BOSQUES DEL URUGUAY II (BDU II) AFFORESTATION THROUGH HIGH QUALITY TIMBER IN GRASSLANDS PROJECT MONITORING REPORT

Project title	Bosques del Uruguay II (BDU II) Afforestation through High Quality Timber in Grasslands Project
Project ID	2411
Crediting period	25 March 2016 - 24 March 2076
Monitoring period	01 August 2021 – 23 August 2024
(CCB) GHG accounting period	25 March 2016 - 24 March 2076; 60-year total period
Original date of issue	To be completed following the completion of the audit
Most recent date of issue	09-September-2025 is the date the monitoring report was most recently submitted
Version	1.1
VCS Standard version	4.7
CCB Standards version	3.1
Project location	Uruguay, Cerro Largo- Lavalleja -Treinta y Tres - Florida departments
Project proponent(s)	Agroempresa Forestal S.A. Dan Guanpurá; dguapura@af.com.uy; +598 2916 2020
Validation/verification body	INCONTEC, Luis Ignacio Lopez Sepulveda, llopezs@la.icontec.org, +56961590603

History of CCB Status	CCB validation and verification: 24 January 2025
Gold Level criteria	N/A
Prepared by	ProSustentia SAS; Josefina Uijt den Bogaard; jbogaard@prosustentia.com; (+549)1136338125

CONTENTS

1 SUMMARY OF PROJECT BENEFITS

1.1 Unique Project Benefits

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
1) Provide experience of forest planting and forest management in degraded grasslands in connection to HCV areas	The project aims to improve labor conditions and increase workers' technical capacity in line with HCV areas conservation. At present, 52 new workers have been trained on sustainable forest operational activities	2.1.12 and 4.1.1	The project aims to improve labor conditions and increase workers' technical capacity in line with sustainable forest management and HCV areas. At present, over 118 workers have been trained or updated on sustainable forest operational activities.
2) Improve the ecological environment of the planted areas and the native forest surrounding the forest plantations	Biodiversity monitoring is a key element in the BDU project. Results have shown that project sites are being categorized with high biodiversity value, according to standardized methodologies.	5.1.1 and 5.1.4	Biodiversity monitoring is a key element in the BDU project. Results have shown that project sites are being categorized with areas of particular biodiversity interest, according to standardized methodologies.
3) Create net positive benefits to the community and stakeholders of the project based on a comparison with the Baseline scenario.	Communities benefit from the project´s activity from multiple points of view. Local businesses have increased direct and indirectly because of project activity (hotel, restaurants, garages, etc.) Compared with the baseline scenario, there are more than 114 medium to highly qualified job positions generated. Landscape beauty has been improved with the establishment of forest.	4.1.1 and 4.3.1	Communities benefit with the project activity from multiple points of view. Local business is expected to have increased direct and indirectly because of project activity (hotel, restaurants, garages, etc.) and community wellbeing increased. Compared with baseline scenario, there are estimated more than 470 people benefited (directly and indirectly related to project activity). And survey results show that 80 % consider the project has medium to high impact on new job

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
			opportunities, while the rating for the impact over well-being of communities showed above 70% medium to high impact.
4) Create an economic activity with exceptional community communication and participation throughout the Project lifetime.	Community participation and communications are a key point for the project, so constant interaction takes place seeking to maintain a good rating of the project within the impacted community. Claims or complaints received have been resolved, and the rating for community communication has been above 60% good/very good during this monitoring period.	4.3.1	Community participation and communications are a key point for the project, so constant interaction takes place seeking to maintain a good valuation of the project within the impacted community. No claims or complaints have been received or not resolved throughout the project lifetime, and the project proponent´s rating has 0 % *Bad* valorization.

1.2 Standardized Benefit Metrics

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
GHG emission reductions & removals	Net estimated emission removals in the project area, measured against the without-project scenario	121,588 tn CO2-e	3.2	209,514 tn CO2-e
	Net estimated emission reductions in the project area, measured against the without-project scenario	Not applicable	-	Not applicable
Forest[1] cover	For REDD[2] projects: Number of hectares of reduced forest loss in the project area measured against the without-project scenario	Not applicable	-	Not applicable
	For ARR[3] projects: Number of hectares of forest cover increased in the project area measured against	1,053.34	2.1.8	1,053.34

[1] Land with woody vegetation that meets an internationally accepted definition (e.g., UNFCCC, FAO, or IPCC) of what constitutes a forest, which includes threshold parameters, such as minimum forest area, tree height and level of crown cover, and may include mature, secondary, degraded and wetland forests (*VCS Program Definitions*)

[2] Reduced emissions from deforestation and forest degradation (REDD) – Activities that reduce GHG emissions by slowing or stopping conversion of forests to non-forest land and/or reduce the degradation of forest land where forest biomass is lost (*VCS Program Definitions*)

[3] Afforestation, reforestation and revegetation (ARR) – Activities that increase carbon stocks in woody biomass (and in some cases soils) by establishing, increasing and/or restoring vegetative cover through the planting, sowing and/or human-assisted natural regeneration of woody vegetation (*VCS Program Definitions*)

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
	the without-project scenario			
Improved land management	Number of hectares of existing production forest land in which IFM[4] practices have occurred as a result of the project's activities, measured against the without-project scenario	Not applicable	-	Not applicable
	Number of hectares of non-forest land in which improved land management has occurred as a result of the project's activities, measured against the without-project scenario	Not applicable	-	Not applicable
Training	Total number of community members who have improved skills and/or knowledge resulting from training provided as part of project activities	141	4.1.1	213
	Number of female community members who have improved skills and/or knowledge resulting from training	6	4.1.1	8

[4] Improved forest management (IFM) – Activities that change forest management practices and increase carbon stock on forest lands managed for wood products such as saw timber, pulpwood, and fuelwood (*VCS Program Definitions*)

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
	provided as part of project activities of project activities			
Employment	Total number of people employed in of project activities,[5] expressed as number of full-time employees[6]	52	4.3.1	118
	Number of women employed in project activities, expressed as number of full-time employees	2	4.3.1	4
Livelihoods	Total number of people with improved livelihoods[7] or income generated as a result of project activities	171	4.1.1	260
	Number of women with improved livelihoods or income generated as a result of project activities	7	4.1.1	13
Health	Total number of people for whom health services were	52	4.1.1	118

[5] Employed in project activities means people directly working on project activities in return for compensation (financial or otherwise), including employees, contracted workers, sub-contracted workers, and community members that are paid to carry out project-related work.

[6] Full time equivalency is calculated as the total number of hours worked (by full-time, part-time, temporary and/or seasonal staff) divided by the average number of hours worked in full-time jobs within the country, region, or economic territory (adapted from UN System of National Accounts (1993) paragraphs 17.14[15.102]; [17.28])

[7] Livelihoods are the capabilities, assets (including material and social resources) and activities required for a means of living (Krantz, Lasse, 2001. *The Sustainable Livelihood Approach to Poverty Reduction*. SIDA). Livelihood benefits may include benefits reported in the Employment metrics of this table.

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
	improved as a result of project activities, measured against the without-project scenario			
	Number of women for whom health services were improved as a result of project activities, measured against the without-project scenario	2	4.1.1	4
Education	Total number of people for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario	185	4.1.1	561
	Number of women and girls for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario	90	4.1.1	274
Water	Total number of people who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured	N/A. However, forestry practices applied in BDU II are the latest available technology and practices that prevent the laminar erosion or diminish the leakage of fertilizers, preventing the translocation of	-	N/A. However, forestry practices applied in BDU II are the latest available technology and practices that prevent the laminar erosion or diminish the leakage of fertilizers, preventing the translocation of

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
	against the without-project scenario	sediments or nutrients into the river, which are used as drinkable water.		sediments or nutrients into the river, which are used as drinkable water.
	Number of women who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Not applicable	-	Not applicable
Well-being	Total number of community members whose well-being[8] was improved as a result of project activities	4,930	4.1.3	4,930
	Number of women whose well-being was improved as a result of project activities	2,430	4.1.3	2,430
Biodiversity conservation	Change in the number of hectares significantly better managed by the project for biodiversity conservation,[9] measured against	1,653ha	5.1.1	1,653ha

[8] Well-being is people's experience of the quality of their lives. Well-being benefits may include benefits reported in other metrics of this table (e.g. Training, Employment, Health, Education, Water, etc.), but could also include other benefits such as empowerment of community groups, strengthened legal rights to resources, conservation of access to areas of cultural significance, etc.

[9] Biodiversity conservation in this context means areas where specific management measures are being implemented as a part of project activities with an objective of enhancing biodiversity conservation.

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
	the without-project scenario			
	Number of globally Critically Endangered or Endangered species[10] benefiting from reduced threats as a result of project activities,[11] measured against the without-project scenario	1 Endangered species and 3 Vulnerable species	5.1.1/5.3.1	1 Endangered species and 3 Vulnerable species

2 PROJECT DETAILS

2.1 Summary Description of the Implementation Status of the Project

2.1.1 Summary Description of the Project (VCS, 2.1, 3.6; CCB, G1.2)

The proposed CCB-VCS project activity hereafter, "BDU II project", is an afforestation project on extensive cattle grazing pastures areas. It takes place in the Central East region of Uruguay (the host country) using exotic species (*Eucalyptus grandis* and *dunnii*) aiming to produce, as a priority product, high quality logs for sawmill industry and secondarily, biomass for energy and/or pulp. All practices follow FSC standard for sustainable forest management (with 100% of land certified), while enhancing biodiversity conservation by increasing the connectivity of forest and generating income and job opportunities for local communities in rural areas of central east Uruguay.

The BDU project is a subgroup of lands within BDU II trust fund total plots. BDU project area corresponds to 1,053.34 hectares effectively planted, in this monitoring period, in 6 properties (5 entire plots and 29% of the 6th one) of the 20 properties of BDU II trust fund. The total area affected by the project is 2,180.2 hectares, if buffer zones, grasslands, previous plantations and native forest are included.

[10] Per IUCN's Red List of Threatened Species

[11] In the absence of direct population or occupancy measures, measurement of reduced threats may be used as evidence of benefit

Plantation is already completed (2016 to 2019). *Eucalyptus grandis* occupies 74% of the planted area within the project boundary and the remaining 26% is occupied by *Eucalyptus dunnii*. *Eucalyptus grandis*, with an 18-year rotation period, had an initial planting density of 1,100 - 650 trees/ha (seed and *Eucalyptus grandis* clone respectively), and thinning took place in year 2 (the next one expected in year 9 and 14 leaving 200 trees/ha). Whereas *Eucalyptus dunnii* had an initial planting density of 1,450 trees/ha, with no pruning or thinning in its 10-year rotation period. For *Eucalyptus dunnii* plantations a coppicing management is practiced obtaining a second rotation (10 years each). For *Eucalyptus grandis* only one rotation (18 years) will be carried out. Once these 18-year cycles are finished new ones will be started by replanting the area and repeating the process until a project lifetime of 100 years is reached.

The project sequesters CO_2 through forest plantation in grassland areas, generating net anthropogenic removals by sinks. The total GHG benefit for the length of the project is 14,771,734 tCO_2e, when divided by 60 years results in 246,196 tCO_2e. Meanwhile, after this second verification period, the total GHG sequestration achieved during the project lifetime is 209,514 tCO_2e. GHG removals were monitored annually (as from year 3 of plantation) using permanent plots. No events have impacted the GHG removals during this verification period.

The project implementation did not and will not cause any displacement of activities. The only activity on the project area prior to the start date was extensive grazing by beef cattle, which continues to occur after project starts. This can be audited by the verification team during onsite visits. It was also stated and validated in the PD that there was no need for a leakage management plan or for leakage mitigation options. The information regarding aspects related to the non-permanence risk of the project, is presented at the "Non-Permanence Risk Report". The potential non-permanence of stored carbon was considered by these risk analysis and buffer determination, and by the fact that a significant fraction of the sequestered carbon will be stored in long-lived products which will not be accounted for.

The project has contributed to the sustainable development of Uruguay, and specifically the project zone by:

- Increasing labor demand from the local population
- Adding value to wood products and diversifying the regional production leading to higher economic revenues for the region
- Promoting an integrated management scheme with the ecosystem, achieving HCV conservation
- Creating and developing a new mechanism to finance projects in the forestry sector

2.1.2 Audit History (VCS, 4.1)

Audit Type	Period	Program	VVB Name	Number of years
Validation	-	VCS	AENOR	-
Validation	-	CCB	AENOR	-

Verification	25-March-2016 – 31-July-2021	CCB-VCS	AENOR	5.3 years
Verification	01-August-2021 – 23- August-2024	CCB-VCS	ICONTEC	4 years

2.1.3 Sectoral Scope and Project Type (VCS, 3.2)

Sectoral Scope	14: Agriculture, forestry, and other land use
AFOLU Project Category	Afforestation, Reforestation and Revegetation (ARR)
Project Activity Type	Establishment of forests on land that had previously been under grassland for more than 50 years.

2.1.4 Project Proponent (VCS, 3.7; CCB, G1.1)

Organization name	Agroempresa Forestal S.A. (AF)
Contact person	Dan Guapurá
Title	Mr.
Address	Juncal 1437 Of. 501; Montevideo -Uruguay
Telephone	+598 2916 2020
Email	dguapura@af.com.uy

2.1.5 Other Entities Involved in the Project

Organization name	EF Asset Management (EFAM)
Role in the project	Trustee of Bosques del Uruguay Trust Fund
Contact person	Alfredo Poggi
Title	Partner
Address	Juncal 1392
Telephone	+598 29001000
Email	efam@ferrere.com

Organization name	ProSustentia
Role in the project	VCS certification consultant
Contact person	Federico Moyano
Title	Director
Address	San Martín 543, 3rd i, Buenos Aires, Argentina
Telephone	+54911-36338125
Email	fmoyano@prosustentia.com

2.1.6 Project Start Date (VCS, 3.8)

Project start date	25-March-2016
Justification	Is the date when the activities that lead to the generation of GHG emission removals (soil preparation in La Cascada and La Vertientes plots) were first implemented[12]

2.1.7 Benefits Assessment and Project Crediting Period (VCS, 3.9; CCB, G1.9)

Crediting Period	Project crediting period is of 60 years in line with the minimum 40-year period stated by standard.
Start Date of First or Fixed Crediting Period	25-March-2016 to 24-March-2076
Total Number of Years of Crediting Period	60 years
CCB Benefits Assessment Period	60 years

2.1.8 Project Location (VCS, 3.11; CCB, G1.3)

☒ KML file has been provided

[12] Bill from Mazey. Ltda. to BDUII that evidence the works at La Cascada and Las Vertientes. Available to the VVB at validation.

