

## Conservation Leadership Programme: Final Report

1. 02324817 – Empowering Nurseries to Grow Threatened Species in Southern Brazil
2. Location and dates in the field: Brazil – Parana state – Araucaria Forest (dates in the field in Appendices)
3. Institution involved: Sociedade Chauá NGO, Brazil
4. The overall aim: Support the recovery of the forest's most threatened trees through increased production of threatened seedlings
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7. December 25, 2018

### Table of Contents

List of abbreviations.....	1
Project Partners & Collaborators .....	2
Summary .....	2
Introduction.....	2
Project members.....	4
Aim and objectives .....	5
Methodology.....	6
Outputs and Results.....	7
Communication & Application of results .....	9
Monitoring and Evaluation.....	9
Achievements and Impacts.....	10
Capacity Development and Leadership capabilities.....	11
Conclusion .....	12
Problems encountered and lessons learnt.....	13
In the future.....	14
Financial Report .....	15
Appendices .....	16
Bibliography.....	36
Address list and web links .....	36

### List of abbreviations

**AF** – Araucaria Forest  
**FFI** – Fauna & Flora International  
**GTC** – Global Tree Campaign  
**Ns** – Nurseries  
**RP**s - Restoration practitioners  
**SC** – Sociedade Chauá (NGO)

## Project Partners & Collaborators

We realise that conservation impact at scale can only be delivered through collaboration. We would like to thank the Conservation Leadership Programme, who awarded funded the present project. We thank the non-governmental organization Sociedade Chua (SC) and all the volunteers for the technical support in all the steps of this project. We are particularly indebted to the executive director of SC, Pablo Melo Hoffmann, for useful discussions, shared knowledge and skills. Acknowledges to Taylor Shaw researcher, for her useful participation in the nurseries interviews, thanks also to all involved nurseries, for their enthusiasm and confided in our work, to Professor Dra. Dagma Kratz, for her lessons in our own capacity building in seeds orchards. Our partners SPVS, Federal University of Parana state, Institution Chico Mendes of Biodiversity and Fabiano Rosa Rocha and Barbara Borgo for provide space to implement the seeds orchards. We are also grateful to David Gill From FFI/GTC who provided comments and suggestions that improved earlier versions of the project. All the nurseries owner and coordinators specially Leonel Anderman, Maycon Duffeky, Estefano Dranka, Thaís Dombrowski.

## Section 1:

### Summary

In partnership with Taylor Shaw's Master's (supported by GTC program) research 36 interviews were conducted in Paraná and Santa Catarina states (Brazil) to identify what species are cultivated and planted, and what factors are driving species selection for these actors. The interviewed audience was comprised of nurseries and restoration practitioners. According to the results, nurseries showed low occurrence of threatened species in their inventories and plantings, supporting findings from previous research. Although consumer demand is not a high priority for nurseries, opportunities for seed acquisition are extremely important. In order to encourage tree nurseries to increase their threatened species' production, 11 nurseries in the Araucaria Forest got involved in the project. A training was run for 25 nurseries staffs, on strategies to grow threatened species. The course included theoretical and practical lessons, and questionnaires to access their current knowledge. At the end of the course, seeds and guidance on how to grow these species we delivered. During the project, seeds from almost 55 threatened species were collected from 16 forests remnants by which three were delivered to nurseries. As a result, all the nurseries increased the production of threatened species. As a final step, three seed orchards were implemented, totalizing 3,903 seedlings planted.

### Introduction

The Araucaria Forest (AF) is one of the most threatened ecosystems in southern Brazil. It is part of the Atlantic Rain Forest, home to around 20,000 species of plants (much more diverse than the Amazon forest). Unfortunately, less than 1% of the original Araucaria Forest cover is left, due to unsustainable logging, expansion of agriculture, and timber plantations. And the remaining areas are highly fragmented.

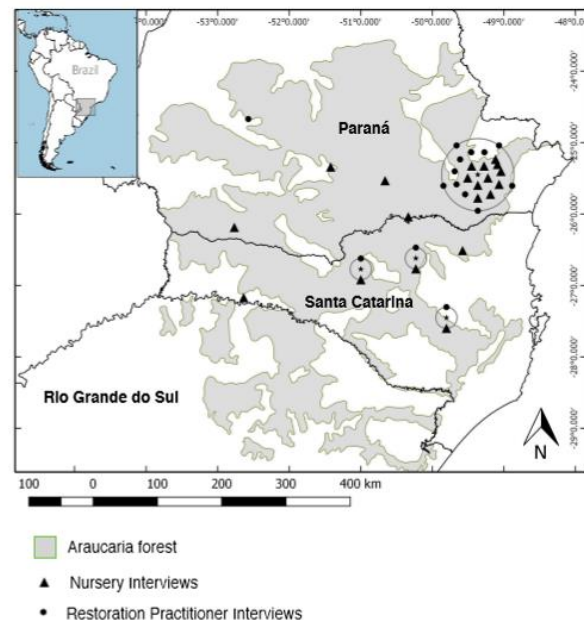
The Araucaria Forest has three icon tree species: Araucaria Pine (*Araucaria angustifolia*), Imbuia (*Ocotea odorifera*), and Cedro (*Cedrela fissilis*). As a result of a heavy timber extraction

during the 70's, all of them are endangered. The AF is home to over 350 tree species and unfortunately, only 17% of the ecosystem's 40 threatened tree species are produced in state nurseries. Therefore, a poor diversity of threatened species is used in ecological restoration initiatives. The main reasons relate to the large amount of seeds needed to grow seedlings of threatened species, as well as insufficient knowledge regarding the species' reproductive biology, propagation and planting methods. The main reason of poor grow of threatened species is the lack of known seed sources and knowledge on germination and growth requirements for these species.

Since 2002, the non-governmental organization Sociedade Chauá (SC) has been working in the Araucaria Forest to identify wild seed sources from rare and threatened trees, in order to produce high quality seedlings and feed restorations programs. Fauna and Flora International has been one important partner in this work. To date, over 140 species are being grown at Chauá's nursery, from which 80 are not grown anywhere else. More than 10,000 seedlings of threatened tree species have been planted in protect areas, thus contributing to recover their populations across the Parana State.

In 2017, new efforts were put in place to help restore and enrich this beautiful forest with threatened species. The present project gets start to carried out with local tree nurseries to increase their threatened species production, and establish seed orchards as a tool of genetic conservation, and to supply the nurseries with quality seeds in the future.

The original extent of the Araucaria forest ranges from 53.95613 W to 48.22327 W (west to east), and from 23.56218 S to 29.74095 S (north to south) throughout Parana, Santa Catarina, and Rio Grande du Sol states in southern Brazil is representing in Figure 1.



**Figure 1.** The original extent of the Araucaria Forest (Shaw, 2018).

## Project members

### 1) Paula de Freitas Larocca

*Project leader, Master Researcher, Federal University of Santa Catarina state - Brazil*

Biologist, specialist in Nature Conservation and Environmental Education, master researcher in Plant Science. She is exploring the past evolutionary radiations of Brazilian Velloziaceae plants. Conservation of threatened species and environmental education skills. Experience in field, plant community ecology, seeds collection and seedlings growth.

**Team Role:** project management, field actions, workshops organization, seed orchards planning and implementation, reports writer.

### 2) Anke Manuela Salzmänn

*Project member, Business and Biodiversity manager, Fundação Grupo O Boticário Brazil*

MPhil in Conservation Leadership, double degree in MSc Agriculture and Forestry and MSc Forest Ecology and Management, Forestry engineer. Systemic view and conservation leadership. Networking and communication skills. Experience in biodiversity conservation and environmental awareness projects. Experienced in working with small-scale farmers and indigenous communities.

**Team Role:** implementation, management, reports reviser.

### 3) Valmir Campolino Lorenzi

*Project member, Forestry engineer in Sociedade Chauá NGO- Brazil*

Forestry engineer, technical in Data Processing. GIS and data process expert. Experience in seeds collection, seedling production and development of field experiments. Networking and communication skills.

**Team Role:** Data organization, field agent, seeds processor, seed orchards planning and implementation, networking and communication.

### 4) Jeniffer Grabias

*Project member, independent consultant in nature conservation projects*

Master in Forest Engineer, Biologist. Experience as technical manager of conservation projects. Expert in phenology, propagation and seedlings development.

