Progress Report

Project: Saving threatened and endemic trees from extinction in Ecuador
Project Reporting Dates: 05/01/2026 - 10/01/2026
Project Leader: José León

Summarize Project – Include what the deliverable is and who is key in making sure it is achieved

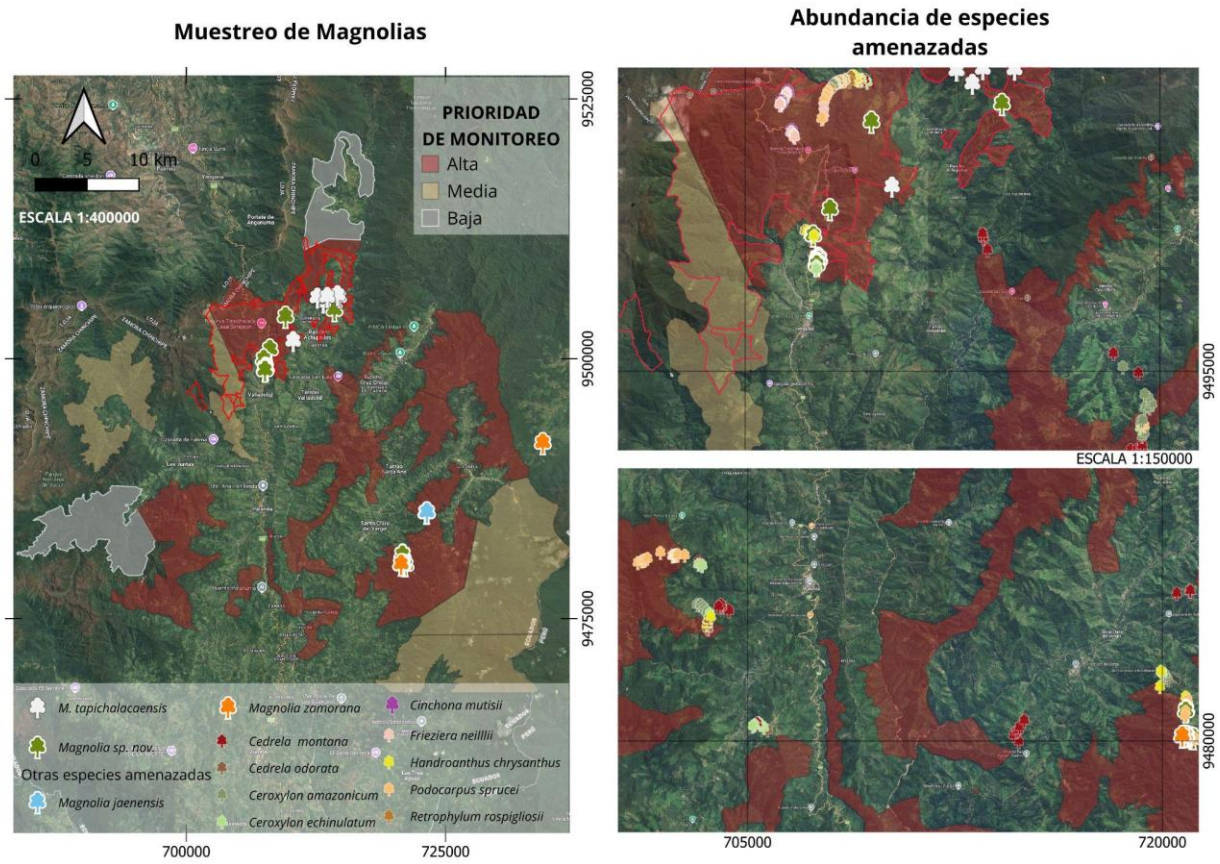
Between May and October 2026, the project made significant progress in monitoring, propagating, and restoring threatened tree species in Tapichalaca and Canandé reserves. In Tapichalaca and the neighboring Palanda Municipal Conservation and Sustainable Use Area (ACMUS Palanda), systematic surveys recorded 929 individuals belonging to threatened tree species, including 47 Magnolia trees representing four taxa, one of which is a newly discovered species currently being formally described. The Tapichalaca nursery currently holds 280 seedlings of six threatened tree species, and a preliminary propagation trial with Magnolia sp. nov. achieved a 50% germination rate. In Canandé, 161 adult magnolia trees were monitored, 5,025 seeds of *Magnolia dixonii* and *M. canandeana* were collected, and approximately 800 magnolia seedlings have germinated.

