

Appraisal of forest plantation

April 2024

Cooperativa Waldmenschen, S.A.
Colón y Darién, Panamá

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Summary appraisal

The present document concern an appraisal of 40 properties of named Cooperative “Waldmenschen S.A.” farms will be reforested, located in the communities of Colón y Agua Fría, Darién, Panamá.

The objective of the appraisal is to comply with the requirements of IAS 41 for the recognition and measurement of the biological asset as of December 31, 2023.

The property comprises 2,370 hectares and consists of 1,208.90 ha commercial forest plantation, natural forest and bare land, with the following species composition.

Nombre común	Nombre científico	Area (ha)
Aceituno, Almendro y María	Simarouba amara, Dipteryx panamensis y Calophyllum brasiliense	0.44
Alcarreto	Aspidosperma desmanthum	1.92
Almendro	Dipteryx panamensis	69.44
Almendro y Amarillo	Dipteryx panamensis y Terminalia amazonia	8.87
Almendro y Mayo	Dipteryx panamensis y Vochysia sp.	0.10
Almendro, Aceituno y Mayo	Dipteryx panamensis, Simarouba amara y Vochysia sp.	0.30
Almendro, Amarillo y Jacaranda	Dipteryx panamensis, Terminalia amazonia y Jacaranda copaia	4.18
Amarillo	Terminalia amazonia	30.79
Amarillo Guayaquil	Centrolobium yavizanum	2.15
Amarillo y Amarillo Guayaquil	Terminalia Amazonia y Centrolobium yavizanum	0.37
Bálsamo	Myroxylon balsamum	5.10
Bateo	Carapa guianensis	16.19
Berbá	Brosimum alicastrum	3.44
Cacao, Almendro, Níspero y Caoba	Theobroma cacao, Dipteryx panamensis, Manilkara zapota y Swietenia macrophylla	0.49
Caoba	Swietenia macrophylla	40.65
Caobillo	Tapirira guianensis	1.09
Cativo	Prioria copaifera	3.62
Cativo y Espavé	Prioria copaifera y Anacardium excelsum	1.74
Cativo y Roble	Prioria copaifera y Tabebuia rosea	2.52
Cedro Amargo	Cedrela odorata	97.37
Coco	Lecythis ollaria	1.45
Cocobolo	Dalbergia retusa	284.86
Cocobolo Mixto	Dalbergia retusa mixto	2.57
Cocobolo y Almendro	Dipteryx panamensis y Dalbergia retusa	4.90
Cocobolo y Amarillo	Dalbergia retusa y Terminalia amazonia	208.13
Cocobolo y Guásimo	Dalbergia retusa y Guazuma ulmifolia	1.53
Cocobolo y Laurel	Dalbergia retusa y Cordia alliodora	10.15
Cocobolo y Ormosia	Dalbergia retusa y Terminalia amazonia	0.34
Cocobolo, Cedro amargo y Caoba	Dalbergia retusa, Cedrela odorata y Swietenia macrophylla	6.13
Enriquecimiento	Nativas mixtas	4.12
Espavé	Anacardium excelsum	4.55
Guachapali	Albizia guachapele	0.32
Guayabo de Charco	Terminalia oblonga	2.20
Guayacán Morado	Tabebuia impetiginosa	33.40
Jagua y Panamá	Genipa americana y Sterculia apetala	0.00

Nombre común	Nombre científico	Area (ha)
Laurel	Cordia alliodora	4.21
María Chiquita	Calophyllum brasilienses	2.24
María, Almendro y Amarillo	Calophyllum brasiliense, Dipteryx panamensis y Terminalia amazonia	0.50
Mora	Maclura tinctoria	1.00
Nativas Mixtas	Mixta	18.98
Níspero	Manilkara bidentata	4.73
Panamá	Sterculia apetala	0.63
Quira	Platymiscium pinnatum	1.76
Roble	Tabebuia rosea	139.19
Roble y Cativo	Tabebuia rosea y Prioria copaifera	8.34
Roble y Cedro Amargo	Tabebuia rosea y Cedrela odorata	3.43
Ron Ron	Astronium graveolens	22.98
Teca	Tectona grandis	142.93
Zapatero	Hieronyma alchorneoides	2.50
TOTAL		1,208.84

This appraisal estimates the value of the actual plantation at 31 December 2023. It also incorporates the land value to obtain a total value of the property. The land value has been evaluated by an independent land appraisal firm from Panama in 2021.

For the appraisal of the forest plantation, both actual market value and a net present value was calculated and used in the final appraisal.

The results of the valuation are as follows:

Weighted Average Valuation as of Effective Date	Value	Weighting
Net Present Value Approach biological asset	\$ 20,569,391	70%
Cost Capitalization Approach	\$ 5,885,336	30%
Weighted Average Valuation	\$ 16,164,175	100%
Startup Risk Premium	25%	
Adjusted Valuation	\$ 20,205,219	
Bareland value at market prices	\$ 17,831,237	
Total	\$ 38,036,456	

The total value of the plantation was therefore estimated to be 38,036,456 USD (THIRTY-EIGHT MILLION THIRTY SIX THOUSAND FOUR HUNDRED FIFTY-SIX US DOLLARS). Discount rate of 8%, inflation rate for revenues and costs of 0%.

The value of the forest plantation is valid for the appraisal date (December 2023), and can fluctuate, based on local and international trends in the timber market and costs of management and harvest, among others.

The value of land is also subject to future changes in (local) economic conditions, and is therefore also only valid as at the time of writing.

Carbon credit revenues were not assumed in this cash flow.

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1. Introduction

The objective of this appraisal is to estimate the value of the site named Cooperativa “Waldmenschen S.A.”, in the community of Colón y Agua Fría, Darién, Panama. The property is partly covered with a forest plantation, mainly with 11 different commercial timber species, mostly *Dalbergia retusa* and other native species. The oldest forest stands are 10 years old, while the most recent plantations were established in 2023.

This document consists of 5 chapters and starts with a description of the methodology applied in this appraisal.

In chapter 3 and 4, the general assumptions and characteristics of the property are described, followed by the results of the appraisal in chapter 5.

The document contains several Annexes containing details of the figures used for the calculations.

2. Methodology

The purpose of this study is to give a best estimate of the market value of the site called 'Cooperativa "Waldmensen S.A.", partly covered with commercial tree plantations, located in the province of Darién, Panama.

For an asset, the market value is generally defined as a current value in a knowledgeable market; the International Valuation Standards Council defines it as follows:

*"the estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently, and without compulsion."*¹

Generally applied international norms for the appraisal of assets are the International Financial Reporting Standards (IFRS), also known as of IAS (International Accountability Standards). In this case, we treat with a biological asset that is defined in IAS 41 – Agriculture².

The IAS treats a forest plantation as a biological asset, of which felled trees are its produce, and logs and lumber are the products resulting from the processing after harvest.

The IAS defines that if an active market exists, the asset's value should be defined by its value on the active market. However, an active market is characterized by 3 elements:

- (a) the items traded within the market are homogeneous;*
- (b) willing buyers and sellers can normally be found at any time; and*
- (c) prices are available to the public*

All three characteristics are not fulfilled by the market of plantations in Panama, where existing plantations are not homogeneous (quality, age, management and site characteristics strongly differ), and willing buyers and sellers and public prices are unknown.

The IFRS 13³ indicates:

Even when there is no observable market to provide pricing information about the sale of an asset or the transfer of a liability at the measurement date, a fair value measurement shall assume that a transaction takes place at that date, considered from the perspective of a market participant that holds the asset or owes the liability. That assumed transaction establishes a basis for estimating the price to sell the asset or to transfer the liability.

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction in the principal (or most advantageous) market at the measurement date under current market conditions (ie an exit price) regardless of whether that price is directly observable or estimated using another valuation technique.

An entity shall use valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximising the use of relevant observable inputs and minimising the use of unobservable inputs. Three widely used valuation techniques are the market approach, the cost approach and the income approach. An entity shall use

¹ International Valuation Standards 1 - Market Value Basis of Valuation.

