WeForest

2024 Project Update

Tietê Forests Project

Project management and M&E team

Main implementing partner:
Auren Energia

auren

COPROCAM **COPROCAM**

Dr Natalia Guerin
Brazil & Argentina Country Manager

See the full team at:
www.weforest.org/about-us/#our-team

Tietê Watershed, State of São Paulo, Brazil
Wildlife Corridors

Timeline:
2020 - 2029

Targeted ecosystem: **Atlantic Forest**
Biodiversity hotspot: **Atlantic Forest**

Project story

No other large tropical forest ecosystem has suffered as much loss as the Atlantic Forest and it is now one of the most threatened biomes in the world. The remaining forest has been reduced to small, isolated small fragments, often separated by vast expanses of deforested land. As a consequence, many plant and animal species in this biodiversity hotspot are classified as endangered, vulnerable or near threatened.

The Tietê watershed has suffered severe degradation due to a long history of human occupation and deforestation, primarily driven by forest conversion to agriculture. In this agricultural landscape, forests play a critical role in stabilizing soils, reducing erosion, and protecting water resources by preventing soil siltation and agricultural run-off. By restoring native tree cover along riverbanks, this project helps reduce sedimentation, improve water quality, and enhance ecosystem services.

WeForest's work in the Tietê region of Brazil focuses on ecosystem restoration to safeguard the Atlantic Forest, a globally recognized biodiversity hotspot. This initiative prioritizes the recovery of the highly threatened Brazilian Atlantic Forest Seasonal Dry Forest, a red-listed ecosystem, by restoring riparian forests along the Tietê River and its tributaries.

Through activities to restore this biodiversity hotspot, forest corridors alongside riverbanks will be rebuilt, facilitating the movement of wildlife and creating larger habitats that can support an increased animal population. These efforts will enhance ecosystem resilience while improving water resources throughout the Tietê River basin and its tributaries.

⚠️ Key challenges in the landscape

- Reduced forest cover due to long history of agricultural conversion.
- Low resilience ecosystems resulting in lack of forest regeneration potential due to historical deforestation and habitat fragmentation.
- Degraded areas dominated by invasive grass species.
- Riparian restoration zones present unique challenges as narrow, linear areas experiencing pronounced edge effects.
- Increase in long-lasting droughts.
- Low farmer income from current croplands.

✅ Our integrated approach

Improve forest governance and stewardship through:
- Enabling and enhancing compliance with the Brazilian environmental legislation, focusing on the Native Vegetation Protection Law and Atlantic Forest Law.

Conserve and restore the forest through:
- Ecological restoration using Assisted Natural Regeneration, full planting and enrichment planting.

Strengthen forest-friendly livelihoods and behaviors through:
- The establishment of agroforestry systems.
- Capacity building on best practices for productive land management.

A long-term vision

Climate

The restoration of the landscape will contribute to both climate mitigation and adaptation: increasing tree cover to sequester carbon while improving water retention and soil stability to help communities adapt to droughts and erratic weather.

Nature

Restoring the project area will protect biodiversity and secure critical ecosystem services like water and soil health. Improved land management will enhance habitat resilience, ensuring the forest continues to sustain both people and wildlife.