Restoration activities also advanced beyond the original project target. A total of 102 threatened tree seedlings were planted in Tapichalaca, and 400 seedlings were planted in Canandé, bringing the total to 502 trees planted to date. Technical training for park guards strengthened local capacity for species identification, phenological monitoring, seed collection, and future restoration work. Overall, the project is progressing well, although potential recruitment limitations were identified for some Magnolia species, particularly *M. jaenensis* and *Magnolia* sp. nov. Future work will therefore strengthen phenological and demographic monitoring, develop ex situ propagation protocols, and implement reinforcement and enrichment planting once sufficient seedlings are available.

Progress - List steps which have been achieved and to what end up to the date of this report. List issues that have arisen which may have (or maybe will occur) which will impact, either positively or negatively the outcome of the project.

Between May and October 2026, we established a baseline for monitoring and conserving threatened tree species within the Tapichalaca Reserve and the neighboring ACMUS Palanda (Map 1). The latter borders the reserve, and the Jocotoco Conservation Foundation supports its administration and the implementation of conservation initiatives throughout the area.

Through systematic sampling along 500 × 20 m transects, we recorded a total of 929 individuals belonging to threatened tree species. Of these, 47 individuals represented four magnolia taxa: *Magnolia tapichalacaensis, M. jaenensis, M. zamorana*, and *Magnolia* sp. nov. The latter represents a newly discovered species that is currently being studied and formally described as a new species. The remaining 882 individuals belonged to nine other threatened species: *Ceroxylon amazonicum, Cinchona mutisii, Podocarpus sprucei, Handroanthus chrysanthus, Cedrela odorata, Ceroxylon echinulatum, Cedrela montana, Retrophyllum rospigliosii*, and *Freziera neillii*.



Map 1. Threatened tree species monitoring in Tapichalaca reserve and ACMUS Palanda.

We have identified new locations for these species of interest by documenting their presence and phenology. This methodology was shared with and implemented by the entire local team, thereby strengthening their capacity to monitor these populations (Fig. 1). This progress enhances our understanding of the distribution of priority species, allows for the identification of specific individuals and areas for ongoing monitoring, and supports evidence-based conservation decision-making. Furthermore, the phenological data serves as a foundation for planning the sustainable collection of seeds, identifying seed-bearing trees, and developing germination and propagation trials to support future restoration efforts—all while ensuring that the genetic diversity of wild populations is maintained.



Figure 1. Threatened tree species monitoring done by our Tapichalaca reserve park guards.

To date, we have 280 seedlings in the Tapichalaca nursery representing species such as *Podocarpus sprucei, Cedrela odorata, C. montana, Handroanthus chrysanthus, Retrophyllum rospigliosii*, and *Ceroxylon echinulatum*. We were also able to collect one viable *Magnolia* sp. nov. fruit containing 18 seeds (Figs. 2 & 3). Our park ranger, Fredy Ramón, conducted a preliminary propagation trial, achieving a 50% germination rate under nursery conditions.



Figure 2. Collecting samples of *Magnolia* sp. nov.



Figure 3. Fruit of *Magnolia* sp. nov.

Between May and June, 44 *Cedrela montana*, 27 *Podocarpus spruce*i, 13 *Retrophyllum rospigliosii*, and 18 *Ceroxylon echinulatum* were planted in Tapichalaca reserve (Figs. 4 & 5). We will continue these restoration efforts until the end of the project to surpass our goal of planting 400 highly threatened trees.