² Reference to IAS.

³ IFRS 13 Fair Value Measurement

valuation techniques consistent with one or more of those approaches to measure fair value.

In this case of timber plantations in Panama, no history of market transaction prices exists (a). Furthermore, market prices of similar assets can best be found in prices of felled trees or processed timber at commercial centers (b). In our case, we use prices of timber based on a price study of timbers, realized in 2016 and updated in 2018, and use these for estimation of both actual sale value as well as the estimated future cash flow.

IFRS 13 also indicates:

“In some circumstances, market-determined prices or values may not be available for a biological asset in its present condition. In these circumstances, an entity uses the present value of expected net cash flows from the asset discounted at a current market-determined rate in determining fair value.”

To determine the fair value of the plantations, the author decided to use an industry-wide method to calculate a weighted average between investments made in the project up to today, and the present value of expected net cash flows from the asset (Discounted Cash Flow method, or DCF). The latter is based on harvests of commercial timber, based on market price levels (in line with IFRS 13:B12).

The reason to base the valuation on weighted average of both methods is that the current stock is between 10 and 0 years old. The standing trees have a certain age which shows the health and potential of the site, yet the trees are too young and thin to realize a commercial harvest that would value its potential. Based on harvest planning from the company, a final harvest of the Dalbergia stands at age 39 was assumed. The Dalbergia plantation is the main coverage of the site, but there are 10 other species that have different harvest schemes, with final harvests being made between at different ages. For example, the Rosewood (Cocobolo) established between 2015 and 2023 is to be harvested between years 2054 and 2062. The DCF method applies a cashflow method till the year 2062.

The asset value is determined excluding calculations of taxes or finance costs, as established in the same IAS⁴:

“An entity does not include any cash flows for financing the assets, taxation, or re-establishing biological assets after harvest (for example, the cost of replanting trees in a plantation forest after harvest).”

To arrive at an estimate of the company's value the following step-by-step methodology was used:

DCF methodology:

1. Estimated growth tables based on actual growth (in case of teak) and future extrapolation (conservative scenario)
2. Estimation of administrative and maintenance costs for the period 2023-2062.
3. Estimation of timber sales based on estimates for commercial thinnings (starting at age 11 for Hyeronima and Dalbergia and for the other species) and harvests till year 2062⁵.
4. Estimates of value of timber per species, based on commercial price study⁶.
5. Estimation of Cash flow and Net Present Values for the period 2023-2062 for several scenarios.

⁴ IAS 41 – paragraph 22, IFRS.

⁵ When the author refers to the age of trees, the establishment year is considered year 0.

⁶ The applied value of the timber is estimated based on the 2016 study 'Study On The Economic Viability Of The Generation Forest', in which the timber value of Teak and 18 Native Central American timber species was investigated and the update of this study for all timber species included in this valuation of May 2018.

A financial model specially developed for commercial plantations on private properties was used for determining the cash flow, financial results and value of the property. Revenues (not costs) from carbon credits were not assumed in this cash flow.

Capitalized costs methodology:

1. Calculation of investments made during the pasts years up to today⁷. Both methods are then weighted to reach a weighted average value.

Methodology	Weight	Value
DCF	70%	A
Capitalized costs	30%	B
Weighted average	100%	$A*70\% + B*30\%$

The second step is the application of a risk premium (increment with a certain percentage), as a compensation for the investor for the risk taken in the past. The risk of plantations or reforestation project are generally known to be the highest in the first few years. It includes the test whether the site is the right one for the selected species, the operational risks including fire, possible floods and possible high mortality of plants in the first few years, when the small trees are most vulnerable to harsh climatic conditions. The land title risk is as well higher, right after the transaction, though the land value will not be increased. It is therefore assumed to calculate a compensation for all these risks taken by the investor with a premium. In the tropical region such premium is in general between 20% and 30% and is applied to the land and biological asset⁸. In this appraisal, a 25% risk premium was applied.

After calculating the weighted average and applied risk premium, the determined land value is included to reach a final value of the property and biological asset. The land price is based on a recent appraisal by a third party, provided by the company.

⁷ No discount rate was applied to increase value of past investments. Included in capitalized costs of 2017 and 2018 are accumulated debts to the project for Administration costs and Investment Management Fees; for past debts a single value for the year 2017, as well as for 2018.

⁸ Information according to the author's experience and evaluated together with the project administrator

3. General assumptions

Financial assumptions

The following financial assumptions were applied in this study.

Table 1 - Financial assumptions

Parameter	Applied value	Explanation
Discount rate	8.00%	See Annex I. Only applied in DCF method.
Exchange rate	N/A	All values were expressed in dollars, this is one of the 2 officially used currencies in Panama, next to the Panamanian Balboa.
Inflation rate	0%	Generally, a 0% inflation rate is used for both costs and income, to not enhance or reduce the effect of possible future losses or profits.
Risk premium	25%	Additional premium as compensation for the risk-taker in the past 15 years. Only applies to biological asset.

Technical assumptions

The following technical assumptions were applied in this study.

Table 2 - Technical assumptions

Parameter	Applied value	Explanation	Applied for
Direct field costs, Administrative costs and Management fees costs	See Annex III & IV	Estimated costs of management per year per hectare.	DCF method
Harvest year	Varying	Depending on species (see table 4).	DCF method
Cashflow period	2023-2062	In 2062, the final harvests of Cocobolo stands take place.	DCF method
Mortality rate	0%	This can be covered through thinnings before the age of 11.	DCF method

Price assumptions

The document 'Study on the economic viability of the Generation Forest'⁹, published in 2016 and updated in May 2018, formed the base of the prices applied in this valuation. Prices applied are for harvested roundwood at road site.

The following prices were applied.

Table 3 - Price assumptions (USD) – where prices are in bold, the year is the final harvest

Species	Assumed final harvest price	Complete cycle	Price for thinnings or harvests (USD/M3R)									
			10	11	16	19	22	24	26	27	29	39
Caoba (Swietenia macrophylla)	198.7	25y	95.4	127.2	135.1	143.1		198.7				
Calophyllum brasiliensis (Roble prices)	200.0	24y		100.8		174.2		200.0				
Cocobolo (Rosewood)	1,550.0	39y		239.7							1,152.6	1,550.0
Cedro amargo (Cedrela odorata)	220.0	24y		100.8		174.2		220.0				
Teka (Tectona grandis)	390.0	22y	177.3		283.6		390.0					
Amarillo (Terminalia sp)	185.0	26y		78.3		135.2			185.0			
Andiroba (Carap asp - Pilon prices)	207.7	27y		84.6		146.2				207.7		
Almendra (Pilon Prices)	207.7	27y		84.6		146.2				207.7		
Cedro amargo Slow	520.0	24y		238.3		411.7		520.0				
Zapatero (Hyeronima sp)	200.0	26y		84.6		146.2			200.0			
Nispero (Manilkara sp - Pilon prices)	207.7	27y		84.6		146.2				207.7		
Quira (Platimiscium pinnatum)	184.6	24y		84.6		146.2		184.6				
Nativas mixtas (Terminalia sp SLOW)	185.0	26y		78.3		135.2			185.0			

By homologation to the growth and prices of male cedar, the values of Pilón were assigned.

By homologation to the price of the Manilkara, the values of the Pilón were assigned.

For approval for María, the price and growth of (Tabebuia) is assumed.

For approval and market prices for Balsamo and Guayacan, growth and prices of modified Slow Bitter Cedar are assumed.

For approval for mixed natives, the price and growth of (Terminalia sp Slow) is assumed.

⁹ Ing. S.W. Stortelder

4. Characteristics of the site: plantation and property

The plantation is located on a land property of in total 2,367.54 hectares. Of that property, 51% is covered by plantations (or 1,208.90 hectares).

The property is partly covered with a forest plantation, mainly with 11 different commercial timber species, mostly *Dalbergia retusa* and other native species. The oldest forest stands are 11 years old, while the most recent plantations were established in 2023. The following table shows which species and the area covered by each species.