**Team Role:** workshops organization, planning and monitoring of seed orchards, data organization.

### 5) Caleb de Lima Ribeiro

*Project member, Master Researcher, Federal University of Rio Grande do Sul state - Brazil*

Forestry engineer and master researcher in Plant Science. He studies the taxonomy, systematics, phylogeny and biogeography of a native and emblematic group of plants in Brazil – Myrtaceae. Experience in data management, phenology survey, seed collection, ecology of forest species, experimentation on germination and plant development, soil identify and management.

**Team Role:** Field agent, seed orchards planning and implementation, workshops organization.

## Section 2:

### Aim and objectives

#### **Overall Goal i.e. long term objective:**

The long-term goal is to support the recovery of the forest's most threatened trees through increased production of threatened seedlings at a range of capable and highly trained nurseries. In addition, the seed orchards would promote the conservation of the genetic pool of these species and might fundament further studies.

#### **Initial project objectives:**

1. To encourage local nurseries to increase production of threatened species from Araucaria Forest
2. To provide nurseries with skills and knowledge about threatened species and increase their production
3. To create seed orchards of threatened species as a tool to ex situ conservation (and an accessible source of seed for long-term production in the nurseries targeted in Objective 1)

During the CLP Conservation Management and Leadership Training Course at Indonesia in 2017, the originals objectives were designed as following:

1. Known database about threatened tree species production on Araucaria Forest
2. Local tree nurseries on Araucaria Forest interested in increase their production with threatened species
3. Nurseries staff have skills and knowledge needed about threatened species to increase their production
4. Seeds orchards of threatened tree species implemented as a tool to ex situ conservation

#### **Changes to original project plan**

To achieve the Objective 1 – Known database about threatened tree species production on Araucaria Forest, we had the contribution of Taylor Saw's (GTC support) research in partnership with Sociedade Chauá. This study provided a solid database on tree nurseries production in Paraná and Santa Catarina states. During April to June 2017, Shaw came to Brazil to collect data to feed her research, and had active support of Valmir (CLP team member). Due to this collaboration, Objective 1 was achieved on July 2017 - initially planned to finish by end of October 2017.

According to Objective 4 - Seed orchards of threatened tree species implemented as a tool to ex-situ conservation - the project planned to implement four seed orchards in four protected areas (two national parks and two nurseries) with 300 seedlings each one. However, majority of nurseries do not have appropriate area to implement them. Therefore, the project implemented three seed orchards in three protected areas where SC is already developing conservation activities, totalizing 3,903 seedlings (more than expected). Due to the high amount of seedlings, it was just possible to monitor the survival of seedlings; the planned measurements (height and diameter above the ground of each seedling) were not possible to undertake so far.

## Methodology

### **1. Known database about threatened tree species production on Araucaria Forest**

To identify a baseline sample of what species are produced and planted in restoration projects, and which factors are most important in governing species selection, interviews were conducted within the original Araucaria forest extent in Parana and Santa Catarina (Fig. 1). Ns and RPs were identified by: Diagnosis of the Production of Native Forest Seedlings in Brazil (Silva et al., 2015); Embrapa, an agricultural research institution's nursery list (Embrapa, 2017); the Brazilian Institute of Forestry nursery list (IBF, 2017); Environmental Institute of Parana registered nursery list (IAP, 2017); contacts from previous nursery research from The Nature Conservancy; and Internet searches. Nurseries were randomly selected and asked via telephone to participate in the study. Those who agreed were scheduled for an in-person interview.

The 36 interviews included 20 Ns (9 publics, 11 private) and 16 RPs (11 private consultants, 4 NGOs, 1 government agency).

During each N interview, annual inventory lists were collected to ascertain species occurrence, as defined by which species were present/absent in any given nursery. The N questionnaire was composed of 62 questions in the following categories: infrastructure, business objectives, seedling sale, technical knowledge, market and client needs, seed acquisition methods, fluctuations in nursery operational activity, regulations, inventory decision making processes, and incentives for using threatened species. The RP questionnaire was composed of 64 questions in the following categories: project planning, business objectives, nursery selection, species selection, staffing, and the planting process.

### **2. Local tree nurseries on Araucaria Forest interested in increase their production with threatened species**

To engage local nurseries to increase their production with threatened species, along the year, we donated seeds from different native species and supported them during grow process. We achieved this by collecting threatened species from 1,035 registered mother trees of around 40 species across Paraná state (Sociedade Chauá database).

### **3. Nurseries staff have skills and knowledge needed about threatened species to increase their production**

We ran a training on strategies to produce and conserve threatened species for nurseries staffs. We counted with the presence of specialists from university that contributed value experience. At the end of the course we delivered to participants' seeds of a mix of species and guidance's on how to grow and plant these species were shared with them.

### **4: Seeds orchards of threatened tree species implemented as a tool to ex situ conservation**

To improve the knowledge of the team on seeds orchards, we arranged our own capacity building. The course was conducted by professor Dra. Dagma Kratz. It was disseminated theoretical and practical themes that helped us to design the best strategy to implement in the project. The methods used followed recommendations of Higa and Silva (2006).

It was established three seed orchards in protected areas. The selection of the sites to implement the seed orchards considered: depth of soil; topography local; composition and ecological characteristics of natural and introduced vegetation; and accessibility.

The species were chosen according to IUCN's Red List and the findings of Hoffmann et al. (2015). A maximum of seedlings from different matrices of each species was used to maximize the genetic variability.

## Outputs and Results

### 1. Known database about threatened tree species production on Araucaria Forest

1. 36 interviews were conducted, including: 20 Nurseries (9 publics, 11 private), 16 Planters (11 private consultants, 4 NGOs, 1 government agency);
2. Species occurrence according to the nursery inventories: 354 taxa (154 were native) by which the average species richness within individual nurseries were only 34 taxa;
3. The abundances of all rare and threatened species comprised 16.9% of all reported seedlings used in plantings;
4. When asked about threatened species, nurseries answered 58.5% of the questions correctly, whereas threatened species' specialists answered 93.7% of the questions right. In regards with drivers' nurseries answered 61.3% of the questions correctly

**Table 1.** Species most often cited for open-ended seed acquisition questions in Nursery Questionnaire. Highest ranking three species for each question are listed; ties for a ranking are also included (ranking 1 ¼ mentioned most, 2 ¼ mentioned second most, 3 ¼ mentioned third most) (credits: Shaw, 2018).