BDU II Trust fund total area covers a total of 14,703 ha of lands located in the Central East region of Uruguay distributed in 20 plots along the departments (counties) of Florida, Lavalleja, Cerro Largo and Treinta y Tres. As mentioned above, the BDU II VCS project is a fraction of BDU II trust fund total area, having a specific effective planted area, during this monitoring period, of 1,053.34 ha comprising 5 entire plots and a portion of the 6th one. This is clearly seen in the table below wherein the names, areas and unique geographical locations of the plots are detailed:

Plot Nº	*Plot Name*	*Department*	*Geographic location (Center of each land)*		*Total Area of BDU II Trust Fund farms (ha)*	*Total effectively planted area and BDU VCS project boundary (ha) at this verification*
			Latitude	*Longitude*		
1	*La Cascada*	*Lavalleja*	*-54,6932738*	*-33,4412013*	*248.9*	*151.85*
2	*Vicentino*	*Treinta y Tres*	*-54,2138873*	*-32,9773377*	*131.8*	*74.86*
3	*Los Morochos*	*Florida*	*-55,2001166*	*-33,1817186*	*774.6*	*179.97*
4	*Fraile Muerto*	*Cerro Largo*	*-54,4323334*	*-32,6327286*	*189.0*	*82.56*
5	*Las Vertientes*	*Treinta y Tres*	*-54,2490007*	*-32,9626186*	*541.8*	*362.67*
6	*Zapicán*	*Lavalleja*	*-54,8915948*	*-33,5093582*	*310.2*	*201.43*
7	*Setembri*	*Cerro Largo*	*-54,8987316*	*-32,5698459*	*1138.7*	
8	*Sta Amalia*	*Cerro Largo*	*-54,8709173*	*-32,6414275*	*994.6*	
9	*Piñeiro*	*Cerro Largo*	*-54,7831365*	*-32,5982373*	*804.1*	
10	*Doña Hilda*	*Cerro Largo*	*-54,9564190*	*-32,6140209*	*1294.2*	
11	*Heber*	*Florida*	*-55,5102257*	*-33,8190939*	*426.2*	
12	*La Yeguada*	*Treinta y Tres*	*-54,9737397*	*-32,9747046*	*1058.4*	
13	*Silva Canosa*	*Treinta y Tres*	*-54,5302233*	*-33,0938151*	*106*	
14	*Flores*	*Treinta y Tres*	*-54,5459640*	*-33,1050943*	*47.8*	
15	*Doña Silvia*	*Cerro Largo*	*-54,8912966*	*-32,7390277*	*100.5*	

Plot Nº	Plot Name	Department	Geographic location (Center of each land)		Total Area of BDU II Trust Fund farms (ha)	Total effectively planted area and BDU VCS project boundary (ha) at this verification
			Latitude	Longitude		
16	El Nido	Cerro Largo	-54,7298886	-32,7815977	109.6	
17	El Estribo	Lavalleja	-55,1888047	-33,5484338	2000.1	
18	Godoy	Lavalleja	-55,3264628	-33,6673194	112.2	
19	Los Ceibos	Lavalleja	-54,8206352	-33,6604750	2151.4	
20	Santa Hildara	Cerro Largo	-54,9170518	-32,6154520	2132.6	
Total (ha)					**14,672.7**	**1,053.34**

Figure 1 illustrates the lands' location within Uruguay and the project zone[13]. Figures 2 to 7 show the polygons that delineate the geographic area of the project activity along with their geodetic coordinates.

[13] Shp files with the coordinates of each land are provided to the verification entity.

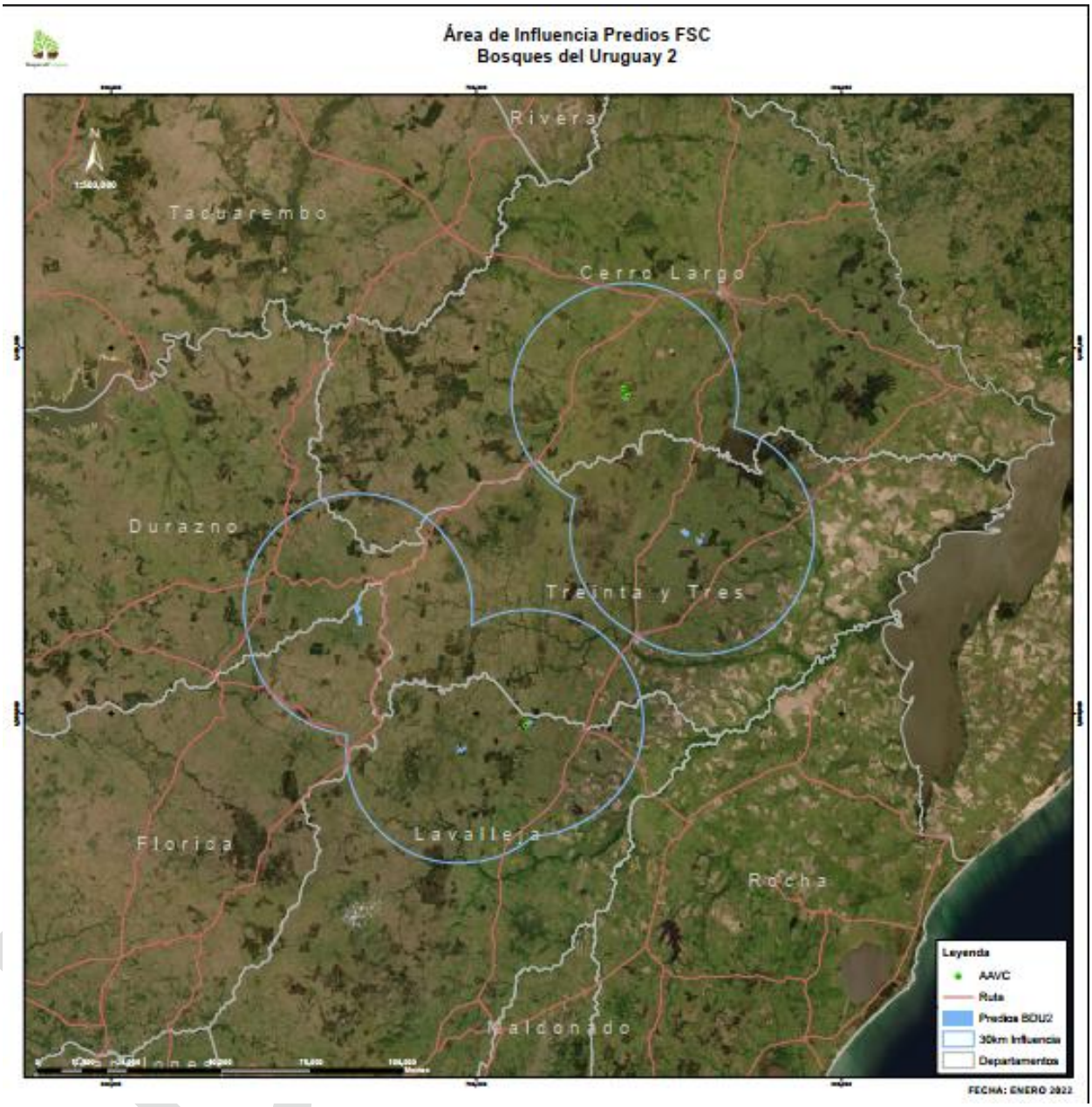


Figure 1. Project location showing project zone and properties of BDU II project area

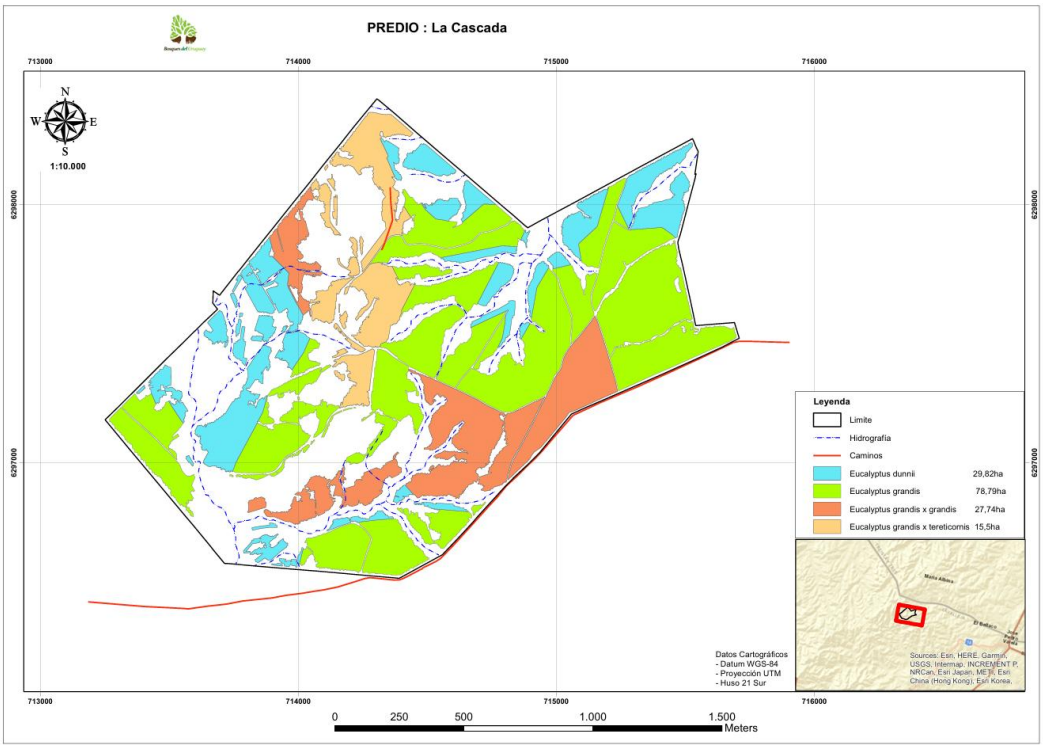


Figure 2. Project location showing La Cascada farm, part of BDU II project area

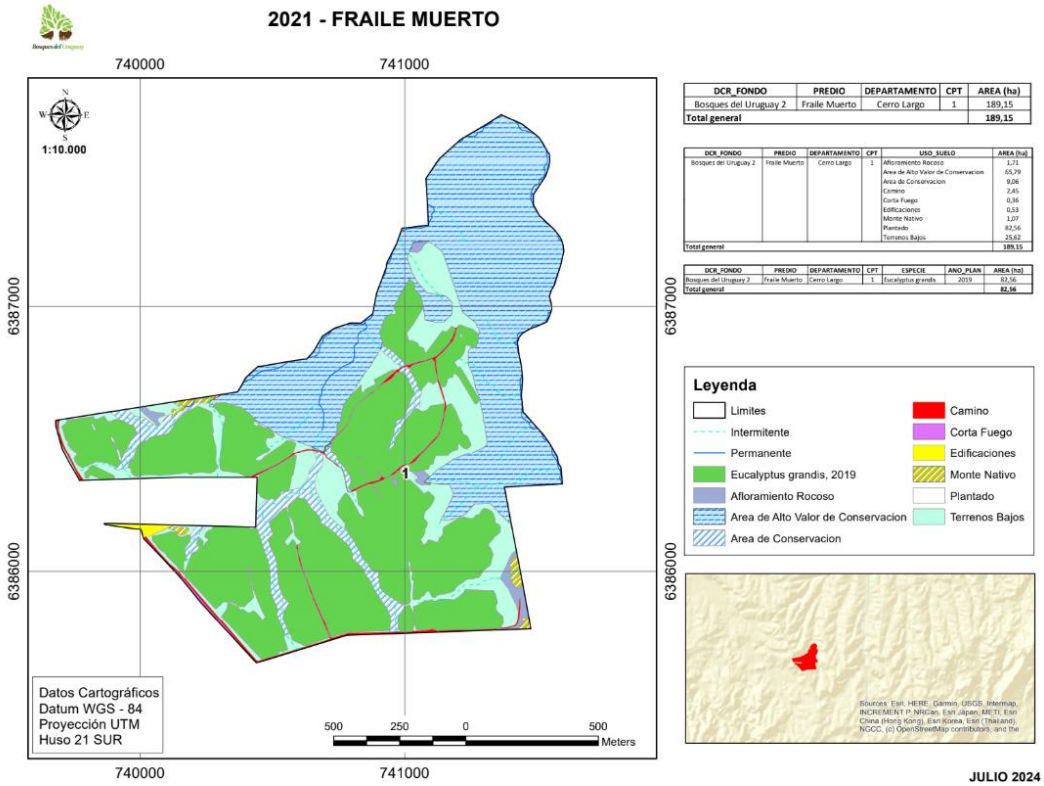


Figure 3. Project location showing Fraile Muerto farm of BDU II project area

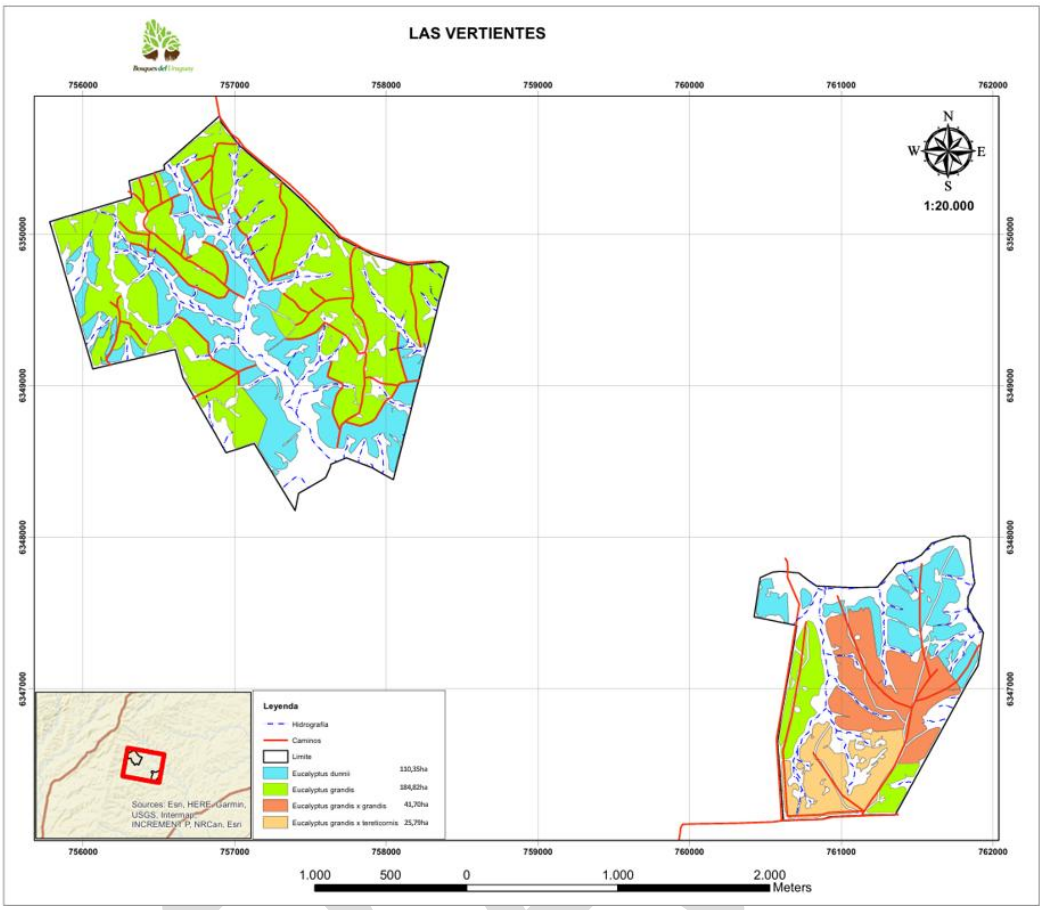


Figure 4. Project location showing Las Vertientes farm of BDU II project area.