People

Strengthened governance and forest-friendly livelihoods will ensure communities see the forest as an asset: one that provides resources while being sustainably managed. By introducing agroforestry to the landscape, the project reduces deforestation-driven income reliance while securing long-term economic stability.
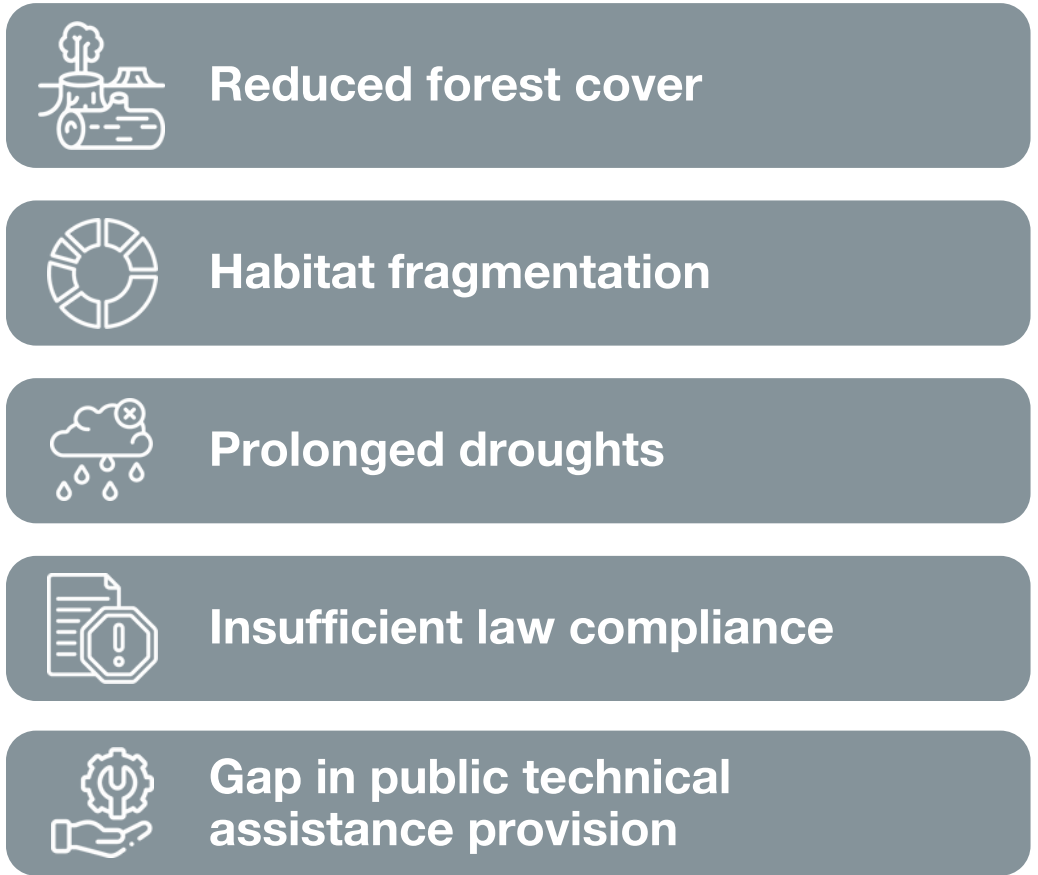

Outcomes

By integrating these interventions, the project will:

- Ensure that **degraded pastures** and farmland that fall outside legal requirements for restoration will be reforested with native species to prevent soil siltation and run-off of herbicides and pesticides.

- Create **forest corridors** which will facilitate the movement of wildlife to enable animal populations to survive.

- Improve **productive systems** integrated with agroecological practices.