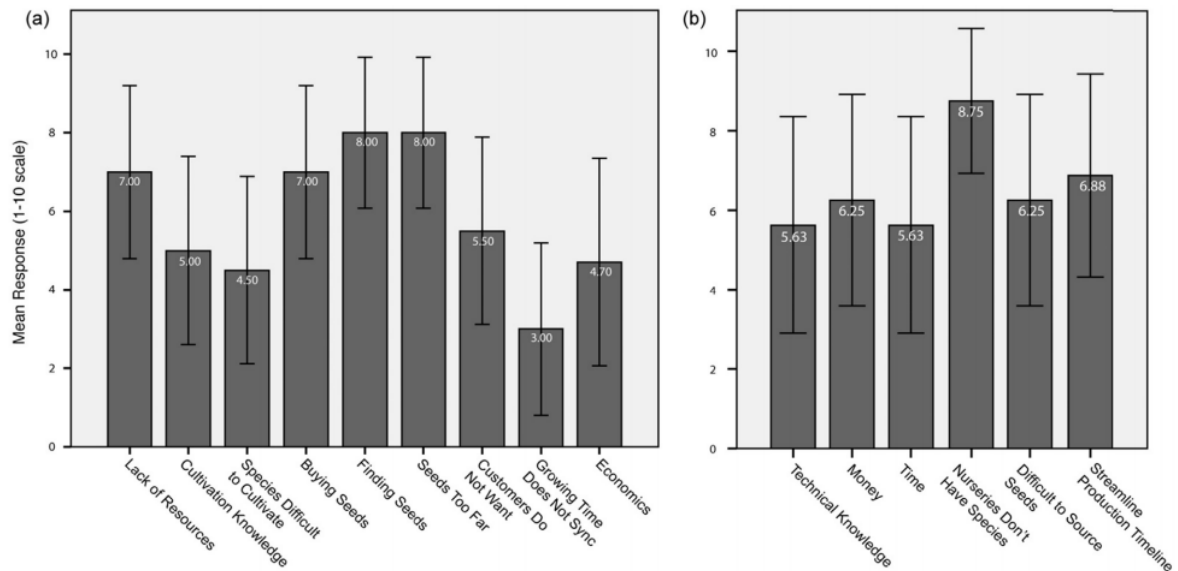
Category	Species	Ranking	Threat Status
Easy to Acquire	<i>Araucaria angustifolia</i>	1	Near Threatened <sup>a</sup> , Endangered <sup>b</sup> , Critically Endangered <sup>d</sup>
	<i>Psidium cattleianum</i>	2	—
	<i>Eugenia uniflora</i>	3	—
Inexpensive to Acquire	<i>Araucaria angustifolia</i>	1	Near Threatened <sup>a</sup> , Endangered <sup>b</sup> , Critically Endangered <sup>d</sup>
	<i>Eugenia uniflora</i>	1	—
	<i>Eugenia involucrata</i>	2	Rare <sup>c</sup>
Difficult to Acquire	<i>Psidium cattleianum</i>	2	—
	<i>Ocotea odorifera</i>	1	Near Threatened <sup>a</sup> , Endangered <sup>b</sup> , Vulnerable <sup>d</sup>
	<i>Ocotea porosa</i>	2	Near Threatened <sup>a</sup> , Endangered <sup>b</sup> , Vulnerable <sup>d</sup>
	<i>Caesalpinia echinata</i>	3	Endangered <sup>d</sup>
	<i>Cedrella fissillis</i>	3	Endangered <sup>d</sup>
Expensive to Acquire	<i>Ocotea odorifera</i>	1	Near Threatened <sup>a</sup> , Endangered <sup>b</sup> , Vulnerable <sup>d</sup>
	<i>Ocotea porosa</i>	2	Near Threatened <sup>a</sup> , Endangered <sup>b</sup> , Vulnerable <sup>d</sup>
	<i>Cedrella fissillis</i>	3	Endangered <sup>d</sup>
	<i>Jacaranda puberal</i>	3	—
	<i>Caesalpinia echinata</i>	3	Endangered <sup>d</sup>

<sup>a</sup> SEMA (1995).

<sup>b</sup> MMA (2008).

<sup>c</sup> Hoffmann et al. (2015).

<sup>d</sup> IUCN (2013).



**Figure 2.** Mean responses of (a) Nurseries and (b) Restoration Practitioners in Parana and Santa Catarina states, Brazil (2017) when asked to rate a 1e10 scale (1 ¼ not important, 10 ¼ very important) on various potential barriers to adding threatened species to their inventories. Means are listed in white. Error bars represent 95% CI (credits: Shaw, 2018).

## 2. Local tree nurseries on Araucaria Forest interested in increase their production with threatened species

1. #14 nurseries from 13 cities of Paraná and Santa Catarina states selected;
2. #14 nurseries visited and aware about the project's idea
3. #11 of visited nurseries got interested in increase their threatened species production

## 3. Nurseries staff have skills and knowledge needed about threatened species to increase their production

1. #9 nurseries of Parana and Santa Catarina state and #1 restoration initiative participated in the technical course;
2. #25 nurseries' staff attended
3. Score of correct answers before the course = 5.93 and after = 7.61
4. #3 species of seeds were delivered after the training
5. #25 protocols were delivered
6. #16 forest sites were visited for seed collection;
7. Almost 55 species were collected;
8. All the nurseries (#11) received threatened seeds and/or seedlings;
9. #54 species donated (Appendices);
10. All the nurseries increased the number of threatened species production;
11. #10 nurseries increased the number of threatened species already produced;

## 4. Seeds orchards of threatened tree species implemented as a tool to ex situ conservation



1. Team's capacity building on seed orchards carried out from 19-20 October 2017;
2. #11 professionals got involved in the course;
3. #27 species selected to compose the seed orchards;
4. #13 were threatened species;
5. Three seed orchards implemented in protect areas;
6. #300 seedlings of seven species composed the seed orchard in Ponta Grossa Protected Area;
7. #2.971 seedlings of #25 species composed the seed orchard in Pirai do Sul Protected Area;
8. #632 seedlings of two species composed the seed orchard in Campo Largo Protected Area;
9. #1262 seedlings were monitored in Pirai do Sul Protected Area;
10. 100% of seedlings survival in Campo Largo Protected Area.
11. 100% of seedlings survival in Ponta Grossa Protect Area.

## Communication & Application of results

The following actions include all those activities disseminated to a wide audience the project issues, results and lesson learnt.

### **Congress participation:**

Project presentation (poster session) in a national ecology congress and in a national restoration congress. The project publication in congresses were an excellent tool to exchange and improve skills and knowledge with experts.

### **Media communication:**

To inform, educate and sensitize the widest possible audience, publications on Chauá's social media appeared. Media work helped to disseminate information about the project among wider audience, inform local stakeholders and gear attention towards general environmental protection issues and in threatened species.

### **Training course to nurseries staff**

The central event of project aimed to enhance, sensitize and disseminate skills and knowledge about conservation and production of threatened species to local nurseries staffs. We used a flyer (sent by email) to invite and inform them about the course. This technique showed efficient to encourage our target audience to get involved in the training. At the end of course we delivered digital booklets about techniques on growing native species, produced by FFI with contribution of GTC and translated by our team. The nurseries staff feedback revealed that they expanded their knowledge and motivation to increase their production with threatened species.

## Monitoring and Evaluation

To assess the acquired knowledge of nurseries' staff after the training course we used survey questions, that represented the effectiveness of the course. The methodology used to evaluate the increased of nurseries with threatened species basically was composed by review of existing growing species in nurseries before the course and seeds donations actions and then evaluate the success of species increased under monitoring visits to nurseries.



**Figure 3.** (a) and (b) Nurseries monitoring visits.

The seeds orchards were evaluated by measuring all the surviving seedlings. The planted seedlings were counted. Based on this count, average survival per cent of seedlings in plantations has been estimated. The height of seedlings has also been measured.



**Figure 4.** (a) and (b) Seeds orchards monitoring.

### Achievements and Impacts

The project has developed effective partnerships and collaborations with relevant organs in the project area on discharging activities, sharing and exchanging of lessons and experiences, which is a credit for continued support from project stakeholders and partners.

Community perception on the project's origin, rationale and objective, and community involvement has also been on the positive side. Here we highlight the key achievements and impacts:

- Partnerships achieve results - The effectiveness of many partnerships among organizations was a key to success for the project. The partnership with organizations (e.g. SC, SPVS NGOs, National Parks managers, university) provided opportunities and contributed to achieve the project results. The team's capacity building in seed orchards was essential to plan the plantation actions. In addition, the support of SC's team – by providing high quality for the seed orchards, and technical guidance –was essential to the project.
- The work with local nurseries brought including: (1) capacity building opportunities to professionals and nurseries' staff; (2) increased nature conservation awareness; (3) better relationships throughout the community; (4) acknowledgement of the different roles, knowledge and skills that nurseries' staff can bring. These benefits were illustrated during the nurseries' staff training and monitoring visits to nurseries.
- #13 threatened species were planted in the seed orchards implemented in three protected areas, totalizing 3,903 seedlings. In the long-term, this "on the ground genetic bank" will provide high quality seeds for restorations programs.
- The seed collection activities and donations to nurseries have encouraged nurseries to increase their production with threatened species.
- Long-term monitoring of the increase of nurseries production and the seed orchards development will provide feedback to restorations practices on where investments in practice change are working, and where more is required.

### Capacity Development and Leadership capabilities

During nurseries interviews and courses conduction, all the team improved their communication skills. These activities showed that interaction, and the ability for the leader to listen is critical. We practiced active listening, and rather than just being quiet while others speak. When difficult decisions were needed, we required a high degree of emotional intelligence and courage to make the right decisions, even if doing so presents challenges in the short term.

Additionally, Paula's skills in project management and communication improved due to the CLP Conservation Management and Leadership Training Course at Indonesia in 2017. After training, Paula conducted the post course to CLP team and some members of Chauá team: Caleb de Lima Ribeiro, Jeniffer Grabias, Valmir Lorenzi, Pablo Hoffmann, Mariana Bersberg (trainee in Chauá) and Elivelton Gurski (trainee in Chauá). The main topics and activities disseminated were: Fundraising Plan –based on donor research; Logical project framework; bases to write an abstract; Communicating behavior change; and leadership styles.