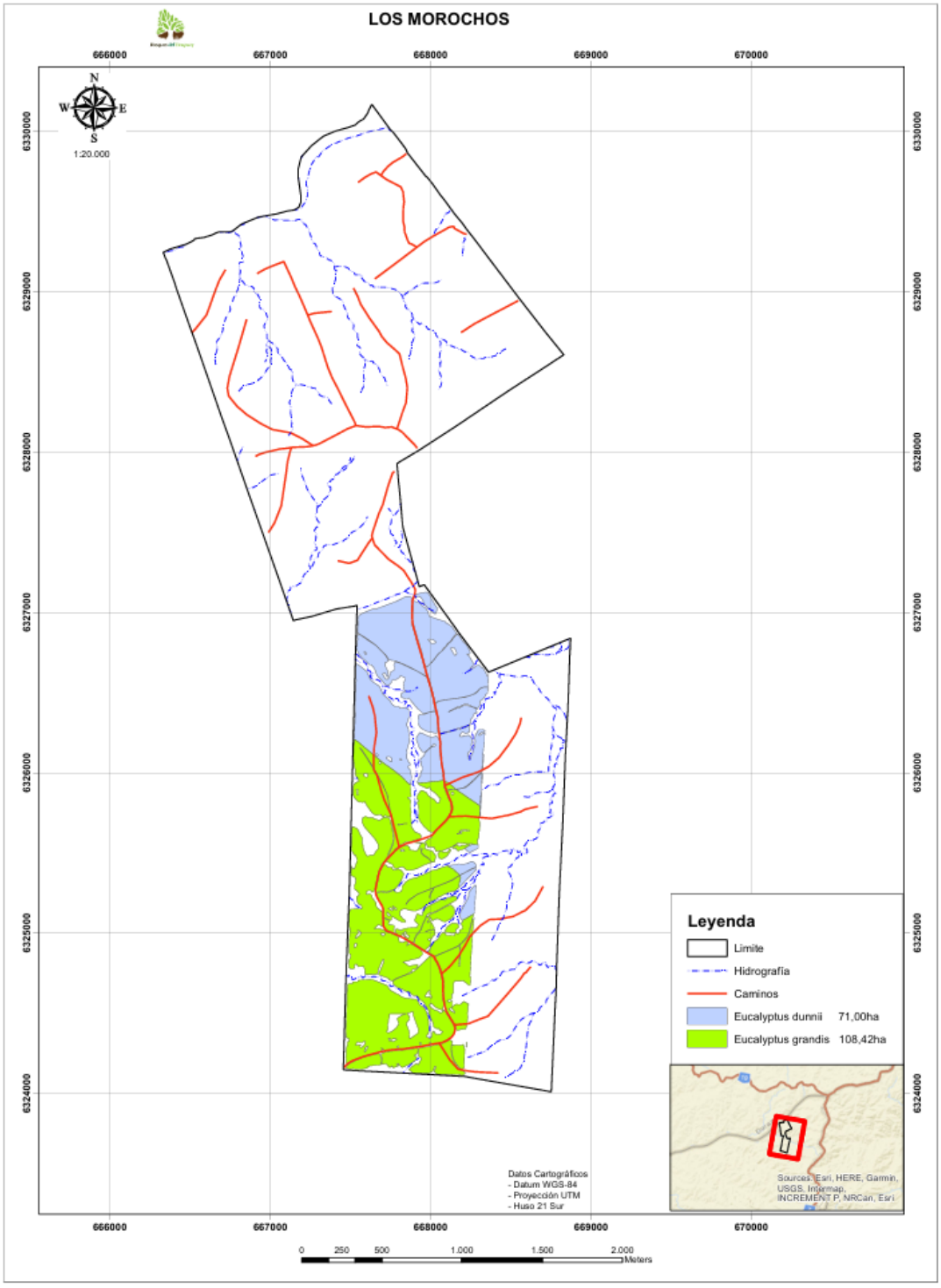


Figure 5. Project location showing Los Morochos farm of BDU II project area

Figure 6. Project location showing Vicentino farm of BDU II project area

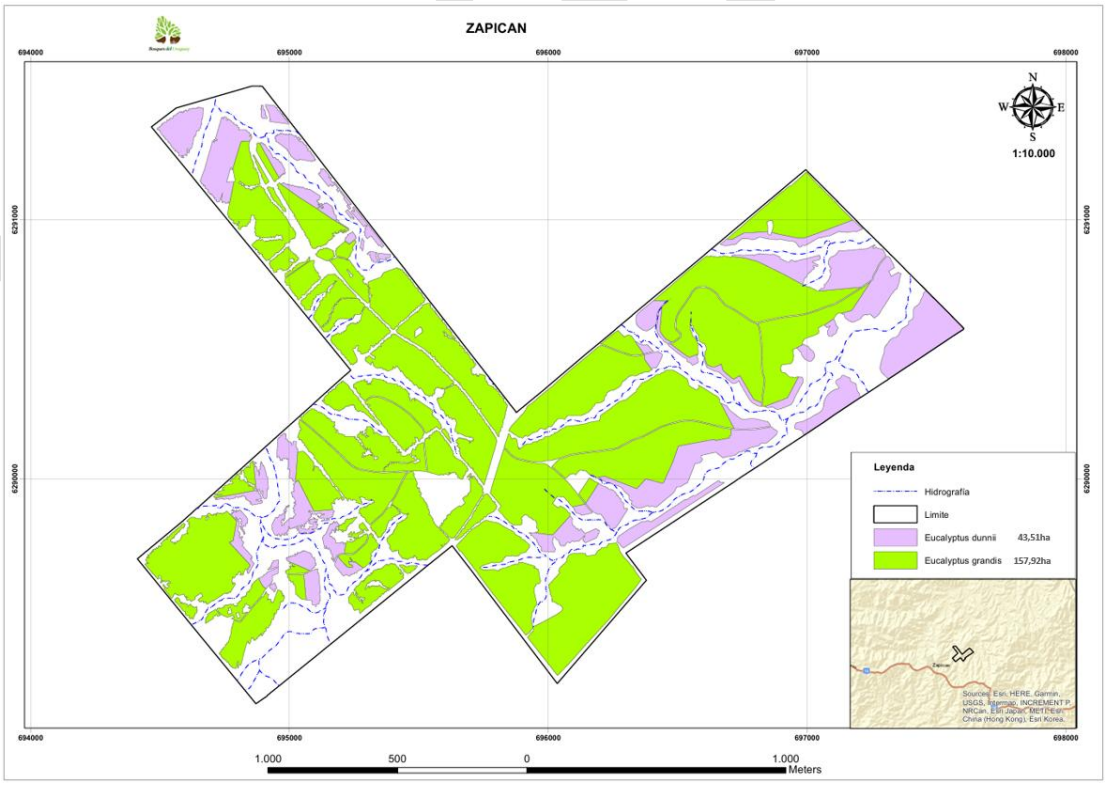


Figure 7. Project location showing Zapicán farm of BDU II project area

2.1.9 Title and Reference of Methodology (VCS, 3.1)

Note: the tool AR-TOOL08 "Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity" is not applicable to the present project activity since biomass burning practices will not be part of the project activity.

Type (methodology, tool, module)	Reference ID (if applicable)	Title	Version
Methodology	AR-ACM0003	Afforestation and reforestation of lands except wetlands	02.0
Tool	AR-TOOL02	Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities	01
Tool	AR-TOOL12	Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities	03.1
Tool	AR-TOOL14	Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities	04.2
Tool	AR-TOOL16	Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities	01.1.0
Tool	AR-TOOL15	Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity	02.0
Tool	-	Calculation of the number of sample plots for measurements within A/R CDM project activities	2.1.0

2.1.10 Double Counting and Participation under Other GHG Programs (VCS, 3.23; CCB, G5.9)

2.1.10.1 No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program, or any other form of community, social, or biodiversity unit or credit?

☐ Yes ☒ No

2.1.10.2 Registration in Other GHG Programs

Was the project registered or seeking registration under any other GHG programs?

☐ Yes ☒ No

2.1.10.3 Projects Rejected by Other GHG Programs

Has the project been rejected by any other GHG programs?

☐ Yes ☒ No

2.1.11 Double Claiming, Other Forms of Credit, and Scope 3 Emissions (VCS, 3.24)

2.1.11.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the VCS Program Definitions for definitions of emissions trading program and binding emission limit.

☐ Yes ☒ No

2.1.11.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the VCS Program Definitions for definition of GHG-related environmental credit system.

☐ Yes ☒ No

2.1.11.3 Supply Chain (Scope 3) Emissions

Do the project activities affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☒ Yes ☐ No

If yes:

Is the project proponent(s) or authorized representative a buyer or seller of the product(s) (goods or services) that are part of a supply chain?

☒ Yes ☐ No

If yes:

Has the project proponent(s) or authorized representative posted a public statement on their website saying, “Carbon credits may be issued through Verified Carbon Standard project [project ID] for the greenhouse gas emission reductions or removals associated with [project proponent or authorized representative organization name(s)] [name of product(s) whose emissions footprint is changed by the project activities].”?

☒ Yes ☐ No

See evidence in Figure 8 below showing a print screen of the public statement at the Trust Fund webpage

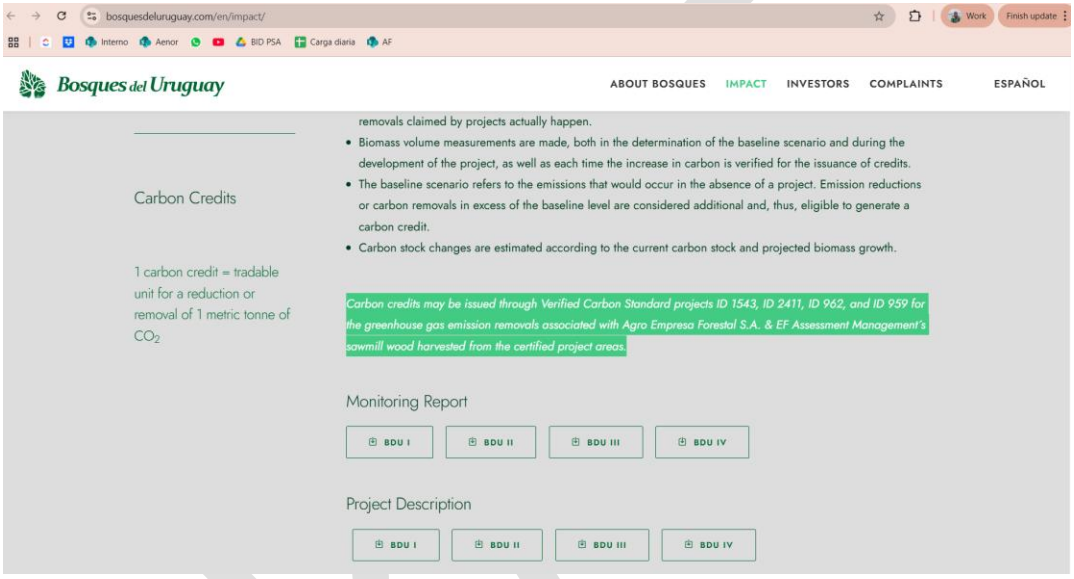


Figure 8. Print screen for the public statement on carbon credit emissions on BDU´s webpage.

2.1.12 Sustainable Development Contributions (VCS, 3.17)

During this monitoring period, the forest plantation of 1,053.34 ha with non-native species, was maintained generating local job and training opportunities as well as continued carbon removals. At the same time the company has worked on different projects with communities in the project area, such as tree plantation events, training and resources donations, among others. Regarding biodiversity, the identification and conservation of areas of particular interest has led to biodiversity enhancement. All these activities have resulted in a series of SD contributions listed in the table below (table 1), in line with the national SDGs[14]. BDU II project contributes to the achievement of the country’s goals defined to reach the SDGs 4, 8, 11, 13 and 15. Evidence of the project’s SD contributions are provided throughout the document and in the appendix 6 to this report[15]..

[14] https://www.opp.gub.uy/es/ods

[15] Evidence also included in Drive shared folder “SDG”

Table 1: Sustainable Development Contributions

Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
1)	4.3	4.3.1 Participation rate of youth and adults in formal and non-formal education and training in the previous 12 months, by sex	Implemented activities to increase	141 direct and indirect workers and non-workers trained during MR	The project has improved non-formal education and training of 207 direct and indirect workers and non-workers so far.
2)		Number of students who received sustainable development curricula	Implemented activities to increase	126 students have received sustainable development subject in the curricula through the companies training and presentations at rural schools	The project has improved non-formal education and training of 143 students so far.
3)		Number of schools and students impacted by infrastructure improvement or material donations	Implemented activities to increase	59 students impacted by infrastructure improvement or material donations in 4 rural schools.	The project has improved 9 schools´ infrastructure, by donating working hours and materials improving 695 student's education experience.
4)	8.	Number of formal new employments	Implemented activities to increase	52 new direct job positions generated	118 new direct job positions generated and occupied by local communities
5)		8.7.1 Proportion and number of children aged 5-17 years engaged in child labour, by sex and age	Implemented activities to decrease	No child labour as a company´s policy	No child labour as a company´s policy

Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
6)	13.0	Tonnes of greenhouse gas emissions removed	Implemented activities to increase	By maintaining the forest plantation of 1,053.34 ha, the project has removed 121,588 thousand tonnes of carbon from the atmosphere during the monitoring period	209,514 thousand tonnes of carbon dioxide removed from the atmosphere
7)	15	Forest area	Implemented activities to increase	1,053.34 ha of planted forest	1,053.34 ha of planted forest
8)		Important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type	Implemented activities to increase	1 area of particular interest for conservation covering native forests and grasslands	1 area of particular interest for conservation covering native forests and grasslands
9)		15.2.1 Progress towards sustainable forest management	Implemented activities to increase	100% of planted forest certified FSC implementing sustainable forest management	100% of project area certified under FSC
10)		15.5.1 Red List Index	Implemented activities to increase	1 *Endangered* and 3 *Vulnerable* species identified according to IUCN category	1 *Endangered* and 3 *Vulnerable* species identified according to IUCN category

2.2 Project Implementation Status

2.2.1 Implementation Schedule (VCS, 3.2; CCB, G1.9)

Plantation has already been completed (2016 to 2019). Eucalyptus grandis occupies 74% of the planted area within the project boundary and the remaining 26% is occupied by Eucalyptus dunnii. Eucalyptus grandis, with an 18-year rotation period, had an initial planting density of 1,100 - 650 trees/ha (seed and Eucalyptus grandis clone respectively), and thinning took place in year 2 (the next one expected in year 9 and 14 leaving 200 trees/ha). Whereas Eucalyptus dunnii had an initial planting density of 1,450 trees/ha, with no pruning or thinning in its 10-year rotation period. For Eucalyptus dunnii plantations a coppicing management is practiced to obtain a second rotation (10 years each). For Eucalyptus grandis only one rotation (18 years) will be carried out and once these 18-year cycles are finished new ones will be started by replanting the area and repeating the process.

During these monitoring period, regarding the forest management, thinning for those individuals with 7 years took place and the plantations are still in place as no harvest has taken place yet and are managed according to the forest management plan. Regarding biodiversity monitoring, new farms have been evaluated in order to define its conservation level category, and the monitoring's took place according to plan. Last, regarding community work, a new approach has been designed and implemented, where the different development projects are now unified under the program "Comunidad más cerca" (Closer Community). This program allows more organized work with the community within the project zone.

Forest inventories took place yearly on plots with more than 3-year-old individuals. No events have impacted the GHG removals during this verification period.

2.2.2 Baseline Reassessment (VCS, 3.2.6, 3.2.7)

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes ☒ No

2.2.3 Methodology Deviations (VCS, 3.20)

There are no methodology deviations

2.2.4 Minor Changes to Project Description (CCB Program Rules, 3.5.6)

There are no community of biodiversity changes to the project description

2.2.5 Project Description Deviations (VCS, 3.21; CCB Program Rules, 3.5.7 – 3.5.10)

1. **Deviations in current monitoring period:**
   There are a few deviations from the project´s description that do not impact applicability of the methodology, additionality or the baseline scenario. As can be seen, they are cartographic adjustments to plantation areas within project area, and to the monitoring plan.

   a. **Project boundary:** Regarding the project boundary, there have been some insignificant cartographic adjustments varying the total surface planted during this verification period:

Plot No.	*Plot Name*	*Department*	*Total effectively planted area (ha) at validation*	*Total effectively planted area (ha) at previous verification*	*Total effectively planted area (ha) at this verification*	*Difference from previous verification (ha)*	*Difference (%)*
1	*La Cascada*	*Lavalleja*	*151.9*	*151.85*	*151.85*	*0.00*	*0.00*
2	*Vicentino*	*Treinta y Tres*	*74.9*	*74.89*	*74.86*	*-0.03*	*-0.04*
3	*Los Morochos*	*Florida*	*180*	*179.43*	*179.97*	*0.54*	*0.30*
4	*Fraile Muerto*	*Cerro Largo*	*82.6*	*82.56*	*82.56*	*0.00*	*0.00*
5	*Las Vertientes*	*Treinta y Tres*	*366.6*	*366.63*	*362.67*	*-3.96*	*-1.08*
6	*Zapicán*	*Lavalleja*	*200,0*	*200.62*	*201.43*	*0.81*	*0.40*
			1,056	*1,055.98*	*1,053.34*	*-2.64*	*-0.25*

b. **Monitoring plan:** Sampling plan: There has been a reduction in the number of sample plots from 52 to 43. This is due to plots that no longer are representative or other reasons. This has impacted uncertainty levels but are still below a critic threshold.