- The **long-term** impact of our work will benefit people, nature and climate.
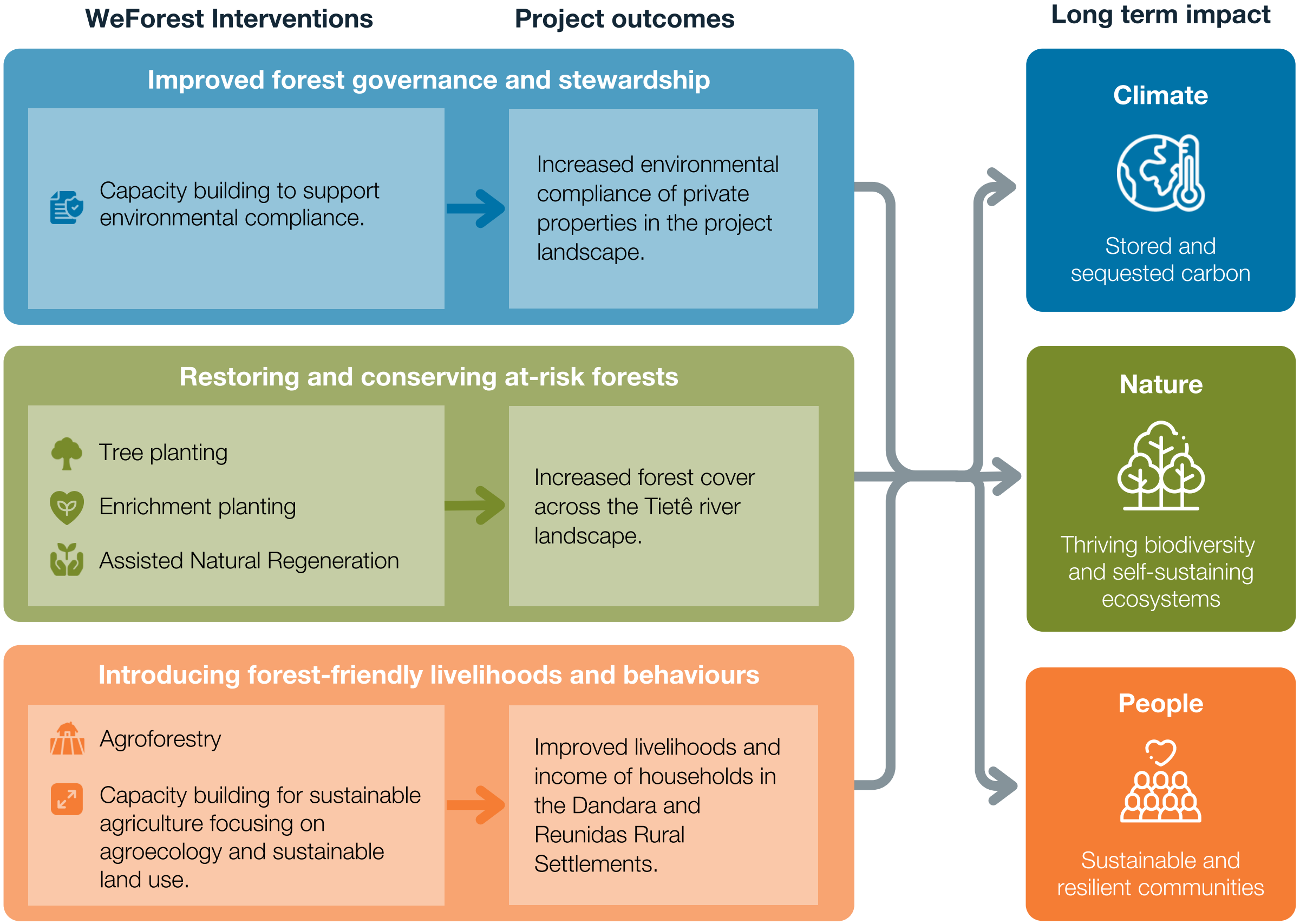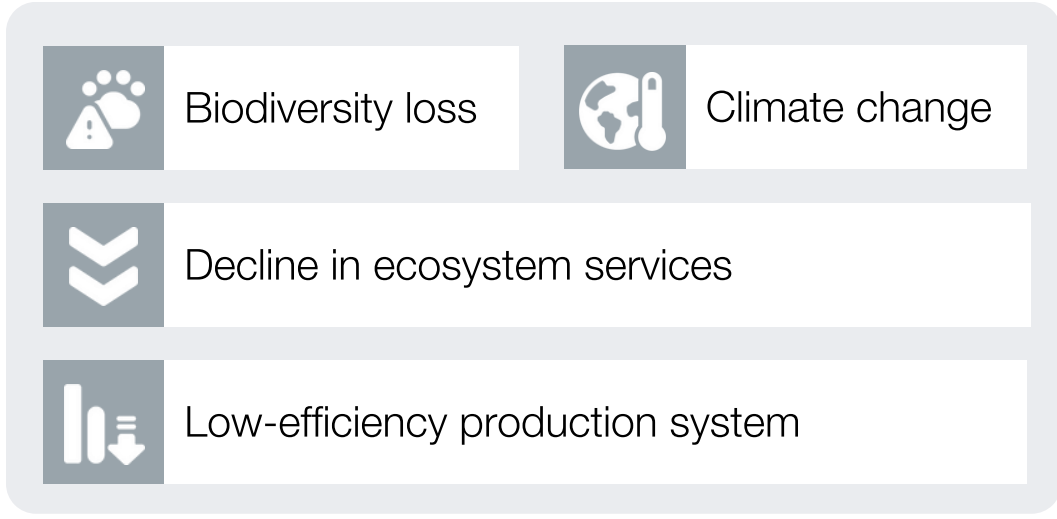
Theory of Change