Figure 5. (a) to (d) post course to CLP team.

### Section 3:

#### Conclusion

The findings highlight the challenges in addressing concerns of threatened plant species conservation into local livelihoods, and cultural preservation, and the importance of local context to management environmental conservation. We believe that conservation success depends on engaging and empowering those who live closest to threatened species and habitats. Hence, by assisting local community, for the first time, in Araucaria Forest region, it was possible to engage a high number of local tree produces to grow threatened species, through capacity building, seeds donation and technical support. Questionnaire responses reveal that opportunities for seed acquisition are an extremely important factor in order for nurseries to increase their diversity of cultivated species. Selected nurseries for improved conservation of threatened species practices benefited greatly from these executions and

reported large appreciations. Also, the establishment of almost 4,000 seedlings of thirteen threatened species in seed orchards at three protected areas would provide, in the long-term, a high quality seeds for restorations programs. We assume that these little steps would make towards major progress in conservation of threatened species in Araucaria Forest.

### Problems encountered and lessons learnt

- *Which project activities and outcomes went well and why?*
  - 1) Good partnerships with organizations and nurseries, which have been essential to conduce the project;
  - 2) The training about production and conservation of threatened species provided to 25 nurseries' staffs went well, participants went home with a stronger knowledge and network regarding native seedling production. At the end of the course the project delivered to the participant's seeds of a mix of species and guidance on how to grow and plant these species;
  - 3) The enrichment with threatened species in nurseries have shown to be successful; seeds and seedlings from almost 55 different species were donated to 11 nurseries.
  - 4) Good development of the donated seeds/seedlings, demonstrating the interest of nurseries in threatened species;
  - 5) Seed orchards well implemented in three protected areas.
- *Which project activities and outcomes have been problematic and in what way, and how has this been overcome?*
  - 1) No space to implement seed orchards in two nurseries –because most nurseries do not have enough space to implement a seed orchard the project implemented seed orchards in three different protected areas, totalizing more seedlings than initially expected.
  - 2) Seedlings mortality rate – many seedlings died by ants' attack in Piraí do Sul Protected Area. To overcome this situation, we will replace the dead seedlings and search for natural resources/ways to reduce the proliferation of ants;
  - 3) Lack of motivation of nurseries to grow threatened species – most nurseries informed that it is expensive to produce some threatened species (there are no financial resources available to find mother trees and/or no interest by consumers to acquire these seedlings). Therefore, until it is possible, the project will continue donating seed and support actions. In the long-term (e.g. possible future project), we aim to incentive the consumers (e.g NGOs, environmental consultancies) to include or increase the number of threatened species in restoration projects.
- *Briefly assess the specific project methodologies and conservation tools used.*

We consider our methodologies and conservation tools as generally effectiveness and well suited for our aims and objectives. However, for the seeds orchards monitoring component, if we could do different, for the seeds orchards with more than 300 seedlings, we would have design the measures in plots.

- *Please state important lessons which have been learnt through the course of the project and provide recommendations for future enhancement or modification to the project activities and outcomes.*

We learn lessons and discover opportunities for improvement. The central finds were 1) respectful communication and collaboration with the team; 2) improvement on strategies to engage stakeholders and partners, and negotiation trade-offs; and 3) further knowledge and incentive to nurseries' staff on threatened species is needed in most cases. The discussions of successes during the project, unintended outcomes, and recommendations for others involved in similar future projects, allows us to provide recommendations for future conservation of threatened species projects. To engage people in conservation of threatened species we strongly recommend the application of an effectiveness educational programming, media, exhibitions, and the construction of a partnership face to face, demonstrating that the target public are important.

### In the future

We recognise that it can take many years to achieve a significant conservation impact, mainly with threatened species, but early steps in the chain predicts future conservation impact. By influencing local nurseries to conserve and produce threatened species in Southern Brazil the Executive Director of Sociedade Chauá and our adviser, Pablo Hoffmann, has been invited by the state government coordinator for nurseries to advise on a future training programme. This provides a further opportunity to influence best practice and possible policy changes in restoration at the state level. The seeds orchards will continue to be monitor, and in long-term it will be possible to collect seeds of threatened species from a highly quality recourse. We highlight the need to continue carried out awareness campaigns to local nurseries as a tool to increase the growth of threatened species across Araucaria Forest. Sociedade Chauá still investing efforts to continue deliver seeds of threatened tree species to nurseries and engage more people in growing threatened species.

# Financial Report

Itemized expenses	Total CLP Requested (USD) *	Total CLP Spent (USD)	% Difference	Details & Justification (Justification must be provided if figure in column D is +/- 25%)
<b>PHASE I - PROJECT PREPARATION</b>				
Communications (telephone/internet/postage)	41,10	0,00	-100%	We allocated this funds to report production and results dissemination. We had a high spending in phase III to delivery seeds, monitoring nurseries , seeds orchards and congress
Field guide books, maps, journal articles and other printed materials	125,00	0,00	-100%	We allocated this funds to report production and results dissemination. We had a high spending in phase III to delivery seeds, monitoring nurseries , seeds orchards and congress
Insurance	555,56	13,55	-98%	We allocated this funds to report production and results dissemination. We had a high spending in phase III to delivery seeds, monitoring nurseries , seeds orchards and congress
Team training	277,78	310,45	12%	
<b>EQUIPMENT</b>				
Scientific/field equipment and supplies	483,72	367,18	-24%	
Boat/engine/truck (including car hire)	1.333,33	101,61	-92%	We allocated this funds to report production and results dissemination. We had a high spending in phase III to delivery seeds, monitoring nurseries and seeds orchards (inluding car rental)
<b>PHASE II - IMPLEMENTATION</b>				
Food for team members and local guides	777,78	403,51	-48%	We allocated this funds to report production and results dissemination. We had a high spending in phase III to delivery seeds, monitoring nurseries , seeds orchards and congress (inluding food)
Travel and local transportation (including fuel)	1.213,06	1327,15	9%	
Outreach/Education activities and materials (brochures, posters, video, t-shirts, etc.)	1.441,67	733,58	-49%	We allocated this funds to report production and results dissemination. We had a high spending in phase III to delivery seeds, monitoring nurseries , seeds orchards and congress
Other (Phase 2)	3.920,00	4418,44	13%	
<b>PHASE III - POST-PROJECT EXPENSES</b>				
Administration	700,00	1285,76	84%	We spend more than expected because of high import duty charges, other bank transitions, and bank fees
Report production and results dissemination	500,00	3129,13	526%	We spend more than expected in this fase. We realized that after the implemation we had more activities to continue delivering seeds, visiting nurseries, monitoring seeds orchards and disseminating the results in congresses. We re-allocate from expenses that left money.
Other (Phase 3)				
<b>Total</b>	<b>11.369,00</b>	<b>12.090,37</b>		

## Section 4:

### Appendices

Output	Number	Additional Information
Number of CLP Partner Staff involved in mentoring the Project	1	David Gill (FFI)
Number of species assessments contributed to (E.g. IUCN assessments)	0	
Number of site assessments contributed to (E.g. IBA assessments)	0	
Number of NGOs established	0	
Amount of extra funding leveraged (\$)	2	USD 8,000 CRNF and 10,000 PBF
Number of species discovered/rediscovered	0	
Number of sites designated as important for biodiversity (e.g. IBA/Ramsar designation)	0	
Number of species/sites legally protected for biodiversity	0	
Number of stakeholders actively engaged in species/site conservation management	25	25 nurseries' staff attended
Number of species/site management plans/strategies developed	51	27 species in seed orchards; 25 species donated to nurseries; 51 species collected
Number of stakeholders reached		25 nurseries staff; 3 directors of protect areas
Examples of stakeholder behaviour change brought about by the project.	69	20 Ns (9 public, 11 private) and 16 RPs (11 private consultants, 4 NGOs, 1 government agency); 25 nurseries staff; 3 directors of protect areas
Examples of policy change brought about by the project	0	With the data collected by the project we are able build a baseline to show governments a n restoration actors about the native seedlings production on the region
Number of jobs created	0	
Number of academic papers published	1	Shaw, T. E. (2018).
Number of conferences where project results have been presented	2	Project presentation (poster session) in a national ecology congress and in a national restoration congress.



