

BRAZIL

CONNECTING THE ATLANTIC FOREST THROUGH WILDLIFE CORRIDORS

May 2017 Report



HECTARES FINANCED

453



TREES FINANCED

906,502



TONS CO₂ SEQUESTERED¹

143,789



BENEFICIARIES

177

A total of 906,502 trees have been financed thanks to the support of donors and sponsors

THE PROJECT

In collaboration with our partner IPÊ, WeForest is restoring forest corridors between two important remnants of the Atlantic Forest, the Morro do Diabo State Park and the Iguacu National park. This forest has been cleared to such an extent that only 7% remains today. WeForest is working in the region of Pontal do Paranapanema, where only 3% remains. The project relies on strong partnerships with local community-run nurseries and members of the Landless Workers' Movement to carry out the nursery and planting activities. Private landowners are engaged in the project by restoring forest on their land. All restored areas are officially registered in an Environmental Register as legal reserve or Areas of Permanent Protection. WeForest has been working since 2014 to sequester carbon and combat climate change, increase biodiversity and habitat connectivity and empower rural families.



KEY DETAILS:

Location: Pontal do Paranapanema

GPS: 22.29.134S/52.34.115W

Restoration approach: Framework planting and assisted natural regeneration

Partners: Instituto de Pesquisas Ecológicas (IPE) and departments of the University of São Paulo, Federal University of São Carlos, University of São Paulo Leste

¹This carbon figure is based on research conducted in the region of Pontal do Paranapanema. The total above-ground and below-ground biomass can store an average of 317.24 tons of CO₂ per hectare over a period of 30 years. Ditt, E.H. et al. 2007

²Framework planting is a technique to planting that involves planting species in ways that promote the natural succession of the forest

³ANR is a method that enhances the natural processes of forest restoration, focusing on encouraging the natural establishment and subsequent growth of indigenous forest trees, while preventing any factors that might harm them

PLANTING UPDATE

KEY PLANTING FACTS

- 452 ha under restoration
- 5 planting areas
- 10 community-based nurseries
- 115 native species
- Main species²: *Gochnatia polymorpha*, *Guarea guidonea*, *Tapirira guianensis*, *Inga striata*

During this reporting period, a new site, Santa Zélia, measuring 50 ha, began restoration. The planting contractors are working to encourage the regeneration of native trees and shrubs by manual and chemical control of invasive grasses and are planting seedlings through the forest patches to fill gaps. A further 159 hectares in Rosanela underwent restoration this reporting period. Through a mix of active restoration, in the form of direct planting, mixed and passive restoration, in the form of assisted natural regeneration and enrichment planting, the team has completed restoration of Rosanela. In Arco Iris and Santo Antonio restoration has been completed prior to this reporting period. In Santo Antonio, where ecosystem resilience is high, our partner IPÊ developed its own succession-based model consisting of mainly 'filling' planting lines with 10–12 fast-growing species that are planted to promote fast soil coverage and improve environmental conditions near the ground. A total of 161,000 seedlings were planted in Santo Antonio. In Arco Iris, the team planted a total of 40,600 trees in this 20 ha of rural settlement land. In both of these sites, maintenance activities are being carried out. The team is controlling leaf cutter ants and educating the local community on the importance of avoiding fire and other threats to the restored forest, such as cattle and exotic weeds.

NOVEMBER - APRIL 2017:

- 159 ha restored in Rosanela
- 50 ha identified for restoration in Santa Zélia settlement
- 360,000 seedlings produced in nurseries
- 119 kg of seeds collected from a diversity of species