Species	YOP	Soil (CONEAT)	Area (ha)	N° plots previous MR	Current N° plots
Eucalyptus dunni	2016	2	74.9	6	6
	2017	2	95.8	11	4
	2018	2	98.2	3	3
Eucalyptus grandis	2016	2	284.7	12	12
	2017	2	230.1	13	8
	2018	2	189.7	7	7
	2019	2	82.6	-	3
			Total	52	43

c. **LTA calculation:** It may not be considered a deviation, but the LTA recalculation based on actual biomass values for the monitoring period led to an increase in the LTA value to 246,196, 0.02% higher.

d. **Parameters at validation:** In previous verification, the source of data was not included in the deviation section, for the ex-ante emissions calculation. In this case, the growth curve is not obtained from the growth model SAG and INIA information, but using growth curves obtained from years of forest management in the region and in line with the forest inventory monitoring guide[16].

Data / Parameter	VTREE,j,p,i
Data unit	m^3
Description	Stem volume of trees of species or group of species j in plot p in stratum i
Source of data	Local Growth Models: Growth projections from local growth model using local parameters from AF Group for same species and silvicultural activity in the project zone.
Value applied	N/A
Justification of choice of data or description of measurement methods and procedures applied	In all cases local data is used, based on projections generated by AF for farms under similar conditions to project area by species, using average projection values.
Purpose of data	Value used to determine the project ex – ante carbon sequestration
Comments	In case of ex-ante calculation, growth was estimated based on average growth according to specific site conditions presented in the project site. Local growth models were used for ex-ante estimation to describe the yield curve and determine the Long Term Average of available carbon credits. Local growth models will not be used for ex-post estimation which were based on field measurements: tree´s DBH and height.

2. **Deviations at previous monitoring period:**

There are a few deviations from the project´s description that do not impact applicability of the methodology, additionality or the baseline scenario. As can be seen they are cartographic

[16] Guide available for VVB in shared folder “Forest management”.

adjustments to plantation areas within project area, and the addition of further information to the monitoring plan regarding biomass estimation.

a. **Project crediting period**: It has been noticed that the crediting period validated in VCS PD was not of 60 but 59 years, so the period values were updated from "25/03/2016 to 24/03/2075" to "25/03/2016 to 24/03/2076". LTA and related tables were updated as well, including in the CCB PD.

b. **Project boundary:** Although not a deviation, the table in section 1.12 in project description had an error and it was corrected in this monitoring report. The correction includes updating the names of the farms included in the project area and their total property area, although correctly mapped and identified in the KLM files, in the table of the mentioned sections the planted area was misplaced in other farms table line:

Plot No.	*Plot Name*	*Department*	*Geographic location (Center of each land)*		*Total Area of BDU II Trust Fund farms (ha)*	*Total effectively planted area and BDU VCS project boundary (ha) at validation*
			Latitude	*Longitude*		
1	*La Cascada*	*Lavalleja*	*-54,6932738*	*-33,4412013*	*248.9*	*151.9*
2	*Vicentino*	*Treinta y Tres*	*-54,2138873*	*-32,9773377*	*131.8*	*74.9*
3	*Los Morochos*	*Florida*	*-55,2001166*	*-33,1817186*	*774.6*	*180*
4	*Fraile Muerto*	*Cerro Largo*	*-54,4323334*	*-32,6327286*	*189.0*	*82.6*
5	*Las Vertientes*	*Treinta y Tres*	*-54,2490007*	*-32,9626186*	*541.8*	*366.6*
6	*Zapicán*	*Lavalleja*	*-54,8915948*	*-33,5093582*	*310.2*	*200.0*
7	*Setembri*	*Cerro Largo*	*-54,8987316*	*-32,5698459*	*1138.7*	
8	*Sta Amalia*	*Cerro Largo*	*-54,8709173*	*-32,6414275*	*994.6*	
9	*Piñeiro*	*Cerro Largo*	*-54,7831365*	*-32,5982373*	*804.1*	
10	*Doña Hilda*	*Cerro Largo*	*-54,9564190*	*-32,6140209*	*1294.2*	
11	*Heber*	*Florida*	*-55,5102257*	*-33,8190939*	*426.2*	
12	*La Yeguada*	*Treinta y Tres*	*-54,9737397*	*-32,9747046*	*1058.4*	

Plot No.	Plot Name	Department	Geographic location (Center of each land)		Total Area of BDU II Trust Fund farms (ha)	Total effectively planted area and BDU VCS project boundary (ha) at validation
			Latitude	Longitude		
13	Silva Canosa	Treinta y Tres	-54,5302233	-33,0938151	106	
14	Flores	Treinta y Tres	-54,5459640	-33,1050943	47.8	
15	Doña Silvia	Cerro Largo	-54,8912966	-32,7390277	100.5	
16	El Nido	Cerro Largo	-54,7298886	-32,7815977	109.6	
17	El Estribo	Lavalleja	-55,1888047	-33,5484338	2000.1	
18	Godoy	Lavalleja	-55,3264628	-33,6673194	112.2	
19	Los Ceibos	Lavalleja	-54,8206352	-33,6604750	2151.4	
20	Santa Hildara	Cerro Largo	-54,9170518	-32,6154520	2132.6	
Total (ha)					**14,672.7**	**1,056**

Regarding the project boundary, there have been some insignificant cartographic adjustments varying the total surface planted:

Plot No.	Plot Name	Department	Total effectively planted area (ha) at validation	Total effectively planted area (ha) at verification	Difference (ha)	Difference (%)
1	La Cascada	Lavalleja	151.9	151.85	-0.05	-0.03%
2	Vicentino	Treinta y Tres	74.9	74.89	-0.01	-0.01%
3	Los Morochos	Florida	180	179.43	-0.57	-0.32%
4	Fraile Muerto	Cerro Largo	82.6	82.56	-0.04	-0.05%

Plot No.	*Plot Name*	*Department*	*Total effectively planted area (ha) at validation*	*Total effectively planted area (ha) at verification*	*Difference (ha)*	*Difference (%)*
5	*Las Vertientes*	*Treinta y Tres*	*366.6*	*366.63*	*-0.03*	*0.01%*
6	*Zapicán*	*Lavalleja*	*200,0*	*200.62*	*0.62*	*0.31%*
			1056	*1055.98*	*-0.02*	*0.002%*

Last, the total farm areas have been adjusted from those reported in the validation. This is because the original areas were those extracted from the land ownership title while the newly reported are the real areas calculated using GIS tools:

Plot Name	Area (ha) at validation	Area (ha) at verification
La Cascada	*248.9*	247.3
Vicentino	*131.8*	125.5
Los Morochos	*774.6*	763.3
Fraile Muerto	*189.0*	186.6
Las Vertientes	*541.8*	547.6
Zapicán	*310.2*	309.9

c. Monitoring plan

In addition to the documentation mentioned during validation, AF has a Forest Inventory Manual in place, which defines step by step the process for plantation growth monitoring which is used to communicate processes to contractors involved in the forest inventories.

Data measured by contractors is sent through email to AF, in charge of conducting a review analysis. All data collected will be archived for a period of at least two years after the end of the last crediting period of the project activity.

Stratification

Stratification was first defined considering the soil types (Coneat Gropus 2, 8, mixture of 8&G03 and 2&8&G03 denominated “other”); age class (plantation date 2016, 2017, 2018, 2019); and species planted (*E. grandis* & E. dunni). Total project area will be divided into 8 stratum.

Current stratification could suffer subdivisions or merges in the case unexpected disturbances occur or insignificant intra-stratum variability is detected in the annual variation in carbon pools (e.g: forest fires).

Sampling

Due to the application of thinning, forest stands in this project have a low number of trees per hectare, tending to have a few large trees per hectare as the stands get older, and uniformly

distributed. Thus, taking into consideration the project-specific conditions and the IPCC guidance, circular plots of 300 m² have been selected for monitoring of stratums with *E. dunnii* (not thinned, higher density throughout the rotation) and 800 m² for stratums with *E. grandis*, instead of the 200 and 400m² plots reported during validation. At the same time, permanent plots are visibly marked but no special treatment is received.

Permanent sampling plots are used to measure and monitor changes in carbon stocks from the most relevant carbon pools over time. These are considered more efficient for estimating changes in carbon stocks by filtering out any variance due to plot effect. The plots are located with GPS, and they will be prevented from being deforested over the crediting period. At the same time, permanent plots, although visibly marked, did not receive any special treatment.

The number of sample plots was initially estimated according to the "Calculation of the number of sample plots for measurements within A/R CDM project activities" tool during validation. The number of sample plots was recalculated after validation in order to reduce the level of error. This resulted in an increase from 43 to 52 sample plots, which were corrected as follows:

Species	Year plantation	Soil (CONEAT)	Area (ha)	N° plots
Eucalyptus dunni	2016	2	74.9	6
	2017	2	95.8	11
	2018	2	98.2	3
Eucalyptus grandis	2016	2	284.7	12
	2017	2	230.1	13
	2018	2	189.7	7
	2019	2	82.6	-
			Total	52

Mapping

The technical team does not use Arcgis 10 anymore, so plot grid is done using QGIS or ArcMaps to randomly locate the permanent sampling plots (location is systematic with random start). The map with the location of the sampling plots (geopdf) is loaded on the GPS receptors used by forest inventory crews, usually AvenzaMaps app, so that they can reach the plots accurately.

Measurements

Further information on QA/QC, calculation method and monitor equipment was included in the parameters monitored and parameters available at validation. At the same time parameters measurements are detailed below:

- Biomass estimation (Vtree)

The Vtree equation used for verification was not that reported during validation suggested by Rachid Casnati et al[17] (v= 0.00003242 * DBH^1.804 * H^1.178), but the widely used *smalian* volumetric equation using data from a regression equation by Bruce et el. (1968)[18], extensively used in forestry sector. This equation was chosen for AF´s program systematization given it´s model structure has the advantages of being easy to estimate parameters and a definite integral for estimating volumes between two stem heights without the need to apply numerical integration like other more complex models. Moreover, the model of Bruce et al (1968) has been parameterized for its incorporation into other simulation systems like INSIGNE and EUCASIM. This model has also been evaluated for other species in other countries showing this high degree polynomial model has enough flexibility to adapt to different forest species, even for native species.

The parameters for the regression equation are obtained from studies conducted within the project area, farms owned by BDU and neighboring companies, with variables derived from a data set of more than 50 trees and in line with the conditions stated in A/R Methodological Tool "Demonstrating appropriateness of allometric equations for estimation of aboveground tree biomass in A/R CDM project activities" V. 1. Information on the procedures are detailed in the Agroempresa Forestal Forest Inventory Manual, section 11[19].

The equations were updated from PDD in line with the calculations during forestry inventories:

Bruce et al (1968) taper function is used based on the parameters for each species:

$$dwb_{(h)}^2 / DBH_b^2 = b_1 . X^{1,5} + b_2 (X^{1,5} - X^3) DBH_b + b_3 (X^{1,5} - X^3) H + b_4 (X^{1,5}-X^{32}) H . DBH_b + b_5 (X^{1,5} - X^{32}) H^{0,5} + b_6 (X^{1,5} - X^{40}) H^2$$

Where,

dwb(h) =	diameter (cm) without bark, measured at stem height (m)
DBH(b) =	diameter (cm) with bark at breast height, 1,3m from ground
H =	total height (m)
hj =	height (m) from ground to diameter gj (j=1,...n)
X =	(H-hj) / (H-1,3)
bi =	parameters estimated for each species (i=1, ...6)

Parameter	Egrandis	Edunni

[17] Volume and Taper Equations for P. taeda (L.) and E. grandis (Hill ex. Maiden) Agrociencia Uruguay vol.18 no.2 Montevideo dic. 2014. Rachid Casnati Cecilia, Mason Euan G, Woollons Richard, Resquin Fernando. http://www.scielo.edu.uy/scielo.php?script=sci_arttext&pid=S2301-15482014000200006

[18] Bruce, D., R.O Curtis, C., Vancoevering (1968). "Development of a system of taper and volume tables for red alder", For. Sci. 14(3): 339-350.

[19] Forest Inventory manual and associated information available for VVB during verification on request.

b1	0,88612	0,79307
b2	-0,01139	-0,01139
b3	0,01628	0,01645
b4	-0,00008	-0,00002
b5	-0,00137	0,00272
b6	0,00004	-0,00006

The universal volumetric equation by smalian used is:

Vtree= DBH*DBH*0.785*H

Where,

Vtree = Total volume without bark (m3)
DBH = Diameter (cm) extracted from Bruce et al. equation
H = Height (cm) equal to 1cm

The next step is to add each section calculated and applied factor to include total volume with bark

Quality assurance and Quality control

Although not considered a deviation further information on QA/QC process is included in the present document:

Once field measurements have been collected in the field, the contractor sents them by email specifying the type of inventory carried out, establishment surveyed, number of plots and location in kmz format. It is important to clarify that all those doubts or modifications that were carried out in the field are clarified in the column called “observations”.

All the information sent is reviewed by the head of inventories. In case of finding any inconsistency or doubt, a field check is performed. Once the data has been reviewed, it is processed using the data processing system Caliper [https://webapp.avlchile.cl/caliper/caliper.dll]. It is a software for processing forest inventories that calculates dasometric variables and delivers a cut of the forest according to the defined products. In addition, it has a module called "Validator", which allows a review of the consistency of the data, detecting possible inconsistencies in the values that could affect the results. In case of detecting inconsistencies, these are analyzed and evaluated prior to processing.

d. Data and Parameters Available at Validation

It was not specified in the PDD that parameter Rj (Root-shoot ratio) value used ex-post will be that which arises from the equation in AR TOOL 14, specific for biomass results.

A_{PLOT},i value was corrected from ha to m^2.