**Table 1.** Amount and date of donated species to each nursery.

Nursery	Species	Amount	Donation date
Lapa Municipal Nursery	<i>Eugenia involucrata</i>	190g	14 December 2017
Lapa Municipal Nursery	<i>Handroanthus albus</i>	51,5g	14 December 2017
Lapa Municipal Nursery	<i>Handroanthus albus</i>	57,1g	14 December 2017
Lapa Municipal Nursery	<i>Handroanthus crysotrichus</i>	27,4g	14 December 2017
Araucaria Municipal Nursery	<i>Eugenia involucrata</i>	190g	14 December 2017
Araucaria Municipal Nursery	<i>Handroanthus albus</i>	51,5g	14 December 2017
Araucaria Municipal Nursery	<i>Handroanthus albus</i>	57,1g	14 December 2017
Araucaria Municipal Nursery	<i>Handroanthus crysotrichus</i>	27,4g	14 December 2017
Campo Largo Municipal Nursery	<i>Eugenia involucrata</i>	190g	14 December 2017
Campo Largo Municipal Nursery	<i>Handroanthus albus</i>	51,5g	14 December 2017
Campo Largo Municipal Nursery	<i>Handroanthus albus</i>	57,1g	14 December 2017
Campo Largo Municipal Nursery	<i>Handroanthus crysotrichus</i>	27,4g	14 December 2017
Duffato Nursery	<i>Eugenia involucrata</i>	190g	14 December 2017
Duffato Nursery	<i>Handroanthus albus</i>	51,5g	14 December 2017
Duffato Nursery	<i>Handroanthus albus</i>	57,1g	14 December 2017
Duffato Nursery	<i>Handroanthus crysotrichus</i>	27,4g	14 December 2017
Nativo Nursery	<i>Eugenia involucrata</i>	190g	14 December 2017
Nativo Nursery	<i>Handroanthus albus</i>	51,5g	14 December 2017
Nativo Nursery	<i>Handroanthus albus</i>	57,1g	14 December 2017
Nativo Nursery	<i>Handroanthus crysotrichus</i>	27,4g	14 December 2017
Nilzer Nursery	<i>Eugenia involucrata</i>	190g	14 December 2017
Nilzer Nursery	<i>Handroanthus albus</i>	51,5g	14 December 2017
Nilzer Nursery	<i>Handroanthus albus</i>	57,1g	14 December 2017
Nilzer Nursery	<i>Handroanthus crysotrichus</i>	27,4g	14 December 2017
Porto Amazonas Nursery	<i>Eugenia involucrata</i>	190g	14 December 2017
Porto Amazonas Nursery	<i>Handroanthus albus</i>	51,5g	14 December 2017
Porto Amazonas Nursery	<i>Handroanthus albus</i>	57,1g	14 December 2017
Porto Amazonas Nursery	<i>Handroanthus crysotrichus</i>	27,4g	14 December 2017
Myrtlau Nursery	<i>Eugenia involucrata</i>	190g	24 December 2017
Myrtlau Nursery	<i>Handroanthus albus</i>	51,5g	24 December 2017
Myrtlau Nursery	<i>Handroanthus albus</i>	57,1g	24 December 2017
Myrtlau Nursery	<i>Handroanthus crysotrichus</i>	27,4g	24 December 2017
Campo Largo Municipal Nursery	<i>Capsicodendron dinisii</i>	250 un	09 January 2018
Campo Largo Municipal Nursery	<i>Erythroxylum deciduum</i>	250 un	09 January 2018
Campo Largo Municipal Nursery	<i>Campomanesia xanthocarpa</i>	252,5g	09 January 2018
Lapa Municipal Nursery	<i>Campomanesia xanthocarpa</i>	200 un	15 January 2018
Lapa Municipal Nursery	<i>Psidium rufum</i>	150 un	15 January 2018
Porto Amazonas Nursery	<i>Campomanesia xanthocarpa</i>	200 un	15 January 2018
Porto Amazonas Nursery	<i>Psidium rufum</i>	150 un	15 January 2018

Federal University of Parana state	<i>trithrinax acanthocoma</i>	121,64g	29 January 2018
Federal University of Parana state	<i>trithrinax acanthocoma</i>	381,28g	29 January 2018
Araucaria Municipal Nursery	<i>Butia eryospatha</i>	300g	31 January 2018
Araucaria Municipal Nursery	<i>Jacaranda puberula</i>	80g	31 January 2018
Araucaria Municipal Nursery	<i>Mimosa floculosa</i>	300g	31 January 2018
Araucaria Municipal Nursery	<i>Ocotea porosa</i>	300g	31 January 2018
Araucaria Municipal Nursery	<i>Solanum diploconos</i>	10g	31 January 2018
Lapa Municipal Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Lapa Municipal Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Lapa Municipal Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Confal Nursery	<i>Butia eryospatha</i>	150g	01 February 2018
Confal Nursery	<i>Mimosa floculosa</i>	200g	01 February 2018
Confal Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Confal Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
K.S. Nursery	<i>Butia eryospatha</i>	150g	01 February 2018
K.S. Nursery	<i>Casearia decandra</i>	40g	01 February 2018
K.S. Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
K.S. Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
K.S. Nursery	<i>Ocotea porosa</i>	300g	01 February 2018
K.S. Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Myrtlau Nursery	<i>Butia eryospatha</i>	150g	01 February 2018
Myrtlau Nursery	<i>Casearia decandra</i>	40g	01 February 2018
Myrtlau Nursery	<i>Jacaranda puberula</i>	20g	01 February 2018
Myrtlau Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Myrtlau Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Myrtlau Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Nativo Nursery	<i>Butia eryospatha</i>	150g	01 February 2018
Nativo Nursery	<i>Jacaranda puberula</i>	20g	01 February 2018
Nativo Nursery	<i>Matayba eleagnoides</i>	40g	01 February 2018
Nativo Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Nativo Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Nativo Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Nativo Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Nilzer Nursery	<i>Butia eryospatha</i>	150g	01 February 2018
Nilzer Nursery	<i>Jacaranda puberula</i>	20g	01 February 2018
Nilzer Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Nilzer Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Nilzer Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Nilzer Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Nilzer Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Porto Amazonas Nursery	<i>Butia eryospatha</i>	150g	01 February 2018

Porto Amazonas Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Porto Amazonas Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Porto Amazonas Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Porto Amazonas Nursery	<i>Ocotea porosa</i>	150g	01 February 2018
Porto Amazonas Nursery	<i>Solanum diploconos</i>	10g	01 February 2018
Duffato Nursery	<i>Butia eryospatha</i>	150g	02 February 2018
Duffato Nursery	<i>Casearia decandra</i>	40g	02 February 2018
Duffato Nursery	<i>Jacaranda puberula</i>	20g	02 February 2018
Duffato Nursery	<i>Ocotea porosa</i>	150g	02 February 2018
Duffato Nursery	<i>Ocotea porosa</i>	300g	02 February 2018
Duffato Nursery	<i>Ocotea porosa</i>	150g	02 February 2018
Duffato Nursery	<i>Ocotea porosa</i>	150g	02 February 2018
Duffato Nursery	<i>Ocotea porosa</i>	150g	02 February 2018
Duffato Nursery	<i>Eugenia piryformis</i>	300g	08 February 2018
Duffato Nursery	<i>Eugenia piryformis</i>	300g	08 February 2018
Duffato Nursery	<i>Mimosa floclulosa</i>	160g	08 February 2018
Campo Largo Municipal Nursery	<i>Butia eryospatha</i>	150g	09 February 2018
Campo Largo Municipal Nursery	<i>Cinnamomum sellowianum</i>	200g	09 February 2018
Campo Largo Municipal Nursery	<i>Eugenia pyriformis</i>	150g	09 February 2018
Campo Largo Municipal Nursery	<i>Eugenia pyriformis</i>	150g	09 February 2018
Campo Largo Municipal Nursery	<i>Ocotea porosa</i>	150g	09 February 2018
Campo Largo Municipal Nursery	<i>Ocotea porosa</i>	150g	09 February 2018
Campo Largo Municipal Nursery	<i>Ocotea porosa</i>	150g	09 February 2018
Federal University of Parana state	<i>psidium cattleianum</i>	627,44g	01 March 2018
Federal University of Parana state	<i>psidium cattleianum</i>	636,54g	01 March 2018
Federal University of Parana state	<i>zanthoxylum kleinii</i>	91,33g	01 March 2018
Federal University of Parana state	<i>eugenia piryformis</i>	150g	01 March 2018
Federal University of Parana state	<i>Eugenia piryformis</i>	150g	01 March 2018
Campo Largo Municipal Nursery	<i>Plinia peruviana</i>	200 un	14 March 2018
Campo Largo Municipal Nursery	<i>Eugenia involucrata</i>	200 un	14 March 2018
Campo Largo Municipal Nursery	<i>Casearia decandra</i>	600 un	14 March 2018
Campo Largo Municipal Nursery	<i>Campomanesia xanthocarpa</i>	100 un	14 March 2018
Campo Largo Municipal Nursery	<i>Butia eryospatha</i>	1950g	14 March 2018
Campo Largo Municipal Nursery	<i>psidium cattleianum</i>	309g	14 March 2018
Campo Largo Municipal Nursery	<i>psidium cattleianum</i>	47,16g	14 March 2018
Porto Amazonas Nursery	<i>abutylon megapotamicum</i>	4 un	14 March 2018
Porto Amazonas Nursery	<i>Aphelandra sp.</i>	1 un	14 March 2018
Porto Amazonas Nursery	<i>Berberis laurina</i>	3 un	14 March 2018
Porto Amazonas Nursery	<i>Butia eryospatha</i>	2 un	14 March 2018