Table 4 - Species composition

Establishment of different species per year

ESPECIES	2013	2015	2016	2017	2019	2020	2021	2022	2023	TOTAL
<i>Swietenia Macrophylla</i>							0.87	16.35	23.34	40.56
<i>Terminalia Amazonia y otros</i>				1	6.8			66.01	65.2	139.01
<i>Dalbergia sp.</i>		2.7	2		10.35	43.94	45.46	152.51	153.42	410.38
<i>Carapa guianensis</i>					2.1				14.09	16.19
<i>Dipterex panamensis y otros</i>					2.21	0.07		43.6	40.55	86.43
<i>Hieronyma alchorneoides</i>						6.42	6.31		12.8	25.53
<i>Cedrela odorata</i>				1		13.94	13.68	46.41	22.34	97.37
<i>Manilkara bidentata</i>					1.93				2.8	4.73
<i>Tabebuia rosea</i>				2		3.92	6.8	52.88	87.88	153.48
<i>Platymiscium pinnatum</i>							0.61	1.15		1.76
<i>Tectona Grandis</i>	12					15.65	16.49	93.13	5.66	142.93
<i>Miroxilon balsamun y Tabebuia impetiginosa</i>						4.12	5.61	12.03	16.74	38.5
Nativas mixtas					8.84	0.3	1.9	18.02	22.98	52.04
TOTAL	12	2.7	2	4	32.23	88.36	97.73	502.09	502.09	1208.90

The rest of the area is land is still partly open for reforestation and partly covered with protected forest. In Annex II, more technical information is presented with specific expected growth rates per species.

Land value

The land value of the properties was determined by assuming a value of 7,531.54 USD/ha, based on a current appraisal of the site, realized this year¹⁰. The total value of the properties was therefore estimated at 17,831,237.27 USD (2,367.54 ha).

¹⁰ Appraisal carried out by “Inversiones Panamá Florida”.

5. Appraisal results

For the general appraisal, both the Capitalized costs and DCF value were applied to obtain a final appraisal value.

Discount cash flow method

Table 5 - Discount cash flow value plantation

Description	Value (USD)
NPV value plantation	\$ 20,569,391

Capitalized costs method

Table 6 - Average value both methods

Description	Value (USD)
Capitalized cost method	\$ 5,885,336

Resume

Table 7 - Calculation of final appraisal value

Weighted Average Valuation as of Effective Date	Value	Weighting
Net Present Value Approach biological asset	\$ 20,569,391	70%
Cost Capitalization Approach	\$ 5,885,336	30%
Weighted Average Valuation	\$ 16,164,175	100%
Startup Risk Premium	25%	
Adjusted Valuation	\$ 20,205,219	
Bareland value at market prices	\$ 17,831,237	
Total	\$ 38,036,456	

The total value of the plantation was therefore estimated to be 38,036,456 USD (THIRTY-EIGHT MILLION THIRTY SIX THOUSAND FOUR HUNDRED FIFTY-SIX US DOLLARS). Discount rate of 8%, inflation rate for revenues and costs of 0%.

The IRR of an incoming investor is in this case 8.29%.

Annex I – Discount rate calculation

The discount rate is derived from an international WACC (Weighted Avg Cost of Capital) calculation averaged out with Panama's published cost of capital in 2022.

The international WACC calculation was derived from several different reputed international sources¹¹ and the cost of capital in Panama:

WEIGHTED AVERAGE COST OF CAPITAL (WACC) - Equity Discount Rate

Component Source Rate		
Risk free rate (2022 6-month US Treasury Bill) Market	0.90%	Rf = Return achieved in risk-free securities
Risk premium (US Risk Premium) Damodaran Beta for ¹²	5.00%	Pm = Market risk premium
Paper/Forest Products Damodaran	0.99%	B = Beta
Country risk premium (Emerging Markets) Damodaran	2.89%	Pp = Country risk premium
Market Expectation & regional risk premium	2.04%	MRr = Market Expectation and regional risk
Return required by equity = $Re = (Rf + (B \times Pm) + Pp + MRr)$	10.78%	Return required by equity
Adjusted Discount Rate	10.00%	

The risk free rate was derived from a 10 year average of US Treasury Bills¹³:

Treasury bills 6-month (2013-2022)		
	2013	0.09%
	2014	0.06%
	2015	0.17%
	2016	0.46%
	2017	1.07%
	2018	2.14%
	2019	2.11%
	2020	0.37%
	2021	0.06%
	2022	2.51%
Average		0,90%

Cost of capital in Panama 2022¹⁴ was 6.8%. Average of 10.0 and 6.8: 8.79 %. Applied discount rate (because of fluctuations in data): 8.00 %.

¹¹ [Damodaran On-line Home Page \(nyu.edu\)](https://www.damodaran.com/)

¹² [fcffsimpleginsu.xlsx \(live.com\)](https://www.fcffsimpleginsu.xlsx)

¹³ [Resource Center | U.S. Department of the Treasury](https://www.treasury.gov/resource-center/)

¹⁴ <https://kpmg.com/de/en/home/insights/2022/10/cost-of-capital-study-2022.html>

Annex II – Growth tables

Growth tables for each timber species

Caoba

Age	# of standing trees per ha	DBH (m)	DBH * DBH	Commercial Height (m)	vol M3/tree	% of trees removed	# of trees removed	vol removed m3/ha	Total Vol /m3/ha
0	832	0.00	0.00				0.00	0.00	0.00
1		0.02	0.00				0.00	0.00	0.00
2		0.03	0.00	1.00	0.00		0.00	0.00	0.00
3		0.05	0.00	1.50	0.00		0.00	0.00	0.00
4		0.06	0.00	3.00	0.00		0.00	0.00	0.00
5		0.08	0.01	5.00	0.01		0.00	0.00	0.00
6		0.09	0.01	5.00	0.01		0.00	0.00	0.00
7		0.11	0.01	7.00	0.02		0.00	0.00	0.00
8		0.12	0.01	7.00	0.03		0.00	0.00	0.00
9		0.13	0.02	7.00	0.04		0.00	0.00	0.00
10		0.15	0.02	7.00	0.05	10%	83.00	3.93	0.00
11		0.16	0.03	8.00	0.07		0.00	0.00	3.93
12		0.17	0.03	8.00	0.08	10%	83.00	6.56	3.93
13		0.19	0.03	8.00	0.09		0.00	0.00	10.49
14		0.20	0.04	8.00	0.11		0.00	0.00	10.49
15		0.22	0.05	8.00	0.13		0.00	0.00	10.49
16		0.24	0.06	8.00	0.16	10%	83.00	12.89	10.49
17		0.25	0.06	8.00	0.18	10%	83.00	14.85	23.38
18		0.27	0.07	8.00	0.20	10%	83.00	16.98	38.23
19		0.29	0.08	9.00	0.26		0.00	0.00	55.21
20		0.30	0.09	9.00	0.30		0.00	0.00	55.21
21		0.32	0.10	9.00	0.34		0.00	0.00	55.21
22		0.33	0.11	9.00	0.38		0.00	0.00	55.21
23		0.35	0.12	9.00	0.42		0.00	0.00	55.21
24		0.36	0.13	9.00	0.47		0.00	0.00	55.21
25		0.38	0.14	9.00	0.52	50%	417.00	214.79	55.21
26		0.39	0.15	10.00	0.63		0.00	0.00	270.01
27		0.41	0.16	10.00	0.69		0.00	0.00	270.01
28		0.42	0.18	10.00	0.75		0.00	0.00	270.01
29		0.43	0.19	10.00	0.81		0.00	0.00	270.01
30		0.45	0.20	10.00	0.88		0.00	0.00	270.01
31		0.46	0.21	10.00	0.95		0.00	0.00	270.01
32		0.47	0.22	11.00	1.13		0.00	0.00	270.01
33		0.49	0.24	11.00	1.21		0.00	0.00	270.01
34		0.50	0.25	11.00	1.30		0.00	0.00	270.01
35		0.51	0.26	11.00	1.38		0.00	0.00	270.01
36		0.52	0.27	11.00	1.47		0.00	0.00	270.01
37		0.54	0.29	12.00	1.71		0.00	0.00	270.01
38		0.55	0.30	12.00	1.80		0.00	0.00	270.01
39		0.56	0.31	12.00	1.91		0.00	0.00	270.01
40		0.57	0.32	12.00	2.01		0.00	0.00	270.01
41		0.58	0.34	12.00	2.12		0.00	0.00	270.01
42		0.59	0.35	12.00	2.22		0.00	0.00	270.01
43		0.60	0.36	12.00	2.33		0.00	0.00	270.01
44		0.61	0.37	12.00	2.40		0.00	0.00	270.01
45		0.62	0.38	12.00	2.50		0.00	0.00	270.01
46		0.62	0.39	12.00	2.57		0.00	0.00	270.01
47		0.63	0.40	12.00	2.64		0.00	0.00	270.01
48		0.64	0.41	12.00	2.70		0.00	0.00	270.01
49		0.65	0.42	12.00	2.75		0.00	0.00	270.01
50			0.00				0.00	0.00	270.01