2.2.6 Grouped Projects (VCS, 3.6; CCB, G1.13-G1.15, G4.1)

Not applicable as this is not a grouped project

2.2.7 Risks to the Project (CCB, G1.10)

Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
Fire	The risk of fires in commercial forest plantations in Uruguay is very low due to reduced population density and a very humid climate. Normally forest fires in Uruguay only occur in summer in the coastal areas of the South and Southeast of the country, associated with the tourism activity. In spite of prevention activities, fires can happen. In that case, equipment and staff (owned and contracted) is ready and trained for firefighting.	In compliance with national regulations, BDU has implemented an extensive plan to prevent forest fires. There are many preventive activities such as: i) establishment of a network of firebreaks surrounding forests blocks with an area not larger than 50 ha; ii) the introduction of cattle in early stages of the forestation for maintaining pastures short and green, thus reducing the volumes of fuel; iii) permanent surveillance of the project area, particularly at times of medium to high risk of fire; iv) burning as possible technique for cleaning fields is particularly excluded; v) warning signs with risk of fire are placed next to forest sites; vi) transit of non-authorized hunters, hikers or campers is forbidden; vii) fire extinguishers must set in vehicles (including tractors) that circulate in the property; viii) the project has fire insurance hired
Diseases and insects	With a low to intermediate possibility of occurrence, there could be diseases and insects that may damage the planted trees, but the diseases and insects will be prevented by routine oversight.	Upon routine oversight, the diseases will be treated according to the Weeds and Insects Control Plan, immediately with biological control once occurred. Chemical pesticides are allowed to be used only if there is a serious pest problem erupted in the project area, and the pesticides will be used in accordance with the National Pesticides Policy and FSC standard. Given forestry sanitation is considered to need a national scale solution among producers, AF channels its efforts through the

Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
		Health Commission of the Society of Forest Producers (CS-SPF), participating actively. The CS-SPF establishes a short and medium-term work plan, which includes lines of work in aspects of monitoring, control, investigation and training / dissemination for pests considered priority. In turn, forest health issues at the national level are coordinated by the CECOPE (Executive Council for the Coordination of Pests and Diseases forestry) made up of representatives of the MGAP through the General Forestry Directorate and the General Directorate of Agricultural Services, INIA and SPF.
Wind	Although it has a very low probability of occurrence, and affects mainly young individuals, another risk is related to an eventual increase in felling off or damage to trees by windstorms. Intensive thinning of eucalypt plantations is known to increase the risk of wind damages due to the opening of wide spaces within the forest that may channel the wind and increase its speed, aggravated by the vulnerability of tall trees. There is no information on an eventual increase in this vulnerability in thinned stands with very tall trees such as those with ages 15 or more, but there have been some cases of plantations losses due to strong windstorms.	High density initial plantation. Thinned density is never below 150 trees per hectare. Also, the use of climate insurance in critical moments, geographic diversification and last, avoidance of critical activities during periods of expected adverse meteorological conditions.
Frost	Night frosts occur during the winter (from mid-May to early October), with an average of 30 days with frost per	Those areas imposing restrictions to tree growth or with high vulnerability to frost were excluded; soils occupying low areas were excluded because of

Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
	year, with temperatures seldom falling below –5 ºC.	risk of frost. *E. dunnii* were planted in lower areas to prevent frost damage.
Soil and water contamination	Low significance impacts to water sources contamination was found from the EIA to the properties due to agrochemicals use.	Operative procedures in place to ensure a correct use of agrochemicals avoiding all risk of contamination and leak to water and soil. Water physicochemical analysis is conducted, and phreatic levels are measured.
Natural and artificial habitats affected	Low significance impacts to natural habitat were identified during the EIA to the properties due to the activities taking place during plantation growth and harvest.	Plantations take place on degraded grasslands and high value conservation areas and areas of particular interest for conservation are identified, protected and monitored. Moreover, in plantation areas, environmental monitoring takes place during and after harvest, determining all aspects to take place in future activities.
Social	Positive impacts due to development projects implemented as part of the project as well as training and employment opportunities. Still, the activity may lead to some community disconformities such as an increase in rural road traffic or noises during harvest.	Project proponent has an active communication strategy to allow communities to be aware of future activities and means for non-conformity communications and adaptive management plans.

2.2.8 Benefit Permanence (CCB, G1.11)

As it was mentioned above, BDU II project has a number of socio-economic benefits that have mostly impacted its surrounding area, which is currently one of the less developed ones in the country. This project has decentralize economic activity creating a development pole away from Montevideo, and other areas currently concentrating most of the economic activity in the country.

The creation of employment is one of the main social benefits of the project. Typically, an extensive livestock production system employs 6 persons every 1,000 ha[20] while the total number of direct and indirect employees per hectare in forestry is 32 employees every 1000 hectares, according to a study by CPA Ferrere[21] done in 2017.

Beyond an increased number of jobs, the project is contributing to the development of the region and the country pursuant the priorities defined by Uruguayan government (promotion of small family businesses, increase in exports, eradication of rural poverty, incorporation of technology, increased nationally added value, development of new productive chains and geographic decentralization of development) as follows. BDU II project activity is generating new job opportunities. The vast majority of employees are hired by contractors. The majority of the outsourced contractor companies currently working with BDU, are registered in Uruguay as "PYMES" (small and medium sized companies), mostly family companies hiring local workers. Moreover, all the skills and trainings that direct workers and local contractors will learn during project lifetime, will help these workers to continue working in the forestry sector and in the project region. The project has created directly and indirectly, 114 job positions. During this monitoring period this positions are related to forest management activities such as forest inventories, pest controls, and pruning among others related to the forest industry in the area.

The project incorporates the best available and affordable technology for optimizing wood productivity and quality through the selection of seeds, site preparation, plantation, weed and pest control, forest management and wood harvesting and logistics, and achieving sustainability objectives. BDU has a program for applied research, continuously testing various practices in order to achieve continuous improvement over time including studies aiming for climate change adaptation. It also collaborates with other companies (within the *Sociedad de Productores Forestales*) and public institutions in this regard, studying economic forestry impacts in the region, biodiversity monitoring in forestry sector, soil impacts, among others[22].

In terms of biodiversity, the fields where AgroEmpresa Forestal (AF) operates, environmental assessments and impact surveys are carried out by a team of experts and communicated to communities in order to define mitigation actions. Based on the results obtained in these studies and consultation processes, management and monitoring plans have been developed for the restoration of natural systems which may have been affected by previous practices (agricultural, farming, forestry or other activities), the conservation of natural resources and values in the influence areas (flora, fauna, soils and hydric resources) and the prevention or mitigation of environmental impact caused by forestry operations.

Monitoring tasks include, in particular, regular assessments of the effects of forestry operations on the soil, water, pollution, ecosystems, as well as Areas of Particular Interest for Conservation (APIC) impacts. In this line, studies of the fauna are carried out with the purpose of determining the effect

[20] ttp://www.camaramercantil.com.uy/uploads/cms_news_docs/Informe%20Impacto%20Cadena%20Forestal%20CPA%20Ferrere%2022-11-17.pdf

[21] CPA Ferrer website: https://www.cpaferrere.com/en/

[22] Studies available at: https://www.spf.com.uy/trabajos-de-investigacion/

of these operations in the species composition and distribution in the area and the possibility of controlling invasive species -such as the wild boar-.

In the "La Cascada" establishment it is possible to identify APIC, which integrate the previous HCV and RA (representative areas) identified in the reports till 2020. In these areas there are priority species of vascular plants, among which two tiny *Cactaceae, Frailea buenekeri* and *Frailea* phaeodisca. For this reason, a specific monitoring plan has been defined and is currently implemented for the flora of this area. Moreover, Fraile Muerto property was defined as HCV area after a public consultation with stakeholders.

In summary, among the measures needed and taken to maintain and enhance the climate, community and biodiversity benefits beyond the project lifetime, are:

- Species selected (Eucalyptus) have previously proven to be adapted to the agro-ecological conditions of the project zone.
- Once the forest is harvested, replanting will be performed between existing lines, being the common practice in long rotation forests aiming to produce high quality wood.
- In order to keep production at same levels throughout project lifetime, it will be necessary to fertilize new seedlings with every new plantation.
- All establishments within project area are privately owned by the fund and no ongoing enforcement or disputes have been raised in the past and until now, relating to the protection of the planting area. In addition, the farms are demarcated by fences, and are correctly marked as private land. This limits external risks that could hinder the continuation of the forest when the project is over.
- The financial profitability produced by the project is very likely to get the project owner to extend the project, to continue management practices that protect the credited carbon stocks beyond the length of the project crediting period.
- In the project area, soil productivity is relatively low, and production of grass is reduced compared to other soils in Uruguay. These soils are categorized, by Law, as "Forest priority Soils". Therefore the best production activity to implement over these soils is forestry. The only other production activity that can be done over these soils is extensive livestock production which, as shown in other sections of this report, forestry is by far the best option.
- Protected areas inside the project area are better preserved than prior to the Project implementation, so it is expected that after project lifetime, these areas will be of much higher interest to communities and stakeholders.
- GHG ERRs will continue beyond the lifetime of the project and probably sequestered carbon stocks will be higher than the ones presented in this report, mainly because future genetics improvements and improved planting/silvicultural technologies.
- Regarding biodiversity, all the protected areas that today are part of this project will have richer and better-known biodiversity after lifetime of the project.

2.3 Stakeholder Engagement & Safeguards

2.3.1 Stakeholder Identification (VCS, 3.18, 3.19; CCB, G1.5)

The stakeholders are periodically updated by means of direct contact with institutions, especially political positions and education, health and security institutions contacts, as well as through snowfall method, requesting the participation of other stakeholders to identify possible new or updated interested parties as described in the steps below:

A. Annual Survey where each actor is contacted by phone to verify:

- Name, position, or role.
- Institution/organization.
- Phone number and email address.
- Confirmation of continued presence in the UM's area of influence.

B. Second Review with Field Supervisors

- The updated list is sent to each supervisor for verification.
- Supervisors validate the data, correct errors, and report any changes detected.
- They make in-person visits in case of doubts or if the person cannot be located by telephone.

C. Incorporation based on Support Requests

- During the year, support requests submitted via the form are reviewed by the Relationship Department.
- The actors involved in these requests are added to the list.

D. Identification in the implementation of AF Programs

- In interviews, community programs, and projects, individuals, groups, or institutions that have not been previously registered are identified.
- These actors are incorporated as strategic stakeholders or those affected by the MU.

2.3.2 Stakeholder Access to Project Documents (VCS, 3.18, 3.19; CCB, G3.1)

The CCB-VCS Project Documents will be published in the VERRA website for public comments, as well as a project summary in Spanish version. Moreover, local communities and other stakeholders can easily access it from the website. Both the full project documentation for the Trust Fund and the project´s summary in Spanish is published on BDU II website for public review and comments[23]. Monitoring reports are also published online for all stakeholders to access and presented summarized to communities during training[24].

Regarding internet access, Uruguay has 91% of households –on average- with access to internet and is the only Latin America country who has secured one laptop per child and teacher in all public

[23] All online documentation available for investors and stakeholders available at: https://www.bosquesdeluruguay.com/bdu-ii/ & http://www.bosquesdeluruguay.com/media/2022/03/Prospecto-de-Emision-BDU-2.pdf

[24] Evidence available for VVB during verification in shared folder under “Communication”

schools of the country. There are differences between household income, where 88% of lower income households (Quintil 1) have internet access while high income households´ (Quintil 5) internet connection reach 97%. From 2010 to 2022 the gap between high- and low-income households´ internet connection in the country went from 66% to 9%, being technology access one of the countries´ main objectives towards equality (EUTIC, 2022[25]). Moreover, in the project zone there are present the "MEC centers". These are public training centers for, among others, IT technology and providing infrastructure for public access to internet, the same as public schools, where internet access is free[26].

Given that access to internet may still be limited within local communities, the project is also presented to the community during FSC and CCB-VCS validation and verification. Given its FSC certification, public summary reports of the mentioned certification are also available to public access. Other instances include local newspaper interviews, news programs and events where the main objective of the forestry activity are detailed[27].

2.3.3 Dissemination of Summary Project Documents (VCS, 3.18, 3.19; CCB, G3.1)

Along with the project´s listing, the project summary documentation has been published on VCS and CCB website for all stakeholders, so that they can obtain detailed project information and development progress. This include an updated summary of the MR that will be published 30 days before verification.

Also, a summary of project description and monitoring in local language is communicated to local communities through presentations in face-to-face meetings during verification and FSC certification. Moreover, it is also available in BDU´s webpage together with specific certification information. These include both PD and MR summary reports, for public access, together with specific brochures describing the project characteristics and benefits. Moreover, FSC certification summaries are also publicly available on the web. At the same time, during annual surveys, project information is also provided.

So, project documents´ information is shared through constant communication with communities through BDU´s webpage, social media and face-to-face done by BDU´s employees in the area as well as presentations to different stakeholders. Moreover, WhatsApp groups have been created with community authorities to provide information regarding activities that may impact communities and printed letters are delivered to neighbors to anticipate activities as well.

Moreover, continued improvement is sought in terms of communication barriers that can be identified throughout the crediting period. In this line project´s policy, certified activities and briefings are shared through social media and e-mail to target specific stakeholders such as

[25] EUTIC is a statistical analysis related to the use of information technology and communications in the country.

[26] Recently, Uruguay government has limited the access to public information to URL located with the countries boundary, for these reason it is difficult to access statistic information, Still total list of centers including those within project zone available at: https://www.gub.uy/ministerio-educacion-cultura/listado-de-centros; and EUTIC statistics pdf available at: https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/sites/agencia-gobierno-electronico-sociedad-informacion-conocimiento/files/2020-09/Informe%20EUTIC%2009%202020.pdf

[27] Available to VVB during verification in shared folder "Communication"

community´s referents and authorities as well as neighbors in the project zone (evidence available to VVB).

2.3.4 Informational Meetings with Stakeholders (VCS, 3.18, 3.19; CCB, G3.1)

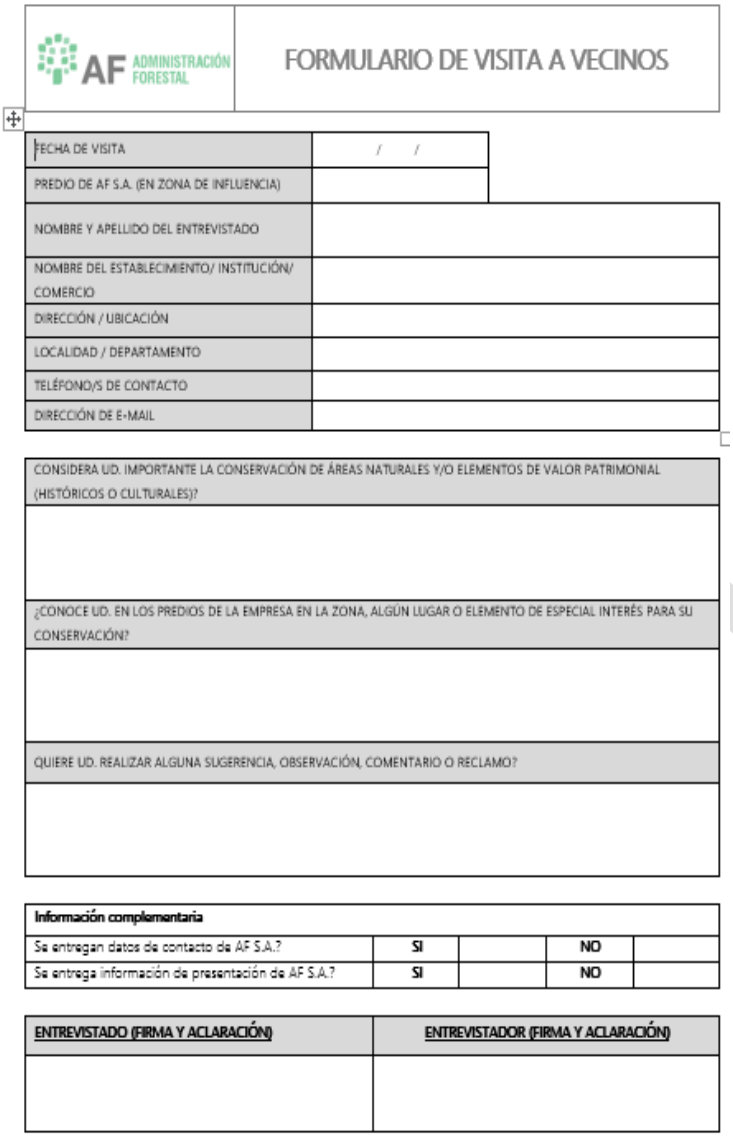
BDU has been having an active presence in the project area, communicating with the community through meetings organized at rural schools, mayor office, with community groups such as Forestry association, as well as cattle breeders in the farms, among others. These events are publicized using local media, direct contact information (telephone, WhatsApp, email) or informed during face-to-face interviews. In this line, a workshop with all contractors was conducted where all project information was shared during a presentation[28].