Porto Amazonas Nursery	<i>Callianthe amoena</i>	6 un	14 March 2018
Porto Amazonas Nursery	<i>Callianthe rufinerva</i>	6 un	14 March 2018
Porto Amazonas Nursery	<i>Cestrum corymbosum</i>	45 un	14 March 2018
Porto Amazonas Nursery	<i>Curitiba prismatica</i>	8 un	14 March 2018
Porto Amazonas Nursery	<i>Duranta vestita</i>	10 un	14 March 2018
Porto Amazonas Nursery	<i>Fuchsia hatschbach</i>	54 un	14 March 2018
Porto Amazonas Nursery	<i>Geonoma schotiniana</i>	6 un	14 March 2018
Porto Amazonas Nursery	<i>Justicia carnea</i>	52 un	14 March 2018
Porto Amazonas Nursery	<i>Justicia rizzini</i>	12 un	14 March 2018
Porto Amazonas Nursery	<i>Maytenus aquifolia</i>	5 un	14 March 2018
Porto Amazonas Nursery	<i>Maytenus ilicifolia</i>	5 un	14 March 2018
Porto Amazonas Nursery	<i>Myrceugenia glauscescens</i>	4 un	14 March 2018
Porto Amazonas Nursery	<i>Myrceugenia regneliana</i>	4 un	14 March 2018
Porto Amazonas Nursery	<i>Myrcia splendens</i>	3 un	14 March 2018
Porto Amazonas Nursery	<i>Pavonia schrankii</i>	4 un	14 March 2018
Porto Amazonas Nursery	<i>Ruellia sp.</i>	24 un	14 March 2018
Porto Amazonas Nursery	<i>Salvia melissiflora</i>	1 un	14 March 2018
Porto Amazonas Nursery	<i>Solanum diploconos</i>	5 un	14 March 2018
Campo Largo Municipal Nursery	<i>Butia eryospatha</i>	1000g	16 March 2018
Campo Largo Municipal Nursery	<i>Psidium cattleianum</i>	150g	16 March 2018
Chamel Nursery	<i>Butia eryospatha</i>	1000g	20 March 2018
Chamel Nursery	<i>Psidium cattleianum</i>	200g	20 March 2018
Chamel Nursery	<i>Syagrus romanzifolia</i>	200g	20 March 2018
Nativo Nursery	<i>Butia eryospatha</i>	1000g	21 March 2018
Nativo Nursery	<i>Psidium cattleianum</i>	200g	21 March 2018
Nativo Nursery	<i>Syagrus romanzifolia</i>	200g	21 March 2018
Federal University of Parana state	<i>Zanthoxylum rhoifolium</i>	352,34g	22 March 2018
Porto Amazonas Nursery	<i>Butia eryospatha</i>	1000g	03 April 2018
Porto Amazonas Nursery	<i>Eugenia uruguayensis</i>	500g	03 April 2018
Duffato Nursery	<i>Butia eryospatha</i>	1000g	12 June 2018
Duffato Nursery	<i>Mimosa strobiliflora</i>	40g	12 June 2018
Duffato Nursery	<i>Cassia leptophylla</i>	100g	12 June 2018
Duffato Nursery	<i>Jacaranda puberula</i>	120 un	12 June 2018
Duffato Nursery	<i>Casearia lasyophylla</i>	120 un	12 June 2018
Duffato Nursery	<i>Ficus luschnathiana</i>	100 un	12 June 2018
Duffato Nursery	<i>Capsicodendron dinisii</i>	300 un	12 June 2018
Duffato Nursery	<i>Albizia edwalli</i>	150g	12 June 2018
K.S. Nursery	<i>Butia eryospatha</i>	900g	12 June 2018
K.S. Nursery	<i>Cassia leptophylla</i>	100g	12 June 2018

K.S. Nursery	<i>Eugenia involucrata</i>	100 un	12 June 2018
K.S. Nursery	<i>Casearia lasyophilla</i>	150 un	12 June 2018
K.S. Nursery	<i>Casearia decandra</i>	150 un	12 June 2018
K.S. Nursery	<i>Capsicodendron dinisii</i>	200 un	06 November 2018
K.S. Nursery	<i>Myrcia hatschbach</i>	150 un	06 November 2018
K.S. Nursery	<i>Erythroxylum deciduum</i>	100 un	06 November 2018
K.S. Nursery	<i>Myrcine coriacea</i>	25 un	06 November 2018
Campo Largo Municipal Nursery	<i>Casearia decandra</i>	200 un	07 November 2018
Campo Largo Municipal Nursery	<i>Myrcia hatschbach</i>	50 un	07 November 2018
Campo Largo Municipal Nursery	<i>Erythroxylum deciduum</i>	150 un	07 November 2018
Chamel Nursery	<i>Casearia decandra</i>	900 un	19 November 2018
Chamel Nursery	<i>Casearia lasyophilla</i>	90 un	19 November 2018
Chamel Nursery	<i>Psidium cattleianum</i>	500 g	19 November 2018
Porto Amazonas Nursery	<i>Erythroxylum deciduum</i>	100 un	19 November 2018
Porto Amazonas Nursery	<i>Casearia decandra</i>	800 un	19 November 2018
Porto Amazonas Nursery	<i>Capsicodendron dinisii</i>	900 un	19 November 2018
Porto Amazonas Nursery	<i>Myrcia hatschbach</i>	70 un	19 November 2018
Porto Amazonas Nursery	<i>Pyrostegia venusta</i>	100 un	19 November 2018
Porto Amazonas Nursery	<i>Cestrum corymbosum</i>	100 un	19 November 2018
Porto Amazonas Nursery	<i>Salvia melissiflora</i>	24 un	19 November 2018
Porto Amazonas Nursery	<i>Justicia carnea</i>	43 un	19 November 2018
Porto Amazonas Nursery	<i>Ruellia sp.</i>	30 un	19 November 2018
Porto Amazonas Nursery	<i>Justicia brasiliana</i>	39 un	19 November 2018
Porto Amazonas Nursery	<i>Ruellia sp.</i>	24 un	19 November 2018
Porto Amazonas Nursery	<i>Abutilon megapotamicum</i>	42 un	19 November 2018
Chamel Nursery	<i>Butia eryospatha</i>	150g	31 February 2018
Chamel Nursery	<i>Casearia decandra</i>	40g	31 February 2018
Chamel Nursery	<i>Mimosa floculosa</i>	160g	31 February 2018
Chamel Nursery	<i>Ocotea porosa</i>	150g	31 February 2018
Chamel Nursery	<i>Ocotea porosa</i>	150g	31 February 2018
Chamel Nursery	<i>Ocotea porosa</i>	150g	31 February 2018
Chamel Nursery	<i>Butia eryospatha</i>	650 g	09 July 2018