Teak

Age	# of standing trees per h	DBH (m)	DBH * DBH	Commercial Height (m)	vol M3/tree	% of trees removed	# of trees removed	vol removed m3/ha	Total Vol /m3/ha
0	551		0.00				0.00	0.00	0.00
1			0.00				0.00	0.00	0.00
2			0.00				0.00	0.00	0.00
3			0.00				0.00	0.00	0.00
4		0.10	0.01	4.00	0.02	30%	165.00	2.70	0.00
5		0.14	0.02	4.00	0.04		0.00	0.00	2.70
6		0.16	0.03	6.00	0.07	20%	110.00	7.64	2.70
7		0.19	0.03	7.00	0.10		0.00	0.00	10.34
8		0.19	0.04	8.00	0.10		0.00	0.00	10.34
9		0.21	0.04	8.00	0.12		0.00	0.00	10.34
10		0.24	0.06	10.00	0.20	15%	83.00	16.20	10.34
11		0.25	0.06	10.00	0.22		0.00	0.00	26.54
12		0.26	0.07	10.00	0.24		0.00	0.00	26.54
13		0.28	0.08	11.00	0.33		0.00	0.00	26.54
14		0.29	0.08	11.00	0.36		0.00	0.00	26.54
15		0.30	0.09	11.00	0.39		0.00	0.00	26.54
16		0.31	0.10	12.00	0.45	10%	55.00	24.75	26.54
17		0.32	0.10	12.00	0.49		0.00	0.00	51.29
18		0.33	0.11	12.00	0.52		0.00	0.00	51.29
19		0.33	0.11	12.00	0.53		0.00	0.00	51.29
20		0.34	0.12	12.00	0.60		0.00	0.00	51.29
21		0.35	0.12	12.00	0.63		0.00	0.00	51.29
22		0.36	0.13	12.00	0.69	25%	138.00	95.07	51.29
23			0.00				0.00	0.00	146.36
24							0.00	0.00	146.36
25			0.00				0.00	0.00	146.36
26			0.00				0.00	0.00	146.36
27			0.00				0.00	0.00	146.36
28			0.00				0.00	0.00	146.36
29			0.00				0.00	0.00	146.36
30			0.00				0.00	0.00	146.36
31			0.00				0.00	0.00	146.36
32			0.00				0.00	0.00	146.36
33			0.00				0.00	0.00	146.36
34			0.00				0.00	0.00	146.36
35			0.00				0.00	0.00	146.36
36			0.00				0.00	0.00	146.36
37			0.00				0.00	0.00	146.36
38			0.00				0.00	0.00	146.36
39			0.00				0.00	0.00	146.36
40			0.00				0.00	0.00	146.36
41			0.00				0.00	0.00	146.36
42			0.00				0.00	0.00	146.36
43			0.00				0.00	0.00	146.36
44			0.00				0.00	0.00	146.36
45			0.00				0.00	0.00	146.36
46			0.00				0.00	0.00	146.36
47			0.00				0.00	0.00	146.36
48			0.00				0.00	0.00	146.36
49			0.00				0.00	0.00	146.36
50			0.00				0.00	0.00	146.36

Yellow cedar

Age	# of standing trees per ha	DBH (m)	DBH * DBH	Commercial Height (m)	vol M3/tree	% of trees removed	# of trees removed	vol removed m3/ha	Total Vol /m3/ha
0	833	0.01	0.00				0.00	0.00	0.00
1		0.01	0.00				0.00	0.00	0.00
2		0.02	0.00	3.00	0.00		0.00	0.00	0.00
3		0.04	0.00	4.00	0.00		0.00	0.00	0.00
4		0.06	0.00	5.00	0.01		0.00	0.00	0.00
5		0.08	0.01	6.00	0.02	20%	167.00	2.98	0.00
6		0.10	0.01	6.00	0.03		0.00	0.00	2.98
7		0.12	0.01	7.00	0.04	20%	167.00	6.95	2.98
8		0.13	0.02	7.00	0.08		0.00	0.00	9.94
9		0.14	0.02	8.00	0.11		0.00	0.00	9.94
10		0.16	0.02	8.00	0.13		0.00	0.00	9.94
11		0.17	0.03	8.00	0.16	23%	192.00	30.27	9.94
12		0.18	0.03	9.00	0.21		0.00	0.00	40.20
13		0.20	0.04	9.00	0.24		0.00	0.00	40.20
14		0.21	0.04	10.00	0.30		0.00	0.00	40.20
15		0.23	0.05	10.00	0.35		0.00	0.00	40.20
16		0.25	0.06	10.00	0.39		0.00	0.00	40.20
17		0.26	0.07	11.00	0.49		0.00	0.00	40.20
18		0.28	0.08	11.00	0.55		0.00	0.00	40.20
19		0.29	0.08	12.00	0.66	20%	167.00	110.33	40.20
20		0.30	0.09	12.00	0.73		0.00	0.00	150.53
21		0.32	0.10	12.00	0.79		0.00	0.00	150.53
22		0.33	0.11	12.00	0.85		0.00	0.00	150.53
23		0.35	0.12	13.00	1.01		0.00	0.00	150.53
24		0.36	0.13	13.00	1.07		0.00	0.00	150.53
25		0.37	0.14	13.00	1.14		0.00	0.00	150.53
26		0.38	0.14	14.00	1.28	17%	140.00	179.32	150.53
27		0.39	0.15				0.00	0.00	329.86
28		0.40	0.16				0.00	0.00	329.86
29		0.41	0.16				0.00	0.00	329.86
30		0.41	0.17				0.00	0.00	329.86
31		0.42	0.18				0.00	0.00	329.86
32		0.43	0.18				0.00	0.00	329.86
33		0.44	0.19				0.00	0.00	329.86
34		0.45	0.20				0.00	0.00	329.86
35		0.45	0.21				0.00	0.00	329.86