The project proponent has considered that the best way to approach the community is not through massive public consultations but different bilateral interactions on specific subjects. Moreover, staff have local residency and tasks so there is constant presence of the project within the community. So massive public consultations are currently replaced with face-to-face meetings, engagements, community activities, training and presentations, among others. Some of the actions taken includes the visit -or digital contact-, once a year or as demanded, of BDU employees to neighbors living close to the project area and other stakeholders within the project zone. During these visits, after BDU employees explain the process, self-conducted interviews are completed with the form shown in Figure 9, where information on areas considered of HCV is collected from the interviewed, or project´s impact; while contact information of the organization and future meetings is provided. Also, during these visits, stakeholders can complete the "complaints and claims section" to inform discomfort over actions implemented by the project (the complaints and claims are resolved based on specific resolution procedures[29], and active throughout the year).

The information collected is later processed and recorded by a third party and published in the annual monitoring report available online at BDU website.

[28] Presentation available to VVB during verification in shared folder "Communication".

[29] Available for VVB during verification in shared folder "Communication"



AF ADMINISTRACIÓN FORESTAL

FORMULARIO DE VISITA A VECINOS

FECHA DE VISITA	/ /
PREDIO DE AF S.A. (EN ZONA DE INFLUENCIA)	
NOMBRE Y APELLIDO DEL ENTREVISTADO	
NOMBRE DEL ESTABLECIMIENTO/ INSTITUCIÓN/ COMERCIO	
DIRECCIÓN / UBICACIÓN	
LOCALIDAD / DEPARTAMENTO	
TELÉFONO/S DE CONTACTO	
DIRECCIÓN DE E-MAIL	

CONSIDERA UD. IMPORTANTE LA CONSERVACIÓN DE ÁREAS NATURALES Y/O ELEMENTOS DE VALOR PATRIMONIAL (HISTÓRICOS O CULTURALES)?
¿CONOCE UD. EN LOS PREDIOS DE LA EMPRESA EN LA ZONA, ALGÚN LUGAR O ELEMENTO DE ESPECIAL INTERÉS PARA SU CONSERVACIÓN?
QUIERE UD. REALIZAR ALGUNA SUGERENCIA, OBSERVACIÓN, COMENTARIO O RECLAMO?

Información complementaria				
Se entregan datos de contacto de AF S.A.?	**SI**		**NO**	
Se entrega información de presentación de AF S.A.?	**SI**		**NO**	

ENTREVISTADO (FIRMA Y ACLARACIÓN)	**ENTREVISTADOR (FIRMA Y ACLARACIÓN)**

Figure 9. Visit form to be completed annually by project neighbours.

2.3.5 Risks from the Project and No Net Harm (VCS, 3.18, 3.19)

The risks and commensurate mitigation or preventative measure(s) in place to prevent or mitigate the identified risks during the monitoring period are included in section 2.2.7 and the Project Risks Table in Appendix 2.

2.3.6 Community Costs, Risks, and Benefits (CCB, G3.2)

As it is described in the validated PD, local communities in Uruguay are not entirely depending on forest, they reside in populated centers with different businesses. Communities are not asked to participate directly in the project. Projects' potential risks, costs and benefits are, for example, indirectly transmitted to communities through the increase of labor demand for particular activities

(forest implantation), and through ecosystem services protection (e.g. erosion control). In other words, communities can perceive project costs, risks and benefits in an indirect way, through market.

Only cattle breeders and beekeepers' community groups are invited to use the area. The company offers grazing to neighbors or previous owners who own cattle with the aim of reducing the amount of fuel in firebreak areas and therefore the risk of fires. In addition, grazing is a way of integrating local livestock producers into the project and involving them in firefighting in the area as well. These and other risks and benefits are discussed with cattle breeders before formalizing their participation. The activity is controlled by contracts ranging from 1 to 11 months and renewed on expiry[30]. The conditions under which grazing takes place is recorded in each grazing contract, including information on number of animals/ha allowed, area within the farm, responsibilities of each party. During environmental assessments, the areas where cattle raising is allowed is defined, as well as the need to limit domestic animal presence related to cattle breeding culture. Moreover, communications regarding fire mitigation are presented to the community group.

The inclusion of beehives is authorized as a means of promoting the production of non-timber forest products from forests. The beekeepers are generally local. The activity is controlled by contracts ranging from 3 to 6 months, where conditions are detailed prior meetings among parties[28].

Different formal and informal meetings take place with the community, and other stakeholders, throughout the project's lifetime in order to present the project´s risk and benefits analysis. A public consultation took place in December 2019 during the FSC validation where the evaluation was presented before a wide group of stakeholders[31], who were also asked for their views on the forest management issues that were considered relevant as well. Other informal meeting, where cost, risk and benefits are presented include, as mentioned in section 2.3.4, meetings organized at rural schools, mayor office, with community groups such as Forestry association, as well as cattle breeders in the farms, among others, to further present the company´s policies and project details, including forest activity risks and benefits (see reference from corresponding section).

Regarding direct and indirect workers, training is provided at the beginning of the activities in order to present the company's policies, FSC principles (including project´s benefits) and work risks[32].

2.3.7 Information to Stakeholder on Verification Process (VCS, 3.18.6, 3.19; CCB, G3.3)

National legislation in Uruguay does not obligate forestry project owners with activity in the VCS or CCB Standard to communicate about the validation or verification process to any stakeholders, not even to national or regional governments.

However, the company decides to actively communicate about this process, so any stakeholder can be informed and participate during the process. In this line, the description of the verification process will be informed in detail to all staff members of the company through internal

[30] Contracts shared in shared folder "Stakeholders"

[31] Evidence available for VVB during validation and in shared folder "FSC"

[32] List of training areas, training participation and timetables available for VVB during verification in shared folder "Training"

communication as during previous verifications and a presentation of the process (including visit schedules and organizing meeting with the VVB and related staff).

In the case of the community in the project zone, community leaders and/or authorities are provided with detailed information on the process through direct communications, including the subject in the communities´ agenda[33].

2.3.8 Site Visit Information and Opportunities to Communicate with Auditor (VCS, 3.18.6, 3.19; CCB, G3.3)

Prior to the verification process, stakeholders are informed with due anticipation prior to the date of verification, of the audit process, stating procedure and are personally invited (through the most used contact means) to participate through one on one, and group interviews with the verification team. As soon as the audit plan has been settled, the project owner will arrange a stakeholder meeting with the auditor during the site visit. Invitation will be done using appropriate means of communication, all the stakeholders will be informed via phone, mail or WhatsApp regarding the project process and the auditor´s visit. Stakeholders identified in section 2.3.1 will be contacted and specifically invited if selected by the VVB.

2.3.9 Stakeholder Consultation (VCS, 3.18; CCB, G3.4)

Ongoing consultation	Since the beginning of 2015, AF has in place a mechanism for on-going communication with local stakeholders for BDU projects. The mechanism consists in local communities' surveys to identify their perception of forestry activity's negative impacts and to analyze the actions to be taken to mitigate these impacts. The annual survey conducted the assistants receive the survey asking about the social, economic and environmental impacts they perceive. At the end of the talk, the surveys are collected and later analyzed to establish a negative impact mitigation action plan as well as other comments, such as non-conformities. The annual survey conducted, previously by AF but is now conducted by third party, and asks about the social, economic and environmental impacts they perceive. At the end of the talk, the surveys are collected and later analyzed to establish a negative impact mitigation action plan as well as other comments, such as non-conformities. Still, AF personnel organize talks at schools near BDU II project' lands and invite the community to assist and to ask questions on forestry activities and its impacts in the region[34]. Moreover, different meetings are conducted within the "Comunidad mas cerca" program where

[33] Evidence available for VVB during verification in shared folder "Communication"

[34] Presentations available to VVB in shared folder "Communication"

	development projects to be implemented, or other community needs are identified. Last, the summary monitoring report in Spanish are accessible to stakeholders both digitally, in VERRA and BDU webpage, as well as communicated during training, presentations and one-on-one meetings with community's referents.
Date(s) of stakeholder consultation	16-November-2023 is the date a presentation and consultation took place regarding the annual meeting on community participation[35]. 11, 13 & 19-March-2025 are the dates of a meeting and presentations with all contractors took place. These dates are among other presentations and communication with communities.
Communication of monitored results	Last, the summary monitoring report in Spanish are accessible to stakeholders both digitally, in VERRA and BDU webpage, as well as communicated during training, presentations and one-on-one meetings with community's referents.
Consultation records	The survey´s results area analyzed by the Relation with Communities area of AF. This data is systematized in the social monitoring plan and reported in the annual project´s report for the whole Trust Fund.
Stakeholder input	Stakeholder´s input are received both through the annual survey as well as the non-conformities communicated directly to AF´s employees or within the contact information. These are then taken into consideration and implemented within adaptive forest management. In the case of non-conformities, none has been received during the monitoring period.

2.3.10 Continued Consultation and Adaptive Management (VCS, 3.18; CCB, G3.4)

As already shown in the previous sections, there are permanently open channels to communicate with the project developer.

The mechanism consists in local communities' surveys to identify their perception of forestry activity's negative impacts and to analyze the actions to be taken to mitigate these impacts. To implement the surveys', AF has hired a third party (since 2023) and later analyze the results and adapts the forest management and community programs accordingly. Surveys are conducted systematically to stakeholders within the project zone and other interested stakeholders. These

[35] Presentations available to VVB in shared folder "Communication"

used to be self-administered surveys which take place on paper or digital: paper in the case of neighbors, digital for the case of other stakeholders such as contractors or others but now are also conducted through telephone. The evaluation includes questions regarding the impact of forestry activity (environmental, economic, social and cultural). An annual report is drawn up based on the information.

Moreover, personnel organize talks at schools or other institutions near BDU II project' lands and invite the community to assist and to make questions on forestry activities and its impacts in the region as well as identifying needs and possible development programs to be designed.

The registration of complaints from the BDU II project's neighbors, contractors, etc. is also used as an on-going communication system with local stakeholders. The External Adviser in charge of AF Management System is in charge of registering the complaints in the corresponding form. Once a complaint is registered, its treatment and deadlines are defined, and the complainant is notified about the treatment that will be given. Once the treatment is finished, the complainant is consulted about his satisfaction with the result. If he agrees with the result, the complaint is closed. Otherwise, the procedure is repeated until the complainant is satisfied[36,37]

Furthermore, as described in the FSC Certification Report, AF has in place since 2015 the "Procedure to solve social and/or illegal activities conflicts or complaints". This procedure applies to any social complaint including land's right of use. No complaints about disputes were received in the public consultations.

As mentioned, stakeholders can raise their comments or suggestions in the "Neighbors visit form" and the "complaints and claims form". The project owner will check the forms regularly and collect all the comments received.

Summary of comments received	Actions taken
Donations requested	Donations approved and provided
Development programs identified	Programs presented to corresponding areas for validation, design and implementation

2.3.11 Stakeholder Consultation Channels (CCB, G3.5)

The project proponent has considered that the best way to approach the community is not through massive public consultations but different bilateral interactions on specific subjects. Part of the communication procedures with communities consist in verbal communication from the company´ workers towards them. BDU II workers are permanently present in the project area, and they communicate with communities and stakeholders. AF has been present in the area for almost 10 years now, and since it is an FSC certified activity, an important part of the company´s activities

[36] The surveys and complaints mechanisms are established in Chapter 11 (Monitoring System) of BDU' Forestry Management Plan – Public Summary available to VVB during verification in shared folder "Forest management".

[37] The AF schools' talks programme, the survey form, the surveys analysis and BDU social monitoring plan and registries for the VVB at verification in shared folder "Communication"

involve working together with the community, identifying mitigation actions, providing solutions to their needs and answer to their comments. In this sense, contact data of the referenced authority for the project´s area is publicly available in the properties. And, as previously mentioned, systematic community rating of the company´s activity impact is analyzed and evidenced in reference.

BDU II web page contains a special section for comments and includes all the information regarding each project, and is annually updated with its monitor reports which include different indicators, including the analysis of the information from the neighbour´s survey forms. Moreover, all communications and claims are to be reported to the manager within 10 days, and a meeting is scheduled within 30 days.

Last, BDU II also implemented a mechanism to mitigate complaints. It consists in analyzing the impact of future actions that will be taken by BDU II. For example, harvesting of a certain area will increase truck circulation in a public road, generating modifications to the regular activity of the zone. BDU II staff anticipate this situation visiting the neighbors' that could be affected, explaining the activities that will be implemented and leaving a contact telephone to contact them in case of need, followed by different mitigation measures to reduce negative impacts.

2.3.12 Stakeholder Participation in Decision-Making and Implementation (VCS, 3.18, 3.19; CCB, G3.6)

BDU II has open channels to enable the effective participation of all communities. The "complaint form" and "visit to neighbour form" (see chapter 2.3.4) is a way of communicating to communities and community groups. These channels are open to any culture and gender. Stakeholder identification is based on the level of relation to the project so no discrimination in terms of culture or gender is done.

Most of the information is accessible only, nevertheless, taking into consideration the capacity to access or use electronic devices, for example, printed options are always available at the time of conducting surveys and communicate. Also, when BDU conducts trainings and presentations at rural schools, regarding endemic diseases -or other requested subjects-, or during community work activities such as painting a school, employees are trained to receive comments and formalize requests/claims.

Moreover, AF has been granted the "Best place to work" award both general and for women, showing its commitment towards gender equality. In 2022, AF was ranked 16th among the best companies in Uruguay for women to work at[38], and in 2024, it was also recognized by Great Place to Work® as 77% of employees reported that this is an excellent place to work[39].

2.3.13 Anti-Discrimination Assurance (VCS, 3.19; CCB, G3.7)

[38] https://www.greatplacetowork.com.uy/listas/los-mejores-lugares-para-trabajar-para-mujeres-en-uruguay/2022

[39] https://certificaciones.greatplacetowork.com.uy/agroempresa-forestal

The project owner obeys Labor Law of the Republica Oriental del Uruguay with anti-discrimination assurance.

According to International Labour Convention (ILC) 190:"Each Member shall adopt laws and policies which guarantee the right to equality and non-discrimination in employment and occupation, including women as well as men workers (...)"
National Law No 15903 states, in Article 289, that "violations of international labour conventions, laws, decrees, resolutions, awards and collective agreements, whose control corresponds to the General Inspectorate of Labour and Social Security (IGTSS) are punishable by reprimand, fine or closure of the establishment".
Article 6 of Decree 186/004 states as very serious offences "actions or omissions involving discrimination in working conditions on grounds of sex, nationality, marital status, race, social status, political and religious beliefs and membership or non-membership of trade unions" and states in Article 13 that "very serious offences area punishable in theirs minimum degree with a a fine of 100 to 110 day´s wages; at the medium level, from one hundred and eleven to one hundred and twenty-five daily wages, and at a maximum level, from one hundred and twenty-six to one hundred and fifty daily wages, for each worker affected".
Lay No 17.817 also declares the fight against racism, xenophobia and all other forms of discrimination to be of national interest.

BDU has an Operating Framework Guide where it is clearly explained in chapter 1: Code of Ethics and Conduct[40] that discrimination attitudes are totally forbidden. The organization´s Code of Ethics contains provisions that shall apply to:

a. Members of the Board of Directors, Board Committees and other corporate governance bodies of the Company;
b. The Senior Management of the Company;
c. All other employees of the Company ("the Employees");
d. Employees of subcontractors, other contracted persons and employees of the Company's suppliers and contractors (collectively, "the Value Chain"), whether providing services on the Company's premises or on premises and sites under the Company's management.

