

BRAZIL

PONTAL DO
PARANAPANEMA

AUGUST 2019



WeForest

Making Earth Cooler

20 years ago, the Atlantic Forest was 6 times the size of the United Kingdom. Only 7% of the forest is still standing today and approximately 21% has been reduced to fragments of isolated green patches, scattered across a landscape that has been devastated by decades of deforestation.

Despite this, the Atlantic Forest still has significant potential for carbon sequestration and UNESCO considers it to be one of the world's most important biodiversity hotspots. The forest harbors a wealth of biodiversity, including more than 40 amphibian species, 100 mammal species, and 350 bird species.

WeForest, in partnership with the Forestry Department of the ESALQ University of São Paulo and other local universities contributes to the reforestation of these patches, helping to conserve the animals species in the region as more trees will facilitate the movement of wildlife and increase animal population. At the same time, the gene pool will become bigger which is key to the survival of a species. The animals, in turn, act as dispersers of tree seeds allowing natural regeneration to take place.



SCIENCE-BASED MEASUREMENTS AND VERIFICATION

Next forestry survey:	March 2020
Next socio-economic survey:	October 2019
Next carbon measurements:	March 2020



LANDSCAPE TRANSFORMATION

Trees funded: 1 724 000

Hectares directly restored: 862 ha

Total area positively impacted: 45 000 ha

Methodologies used:

Areas with no or very limited natural regeneration: planting of 2000 seedlings per hectare, using at least 100 native species.

Areas with intermediate potential for natural regeneration: encourage the regenerating of native trees and shrubs by manual or chemical control of invasive grasses and active restoration of those patches that are not covered.

Areas with high potential for natural regeneration: isolate the site from human-mediated disturbances and encourage the regenerating of native trees and shrubs.



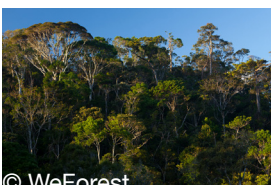
COMMUNITY ENGAGEMENT

WeForest's activities contribute to the entire landscape and the current estimate is that close to 500 families are benefitting through for example nurseries, planting and replanting, fencing, transportation, maintenance, weeding, training, monitoring, environmental education, and scientific surveys.

Around 15% of these families receive training in seedling production for the entire landscape, such as in seed collection, selection, and processing as well as nursery work (nursery financial management, irrigation, fertilization, weeding and trading).

8 community-based agroforestry nurseries operate for the project and supply to the local native seedling market.

11 farms and 1 settlement underwent restoration: 738 hectares in total.



CARBON SINK

With the total number of trees we have planted, we expect to have sequestered 273.254 tons of CO₂ in 30 years.

Based on recent carbon research in which we sample the above and below growth of 2408 trees, we found that after only 5 years these restored areas could absorb up to 139.644 tons of CO₂ (162 ton per hectare) – that is, if no climate disaster occurs.



BIOVERSITY CONSERVATION

A camera trap has spotted a Black Jaguar (*Panthera onca*) in the Santa Monica Reserve, surrounding the Morro do Diabo State Park.

Black jaguars belong to the same species as the "regular" jaguar. It is estimated that around 20% of jaguars are black jaguars. Interesting is that the spots are genetical mutations, therefore black jaguars can have "regular" jaguar kittens and vice-versa.

SHORT STORIES FROM THE FIELD

Towering above restoration

The relationship between forests, water and climate is complicated. To understand how forest restoration impacts water and climate processes, WeForest is participating in a new flux tower experiment, led by ESALQ from the University of São Paulo, and the French Agricultural Research Centre for International Development (CIRAD). The tower is being built in the middle of a 30-hectare experimental restoration forest in Brazil's Atlantic Forest, located in the São Paulo state.

Flux towers measure the exchange of water, energy, and carbon (CO₂) between forests and the atmosphere, allowing scientists to make predictions of how forests will respond to a changing climate and how land-use change like deforestation will impact global climate change.

Linking tree diversity to ecosystem functioning

The experiment will analyze the relationship between tree diversity and ecosystem functioning. The effects of tree species composition, drought and soil fertility on water and carbon cycles will be studied over the course of several years. Measuring water and carbon fluxes over the entire 'life history' of a growing forest - from the bare ground before planting to a mature forest - will help to understand the role of tree species diversity on ecosystem water and carbon cycles. This aids us to discover which species of trees and which combinations of species could maximize the benefits for water and carbon sequestration and how each species will respond to increasingly frequent drought events due to climate change.

Understanding the ecological effects of our restoration work

The resulting data will help us understand carbon and water cycles in WeForest's restoration sites and other restored areas of Brazil's Atlantic Forest. It will allow improvement of our restoration and management techniques which will maximize the benefits for water and climate.



A progressive forest law

The Brazilian Forest Code was first introduced in 1934 and since then it has been changed in 1965 and 2012. It aims to protect rivers, soils and forests on private lands (or farms) in Brazil. Under the forest legal reserves status, for example, depending on the size of the property, some landowners are required to keep 20% of their land covered by forests. Today, 21 million hectares officially fall under this law, and if they would all be restored, an estimated 9 gigatons of CO₂ would be sequestered from the atmosphere. This equals the total emissions from China over the entire last year!

Ecologically sensitive areas belong to the society

The government considers ecologically sensitive areas property of society and, therefore, it deserves to be protected and/or restored, even if this area is located on someone's private land. According to the Forest Code, the percentage of the total property that needs to be restored - or preserved if the farm already has enough forests - is around 20%, depending on the size of the farm. Code is usually around 20%.

Why work in Brazil then?

There is a need for knowledgeable and experienced partners, such as WeForest, to help farmers follow the Forest Code. We also look for areas where restoration can increase productivity. It is important to remember that we work with companies and partners that already have their restoration infrastructure in order but want to delve further than what the law requires them to do. Finally, we work to speed up the process as the Forest Code gives landowners 20 years to restore forested areas.




Avoiding that current political changes affect our projects

On January 1st, 2019 Jair Bolsonaro was sworn into presidency. During his election campaign, he had positioned himself on the other side of environmentalists and conservationists. Now, the new government argues that restoration harms agricultural production when in fact only one percent of all croplands are in areas of mandatory restoration. While it is hard to predict the coming years under Bolsonaro, our country representative Ricardo is confident that current WeForest projects are unlikely to be affected. *“Our partners are mostly non-federal public agencies, NGO’s, universities, private sector companies, and land-owners,”* he says. *“They have always been a strong driver of restoration in Brazil, and though there is the risk that the international funding for restoration projects will become less, we are planning on continuing what we are doing and keep our projects successful.”*

UPCOMING 6 MONTHS

- Plant 600,000 trees (300 hectares) in the Pontal do Paranapanema region.
- Develop guidelines to improve restoration practices with our partners.
- Monitor the social impact of the project on local families in partnership with researchers of the University of São Paulo.
- Quantify the benefits of connecting forest patches landscape
- Continue measuring carbon as well as ecological and social impacts



WeForest is an international non-profit that specializes in mobilizing companies to restore the World's forests and embark their stakeholders into a long-term journey towards environmental sustainability.

In order to achieve the objectives of the Paris Climate Agreement, we need to start decreasing our global emissions by 2020 and achieve carbon neutrality by the second half of this century. While reducing carbon emissions is critical, research suggests that even if carbon dioxide emissions came to a sudden halt, the carbon dioxide already in the Earth's atmosphere could continue to warm our planet for hundreds of years. The challenge is to reduce future carbon emissions and actively remove the excess carbon from our atmosphere.

Forests are known as the best technology for that: they are an amazing carbon sink.

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THANK YOU