Dipterix panamensis

Age	# of standing trees per ha	DBH (m)	DBH * DBH	Commercial Height (m)	vol M3/tree	% of trees removed	# of trees removed	vol removed m3/ha	Total Vol /m3/ha
0	828	0.00	0.00	0.00	0.00		0.00	0.00	0.00
1		0.02	0.00	0.50	0.00		0.00	0.00	0.00
2		0.03	0.00	1.00	0.00		0.00	0.00	0.00
3		0.04	0.00	1.50	0.00		0.00	0.00	0.00
4		0.05	0.00	3.00	0.00		0.00	0.00	0.00
5		0.06	0.00	5.00	0.01	25%	207.00	1.14	0.00
6		0.08	0.01	5.00	0.01		0.00	0.00	1.14
7		0.09	0.01	5.00	0.01		0.00	0.00	1.14
8		0.11	0.01	6.00	0.03		0.00	0.00	1.14
9		0.12	0.01	6.00	0.03		0.00	0.00	1.14
10		0.14	0.02	6.00	0.04		0.00	0.00	1.14
11		0.15	0.02	7.00	0.06	18%	149.00	9.26	1.14
12		0.17	0.03	7.00	0.08		0.00	0.00	10.41
13		0.18	0.03	7.00	0.09		0.00	0.00	10.41
14		0.20	0.04	7.00	0.11		0.00	0.00	10.41
15		0.22	0.05	7.00	0.14		0.00	0.00	10.41
16		0.24	0.06	7.00	0.16		0.00	0.00	10.41
17		0.25	0.06	8.00	0.22		0.00	0.00	10.41
18		0.27	0.07	8.00	0.25		0.00	0.00	10.41
19		0.29	0.08	8.00	0.33	30%	248.00	83.08	10.41
20		0.30	0.09	8.00	0.38		0.00	0.00	93.49
21		0.32	0.10	8.00	0.42		0.00	0.00	93.49
22		0.34	0.12	8.00	0.47		0.00	0.00	93.49
23		0.36	0.13	8.00	0.52		0.00	0.00	93.49
24		0.37	0.14	8.00	0.56	27%	224.00	125.51	93.49
25		0.39	0.15	8.00	0.65		0.00	0.00	219.00
26		0.40	0.16	8.00	0.71		0.00	0.00	219.00
27		0.42	0.17	9.00	0.85		0.00	0.00	219.00
28		0.43	0.18	9.00	0.90		0.00	0.00	219.00
29		0.44	0.19	9.00	1.01		0.00	0.00	219.00
30		0.45	0.20	9.00	1.05		0.00	0.00	219.00
31		0.46	0.21	9.00	1.10		0.00	0.00	219.00
32		0.47	0.22	9.00	1.15		0.00	0.00	219.00
33		0.47	0.22	9.00	1.19		0.00	0.00	219.00
34		0.48	0.23	9.00	1.26		0.00	0.00	219.00

Rosewood

Age	# of standing trees per ha	DBH (m)	DBH * DBH	Commercial Height (m)	vol M3/tree	% of trees removed	# of trees removed	vol removed m3/ha	Total Vol /m3/ha
0	829	0.00	0.00				0.00	0.00	0.00
1		0.02	0.00				0.00	0.00	0.00
2		0.05	0.00	1.00	0.00		0.00	0.00	0.00
3		0.07	0.00	1.50	0.00		0.00	0.00	0.00
4		0.08	0.01	3.00	0.01		0.00	0.00	0.00
5		0.10	0.01	5.00	0.01		0.00	0.00	2.98
6		0.11	0.01	5.00	0.02		0.00	0.00	2.98
7		0.13	0.02	5.00	0.02	30%	249.00	5.73	4.21
8		0.14	0.02	6.00	0.05		0.00	0.00	9.94
9		0.16	0.03	6.00	0.06		0.00	0.00	9.94
10		0.18	0.03	7.00	0.08		0.00	0.00	9.94
11		0.19	0.04	8.00	0.11	25%	207.00	23.39	16.81
12		0.20	0.04	9.00	0.15		0.00	0.00	40.20
13		0.22	0.05	9.00	0.17		0.00	0.00	40.20
14		0.23	0.05	9.00	0.19		0.00	0.00	40.20
15		0.25	0.06	9.00	0.15		0.00	0.00	40.20
16		0.26	0.07	9.00	0.25		0.00	0.00	40.20
17		0.27	0.07	10.00	0.31		0.00	0.00	40.20
18		0.28	0.08	10.00	0.35		0.00	0.00	40.20
19		0.30	0.09	10.00	0.38		0.00	0.00	150.53
20		0.31	0.09	10.00	0.43		0.00	0.00	150.53
21		0.32	0.10	10.00	0.47		0.00	0.00	150.53
22		0.33	0.11	12.00	0.62		0.00	0.00	150.53
23		0.34	0.12	12.00	0.69		0.00	0.00	150.53
24		0.35	0.12	12.00	0.73		0.00	0.00	150.53
25		0.36	0.13	12.00	0.80		0.00	0.00	150.53
26		0.37	0.14	12.00	0.85		0.00	0.00	329.86
27		0.38	0.14	12.00	0.90		0.00	0.00	329.86
28		0.39	0.15	12.00	0.95		0.00	0.00	329.86
29		0.39	0.16	12.00	1.00	25%	207.00	205.97	123.89
30		0.40	0.16	13.00	1.13		0.00	0.00	329.86
31		0.41	0.17	13.00	1.19		0.00	0.00	329.86
32		0.42	0.17	13.00	1.24		0.00	0.00	329.86
33		0.42	0.18	13.00	1.29		0.00	0.00	329.86
34		0.43	0.19	14.00	1.45		0.00	0.00	329.86
35		0.44	0.19	14.00	1.51		0.00	0.00	329.86
36		0.44	0.20	14.00	1.57		0.00	0.00	329.86
37		0.45	0.20	15.00	1.75		0.00	0.00	329.86
38		0.46	0.21	15.00	1.81		0.00	0.00	329.86
39		0.46	0.21	15.00	1.88	20%	166.00	311.91	17.94

Andiroba

Age	# of standing trees per h	DBH (m)	DBH * DBH	Commercial Height (m)	vol M3/tree	% of trees removed	# of trees removed	vol removed m3/ha	Total Vol /m3/ha
0	811	0.00	0.00	0.00	0.00		0.00	0.00	0.00
1		0.02	0.00	0.50	0.00		0.00	0.00	0.00
2		0.03	0.00	1.00	0.00		0.00	0.00	0.00
3		0.04	0.00	1.50	0.00		0.00	0.00	0.00
4		0.05	0.00	3.00	0.00		0.00	0.00	0.00
5		0.06	0.00	5.00	0.01	25%	203.00	1.12	0.00
6		0.08	0.01	5.00	0.01		0.00	0.00	1.12
7		0.09	0.01	5.00	0.01		0.00	0.00	1.12
8		0.11	0.01	6.00	0.03		0.00	0.00	1.12
9		0.12	0.01	6.00	0.03		0.00	0.00	1.12
10		0.14	0.02	6.00	0.04		0.00	0.00	1.12
11		0.15	0.02	7.00	0.06	18%	146.00	9.08	1.12
12		0.17	0.03	7.00	0.08		0.00	0.00	10.20
13		0.18	0.03	7.00	0.09		0.00	0.00	10.20
14		0.20	0.04	7.00	0.11		0.00	0.00	10.20
15		0.22	0.05	7.00	0.14		0.00	0.00	10.20
16		0.24	0.06	7.00	0.16		0.00	0.00	10.20
17		0.25	0.06	8.00	0.22		0.00	0.00	10.20
18		0.27	0.07	8.00	0.25		0.00	0.00	10.20
19		0.29	0.08	8.00	0.33	30%	243.00	81.40	10.20
20		0.30	0.09	8.00	0.38		0.00	0.00	91.60
21		0.32	0.10	8.00	0.42		0.00	0.00	91.60
22		0.34	0.12	8.00	0.47		0.00	0.00	91.60
23		0.36	0.13	8.00	0.52		0.00	0.00	91.60
24		0.37	0.14	8.00	0.56		0.00	0.00	91.60
25		0.39	0.15	8.00	0.65		0.00	0.00	91.60
26		0.40	0.16	8.00	0.71		0.00	0.00	91.60
27		0.42	0.17	9.00	0.85	27%	219.00	186.99	91.60
28		0.43	0.18	9.00	0.90		0.00	0.00	278.59
29		0.44	0.19	9.00	1.01		0.00	0.00	278.59
30		0.45	0.20	9.00	1.05		0.00	0.00	278.59
31		0.46	0.21	9.00	1.10		0.00	0.00	278.59
32		0.47	0.22	9.00	1.15		0.00	0.00	278.59
33		0.47	0.22	9.00	1.19		0.00	0.00	278.59
34		0.48	0.23	9.00	1.26		0.00	0.00	278.59