This document recognizes that, in most cases, the "ought to be" is clear, whether or not it is embodied in a code. Therefore, this Code is not exhaustive and Directors, Senior Management and Employees and those in the Value Chain are expected to act honestly and ethically in all matters relating to the Company's operations.

In situations not foreseen, the case should be brought to the Board for resolution, in accordance with sound management judgment and pre-established protocols.

It clearly states that discrimination attitudes are totally forbidden: "(...) are careful to avoid discriminatory behaviour of any kind (sexual, racial, generational, etc.), while at the same time committing all its members to promote fairness in the workplace, as well as in the professional development opportunities, job training and work tools available to each member of the team."

[40] Chapter 1: Code of Ethics and Conduct available to VVB during verification

These is communicated during general training to all direct and indirect workers, during the "Security plan and organization´s policy" module.

2.3.14 Grievances (VCS, 3.18.4; CCB, G3.8)

Grievances received	Resolution and outcome
Complaints regarding breaks in wire fences in Los Morochos	These complaints were addressed and wire fences fixed.

2.3.15 Worker Training (VCS, 3.19; CCB, G3.9)

The project owner and group of experts provide technical advice and technical training to project staff and personnel from forest contractors companies (the last when the contractor has no capacity to manage it itself). These companies usually contract people from the surrounding areas, belonging to the neighboring communities to the project area.

All the workers related to the project must be trained in order to perform the activities with adherence to the Principles & Criteria of the Forest Stewardship Council ® (FSC ®) for forest management and chain of custody. Both direct employees and contractors working in BDU project are included. The company's "Annual Capacitation Plan" includes the following training courses, among others:

- Induction for new contractors: Orientation and training activities to inform and establish the BDU management guidelines to those responsible for the contractor companies and their health and safety services
- AF Security and General Policy: BDU Management Policy; Continuous improvement; FSC Principles & Criteria; Occupational Health and Safety; Care of the environment; Social Responsibility, Labor Rights and Duties. Including risks of agrochemical application and the importance of using PPE
- Security commission: safety and continuous improvement. Especially for those employees exposed to moderate or higher probability of risk exposure like agrochemical application
- Health and First Aid. Including the importance of using PPE
- Investigation of incidents contractors' supervisors
- Procedures during emergencies
- Risks exposure. Especially for those employees exposed to moderate or higher probability of risk exposure
- FSC Principles and criteria
- Fire control

Every training is recorded in a template, with information about the topic, date, responsibility, etc. Even training evaluations are recorded and available as evidence. The Annual Training Plan and the complete list of trained people in the different topics (biodiversity, FSC, etc.), in the last years, are available for the VVB if necessary.

Direct BDU II employees are also trained in other topics. The following is a list of the courses taken by personnel of different areas[41]:

- Communication skills
- English as a second language
- Leadership
- Negotiation

The capacity will not be lost as, first, training is implemented in an annual basis, and secondly, the land has been declared by the agricultural ministry as forestry priority so the activity is expected to continue throughout the project lifetime and beyond.

2.3.16 Community Employment Opportunities (VCS, 3.19.13; CCB, G3.10)

The project is having an impact in a big area located in the Center east region of Uruguay. All the people in the communities (including women, minorities and poor people) are involved directly or indirectly with the project. All people from the region are given an equal opportunity to fill all work positions if the job requirements are met. A transparent system of contracts is available, through price calls to award long-term contracts and permanent evaluations of suppliers are carried out.

According to the records corresponding to the years 2021 - 2024, during the implementation of the project, forestry activities (pest control, thining, sawmills and road works) conducted by contracted companies and other indirect jobs translated into more than 114 new jobs. From the total number of contractors working for BDU II, it is estimated that around 82% of these contractors are living in the project area departments[42].

There are some forest activities where more subtle or dainty movements are needed or where more meticulous work is demanded, which is the case of the work at nurseries or the harvesting with ultra-sophisticated harvesters. In such cases, women tend to be better qualified for the task, this is also the case for administrative and technical work (p.e GIS). It is expected that women from the community can participate in such types of activities, or others.

The company has a formal system to record and centralize the information of subcontracted companies, where all the data provided is available, based on the number of operators per company, which allows the documentation of the activity, as well as the training history carried out by the Operators, both by the contracting companies and by BDU II.

Moreover, as mentioned, AF has been granted the “Best place to work” award both general and for women, showing its commitment towards gender equality. In 2022, AF was ranked 16th among

[41] Complete capacitation plan available for VVB during verification in shared folder “Training”

[42] EIS Terena S.A (2018) Relevamiento de empleados. Survey conducted by the company who previously owned some of AF´s farms within its employees but can be extrapolated to BDU employees given the same employment conditions.

the best companies in Uruguay for women to work at[43], and in 2024, it was also recognized by Great Place to Work® as 77% of employees reported that this is an excellent place to work[44].

2.3.17 Occupational Safety Assessment (VCS, 3.19; CCB, G3.12)

BDU II considers the safety and health of the people, and of everyone directly or indirectly related to the activities, to be of the utmost importance. The company has implemented a system, coordinated by prevention technicians, oriented to the care of occupational safety, well-being and health risks of the personnel who work in the field. The system encompasses everyone, each and every one of the employees and contractors are committed to take care of their own safety as well as their co-workers'.

Safety management is treated as a continuous self-improvement process which materializes in a systematic process of risks identification, assessment and control which requires the participation of everyone. In this line risk assessments are conducted for the different activities in the project, with the corresponding evaluation in line with the safety plan. Contractors are also evaluated through a registry they are requested to fill[45].

According to national legislation, the employer has the obligation to register in the Social Security Bank ("Banco de Previsión Social" - BPS) and the Ministry of Labor and Social Security. By this, the employee assures health assistance for every member of the family.

Safety training and dissemination

BDU II makes strong emphasis on the training and awareness of the personnel and the people living in the area where it develops its activities. A continuous follow-up of the work conditions and facilities is performed in all the sites where the company operates. Continuous training and teaching is done and the exchange of experience among contractors is promoted. All observations and incident records are processed systematically in order to obtain statistics which allow the detection of issues which require special attention[46]. If there are accidents, a relevant investigation is carried out to reduce future risks.

The company has a Continuous Training Program structured according to the detected needs. The objective is clear: self-protection; the company wants every individual involved to embrace safety measures as a value. The project owner implemented health and safety practices to protect workers from occupational safety and health hazards. These practices shall, proportionate to scale, intensity and risk of management activities, meet or exceed the recommendations of the ILO Code of Practice on Safety and Health in Forestry Work.

In addition, there is a monitoring system in place to check all employee's documentary status –for instance, the validity of the health card, delivery of safety equipment, among others– and reports

[43] https://www.greatplacetowork.com.uy/listas/los-mejores-lugares-para-trabajar-para-mujeres-en-uruguay/2022

[44] https://certificaciones.greatplacetowork.com.uy/agroempresa-forestal

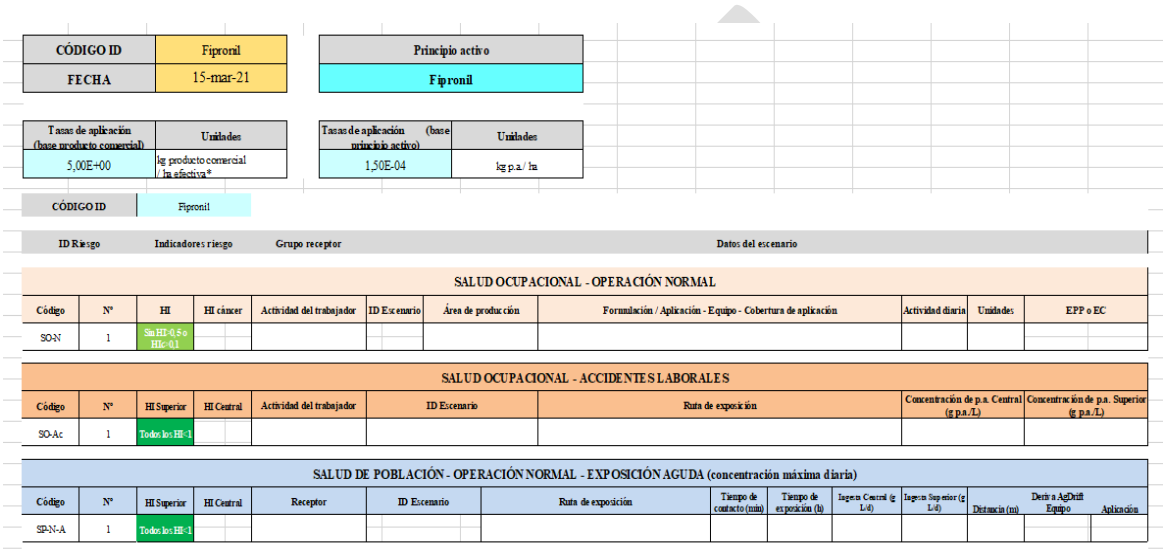
[45] All information available for VVB during verification in shared folder "Training"

[46] The annual Impact Report includes a section for reporting working accidents and its severity level. Available in shared folder "Community impacts"

such information to the corresponding person in case the employee status is not in good standing so as to carry out their duties.

Risk assessment

The environmental impacts assessment conducted in the properties identifies those impacts on workers related to forestry activity. Moreover, a specific impact assessment regarding agrochemicals use was conducted and results are available to VVB during verification (see example in figure below). In this line, only trained employees in specific agrochemicals application procedures are authorized to manipulate them.



CÓDIGO ID	Fipronil
FECHA	15-mar-21

Principio activo
Fipronil

Tasas de aplicación (base producto comercial)	Unidades
5,00E+00	kg producto comercial / ha efectiva*

Tasas de aplicación (base principio activo)	Unidades
1,50E-04	kg p.a./ ha

CÓDIGO ID	Fipronil

ID Riesgo	Indicadores riesgo	Grupo receptor	Datos del escenario

SALUD OCUPACIONAL - OPERACIÓN NORMAL

Código	Nº	HI	HI cáncer	Actividad del trabajador	ID Escenario	Área de producción	Formulación / Aplicación - Equipo - Cobertura de aplicación	Actividad diaria	Unidades	EPP o EC
SO-N	1	Sin HI<0,5 o HIc<0,1								

SALUD OCUPACIONAL - ACCIDENTES LABORALES

Código	Nº	HI Superior	HI Central	Actividad del trabajador	ID Escenario	Ruta de exposición	Concentración de p.a. Central (g p.a./L)	Concentración de p.a. Superior (g p.a./L)
SO-Ac	1	Todos los HI<1						

SALUD DE POBLACIÓN - OPERACIÓN NORMAL - EXPOSICIÓN AGUDA (concentración máxima diaria)

Código	Nº	HI Superior	HI Central	Receptor	ID Escenario	Ruta de exposición	Tiempo de contacto (min)	Tiempo de exposición (h)	Ingesta Central (g L/d)	Ingesta Superior (g L/d)	Deriva AgDrift		
											Distancia (m)	Equipo	Aplicación
SP-N-A	1	Todos los HI<1											

Moreover, regarding agrochemical application, the following risks were identified as medium or high during the risk assessment. Mitigation actions have been defined for each:

- Accidents caused by animals (ophidians, etc): mandatory use of safety boots and gaiters. Its risk estimation is classified as MODERATE.
- Agrochemical contamination: mandatory use of personal protective equipment (PPE), including boots and coveralls; Training personnel on the risks they are exposed to and the importance of using PPE, redesigning coveralls to better protect areas that are more exposed to contact with the product. Its risk estimation is classified as MODERATE.
- Fires: no smoking in work areas, use of spark-proof devices on tractors and training on preventive measures to avoid fires. Its risk estimation is classified as IMPORTANT.

After the action plan has been implemented, the person responsible must verify that it is followed; the risk is considered controlled if the action plan is followed. If an accident occurs, the action plan must be reviewed and the cycle starts again: plan, do, check and act (Deming).

The continuous rotation of personnel is a major cause of possible accidents, given the lack of experience and training of personnel, so we try to reduce this rotation and train each new operator in the task. All accidents are reported and monitored in the annual summary report.

2.4 Management Capacity

2.4.1 Required Technical Skills (VCS, 3.19; CCB, G4.2)

For the development of the Project, skills and experience are required, specifically related to:

- Management of natural resources conservation projects,
- Ability to interact with different actors and stakeholders,
- Development of Projects with rural populations,
- Development of carbon projects and environmental services
- Evaluation and monitoring of biodiversity

AF has a long track record in managing forests. It started its activities in Uruguay in 2000 as a forestry services company and expanded to Chile and Brazil in 2007 and 2010 respectively. Currently AF offers services throughout the forest growth stages from consulting to forest lands management services. The company supervises more than 50,000 hectares per annum only in Uruguay, plus another 50,000 hectares in Chile and Brazil. AF has a professional, highly specialized and fully independent team composed by 61 professionals among agricultural engineers, foresters and field supervisors, GIS experts, sociologist and administrative staff.

The project owner has many years in sustainable forest management projects, being certified under FSC, by which it has developed capacities to interact with different types of actors. Consequently, it has established cooperation agreements with local governments, companies, producer organizations and native communities. It has also developed a system applicable to environmental projects, which has effective tools and methodologies to have effective control over the interventions carried out.

The project owner and the experts group provide technical advice and technical training and carry out Project implementation of quality control and quality assurance at the same time.

All the workers (both AF personnel as well as contractors) will be trained to perform the activities with adherence to the Principles & Criteria of the Forest Stewardship Council ® (FSC ®) for forest management and chain of custody. Training is mandatory for every new workers when there is staff turnover, so no technical skills won´t be lost.

AF works with different external advisors. In terms of social and environmental monitoring, AF hires an external team. All biodiversity surveys are conducted by experts external to the project specially hired for fauna and flora monitoring. While annual monitoring of sites is conducted by internal employees. Regarding forest inventory monitoring, AF hires experts to conduct the monitoring, and has a technical team, within the planning area, in charge of controlling and analyzing data results obtained from a systematic tool which makes biomass estimations. Regarding community surveys in the last year, it hired a consultancy firm to conduct and report results. Moreover, regarding carbon credits, AF works together with a consultancy firm which provides services and constant support in the climate and carbon aspects of the project.

2.4.2 Management Team Experience (VCS, 3.19; CCB, G4.2)

BDU II Project is proposed, designed, implemented, operated and administered by AgroEmpresa Forestal (AF) on behalf of “Fideicomiso Financiero Forestal Bosques del Uruguay” (the trust fund). As mentioned, AF has a long track record in managing forests. It started its activities in Uruguay in 2000 as a forestry services company and expanded to Chile and Brazil in 2007 and 2010 respectively. Currently AF offers services throughout the forest growth stages from consulting to forest lands management services. The company supervises more than 50,000 hectares per annum only in Uruguay, plus another 50,000 hectares in Chile and Brazil. Its main clients are

responsible for more than 80% of Uruguay's afforested area (UPM, Weyerhaeuser, Montes del Plata, Arauco, etc). Moreover, it has already successfully verified two more projects under VCS.

The AF Trust has demonstrated in the field its ability to implement a project of this nature complying reasonably well with the plan of proposed business. In addition, the Administrator assumes various obligations and responsibilities that reinforce commitment and trust in the project. Among them stand out: a) it is a beneficiary for the securities it acquires. Although it is not a relevant figure in the project framework (1% of the issue) shows confidence in it; b) assume responsibility for claims that are generated related to companies outsourced, when these have been initiated by breach of the Administrator of any of the contractor control obligations established in the Plan of Business and c) undergoes an annual evaluation of minimum performance standards on the temporary execution of contracts for land tenure, for the plantation, seizure and the so-called IMA (annual average increase). The Failure to comply with any of these standards will be sufficient cause for the Holders by Special Majority of Holders resolve the cessation of the Administrator in their functions.