**Table 2.** Number of donated species per nursery.

Nursery	Donated species	Number of donated species
Araucaria Municipal Nursery	<i>Butia eryospatha</i>	8
	<i>Eugenia involucrata</i>	
	<i>Handroanthus albus</i>	
	<i>Handroanthus crysotrichus</i>	
	<i>Jacaranda puberula</i>	
	<i>Mimosa floclulosa</i>	
	<i>Ocotea porosa</i>	
	<i>Solanum diploconos</i>	
Campo Largo Municipal Nursery	<i>Butia eryospatha</i>	14
	<i>Campomanesia xanthocarpa</i>	
	<i>Capsicodendron dinisii</i>	
	<i>Casearia decandra</i>	
	<i>Cinnamomum sellowianum</i>	
	<i>Erythroxylum deciduum</i>	
	<i>Eugenia involucrata</i>	
	<i>Eugenia pyriformis</i>	
	<i>Handroanthus albus</i>	
	<i>Handroanthus crysotrichus</i>	
	<i>Myrcia hatschbach</i>	
	<i>Ocotea porosa</i>	
	<i>Plinia peruviana</i>	
	<i>Psidium cattleianum</i>	
Chamel Nursery	<i>Butia eryospatha</i>	7
	<i>Casearia decandra</i>	
	<i>Casearia lasyophylla</i>	
	<i>Mimosa floclulosa</i>	
	<i>Ocotea porosa</i>	
	<i>Psidium cattleianum</i>	
	<i>Syagrus romanzifolia</i>	
Confal Nursery	<i>Butia eryospatha</i>	3
	<i>Mimosa floclulosa</i>	
	<i>Ocotea porosa</i>	
Duffato Nursery	<i>Albizia edwalli</i>	15
	<i>Butia eryospatha</i>	
	<i>Capsicodendron dinisii</i>	
	<i>Casearia decandra</i>	
	<i>Casearia lasyophylla</i>	
	<i>Cassia leptophylla</i>	
	<i>Eugenia involucrata</i>	
	<i>Eugenia piryformis</i>	
	<i>Ficus luschnathiana</i>	
	<i>Handroanthus albus</i>	
	<i>Handroanthus crysotrichus</i>	
	<i>Jacaranda puberula</i>	
	<i>Mimosa floclulosa</i>	
	<i>Mimosa strobiliflora</i>	
	<i>Ocotea porosa</i>	

K.S. Nursery	<i>Butia eryspatha</i>	10
	<i>Casearia decandra</i>	
	<i>Ocotea porosa</i>	
	<i>Cassia leptophylla</i>	
	<i>Eugenia involucrata</i>	
	<i>Casearia lasyophylla</i>	
	<i>Capsicodendron dinisii</i>	
	<i>Myrcia hatschbach</i>	
	<i>Erythroxylum deciduum</i>	
	<i>Myrcine coriacea</i>	
Lapa Municipal Nursery	<i>Eugenia involucrata</i>	6
	<i>Handroanthus albus</i>	
	<i>Handroanthus crysotrichus</i>	
	<i>Campomanesia xanthocarpa</i>	
	<i>Psidium rufum</i>	
	<i>Ocotea porosa</i>	
Myrtlau Nursery	<i>Eugenia involucrata</i>	7
	<i>Handroanthus albus</i>	
	<i>Handroanthus crysotrichus</i>	
	<i>Butia eryspatha</i>	
	<i>Casearia decandra</i>	
	<i>Jacaranda puberula</i>	
	<i>Ocotea porosa</i>	
Nativo Nursery	<i>Eugenia involucrata</i>	9
	<i>Handroanthus albus</i>	
	<i>Handroanthus crysotrichus</i>	
	<i>Butia eryspatha</i>	
	<i>Jacaranda puberula</i>	
	<i>Matayba eleagnoides</i>	
	<i>Ocotea porosa</i>	
	<i>Psidium cattleianum</i>	
	<i>Syagrus romanzifolia</i>	
Nilzer Nursery	<i>Eugenia involucrata</i>	6
	<i>Handroanthus albus</i>	
	<i>Handroanthus crysotrichus</i>	
	<i>Butia eryspatha</i>	
	<i>Jacaranda puberula</i>	
	<i>Ocotea porosa</i>	
Porto Amazonas Nursery	<i>Abutilon megapotamicum</i>	35
	<i>Aphelandra sp.</i>	
	<i>Berberis laurina</i>	
	<i>Butia eryspatha</i>	
	<i>Callianthe amoena</i>	
	<i>Callianthe rufinerva</i>	
	<i>Campomanesia xanthocarpa</i>	
	<i>Capsicodendron dinisii</i>	
	<i>Casearia decandra</i>	
	<i>Cestrum corymbosum</i>	
	<i>Curitiba prismatica</i>	
	<i>Duranta vestita</i>	

	<i>Erythroxylum deciduum</i>	
	<i>Eugenia involucrata</i>	
	<i>Eugenia uruguayensis</i>	
	<i>Fucsia hatschbach</i>	
	<i>Geonoma schotiniana</i>	
	<i>Handroanthus albus</i>	
	<i>Handroanthus crysotrichus</i>	
	<i>Justicia brasiliiana</i>	
	<i>Justicia carnea</i>	
	<i>Justicia rizzini</i>	
	<i>Maytenus aquifolia</i>	
	<i>Maytenus ilicifolia</i>	
	<i>Myrceugenia glauscescens</i>	
	<i>Myrceugenia regneliana</i>	
	<i>Myrcia hatschbach</i>	
	<i>Myrcia splendens</i>	
	<i>Ocotea porosa</i>	
	<i>Pavonia schrankii</i>	
	<i>Psidium rufum</i>	
	<i>Pyrostegia venusta</i>	
	<i>Ruellia sp.</i>	
	<i>Salvia melissiflora</i>	
	<i>Solanum diploconos</i>	
Federal University of Parana state	<i>Eugenia piryformis</i>	5
	<i>Psidium cattleianum</i>	
	<i>Trithrinax acanthocoma</i>	
	<i>Zanthoxylum kleinii</i>	
	<i>Zanthoxylum rhoifolium</i>	

**Table 3.** Total of donated species.

Number	Donated species
1	<i>Abutilon megapotamicum</i>
2	<i>Albizia edwalli</i>
3	<i>Aphelandra sp.</i>
4	<i>Berberis laurina</i>
5	<i>Butia eryospatha</i>
6	<i>Callianthe amoena</i>
7	<i>Callianthe rufinerva</i>
8	<i>Campomanesia xanthocarpa</i>
9	<i>Capsicodendron dinisii</i>
10	<i>Casearia decandra</i>
11	<i>Casearia decandra</i>
12	<i>Casearia lasyophilla</i>
13	<i>Cestrum corymbosum</i>
14	<i>Cinnamomum sellowianum</i>