Nispero

Age	# of standing trees per h	DBH (m)	DBH * DBH	Commercial Height (m)	vol M3/tree	% of trees removed	# of trees removed	vol removed m3/ha	Total Vol /m3/ha
0	765	0.00	0.00	0.00	0.00		0.00	0.00	0.00
1		0.02	0.00	0.50	0.00		0.00	0.00	0.00
2		0.03	0.00	1.00	0.00		0.00	0.00	0.00
3		0.04	0.00	1.50	0.00		0.00	0.00	0.00
4		0.05	0.00	3.00	0.00		0.00	0.00	0.00
5		0.06	0.00	5.00	0.01	25%	191.00	1.06	0.00
6		0.08	0.01	5.00	0.01		0.00	0.00	1.06
7		0.09	0.01	5.00	0.01		0.00	0.00	1.06
8		0.11	0.01	6.00	0.03		0.00	0.00	1.06
9		0.12	0.01	6.00	0.03		0.00	0.00	1.06
10		0.14	0.02	6.00	0.04		0.00	0.00	1.06
11		0.15	0.02	7.00	0.06	18%	138.00	8.58	1.06
12		0.17	0.03	7.00	0.08		0.00	0.00	9.64
13		0.18	0.03	7.00	0.09		0.00	0.00	9.64
14		0.20	0.04	7.00	0.11		0.00	0.00	9.64
15		0.22	0.05	7.00	0.14		0.00	0.00	9.64
16		0.24	0.06	7.00	0.16		0.00	0.00	9.64
17		0.25	0.06	8.00	0.22		0.00	0.00	9.64
18		0.27	0.07	8.00	0.25		0.00	0.00	9.64
19		0.29	0.08	8.00	0.33	30%	230.00	77.05	9.64
20		0.30	0.09	8.00	0.38		0.00	0.00	86.69
21		0.32	0.10	8.00	0.42		0.00	0.00	86.69
22		0.34	0.12	8.00	0.47		0.00	0.00	86.69
23		0.36	0.13	8.00	0.52		0.00	0.00	86.69
24		0.37	0.14	8.00	0.56	27%	206.00	115.43	86.69
25		0.39	0.15	8.00	0.65		0.00	0.00	202.11
26		0.40	0.16	8.00	0.71		0.00	0.00	202.11
27		0.42	0.17	9.00	0.85		0.00	0.00	202.11
28		0.43	0.18	9.00	0.90		0.00	0.00	202.11
29		0.44	0.19	9.00	1.01		0.00	0.00	202.11
30		0.45	0.20	9.00	1.05		0.00	0.00	202.11
31		0.46	0.21	9.00	1.10		0.00	0.00	202.11
32		0.47	0.22	9.00	1.15		0.00	0.00	202.11
33		0.47	0.22	9.00	1.19		0.00	0.00	202.11
34		0.48	0.23	9.00	1.26		0.00	0.00	202.11

Zapatero

Age	# of standing trees per h	DBH (m)	DBH * DBH	Commercial Height (m)	vol M3/tree	% of trees removed	# of trees removed	vol removed m3/ha	Total Vol /m3/ha
0	1000	0.00	0.00	0.70			0.00	0.00	0.00
1		0.01	0.00	1.50			0.00	0.00	0.00
2		0.02	0.00	2.00	0.00		0.00	0.00	0.00
3		0.03	0.00	3.00	0.00		0.00	0.00	0.00
4		0.04	0.00	6.00	0.00		0.00	0.00	0.00
5		0.05	0.00	7.00	0.01	25%	250.00	1.64	0.00
6		0.07	0.00	7.00	0.01		0.00	0.00	1.64
7		0.08	0.01	7.00	0.02		0.00	0.00	1.64
8		0.10	0.01	8.00	0.03		0.00	0.00	1.64
9		0.11	0.01	8.00	0.03		0.00	0.00	1.64
10		0.13	0.02	9.00	0.05		0.00	0.00	1.64
11		0.14	0.02	10.00	0.07	18%	180.00	12.63	1.64
12		0.15	0.02	10.00	0.09		0.00	0.00	14.26
13		0.17	0.03	10.00	0.10		0.00	0.00	14.26
14		0.18	0.03	11.00	0.13		0.00	0.00	14.26
15		0.20	0.04	11.00	0.16		0.00	0.00	14.26
16		0.21	0.04	12.00	0.19		0.00	0.00	14.26
17		0.22	0.05	12.00	0.22		0.00	0.00	14.26
18		0.24	0.06	12.00	0.25		0.00	0.00	14.26
19		0.25	0.06	12.00	0.29	30%	300.00	86.81	14.26
20		0.26	0.07	12.00	0.32		0.00	0.00	101.07
21		0.27	0.07	13.00	0.39		0.00	0.00	101.07
22		0.28	0.08	13.00	0.44		0.00	0.00	101.07
23		0.29	0.09	14.00	0.52		0.00	0.00	101.07
24		0.31	0.09	14.00	0.56	27%	270.00	152.09	101.07
25		0.32	0.10	15.00	0.65		0.00	0.00	253.17
26		0.32	0.11	16.00	0.77		0.00	0.00	253.17
27		0.33	0.11	16.00	0.81		0.00	0.00	253.17
28		0.42	0.18	16.00	1.31		0.00	0.00	253.17
29		0.43	0.18	16.00	1.41		0.00	0.00	253.17
30		0.44	0.19	16.00	1.47		0.00	0.00	253.17
31		0.45	0.20	16.00	1.53		0.00	0.00	253.17
32		0.46	0.21	16.00	1.59		0.00	0.00	253.17
33		0.47	0.22	16.00	1.66		0.00	0.00	253.17
34		0.47	0.22	16.00	1.72		0.00	0.00	253.17
35		0.48	0.23	16.00	1.79		0.00	0.00	253.17
36		0.49	0.24	16.00	1.86		0.00	0.00	253.17
37		0.50	0.25	16.00	1.92		0.00	0.00	253.17
38		0.51	0.26	16.00	1.99		0.00	0.00	253.17
39		0.52	0.27	16.00	2.06		0.00	0.00	253.17
40		0.53	0.28	16.00	2.14		0.00	0.00	253.17
41		0.54	0.29	16.00	2.21		0.00	0.00	253.17
42		0.55	0.30	16.00	2.29		0.00	0.00	253.17
43		0.56	0.31	16.00	2.36		0.00	0.00	253.17
44		0.56	0.32	16.00	2.44		0.00	0.00	253.17
45		0.57	0.33	16.00	2.52		0.00	0.00	253.17
46		0.58	0.34	16.00	2.60		0.00	0.00	253.17
47		0.59	0.35	17.00	2.84		0.00	0.00	253.17
48		0.60	0.36	17.00	2.93		0.00	0.00	253.17
49		0.61	0.37	17.00	3.02		0.00	0.00	253.17

Cedro amargo

Age	# of standing trees per ha	DBH (m)	DBH * DBH	Commercial Height (m)	vol M3/tree	% of trees removed	# of trees removed	vol removed m3/ha	Total Vol /m3/ha
0	826	0.00	0.00				0.00	0.00	0.00
1		0.00	0.00				0.00	0.00	0.00
2		0.01	0.00				0.00	0.00	0.00
3		0.02	0.00	1.00	0.00		0.00	0.00	0.00
4		0.03	0.00	1.50	0.00		0.00	0.00	0.00
5		0.04	0.00	3.00	0.00	25%	207.00	0.11	0.00
6		0.06	0.00	4.00	0.00		0.00	0.00	0.11
7		0.08	0.01	5.00	0.00		0.00	0.00	0.11
8		0.10	0.01	6.00	0.01		0.00	0.00	0.11
9		0.13	0.02	7.00	0.02		0.00	0.00	0.11
10		0.15	0.02	7.00	0.03		0.00	0.00	0.11
11		0.18	0.03	8.00	0.06	18%	149.00	8.22	0.11
12		0.20	0.04	8.00	0.07		0.00	0.00	8.33
13		0.23	0.05	9.00	0.11		0.00	0.00	8.33
14		0.26	0.07	9.00	0.15		0.00	0.00	8.33
15		0.28	0.08	9.00	0.19		0.00	0.00	8.33
16		0.31	0.09	9.00	0.24		0.00	0.00	8.33
17		0.33	0.11	9.00	0.29		0.00	0.00	8.33
18		0.36	0.13	9.00	0.34		0.00	0.00	8.33
19		0.38	0.14	9.00	0.40	30%	248.00	99.98	8.33
20		0.40	0.16	9.00	0.47		0.00	0.00	108.31
21		0.43	0.18	9.00	0.54		0.00	0.00	108.31
22		0.45	0.20	10.00	0.67		0.00	0.00	108.31
23		0.47	0.22	10.00	0.74		0.00	0.00	108.31
24		0.49	0.24	10.00	0.81	27%	222.00	179.49	108.31
25		0.51	0.26	10.00	0.88		0.00	0.00	287.80
26			0.00	10.00	1.24		0.00	0.00	287.80

