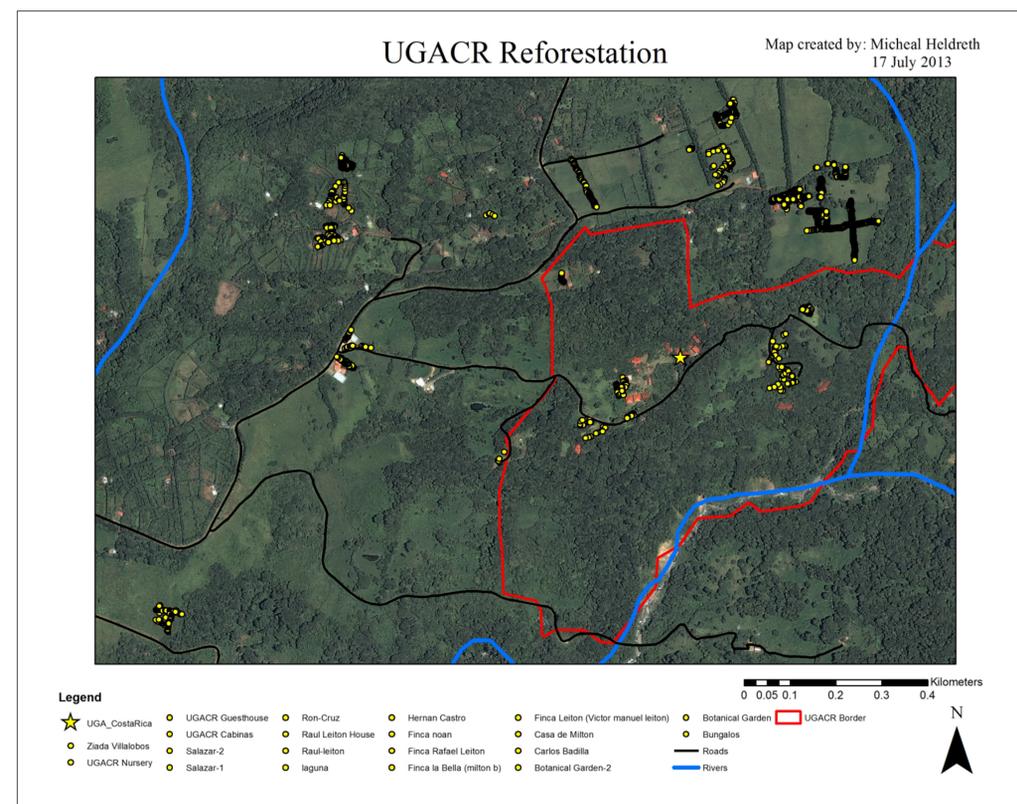


Three-Wattled Bellbird (*Procnias tricarunculatus*)

Procedure

Daily activities followed a fairly routine procedure, beginning with determination of the next reforestation location; there were several areas within walking distance of the UGA Costa Rica campus that contained reforestation trees, all of which needed to be visited.

- Once the location was established, the trees were individually identified by their scientific name and recorded using a modest shorthand, which consisted of the first three letters of the tree's genus followed by the first two letters of the tree's species name.
- Additional data was collected for each reforestation tree, including the year planted, diameter in millimeters, height in centimeters, the GPS coordinates, and any other necessary notes, such as "cow damage" or "diseased leaves".
- Finally, each tree was tagged with flagging tape that had the shorthand name as well as the tree's number; the trees were numbered one through "n" for each location to aid in identification clarity.
- Once the field data was collected, it was inputted into a master Microsoft Excel spreadsheet.
- It is the expectation that these trees will be re-recorded for the aforementioned data every one to two years in order to calculate their carbon sequestration and monitor their reforestation effectiveness.



ArcGIS Map of UGA Costa Rica Reforestation

This map was constructed in ArcGIS using the GPS coordinates of each reforestation tree in the San Luis Valley. The yellow dots indicate the locations of each tree and the star marks the location of the UGA Costa Rica Campus. This map has not yet been finalized; it is the most recent depiction of the reforestation area and it will continue to develop as more tree information is added into ArcGIS.

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