Figure 4. Planting *Cedrela montana*.



Figure 5. Planting *Ceroxylon echinolatum*.

Canandé Reserve, located in the Ecuadorian Chocó, is home to populations of several threatened tree species, including *Magnolia dixonii*, *Magnolia canandeana*, *Inga silanchensis*, and *Ecuadendron acosta-solisianum*. These species face significant conservation threats, highlighting the importance of protecting existing populations, promoting propagation, and strengthening ecological restoration efforts within the reserve and its surrounding forests. As part of the Jocotoco Foundation's conservation strategy, activities during this reporting period focused on monitoring mature trees, identifying seed trees, assessing phenological conditions, collecting plant material, propagating threatened species in the nursery, and restoring populations through reforestation.

The restoration team at Canandé Reserve, led by Robinson Chaquinga, conducted monitoring and seed collection activities focused on *M. dixonii* and *M. canandeana*. These efforts involved identifying reproductive individuals, assessing their phenological condition, and collecting fruits for propagation in the nursery. Despite logistical challenges and the difficulties associated with climbing trees to collect fruits, a total of 5,025 seeds were collected, of which 4,098 were selected and sown for germination (Figs. 6–8; Table 1). Although germination was initially slower than expected, continuous monitoring and careful management of the collected material have resulted in approximately 800 germinated seedlings to date (Fig. 9). The remaining seeds are still being monitored in the nursery to assess germination potential and support the production of seedlings for future conservation and restoration initiatives.



Figure 6. Magnolia fruit collection.



Figure 7. Collected *Magnolia dixonii* fruits.



Figure 8. Collected *Magnolia dixonii* seeds.

Table 1. Details of *Magnolia dixonii* seeds collected.

Date	Site	Species	Tree ID	Seeds Collected	Seeds Planted
19-5-2026	Z2	***Magnolia canandeana***	Z2 C05	612	574
20-5-2026	Z2	***Magnolia canandeana***	Z2 C07	214	108
28-5-2026	Z3	***Magnolia dixonii***	Z3 D53	680	448
28-6-2026	Z3	***Magnolia dixonii***	Z3 MD53	751	540
10-8-2026	Z3	***Magnolia dixonii***	Z4 D02	320	280
25-8-2026	Z3	***Magnolia dixonii***	Z3 MD54	342	280
25-8-2026	Z3	***Magnolia dixonii***	Z3 MD55	322	228
10-9-2026	Z3	***Magnolia dixonii***	Z3 MD53	1784	1640
Total				**5025**	**4098**



Figure 9. *Magnolia dixonii* seedlings.

Complementary field surveys were conducted from July 18 to 22, 2026, across different areas of the reserve, with the aim of identifying threatened tree species and collecting plant material for propagation (Fig. 10). During these surveys, the phenological condition of individual trees was assessed, their locations were recorded using GPS, and a total of 147 propagules were collected, consisting of 128 seeds and 19 seedlings from five threatened tree species (Table 2). These activities contributed to expanding the available plant material for conservation purposes and improving knowledge of the distribution and reproductive condition of threatened species within the reserve.



Figure 10. Collection of *Bauhinia pichinchensi*s seeds.

Table 2. Details of threatened tree species seeds and seedlings collected.

Species	Conservation status	Seeds	Seedlings
Inga silanchensis	Vulnerable (VU)	100	–
Bauhinia pichinchensis	Vulnerable (VU)	24	–
Matisia palenquiana	Endangered (EN)	–	16
Ecuadendron acosta-solisianum	Endangered (EN)	4	–
Theobroma gileri	Vulnerable (VU)	–	3
Total		**128**	**19**

To strengthen local capacity for long-term conservation, a technical training session was also conducted for the reserve's park guards (Fig. 11). The training focused on recognizing and identifying threatened tree species, understanding their conservation status, and highlighting the importance of monitoring individuals during flowering and fruiting periods. This initiative strengthened the team's capacity to identify additional populations, monitor reproductive activity, and support future field surveys and seed collection campaigns, thereby improving the reserve's ability to implement ongoing conservation actions.