Rosy Trumpet Tree

Age	# of standing trees per ha	DBH (m)	DBH * DBH	Commercial Height (m)	vol M3/tree	% of trees removed	# of trees removed	vol removed m3/ha	Total Vol /m3/ha
0	825	0.00	0.00	0.00	0.00		0.00	0.00	0.00
1		0.02	0.00	0.50	0.00		0.00	0.00	0.00
2		0.03	0.00	1.00	0.00		0.00	0.00	0.00
3		0.04	0.00	1.50	0.00		0.00	0.00	0.00
4		0.05	0.00	3.00	0.00		0.00	0.00	0.00
5		0.06	0.00	5.00	0.01	25%	206.00	1.14	0.00
6		0.08	0.01	5.00	0.01		0.00	0.00	1.14
7		0.09	0.01	5.00	0.01		0.00	0.00	1.14
8		0.11	0.01	6.00	0.03		0.00	0.00	1.14
9		0.12	0.01	6.00	0.03		0.00	0.00	1.14
10		0.14	0.02	6.00	0.04		0.00	0.00	1.14
11		0.15	0.02	7.00	0.06	18%	149.00	9.26	1.14
12		0.17	0.03	7.00	0.08		0.00	0.00	10.40
13		0.18	0.03	7.00	0.09		0.00	0.00	10.40
14		0.20	0.04	7.00	0.11		0.00	0.00	10.40
15		0.22	0.05	7.00	0.14		0.00	0.00	10.40
16		0.24	0.06	7.00	0.16		0.00	0.00	10.40
17		0.25	0.06	8.00	0.22		0.00	0.00	10.40
18		0.27	0.07	8.00	0.25		0.00	0.00	10.40
19		0.29	0.08	8.00	0.33	30%	248.00	83.08	10.40
20		0.30	0.09	8.00	0.38		0.00	0.00	93.48
21		0.32	0.10	8.00	0.42		0.00	0.00	93.48
22		0.34	0.12	8.00	0.47		0.00	0.00	93.48
23		0.36	0.13	8.00	0.52		0.00	0.00	93.48
24		0.37	0.14	8.00	0.56	27%	222.00	124.39	93.48
25		0.39	0.15	8.00	0.65		0.00	0.00	217.87
26		0.40	0.16	8.00	0.71		0.00	0.00	217.87
27		0.42	0.17	9.00	0.85		0.00	0.00	217.87
28		0.43	0.18	9.00	0.90		0.00	0.00	217.87
29		0.44	0.19	9.00	1.01		0.00	0.00	217.87
30		0.45	0.20	9.00	1.05		0.00	0.00	217.87
31		0.46	0.21	9.00	1.10		0.00	0.00	217.87
32		0.47	0.22	9.00	1.15		0.00	0.00	217.87
33		0.47	0.22	9.00	1.19		0.00	0.00	217.87
34		0.48	0.23	9.00	1.26		0.00	0.00	217.87

Cedro amargo Slow

Age	# of standing trees per ha	DBH (m)	DBH * DBH	Commercial Height (m)	vol M3/tree	% of trees removed	# of trees removed	vol removed m3/ha	Total Vol /m3/ha
0	828		0.00				0.00	0.00	0.00
1		0.01	0.00				0.00	0.00	0.00
2		0.01	0.00	1.00	0.00		0.00	0.00	0.00
3		0.02	0.00	1.50	0.00		0.00	0.00	0.00
4		0.04	0.00	3.00	0.00		0.00	0.00	0.00
5		0.05	0.00	4.00	0.00	25%	207.00	0.52	0.00
6		0.06	0.00	5.00	0.01		0.00	0.00	0.52
7		0.08	0.01	6.00	0.01		0.00	0.00	0.52
8		0.10	0.01	7.00	0.02		0.00	0.00	0.52
9		0.12	0.01	7.00	0.03		0.00	0.00	0.52
10		0.14	0.02	8.00	0.05		0.00	0.00	0.52
11		0.16	0.03	8.00	0.06	18%	149.00	8.99	0.52
12		0.18	0.03	9.00	0.09		0.00	0.00	9.51
13		0.20	0.04	9.00	0.12		0.00	0.00	9.51
14		0.22	0.05	9.00	0.14		0.00	0.00	9.51
15		0.24	0.06	9.00	0.18		0.00	0.00	9.51
16		0.26	0.07	9.00	0.21		0.00	0.00	9.51
17		0.28	0.08	9.00	0.25		0.00	0.00	9.51
18		0.30	0.09	9.00	0.29		0.00	0.00	9.51
19		0.32	0.10	9.00	0.33	30%	248.00	82.78	9.51
20		0.34	0.11	9.00	0.38		0.00	0.00	92.29
21		0.36	0.13	9.00	0.43		0.00	0.00	92.29
22		0.38	0.14	9.00	0.47		0.00	0.00	92.29
23		0.40	0.16	9.00	0.52		0.00	0.00	92.29
24		0.41	0.17	9.00	0.56	27%	224.00	125.10	92.29
25			0.00				0.00	0.00	217.39
26			0.00				0.00	0.00	217.39
27			0.00				0.00	0.00	217.39
28			0.00				0.00	0.00	217.39
29			0.00				0.00	0.00	217.39
30			0.00				0.00	0.00	217.39

Annex III – Overview costs

Table 8 – Overall costs for next 12 years (USD) – year 10 equals 2023.