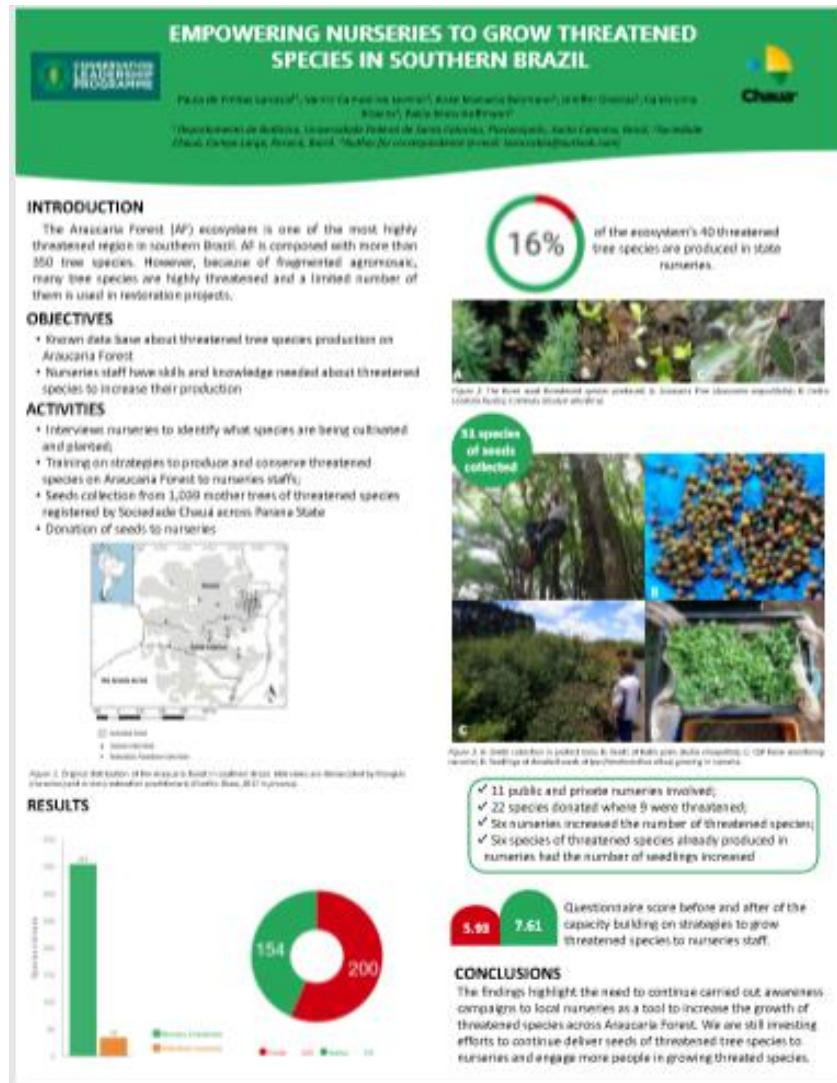
15	<i>Curitiba prismatica</i>
16	<i>Duranta vestita</i>
17	<i>Erythroxylum deciduum</i>
18	<i>Eugenia involucrata</i>
19	<i>Eugenia piryformis</i>
20	<i>Eugenia uruguayensis</i>
21	<i>Ficus luschnathiana</i>
22	<i>Fuchsia hatschbach</i>
23	<i>Geonoma schotiniana</i>
24	<i>Handroanthus albus</i>
25	<i>Handroanthus crysotrichus</i>
26	<i>Jacaranda puberula</i>
27	<i>Justicia brasiliana</i>
28	<i>Justicia carnea</i>
29	<i>Justicia rizzini</i>
30	<i>Matayba eleagnoides</i>
31	<i>Maytenus aquifolia</i>
32	<i>Maytenus ilicifolia</i>
33	<i>Mimosa flocculosa</i>
34	<i>Mimosa strobiliflora</i>
35	<i>Myrceugenia glauscenscens</i>
36	<i>Myrceugenia regneliana</i>
37	<i>Myrcia hatschbach</i>
38	<i>Myrcia splendens</i>
39	<i>Myrcine coriacea</i>
40	<i>Ocotea porosa</i>
41	<i>Pavonia schrankii</i>
42	<i>Plinia peruviana</i>
43	<i>Psidium cattleianum</i>
44	<i>Psidium rufum</i>
45	<i>Pyrostegia venusta</i>
46	<i>Ruellia sp.</i>
47	<i>Salvia melissiflora</i>
48	<i>Solanum diploconos</i>
49	<i>Solanum diploconos</i>
50	<i>Syagrus romanzifolia</i>
51	<i>Trithrinax acanthocoma</i>
52	<i>Zanthoxylum kleinii</i>
53	<i>Zanthoxylum rhoifolium</i>

**Table 4.** Species composing the seed orchard in Ponta Grossa Protected Area.

<b>Family</b>	<b>Species</b>
Annonaceae	<i>Annona silvatica</i>
Arecaceae	<i>Butia eriospatha</i>
Myrtaceae	<i>Eugenia involucrata</i>
Myrtaceae	<i>Eugenia longipedunculata</i>
Myrtaceae	<i>Eugenia pyriformis</i>
Quillajaceae	<i>Quillaja brasiliensis</i>
Arecaceae	<i>Trithrinax acanthocoma</i>

**Table 5.** - Species composing the seed orchard in Piraí do Sul Protected Area.

<b>Family</b>	<b>Species</b>
Annonaceae	<i>Annona sylvatica</i>
Araucariaceae	<i>Araucaria angustifolia</i>
Arecaceae	<i>Butia eriospatha</i>
Arecaceae	<i>Trithrinax acanthocoma</i>
Asparagaceae	<i>Cordyline spectabilis</i>
Berberidaceae	<i>Berberis laurina</i>
Lauraceae	<i>Ocotea odorifera</i>
Lauraceae	<i>Ocotea porosa</i>
Lythraceae	<i>Lafoensia pachari</i>
Myrtaceae	<i>Campomanesia gubirova</i>
Myrtaceae	<i>Campomanesia xanthocarpa</i>
Myrtaceae	<i>Curitiba prismatica</i>
Myrtaceae	<i>Eugenia involucrata</i>
Myrtaceae	<i>Eugenia longipedunculata</i>
Myrtaceae	<i>Eugenia uniflora</i>
Myrtaceae	<i>Myrcianthes gigantea</i>
Myrtaceae	<i>Psidium rufum</i>
Myrtaceae	<i>Psidium rufum</i>
Podocarpaceae	<i>Podocarpus lambertii</i>
Primulaceae	<i>Myrsine umbellata</i>
Salicaceae	<i>Casearia decandra</i>
Salicaceae	<i>Casearia lasyophylla</i>
Sapindaceae	<i>Allophylus edulis</i>
Sapotaceae	<i>Chrisophyllum acuminatum</i>
Simaroubaceae	<i>Castela tweedii</i>



Poster presented in a national ecology congress (RABECO, Brazil).



Figure 1-4 – Team capacity building in seed orchards (Credits: Sociedade Chauá).



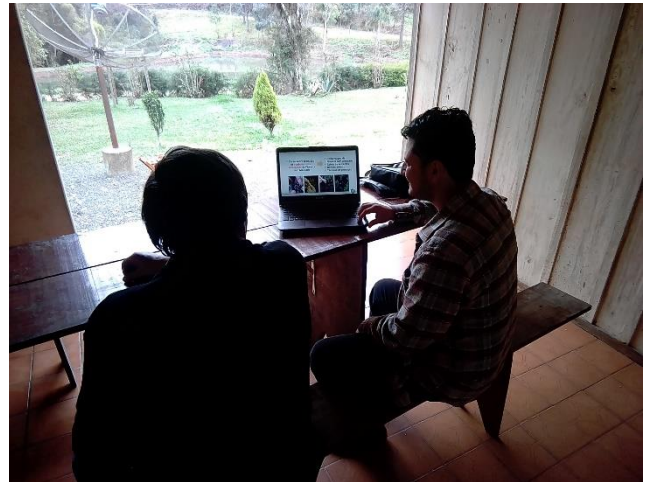


Figure 5-10 – Introducing CLP project to nurseries staff (Credits: Sociedade Chauá).





Figure 11-16 – Workshop in strategies to conserve and produce threatened species to nurseries staff  
(Credits: Sociedade Chauá)





Figure 17-20 – Implementing the seed orchard in Pirai do Sul protect area (Credits: Sociedade Chauá)





Figure 21-26 – Implementing the seed orchard in Ponta Grossa protect area (Credits: Sociedade Chauá)





Figure 27-30 – Implementing the seed orchard in Campo Largo protect area (Credits: Sociedade Chauá)





Figure 31-34 – Seeds collection (Credits: Sociedade Chauá)





Figure 35-40 – Visits to nurseries to donate seeds and support them (Credits: Sociedade Chauá).



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## Address list and web links

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### Porto Amazonas Nursery

Address: Estrada da Nova Restinga, km 5 - Zona Rural, Porto Amazonas – Parana state, Brazil

<http://viveiroportoamazonas.com.br/>

### Duffatto Nursery

Address: Monte Castelo, Santa Catarina State, Brazil

<http://www.viveiroflorestalduffatto.com.br/>

### Campo Largo Municipal Nursery

Address: Av. Padre Natal Pigato, 925 - Bairro Cambuí, Campo Largo – Parana state, Brazil

### Nativo Nursery

Address: R. Vinícius de Morães, 303 - Vila Marta, Alm. Tamandaré – Parana state, Brazil

<http://viveironativo.blogspot.com/>

### Myrtlau Nursery

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Confal Nursery

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Chamel Nursery

Address: Inácio Belinovski, 900 - Jardim Santa Nely, Campo Largo – Parana state, Brazil

<https://www.chamel.com.br/>