Figure 11. Workshop on threatened plants with park guards from the Canandé Reserve.

In addition to monitoring and propagation activities, direct restoration interventions were carried out to strengthen populations of threatened tree species. On July 28, 2026, a reforestation campaign resulted in the planting of 400 seedlings, including 300 individuals of *Inga silanchensis* and 100 individuals of *Ecuadendron acosta-solisianum* (Fig. 12 & Map 2). The work included clearing and preparing planting sites, installing bamboo-like cane stakes to mark planting locations, and planting the seedlings. The activity involved the restoration technician, park rangers, and supporting field staff, reinforcing collaboration among the reserve's conservation and restoration teams.


Figure 12. Threatened tree species reforestation campaign.



Map 2. Threatened tree species reforested area.

Overall, these activities represent an integrated approach to the conservation of threatened plant species at Tapichalaca and Canandé reserves, combining field monitoring, seed and seedling collection, nursery propagation, technical training, and reforestation. The results achieved during this reporting period contribute to protecting existing populations, producing plant material for future restoration campaigns, and strengthening local capacity to monitor and conserve threatened tree species.

Staffing - Account for staffing which has affected the project: who is involved, what needs are going unmet, if any, and the dollar cost of any additional personnel required.

Jajean Rose was the project leader. She decided to leave the Jocotoco Foundation to pursue a new professional challenge. The project is now led by José León, the Foundation's Conservation and Research Project Coordinator.

José León serves as the project coordinator and oversees Jocotoco Foundation's conservation projects. In this role, he is responsible for monitoring the progress of this project and reporting its developments to the Forix Foundation.

Fanny Hidalgo is the Plant Propagation Manager at Tapichalaca Reserve. With the support of the reserve's park guards, she has led the restoration activities at Tapichalaca, overseeing key tasks such as seed collection, plant propagation, and replanting.

Robinson Chaqiunga is the Restoration Technician at Canandé Reserve. His work focuses on implementing restoration activities in Canandé, from collecting and propagating native plant species to planting them in restoration areas.

The salaries of all the staff members mentioned above are already covered; therefore, no additional funding is required for personnel costs during the duration of the project.

Budget - Attach a copy of the original budget and account for what portion has been used on each item. While the 'burn rate' is sometimes heavier at the start of the project, please flag any items which are creating risks for the project or if there has been a need to reallocate funds within the project.

Category	**Forix Foundation Budget**	**Remaining Budget**
Growing Materials	$1.500	$1.170
Restoration Staff (Project Manager - Fanny Hidalgo, 5% of time)	$500	$500
Restoration Staff (Project Manager - Park Guard, 10% of time)	$1.000	$838,76
Logistics (Gasoline for vehicles for monitoring, seed collection)	$1.500	$149,34
Indirect (10% Jocotoco US)	$500	$0
Total	**$5.000**	**$2.658,10**

The total project budget amounts to USD 5,000. However, before transferring the funds to Jocotoco Ecuador, Jocotoco US retained USD 500 (10%) as indirect costs. Therefore, Jocotoco Ecuador received and is reporting on the net amount of USD 4,500.

There has not been any need to relocate funds during this project. The remaining funds will be spent by the end of the project.

Other Funding - If there are any problems with other sources of funding for the project at this time that should also be noted here.

There have been no problems with the other sources of funding for this project. Both the Wilhelma Zoo and the Franklinia Foundation, which were included as co-funders of this project, have transferred their respective funds.

Milestones Current - Discuss milestones and/or actionable items which have been achieved at the writing of this report. Flag issues, if any, which came up in achieving this goal.

