

Tietê Forests, Brazil

Mid-Year Update 2022

Now that we've adopted a reduced herbicide approach, the seedlings in the field are responding well, and this approach will be continued over the whole restoration area in the next planting season. However, because of last year's unprecedented frosts, we will need one more year of maintenance than the two years that were planned.



In this unusually big area that has been prepared for restoration, the furrowed planting lines are clear to see. Any mature trees in the area are left alone. The unmistakable reddish color of the “terra roxa” soil is due to the presence of a relatively high content of iron oxides. In Brazil, particularly in the states of São Paulo, Paraná and south of Minas Gerais, this particularly fertile tropical soil was cultivated with coffee plantations during the end of the 19th and beginning of the 20th century. After that, other crops were produced such as orange, cotton, soy and sugarcane, contributing to the expansion of agricultural lands and accounting for the vastly reduced forest cover within Tietê's landscape.



This photo taken in May shows how some of our restored areas are separated by mandatory access points for animals to be able to get to the waterfront. These planted areas show the dark green Guandu (green manure) growing well, although with some invasive grasses between.



The green stripes here are where herbicide has not been used and invasive grasses are present, with the small seedlings struggling to compete. In the browner stripes herbicides have been used, and the Guandu and seedlings are clear to see.



Our WeForest restoration areas are often separated from the river by mature trees in Permanent Preservation Areas – parcels of land that the Brazilian Forest Code requires to be placed under restoration to protect water sources as they pass through private properties. PPAs like the one in this picture have been restored by AES Brasil according to the legislation.



This farmer was using AES landholdings to grow coconuts. Rather than cutting them down, we planted between them, which is a win-win for everyone: the trees provide initial shade that controls invasive grasses, helping our seedlings survive; and after we include the native tree species it becomes an agroforestry system, providing a more sustainable income to the farmer. This area was planted three months ago, and the seedlings in the planting lines between the trees are doing really well.



This shows several examples of the different land use commonly going on around our restoration sites. On the right is a road; at the top, a Permanent Preservation Area. A sugar cane field is on the far right. Our planting lines are clearly shown, with Guandu and native trees appearing between the bright green invasive grasses, some of which are looking brown from the dry weather.



The left-hand picture shows how the land tends to look before we start restoration activities – invasive grasses predominate, preventing native trees from regenerating spontaneously. The right-hand picture shows an area restored for 18 months under the 100% organic approach. The seedlings that survived the 2021 frosts are hard to see because they have been competing with invasive grasses.



This area, also restored for 18 months, used the organic approach for the first 12 months and then the reduced herbicide approach subsequently. Here the seedlings are clearly coming up much faster, responding well after the control of invasive grasses in their surroundings.



How do we know our restored forests are growing and making an impact?

Every hectare under restoration is mapped with GPS points to generate polygons (areas on a map) that are assigned to sponsors. Permanent monitoring plots are established in our sites and our forestry and science teams conduct surveys to monitor progress of biomass growth, tree density, survival rate and species diversity, among other indicators. Where social impacts are also critical, we measure socio-economic indicators such as the number of individuals or families directly benefiting, people trained, and income generated from forest-friendly livelihood activities.

Please visit our [Why and How](#) webpage for more information.



You'll receive an annual update in March. Meanwhile, stay up-to-date with our interactive [Tiête Forests map](#), and check out the [photos](#) on Flickr.