Existing problems in the landscape

- Reduced forest cover
- Habitat fragmentation
- Prolonged droughts
- Insufficient law compliance
- Gap in public technical assistance provision

Risks

- Biodiversity loss
- Climate change
- Decline in ecosystem services
- Low-efficiency production system

WeForest Interventions

Project outcomes

Improved forest governance and stewardship

Capacity building to support environmental compliance.

→ Increased environmental compliance of private properties in the project landscape.

Restoring and conserving at-risk forests

- Tree planting
- Enrichment planting
- Assisted Natural Regeneration

→ Increased forest cover across the Tietê river landscape.

Introducing forest-friendly livelihoods and behaviours

- Agroforestry
- Capacity building for sustainable agriculture focusing on agroecology and sustainable land use.

→ Improved livelihoods and income of households in the Dandara and Reunidas Rural Settlements.

Long term impact

Climate
Stored and sequested carbon

Nature
Thriving biodiversity and self-sustaining ecosystems

People
Sustainable and resilient communities

2024 Major Achievements

- Project partner NACE-PTECA concluded their activities for the project, having provided technical assistance for agroforestry with 20 families since 2022. We are currently discussing the next steps of the partnership.

- Three students from ESALQ developed their undergraduate theses using project data, examining agroforestry implementation in the settlement through ecological, economic, and social lenses. The results were presented in a workshop to the farmers and will go on to inform future activities.

- Project staff visited Embrapa Pecuária Sudeste to study integrated livestock systems, learning about crop-livestock-forest trials and cost-effective pasture improvements. The visit, guided by three researchers, laid the groundwork for a 2025 technical partnership to adapt these models for the settlements.

2022

2023

2024

3 pictures from a restoration site alongside the reservoir in Ibitinga region, part of Tietê watershed (2022, 2023, 2024). Before and after photos to show the progression of the sites after restoration intervention. In the Tietê Forests project, we employ a high-diversity planting model with approximately 2,000 seedlings per hectare. This approach: accelerates soil cover to suppress grass growth, and creates optimal conditions for natural regeneration. Our species selection includes about 80 native species per site, ensuring ecological resilience and supporting biodiversity recovery.

2024 activity update

Improved forest governance and stewardship

- **1 workshop** took place to discuss the Native Vegetation Protection Law and environmental compliance in Dandara Rural Settlement with approximately 25 attendees.

Introducing forest-friendly livelihoods

- **446 seedlings** of **36 species** were planted for livelihood improvement replanted in the agroforestry systems.
- Currently, **11 families** are actively working with Agroforestry Systems (AFS), producing vegetables and fruits that are being sold through public procurement programs (via COPROCAM) as well as used for family consumption. Workshop evaluations with farmers revealed strong interest in continuing the AFS initiative, with additional families expressing a desire to join.
- **2 workshops** were held with the farmers to discuss the project's results and next steps.
- **4 technical visits** to each family and **11 collective activities** (mutirão) allowed participants to apply best practices in agroforestry management. This included support with soil analysis, fruit tree pruning, native species pruning for biomass, preparing planting beds for cassava, corn, squash and vegetables, and use of organic fertilizers.
- A **technical handbook** was produced by the NACE-PTECA team on the establishment and management of agroforestry systems, documenting methodologies developed through the project's field activities.