During this reporting period at Tapichalaca Reserve, 929 individuals belonging to threatened tree species were recorded, including 47 Magnolia trees representing four species: 12 *Magnolia* sp. nov., 15 *M. tapichalacaensis*, 5 *M. jaenensis*, and 15 *M. zamorana*. The remaining 882 individuals represented nine other threatened tree species: *Ceroxylon amazonicum, Cinchona mutisii, Podocarpus sprucei, Handroanthus chrysanthus, Cedrela odorata, Ceroxylon echinulatum, Cedrela montana, Retrophyllum rospigliosii*, and *Freziera neillii*.

Additionally, 280 seedlings representing six threatened tree species (*P. sprucei, C. odorata, C. montana, H. chrysanthus, R. rospigliosii*, and *C. echinulatum*) are currently growing in the Tapichalaca nursery. We also collected one viable fruit of *Magnolia* sp. nov., containing 18 seeds. A preliminary propagation trial achieved a 50% germination rate under nursery conditions. Finally, 102 seedlings of four threatened tree species were planted in the Tapichalaca Reserve between May and June, including 44 *C. montana*, 27 *P. sprucei*, 13 *R. rospigliosii*, and 18 *C. echinulatum*.

During this reporting period at Canandé Reserve, 161 adult magnolia trees were monitored, including 124 *M. dixonii* and 37 *M. canandeana*. A total of 5,025 seeds were collected (4,199 *M. dixonii* and 826 *M. canandeana*), of which 4,098 were viable and sown (3,416 *M. dixonii* and 682 *M. canandeana*). Approximately 800 magnolia seedlings have germinated and are developing in the nursery. Additionally, 128 seeds were collected from three threatened tree species (100 *Inga silanchensis*, 24 *Bauhinia pichinchensis*, and 4 *Ecuadendron acosta-solisianum*), along with 19 seedlings from two species (16 *Matisia palenquiana* and 3 *Theobroma gileri*). Finally, 400 seedlings were planted to support restoration efforts, including 300 *I. silanchensis* and 100 *E. acosta-solisianum*.

Milestones Future - List milestones and/or actionable items expected to be completed by the next reporting period. If any complications are expected, raise them here as well as any possible resolutions.

We have already exceeded our target of planting 400 highly threatened trees, with a total of 502 seedlings planted to date across the Tapichalaca and Canandé Reserves. We aim to further increase this number by the end of the project and, if propagation efforts are successful, incorporate threatened Magnolia species into our restoration initiatives.

Opinion - The project leader should include his/her analysis on the overall progress of the project, weigh in with any issues or variations which have occurred or are expected to occur. Include the next date of reporting due, if applicable. Photo inclusions are encouraged whenever possible.

Overall, no major issues have been encountered during this reporting period. The only minor issue concerns potential recruitment limitations for a few Magnolia species.

We found that the populations of *M. tapichalacaensis* and *M. zamorana* consist of a mix of juveniles and—predominantly—adults, whereas the records for *M. jaenensis* and *Magnolia* sp. nov. consist almost entirely of adults, indicating poor recruitment for these latter species. We also observed signs suggesting potential limitations in the natural regeneration of these species. No viable fruits were found for *M. jaenensis* or *M. tapichalacaensis* during our observations. Furthermore, the young individuals recorded for *M. zamorana* and *M. tapichalacaensis* appear to be primarily root sprouts associated with adult trees. Additionally, the observed population consists mainly of trees approximately 25 to 40 meters tall, suggesting they are quite old. To address potential recruitment limitations, we will strengthen phenological and demographic monitoring while developing ex situ propagation protocols for each Magnolia species. Once sufficient seedlings are available, we will implement population reinforcement and enrichment planting trials in suitable habitats to promote natural regeneration and support the long-term conservation of these threatened species.

We have already surpassed our primary objective of planting 400 trees and aim to further increase this number by the end of the project. All information regarding this progress will be shared in the final report, which is due April 30, 2027.

Receipts – Original receipts against expenditures should be provided. Where actual receipts are not available, please delineate. Just a spreadsheet with a cost breakdown, while appreciated, is not sufficient.

A detailed expenditure report is attached as a separate document, along with all supporting receipts and invoices.