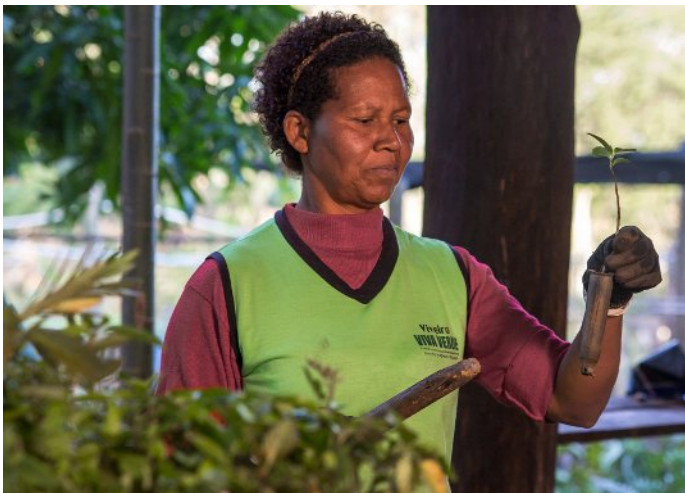


Figure 1. Maria Regina Espirito Santo preparing seedlings at the nursery



Figure 2. Growing seedlings flourishing at the nursery

Currently, the team is preparing for the next annual forest inventory that will take place in the summer period. In fixed monitoring plots species, diameter at breast height and height measurements of trees will be recorded to estimate the carbon accumulation, diversity of species and ecological health of the growing forest. A new site, north of the Morro do Diabo State Park, where populations of the endangered black lion tamarin reside, has been selected for restoration.

AREAS RESTORED :

- Total 453 ha
- Arco Iris: 20 ha
- Santo Antonio: 85 ha
- Rosanela Conservation Area: 31 ha
- Rosanela Farm: 267 ha
- Santa Zélia: 50 ha

ARCO IRIS



Figure 3. Arco Iris site in 2014

Figure 4. Arco Iris site in 2016

SANTO ANTONIO



Figure 5. Santo Antonio site in 2014

Figure 6. Santo Antonio site in 2016

ROSANELA



Figure 7. Area 1 in early 2016 after saplings had just been planted



Figure 8. Area 1 a year after planting in 2017



Figure 9. Area 2 in 2016 with invasive grasses flourishing



Figure 10. Area 2 in 2017 after grasses have been treated and saplings planted



Figure 11. Area 3 in 2016 before saplings were planted



Figure 12. Area 3 in 2017 after saplings had been planted

SOCIO-ECONOMIC UPDATE

KEY SOCIO-ECONOMIC FACTS:

- 177 local people directly engaged in project activities
- 115 nursery workers (23 families)
- 62 restoration contractors (15 families)
- Average monthly family income of \$650 from the nurseries
- Average monthly family income of \$1,137 from planting contracts

In total, 177 local people are directly engaged in the project activities; there are 115 nursery workers from 23 families and 62 restoration contractors. The nurseries along brought in US\$ 77,000 income for families during this reporting period. In addition, 76 families were trained in seedling production at the project nurseries. The Alvorado nursery has recently been offered co-financing through a local partner as a practical training platform in community agroforestry seedling production and planting techniques. The training that takes place at the project nurseries expands the impact of the project well beyond those directly engaged.

MAY - OCTOBER 2016:

- US \$77,000 in income from nurseries
- 76 families received training in seedling production