Restoring and conserving at-risk forests

- **26 new hectares** of tree planting in riparian zones.
- **21,915 seedlings** of 91 native tree species were planted in restoration areas
- **14 new families** integrated the project in their settlements.
- **11 new polygons** of restoration were mapped on Auren landholdings.
- A secondary data fauna assessment for the Tietê landscape was undertaken. Key findings included the recording of **500 bird species**, **140 amphibian** and reptile species and **44 mammal species**. Of these, 54 are classified by the IUCN as Threatened and 61 Near Threatened. The assessment highlighted that restoring native vegetation, expanding fragments, and creating ecological corridors are imperative for helping wide-ranging species. Among other recommendations, the report stated that riparian forests, Cerrado-Atlantic Forest mosaics and other critical habitats should be prioritised, water pollution reduced, invasive species such as wild boars and bullfrogs should be controlled and cattle incursion into protected areas prevented.
- A vegetation assessment was conducted, assessing 70 planted polygons. **103 species** were registered, with an average of 9 new species regenerating in the sites. Average forest cover was 52% and fire disturbance was found to have decreased the forest cover by 50%. These areas will be prioritized for replanting.
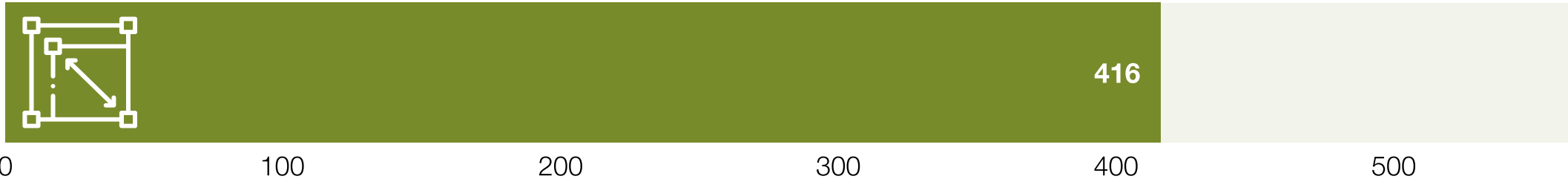
Progress tracker

2018		2030

Anticipated CO2 sequestered in the future from project activities
139,525

Hectares planted, conserved and restored
416

0   100   200   300   400   500

Number of trees conserved and restored
817,870

Number of households positively impacted
Target: 20
Achieved: 31
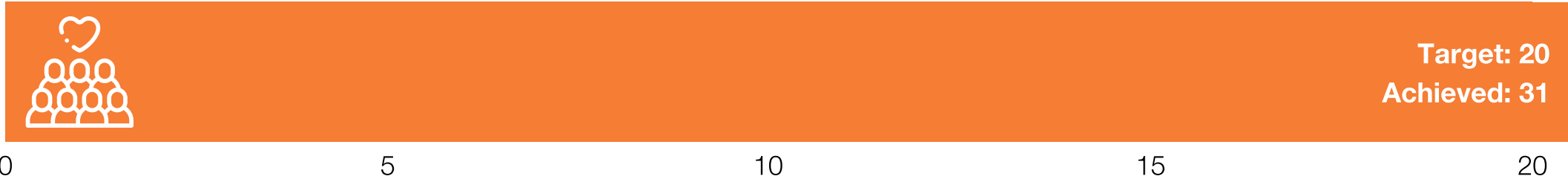
0   5   10   15   20

Trees planted to date
591,345   24,271
Total: 615,616

Woody species in project to date
104   84
Total: 188
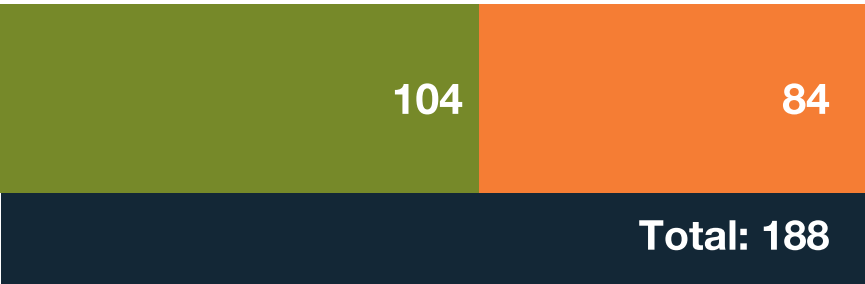
■ For forest conservation and restoration   ■ For forest-friendly livelihoods

Case study

Mrs. Marinalva in her agroforestry system (AFS). Prior to adopting agroforestry, this farmer cultivated conventional vegetable beds, but has since successfully transitioned to a 0.3-hectare AFS where she now grows kale, lettuce, eggplant, bell peppers and squash in production strips between trees. Working independently with irrigation support from the project, she maintains the entire system and has begun harvesting and selling lemons alongside her vegetable crops, while the peach palm (pupunha) trees visible in the photo show excellent growth. Remarkably, she markets 100% of her diversified production, demonstrating how small-scale agroforestry can successfully integrate annual and perennial crops while maintaining commercial viability.