year	10	11	12	13	14	15	16	17	18	19	20	21	22
Establishment costs	\$ 604,003	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Maintenance costs	\$ 487,418	\$ 695,293	\$ 553,907	\$ 367,735	\$ 254,897	\$ 208,271	\$ 194,462	\$ 113,142	\$ 105,879	\$ 135,645	\$ 117,624	\$ 47,833	\$ 41,527
Thinning costs	\$ 759	\$ 4,158	\$ 4,394	\$ 13,838	\$ 32,813	\$ 38,893	\$ 25,535	\$ 29,508	\$ 7,585	\$ 12,084	\$ 36,810	\$ 39,798	\$ 984
Harvest costs	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 2,671
Transport costs	\$ 10,056	\$ 0	\$ 0	\$ 3,267	\$ 2,420	\$ 2,949	\$ 15,362	\$ 39,187	\$ 83,354	\$ 151,531	\$ 365,051	\$ 393,139	\$ 66,929
Technical Supervision	\$ 50,079	\$ 50,079	\$ 50,079	\$ 50,079	\$ 50,079	\$ 50,079	\$ 50,079	\$ 50,079	\$ 46,306	\$ 46,306	\$ 46,306	\$ 46,306	\$ 46,306
Direct Field Cash Costs	\$ 1,152,315	\$ 749,530	\$ 608,380	\$ 434,919	\$ 340,209	\$ 300,193	\$ 285,438	\$ 231,917	\$ 243,124	\$ 345,565	\$ 565,791	\$ 527,076	\$ 158,418
Infrastructure	\$ 22,000	\$ 7,000	\$ 7,000	\$ 7,500	\$ 31,000	\$ 7,000	\$ 22,000	\$ 7,000	\$ 7,500	\$ 7,000	\$ 7,000	\$ 7,000	\$ 22,000
Equipment & Tools	\$ 9,794	\$ 1,709	\$ 6,774	\$ 1,187	\$ 1,187	\$ 6,929	\$ 2,028	\$ 1,187	\$ 1,187	\$ 559	\$ 6,620	\$ 820	\$ 298
Vehicles	\$ 0	\$ 0	\$ 0	\$ 26,000	\$ 0	\$ 0	\$ 0	\$ 0	\$ 26,000	\$ 0	\$ 0	\$ 0	\$ 0
General Plantation Cash Costs	\$ 31,794	\$ 8,709	\$ 13,774	\$ 34,687	\$ 32,187	\$ 13,929	\$ 24,028	\$ 8,187	\$ 34,687	\$ 7,559	\$ 13,620	\$ 7,820	\$ 22,298
Audit and study costs	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
Social impact + impact investment	\$ 7,749	\$ 2,695	\$ 2,560	\$ 2,560	\$ 2,560	\$ 2,560	\$ 2,560	\$ 2,560	\$ 2,560	\$ 2,560	\$ 2,506	\$ 355	\$ 355
Central Office Support & Administration	\$ 71,336	\$ 71,336	\$ 71,336	\$ 71,336	\$ 71,336	\$ 71,336	\$ 71,336	\$ 42,393	\$ 42,393	\$ 42,393	\$ 34,323	\$ 34,323	\$ 34,323
Administrative Cash Costs	\$ 87,585	\$ 82,531	\$ 82,396	\$ 82,396	\$ 82,396	\$ 82,396	\$ 82,396	\$ 53,453	\$ 53,453	\$ 53,453	\$ 45,329	\$ 43,178	\$ 43,178
Total Cash Costs (without Man fees)	\$ 1,271,695	\$ 840,770	\$ 704,560	\$ 552,002	\$ 454,792	\$ 396,518	\$ 391,863	\$ 293,557	\$ 331,264	\$ 406,577	\$ 624,740	\$ 578,074	\$ 223,894
Total Cash Costs (unforseen)	\$ 1,278,053	\$ 844,974	\$ 708,073	\$ 554,762	\$ 457,066	\$ 398,501	\$ 393,822	\$ 295,024	\$ 332,920	\$ 408,609	\$ 627,863	\$ 580,965	\$ 225,013
Management Fees (A)	\$ 54,939	\$ 73,593	\$ 86,268	\$ 96,889	\$ 104,796	\$ 111,346	\$ 117,247	\$ 121,891	\$ 123,742	\$ 123,742	\$ 123,742	\$ 123,742	\$ 123,742
Performance Fees (B+C+D+E)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 29,996	\$ 0	\$ 0
Cost of capital acquisition	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Total Management + Performance Fee + Cap. acq. costs	\$ 54,939	\$ 73,593	\$ 86,268	\$ 96,889	\$ 104,796	\$ 111,346	\$ 117,247	\$ 121,891	\$ 123,742	\$ 123,742	\$ 153,738	\$ 123,742	\$ 123,742
Total Cash Costs (with Man fees)	\$ 1,332,993	\$ 918,568	\$ 794,341	\$ 651,651	\$ 561,863	\$ 509,846	\$ 511,069	\$ 416,915	\$ 456,662	\$ 532,351	\$ 781,601	\$ 704,706	\$ 348,755
Total Cash Costs inflation corrected (with. Man fees.)	\$ 1,332,993	\$ 918,568	\$ 794,341	\$ 651,651	\$ 561,863	\$ 509,846	\$ 511,069	\$ 416,915	\$ 456,662	\$ 532,351	\$ 781,601	\$ 704,706	\$ 348,755
Total cash flows without land	-\$ 1,298,531	-\$ 918,568	-\$ 794,341	-\$ 624,041	-\$ 541,411	-\$ 504,780	-\$ 426,840	-\$ 245,276	\$ 74,943	\$ 240,805	\$ 1,099,882	\$ 1,231,500	\$ 110,759
Total cash flows	-\$ 1,298,531	-\$ 918,568	-\$ 794,341	-\$ 624,041	-\$ 541,411	-\$ 504,780	-\$ 426,840	-\$ 245,276	\$ 74,943	\$ 240,805	\$ 1,099,882	\$ 1,231,500	\$ 110,759
Accumulative Cash flows	-\$ 25,898,108	-\$ 26,816,675	-\$ 27,611,016	-\$ 28,235,057	-\$ 28,776,467	-\$ 29,281,248	-\$ 29,708,087	-\$ 29,953,363	-\$ 29,878,421	-\$ 29,637,616	-\$ 28,537,734	-\$ 27,306,234	-\$ 27,195,475
Corporate tax	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Total cash flows, with tax	-\$ 1,298,531	-\$ 918,568	-\$ 794,341	-\$ 624,041	-\$ 541,411	-\$ 504,780	-\$ 426,840	-\$ 245,276	\$ 74,943	\$ 240,805	\$ 1,099,882	\$ 1,231,500	\$ 110,759

Annex IV – Overview revenues

Table 9 - Overview revenues for next 35 years (year 10 equals 2023)

year	10	11	12	13	14	15	16	17	18	19	20	21
Timber revenues	\$ 34,462	\$ 0	\$ 0	\$ 27,610	\$ 20,452	\$ 5,066	\$ 84,230	\$ 171,639	\$ 531,605	\$ 773,156	\$ 1,881,484	\$ 1,936,206
Carbon revenues	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Exit value of timber (in case exit year < final harvest) (-harvest & transport costs)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Total revenues	\$ 34,462	\$ 0	\$ 0	\$ 27,610	\$ 20,452	\$ 5,066	\$ 84,230	\$ 171,639	\$ 531,605	\$ 773,156	\$ 1,881,484	\$ 1,936,206
Total revenues inflation corrected	\$ 34,462	\$ 0	\$ 0	\$ 27,610	\$ 20,452	\$ 5,066	\$ 84,230	\$ 171,639	\$ 531,605	\$ 773,156	\$ 1,881,484	\$ 1,936,206

year	22	23	24	25	26	27	28	29	30	31	32	33
Timber revenues	\$ 459,514	\$ 171,117	\$ 117,172	\$ 980,803	\$ 617,077	\$ 706,623	\$ 3,909,162	\$ 4,914,682	\$ 981,166	\$ 5,018,291	\$ 2,051,988	\$ 4,739,543
Carbon revenues	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Exit value of timber (in case exit year < final harvest) (-harvest & transport costs)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Total revenues	\$ 459,514	\$ 171,117	\$ 117,172	\$ 980,803	\$ 617,077	\$ 706,623	\$ 3,909,162	\$ 4,914,682	\$ 981,166	\$ 5,018,291	\$ 2,051,988	\$ 4,739,543
Total revenues inflation corrected	\$ 459,514	\$ 171,117	\$ 117,172	\$ 980,803	\$ 617,077	\$ 706,623	\$ 3,909,162	\$ 4,914,682	\$ 981,166	\$ 5,018,291	\$ 2,051,988	\$ 4,739,543

year	34	35	36	37	38	39	40	41	42	43	44	45
Timber revenues	\$ 6,030,394	\$ 5,643,082	\$ 14,628,401	\$ 12,402,386	\$ 36,204,023	\$ 36,418,859	\$ 0	\$ 1,305,360	\$ 966,933	\$ 0	\$ 0	\$ 5,003,880
Carbon revenues	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Exit value of timber (in case exit year < final harvest) (-harvest & transport costs)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Total revenues	\$ 6,030,394	\$ 5,643,082	\$ 14,628,401	\$ 12,402,386	\$ 36,204,023	\$ 36,418,859	\$ 0	\$ 1,305,360	\$ 966,933	\$ 0	\$ 0	\$ 5,003,880
Total revenues inflation corrected	\$ 6,030,394	\$ 5,643,082	\$ 14,628,401	\$ 12,402,386	\$ 36,204,023	\$ 36,418,859	\$ 0	\$ 1,305,360	\$ 966,933	\$ 0	\$ 0	\$ 5,003,880