Figure 13. Walter Alvorado at his nursery

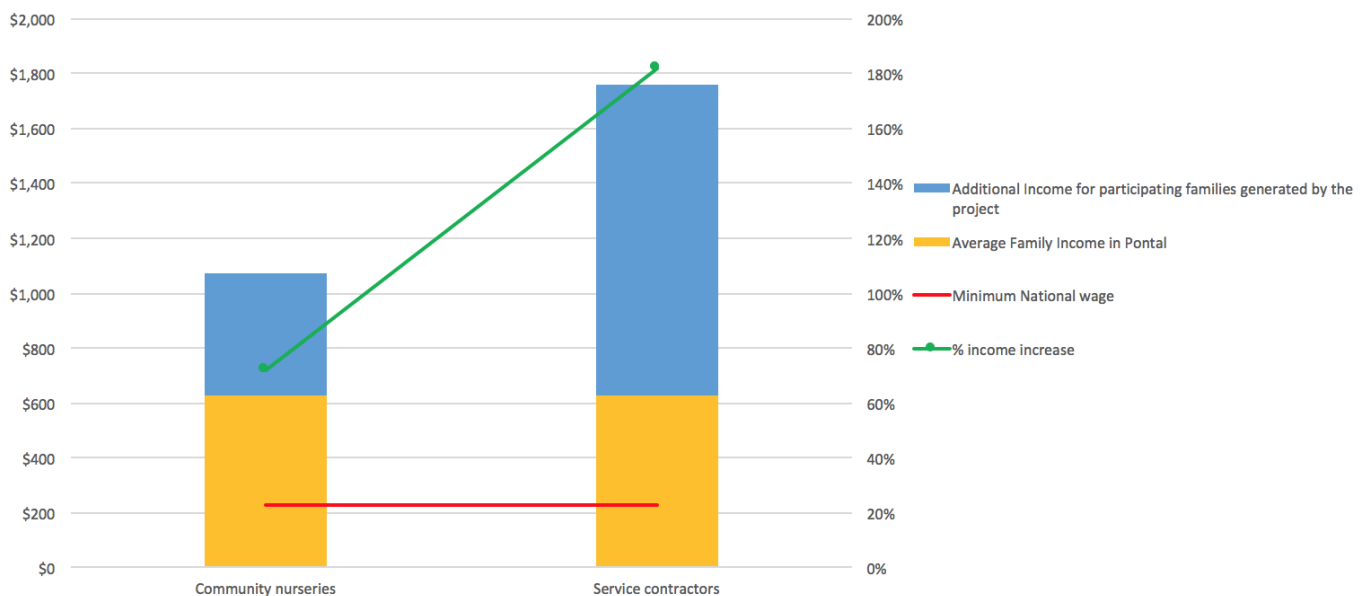


Figure 14. Planting contractors plant seedlings in the corridor gaps at Rosanela

INCOME GENERATION

During this reporting period, monitoring of the economic impacts on the nursery workers and planting contractors took place using data. The analysis revealed that they generated approximately US\$ 367,000 dollars of local income during the past 36 months. This resulted in a mean extra income of U\$ 16,000 per family or approximately US\$ 450 per family per month. In Brazil the minimum wage announced as of January 1st, 2016 is US\$ 228 per month. The project is therefore providing a significant increase in income for families, corresponding to 2x the national minimum wage. In Pontal do Paranapanema, the mean monthly income of a rural family is US\$ 625. For the families that manage the nurseries, an additional 60% extra is earned on average. Similarly, the planting contractors have generated US\$ 410,000 of local income during the past 24 months. This resulted in a mean extra income of US\$ 27,300 per family or approximately US\$ 1,137 per family per month. For these families, the project provides an additional income corresponding to five times the national minimum wages an additional 180% of extra income compared to the mean income in Pontal.

Monthly Income increase recorded for participating families



Graph 1. Income generated for participating families

A NEW GROUP OF BLACK LION TAMARINS DISCOVERED IN PONTAL

Only around 1,000 endangered black lion tamarins remain today, in small, fragmented populations in the Atlantic Forest. Of this, 800 live in the Morro Do Diabo State Park. Populations have been observed in the northern part of the park and this is where where the project is targeting its efforts in 2017 and 2018. The tamarins have been collared and are monitored with GPS tracking devices to collect data on the habitat use and preferences and energy expenditures. This information allows us to further expand our restoration efforts to where it is needed the most to reduce the extinction risk of the black lion tamarin.



Figure 15. A black lion tamarin climbs a tree in Pontal

CARBON AND BIOMASS MEASUREMENT THROUGH REMOTE SENSING

In partnership with The Laboratory of Quantitative Methods of the Forestry Department in ESALQ University of São Paulo, biomass estimates are being gathered using LiDAR. This involves measuring distance to a target by illuminating that target with a pulsed laser light, and measuring the reflected pulses with a sensor. In short, it allows us to measure the height of a forest. Research shows evidence of a strong correlation between LiDAR-derived data and forest parameters obtained with ground-based measurement methods of forest inventory. The main objectives of the team involved in the project are to [1] assess LiDAR accuracy for biometric parameters estimation and [2] evaluate its potential to substitute or complement ground-based methods of forest inventory in Brazil.

MONITORING HABITAT RESTORATION

In partnership with University of São Paulo and IPÊ, WeForest is developing its own framework for impact assessment and certification of tropical forest restoration programs. The result of this research will develop a baseline and guide future monitoring of planting sites. The research proposal will be developed in four steps: 1) developing a framework and collecting data for ecological impact assessment of restoration; 2) benchmarking of certification standards (FSC, Rainforest Alliance, ISO 14001, etc.), legal instruments and monitoring protocols to produce a draft of a certification framework that could be applied to restoration programs; 3) testing the proposed restoration certification framework in a real restoration program; 4) consolidation of a restoration certification framework. Based on the results of the pilot application of the framework, it will be possible to develop and design a final proposal to be applied in other programs and regions.