⚠ 2024 Challenges

- 2024 brought intense drought and fires to the restoration sites in Auren landholdings. 66 hectares have been impacted by fires since the beginning of the project. Ongoing discussions with Auren are taking place to improve firebreaks and fire brigades, implement a fire alert system, and improve communication with surrounding communities to mitigate the impact of fires during the dry season. The affected sites will be replanted progressively during the following years.

- While some agroforestry systems (AFS) have shown positive results, the current pilot model appears difficult to sustain at scale. Of the 20 initial AFS established, only 6 remain actively managed due to significant implementation challenges. Many participating farmers face personal constraints - advanced age, health problems, or family care responsibilities - that make the labor-intensive AFS maintenance particularly difficult. Continuous technical assistance and collective work (mutirão) are essential to maintaining productivity in the AFS. To address this need, an agroforestry consultant was hired and provided support to the families for eight months. This guidance was crucial in keeping participants engaged and improving AFS management to sustain productivity.

- Restoration costs have increased by 70%, significantly impacting the project budget. Discussions are underway to reassess current costs and implementation models in collaboration with the service provider. We are exploring solutions through state programs in partnership with COPROCAM to identify co-funding opportunities for settlement-area restoration and negotiations with Auren to review per-hectare costs within their managed areas.

» Looking ahead to 2025

The Tietê Forests project will continue into 2025, with priorities including:
- Ongoing discussions to determine the future of the partnership with Auren Energia under their new corporate structure, building upon five years of successful collaboration.
- Landscape diagnosis of the settlements to set targets for restoration and update the Tietê Forests landscape.
- Planning workshops with COPROCAM and farmers to validate the production models to be supported and potentially explore product commercialization.

Case study

Farmers from the Dandara and Reunidas settlements participated in a two-year project evaluation workshop held in July, where they discussed their visions for their properties' future, aspirations for their land, and potential partnerships to achieve these goals. In the photo, 16-year-old Debora, the daughter of one farmer, represents the next generation of agriculturalists. She is one of five youth from the settlement participating in a rural extension scholarship program supported by the Ministry of Agrarian Development. These young trainees accompany project activities while receiving training to become rural extensionists themselves, ensuring knowledge transfer and continuity in sustainable farming practices.

Supporters & Partners

2024 project partners

Auren Energia were the project's main implementing partner. Through its 'Mãos na Mata' program, Auren supports the project with high-quality nursery and stakeholder engagement.

CEIBA provided ecological restoration services in the project.

NACE-PTECA, a Culture and extension center, under an Education and Environmental Conservation Program from the University of São Paulo, provided technical support in the activities in Dandara and Reunidas Rural Settlements.

COPROCAM (Cooperative of Peasant Producers) supported the farmer's engagement and the activities in the rural settlements.

With thanks to our supporters in 2024, including:

Contact us

Visti **www.weforest.org** or for more information or email: **contact@weforest.org**

How we measure and forecast our impact

Baseline

For the sake of simplicity, the progress bars in this report show a baseline of zero. This represents the concept that the area covered by WeForest forest and landscape restoration (FLR) activities was zero; thus the associated trees conserved and restored, carbon stored and households impacted through WeForest intervention was also zero.

In reality, when a WeForest project begins, our Monitoring, Evaluation and Learning team undertakes a detailed survey on forest structure and regeneration through establishing Permanent Monitoring Plots, and conducts an extensive questionnaire on livelihoods, to establish meaningful baseline values. You can read more about our full MEL activities here.

Hectares planted, conserved and restored

Progress up to 2024

Verifiable cumulative total since the project began of all mapped intervention sites, also known as polygons, of:
1) Conservation forest areas, such as forest reserves
2) Restoration forest areas, such as Assisted Natural Regeneration and planting areas
3) Agroforestry areas on community/farm land

End of Project Target

Target number based on the potential area of land able to be conserved, restored and planted in the project area under the known and expected conditions at project start. However, it is subject to change based on unforeseen opportunities or challenges that may arise.

Anticipated tons of CO2 to be sequestered through project activities

Progress up to 2024

Extrapolated tons of CO2 calculated from the measured areas of different types of land use (for example forest or agroforestry) under "Hectares of forest planted, conserved and restored" to date, and the average amount of projected long-term CO2 per hectare provided from literature review for each land use type in their locations. Although totalled, please note the methodology for calculating these CO2 projections are specific to land-use type, and span a period corresponding to the expected time taken for the trees to reach maturity, which varies between locations.

End of Project Target

As above, but using the target (and not current) number of hectares planted, restored and conserved and their respective area totals as a parameter for calculations. As this parameter is subject to change, the associated CO2 target may also change over time.

Number of trees conserved and restored*

Progress up to 2024
Extrapolated number of trees calculated from the measured areas of different land use types (for example conservation areas, restoration areas or agroforestry) under "Hectares planted, conserved and restored" to date, and the average tree densities observed for each land-use type when mature, known through our MEL activities or scientific literature.

End of Project Target
As above, but using the target (and not current) number of "Hectares of forest planted, restored and conserved" and their respective area totals as a parameter for calculations. As this parameter is subject to change, the associated trees conserved and restored target may also change over time.

*Estimations based on average numbers per hectare

Trees planted to date (2024)

Total
Actual counted number of planted seedlings and saplings of woody (tree and shrub) species in the project to date.

Trees planted for forest-friendly livelihoods and behaviors
Only woody species directly planted for livelihood improvement. This also includes woody fruit, fodder & timber trees, and woody cash crops, exclusively planted on community or farm land.

Trees planted for forest conservation and restoration
Only woody species that were directly planted for ecological reasons, aiding restoration of the natural forest ecosystem.

Woody species in project to date (2024)

Total
Actual observed number of woody (tree and shrub) species:
- Regenerating in the conservation/restoration zones (i.e. in the Permanent Monitoring Plots) and
- Planted, either for restoration or livelihood improvement
- Growing as mature trees in the conservation/restoration zones (i.e. in the permanent monitoring plots).
- Please note, these numbers are not exhaustive and the true species richness is likely to be higher.

Tree species for forest-friendly livelihoods and behaviors
Only woody species directly planted for livelihood improvement. This also includes woody fruit, fodder and timber trees, and woody cash crops, exclusively planted on community or farm land.

Tree species for forest conservation and restoration
The woody species observed in the project area that are not used for livelihood improvement purposes. Where species are used for both livelihood improvement and restoration (which is sometimes the case, as we use native species as much as possible), they have been counted under 'forest-friendly livelihoods and behaviors'.

Mammal and bird species sighted to date
Numbers are included where we have a good level of biological monitoring, for example using camera traps or audio devices - please note that numbers are unlikely to capture the full species richness of the project area and that the absence of reporting does not imply the absence of species.

Other notes
WeForest works in close cooperation with local partner organisations, institutions, community-based organizations and local people. Therefore, our impact can never be fully separated from the work of our partners. WeForest acknowledges that the presented impact numbers cannot be solely attributed to our work, but is also supported through the hard work contributed by all our local partners.

Terminology

Conservation
Where native forest canopy cover is still intact, we focus on protecting the forest from any threats and disturbances, such as overgrazing, unsustainable wood extraction and fire.

Restoration
Assisted Natural Regeneration (ANR): Where there is reduced forest cover but high potential for natural regeneration, we aim to accelerate natural recovery, typically through preventing soil degradation, reducing competition with weeds, and protecting young trees.

Tree planting
Where there is reduced forest cover and little regeneration potential, we actively plant native trees at a density that corresponds with the regeneration potential.

Agroforestry and tree crops
Where agricultural landscapes exist, WeForest promotes the planting of trees for livelihood improvement. These trees can be used either for direct consumption or sale (fruits, timber, fuelwood) or to support other crops or livestock (agroforestry). Native tree species are prioritized but, where necessary, non-native species may be used.