PRESENTING THE WEFORREST MAPS

With WeForest's growing planting portfolio, managing and processing planting site polygons from different projects had become a complex task. The data collected by the respective project teams have to be processed in multiple steps using GIS software (QGIS) that involves a high level of manual work. Hence, there was a need to standardize these processes and centralize the management and assessment of planting sites data. With our partner, Open Forests we have been establishing a Forest Information System (FIS) that is bringing efficient project management for the WeForest project portfolio. Our aim is to bring our sponsors and donors as close as possible to our project sites and communicate transparently on the progress. As of May 2017, sponsors and donors of WeForest will receive up to date project information on their respective page. These will be populated with fresh stories directly linked with a GPS coordinate. With background satellite images, sponsors remain updated about the impact and development of the project.

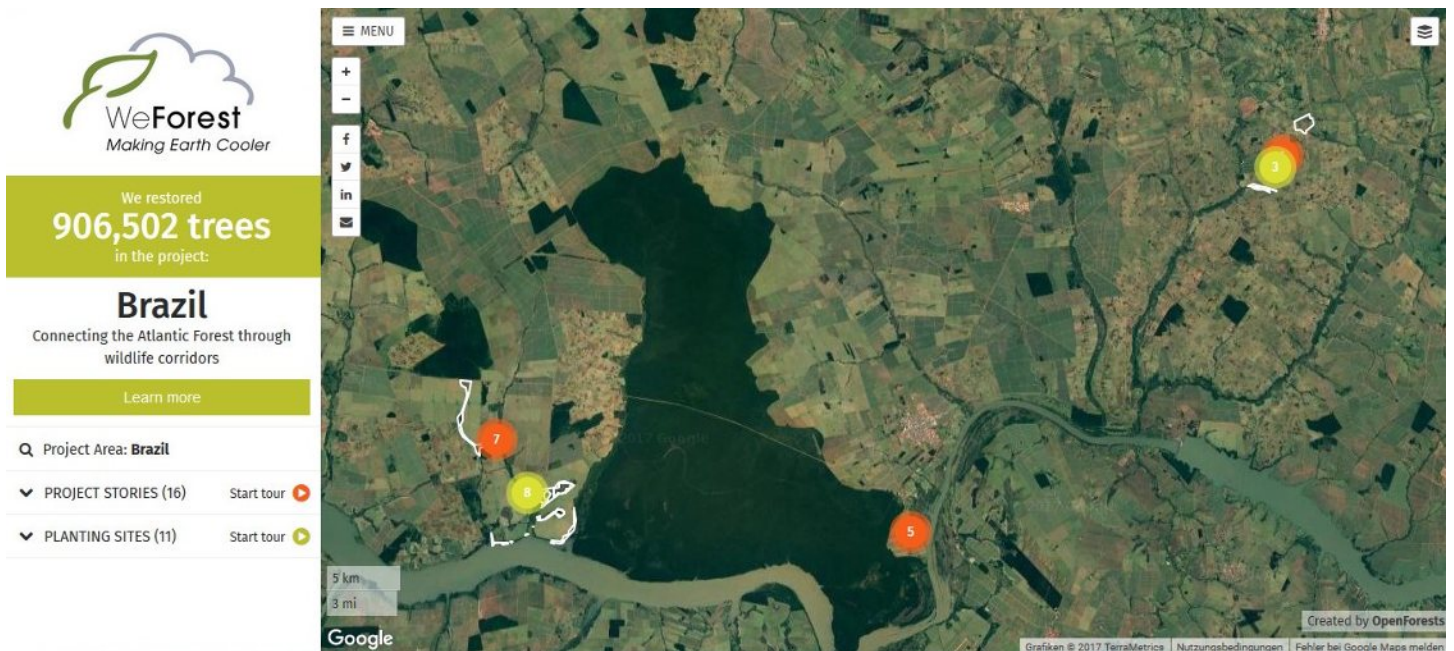


Figure 16. WeForest map of Brazil



THANK YOU

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