The project owner has many years in sustainable forest management projects, being certified under FSC, by which it has developed capacities to interact with different types of actors. Consequently it has established cooperation agreements with local governments, companies, producer organizations and local communities. It has also developed a system applicable to environmental projects, which has effective tools and methodologies to have effective control over the interventions carried out.

The table below describes those activities conducted by BDU-AF and those contracted to suppliers:

Activity	AF/contractor
Farms selection, property analysis, negotiation	AF
Models and projections (plantation, sales, budget, etc.). Silvicultural management strategy, sanitary surveillance, etc.	AF
Plantation	Contractor
Weed control	Contractor
Pruning and Thinning	Contractor
Infrastructure maintenance	Contractor
Cosecha	Contractor
Wood sales	AF
Other commercial negotiations (silvopastoral activity)	AF
Transport	Contractor
Preparation and coordination of FSC certification process	AF
Commercial and operative report to investors	AF

Activity	AF/contractor
Environment and community relationships	AF
Suppliers contract and execution and quality control	AF
Execution and supervision of activities according to the Forest Management Manual, objectives, environmental standards and legal framework	AF

The company manages its forest plantations integrated with other land uses, optimizing the management of natural resources in a responsible manner in accordance with the companies´ sustainable forest management policy:

- The forests that make up the "GRUPO AGRO EMPRESA FORESTAL" are committed to the environment, for this reason the company makes an efficient and rational use of natural resources, minimizing the use of pesticides and not using those that are prohibited.
- The respect and protection of these resources are in line with the commitment of AF towards continuous improvement.
- AF ensures that their operating processes minimize negative impacts on its employees and the environment, safeguarding their health and safety. To this end, AF complies with applicable regulations and requirements.
- AF seeks to contribute to the economic and social development of local communities through the generation and forestry work valorization.
- AF ensures that their employees are trained, so that they are responsible and committed to the environment and their daily work.
- AF provides their employees, adjacent communities and other stakeholders with relevant and appropriate information about the environmental and social quality of its operations.
- AF encourages its key suppliers to comply with its Sustainable Forest Management Policy.

AF works according to economic, social and environmental principles that demonstrate a long-term commitment to sustainable environmental, complying with the Principles and Criteria of the Forest Stewardship Council ™ (FSC®).

2.4.3 Project Management Partnerships/Team Development (VCS, 3.19; CCB, G4.2)

Whenever necessary, AF hires third parties to conduct specific surveys, analysis and assistance. This is the case of ProSustentia, with a contract for continuous assistance on Carbon credit and related activities. In the same line, it works together with biodiversity experts on the surveys and mitigation actions to promote biodiversity conservation and recovery.

Moreover, AF takes part in the Forestry Producers Association, where partners identify needs and analyze mitigation actions on different subjects. For example, different analysis related to forestry impacts are conducted, as well as communication campaigns and actions on pests and fire control, among others.

2.4.4 Financial Health of Implementing Organization(s) (CCB, G4.3)

The project developer is legally registered company in Uruguay, and according to the public information listed in National Enterprise Credit Information Publicity System, none of them were

involved in or complicit in any form of corruption such as bribery, embezzlement, fraud, favoritism, cronyism, nepotism, extortion, and collusion.

BDU Trust's objective is to structure a long-term investment alternative supported by a tangible asset that increases its value throughout time and by a strong management plan. Following the highest productive, environmental and social standards, and aiming to attain the production of high-quality timber, the trust will offer fund investors reasonable long-term profits. In order to become operative the Trust had to obtain the approval of its business plan from the president of the country and the Central Bank of Uruguay.

Among the values promoted by the trust are excellence in performance, accountability and ethics. To convince the funds to invest money in the trust many aspects of BDU project were highlighted, climate change mitigation, sustainability and carbon credits incomes the most relevant ones.

As stated in BDU II Informative Prospectus, the total investment of the project in year zero was 60 million USD covering the main costs. Furthermore, the project cash flow with the results per year are illustrated in the prospectus, and it is possible to determine that the project cash flow breakeven point is less than 3 years from the current monitoring period[47]

This has been demonstrated in the validation process under VCS.

2.4.5 Avoidance of Corruption and Other Unethical Behavior (VCS, 3.19; CCB, G4.3)

Although Uruguay in many aspects already has regulations in line with those established by the anti-corruption Convention, on the one hand of a preventive nature and on the other repressive, there is still no anti-corruption law in Uruguay for the private sector.

Anyway, this project has an Operating Framework Guide where it is clearly explained that corruption and other unethical behaviors are totally forbidden. Moreover, as legally registered companies, the project owner and other involved entities have the obligation to comply with relevant regulations. The annual audits on general legislation compliance makes sure that it operates with full compliance with Uruguay law and regulations[48].

This project has a Forest Management General Manual where it is clearly explained that corruption and other unethical behaviors are totally forbidden.

2.4.6 Commercially Sensitive Information (VCS, 3.5.2-3.5.4; CCB Program Rules, 3.5.13 – 3.5.14)

None of the project documents will be considered as commercially sensitive information, and all the documentation is available to any stakeholders. Only calculation spreadsheets will be uploaded with limited access. In order to prevent the misuse of the equations within the project´s ERR spreadsheet is that it is a read-only version and has locked cells to ensure the integrity of the

[47] BDU II Informative Prospectus Pages 60-62. Document available online or upon request by VVB

[48] This include working conditions, fiscal regulations, environmental legislation, among others and compliance of legislation is evidenced in FSC summary reports, in section 10 “Results”, under FSC Principle 1 compliance. Summary available for VVB during verification in shared folder “FSC”.

calculations. Moreover, information on the raw forest inventory data from the project´s biomass will be hidden and will be reported in a summarized way at a stratum level, to avoid providing sensible commercial information.

2.5 Legal Status and Property Rights

2.5.1 National and Local Laws (VCS, 3.1, 3.6. 3.7, 3.14, 3.18, 3.19; CCB, G5.6)

The project activity complies with the National law and binding regulations, since forest investment has been approved by the General Forestry Directorate (entity of the Ministry of Agriculture, Livestock and Fishery) and the National Environment Directorate (entity of the Ministry of Housing, Territorial Planning and the Environment at the time of project presentation, since July 2020 in charge of the National Directorate of Quality and Environmental Assessment under the Ministry of Environment). The former ensures that the project activity complies with National Law N° 15.939 and all binding decrees and decisions, while the second grants environmental authorization.

The only new laws applicable to the project are:

- Decree No. 405/021 (2021) Date: Published on December 10, 2021, Modified the environmental permitting requirements for new forest plantations, introducing a more flexible regime for certain areas. The main requirements are:
    - Establishment of the Environmental Registry for Forest Plantations, managed by DINACEA (National Directorate of Environmental Quality and Assessment).
    - Mandatory prior registration for new plantations between 40 and 100 hectares, before operations begin. The registration is valid for up to three forest cycles.
    - Detailed technical requirements for registration include owner identification, project objective and location, area and species involved, nearby water basins and sensitive ecosystems, georeferenced plantation design
    - Strict environmental conditions, such as at least 50% of the area must be in officially classified as forest-priority soils; plantation basins must have less than 80% existing forest cover in zones larger than 1,000 ha, mandatory buffer zones: 20 m from permanent watercourses or native forests; 10 m from wetlands, palm groves, rocky outcrops.
- Decree No. 3/025 (2025) Date: Published in 2025. A reform of Decree 405/021, updating environmental requirements, evaluation timelines, and technical conditions for new forestation projects. The main changes are:
    - For plantations of 100 ha or more in areas previously forested and without prior permits, an Environmental Special Authorization (AAE) is now required (instead of a full Environmental Prior Authorization or AAP).
    - Allows project implementation to begin prior to approval, as long as DINACEA is notified 30 days in advance.
    - For areas between 40 and 100 ha, registration becomes optional for lands already forested. Registrations remain valid for three plantation cycles (approx. 30 years).
    - Provides a clearer definition of “new forest plantation”, now specifically referring to projects established on lands with no prior forestry use.

Evidence for the compliance of local and national laws is provided under the FSC annual certifications, section 10 “Results”, complying with Principle 1 of the FSC.

2.5.2 Relevant Laws and Regulations Related to Worker's Rights (VCS, 3.18, 3.19; CCB, G3.11)

There is a national legislation aimed at the enforcement of safety and health standards, which is controlled by the Ministry of Labor. Moreover, Decree 108/07 states the needed control documentation for different economic activities. This documentation includes job control spreadsheets that all organizations must monitor.

Forestry in the country has its own regulation for labor conditions (Decree 372/99), on top of many norms which affect any activity. This decree was developed with the active participation of the forest producers, and basically defines several rules for safety, health and living conditions of forest workers. It establishes the norms that must be considered in the performance of the different tasks to cover all aspects related to the health and safety of forestry employees. It regulates the use of personal protective equipment in accordance with each task (including agrochemicals), the conditions that must be met by forest workers' accommodation, and the characteristics of canteens when they are used in the forest area, among others.

Uruguay also has a National Code of Good Forestry Practices applicable to the forestry sector, which is a set of prescriptions and work guidelines for forestry workers. This code is of voluntary implementation, but it is enforceable at the level of the FSC certification standard.

Another important regulation relates to the minimum wage regime. In Uruguay, the law promotes the appointment of sectorial three-party committees[49] (government, workers and companies) to discuss worker categories and minimum wages applicable to each category. The agreements reached by these committees are mandatory for all the companies in the corresponding sector. Historically, rural activities were not included in these committees, and minimum wages were fixed by decrees. In 2005, the forest companies, the forest workers and the government reached the first ever agreement for a minimum wage regime in rural activity.

These agreements set minimum wages by category, with semi-annual adjustments based on inflation and dollar variations. Employees work 48 hours a week, with a maximum of eight hours per day, (except if the hours worked on Saturdays are distributed from Mondays to Fridays). In this case the hours worked per day can be extended to nine and a half hours. On the other hand, Law 17.829/04 states the conditions on withholdings on wages and salary remuneration and passives for workers.

Forest industry workers are organized in a specific union. SOIMA (Uruguay's Wood Industries Workers Union). As of 2014, the Union is presented as one of the strongest in the country and has negotiated significant improvements in wage conditions.

As the Project follows FSC standards (as demonstrated), the working conditions are achieved as the different FSC annual summary reports[50] . Moreover, BDU II requests the same compliance to all the contractors involved within its contract. A system is in place to monitor the compliance of

[49] These committees are called "Consejos de Salarios" in Spanish.

[50] All FSC annual summary reports available to VVB during verification in shared folder "FSC"

the legal standards in the sector, including contractors´ workers[51]. Moreover, AF and FSC principles and policies (communicated during training to all workers) include code of ethics, anti-discrimination, security, among other rights for workers[52].

2.5.3 Human Rights (VCS, 3.19)

Prior to the project initiation, all the project land was owned by BDU Trust Fund. Land tenure evidence is provided through notarial certificates of ownership which comply with Uruguayan legislation. To ensure the successful development of the project, the project owner, which had the ownership of forest land had presented all the requested documentation to government authorities. So, the project will not encroach uninvited to private property, community property or government property; the ownership is clear, and there is no dispute over land ownership on the project site. Moreover, evidence of complying with principal n°2 Rights and Responsibilities of Tenure and Use of FSC certification are reported in FSC summary reports publicly available.

Cattle breeding activity owners are invited to continue the activity within the property once the trees are 2-3 years, to avoid damages. This is done through signed agreements. The same applies to beekeepers.

2.5.4 Indigenous Peoples and Cultural Heritage (VCS, 3.18, 3.19)

Even though it is a subject of debate among different historians, the historical reports of the different auditing houses that certify in Uruguay indicate that there is no indigenous population according to the definitions of FSC. Only a new stream of people who have recognized themselves as descendants of indigenous communities, but who currently reside in cities and rural areas (6.5 % of the Uruguayan population in the whole country).

No cultural heritage was identified within the project area during the different consultation processes.

2.5.5 Recognition of Property Rights (VCS, 3.7, 3.18, 3.19; CCB, G5.1)

Disputes over rights to territories and resources	N/A
Respect for property rights	Prior to the project implementation, the project area was degraded grasslands where farmers (private owners) used these lands for extensive beef production. Private owners voluntarily sold the lands to Trust Fund, therefore the project activities will not lead to involuntary removal or relocation of property rights holders from their lands or territories and does not force rights holders to relocate activities important to their culture or livelihood. Cattle breeding activity owners are invited to continue the activity

[51] Third party service scope of work available to VVB in shared folder “Forest management”

[52] Principles and policies available to VVB during verification in shared folder “Forest Management”

	within the property once the trees are 2-3 years, to avoid damages. This is done through signed agreements.

2.5.6 Benefit Sharing Mechanism (VCS, 3.18, 3.19)

Not applicable

2.5.7 Free, Prior, and Informed Consent (VCS, 3.18, 3.19; CCB, G5.2)

Consent	Not applicable. Prior to the project initiation, all the project land was owned by BDU project. Land tenure evidence is provided through notarial certificates of ownership which comply with Uruguayan legislation. To ensure the successful development of the project, the project owner, which had the ownership of forest land had presented all the requested documentation to government authorities. So, the project will not encroach uninvited to private property, community property or government property; the ownership is clear, and there is no dispute over land ownership on the project site. Moreover, evidence of complying with principal n°2 Rights and Responsibilities of Tenure and Use of FSC certification are reported in FSC summary reports publicly available.
Outcome of FPIC	Not applicable. Cattle breeders and beekeepers are transparently informed of the project's objectives, land management practices, and future forest use. These arrangements are formalized through written agreements. No physical or economic displacement has occurred because of the project activities.

2.5.8 Property Right Protection (VCS, 3.18, 3.19; CCB, G5.3)

Prior to the project implementation, the project area was degraded grasslands where farmers (private owners) used these lands for extensive beef production. Private owners voluntarily sold the lands to project owners; therefore, the project activities will not lead to involuntary removal or relocation of property rights holders from their lands or territories and does not force rights holders to relocate activities important to their culture or livelihood. Cattle breeding activity owners are invited to continue the activity within the property once the trees are 2-3 years, to avoid damages. This is done through signed agreements.

As mentioned, even though it is a subject of debate among different historians, the historical reports of the different auditing houses that certify in Uruguay indicate that there is no indigenous population according to the definitions of FSC. Only a new stream of people who have recognized themselves as descendants of indigenous communities, but who currently reside in cities and rural areas, representing 6,5% of Uruguay population.

2.5.9 Identification of Illegal Activity (VCS, 3.19, CCB, G5.4)

The forests are nursed by project staff regularly because of the implementation of the project, so there will not be illegal activities or deforestation of native forests inside BDU II farms or surrounding the project boundaries. Furthermore, all farms are gated. The project benefits are gained from legal activities. Therefore, the project's climate, community and biodiversity impacts will not be affected by illegal activities.

There has not been any direct communication to AF of illegal hunting, nor through the community surveys or reported in the flora and fauna monitoring reports for BDU II. On the other hand, there has been evidence of a hunting camp found in another farm managed by AF but not part of this project. This is the case of BDU IV near Tacuarembó River, where the main threat to the HVC there is that areas, both inside and out of the farm, are used for recreational activities, including fishing and hunting, although not allowed within the property

2.5.10 Ongoing Disputes (VCS, 3.18, 3.19; CCB, G5.5)

Because the project owner signed legal purchase agreements on all the land, the forest land was developed reasonably and legally, so there are neither ongoing or unresolved conflicts or disputes over rights to lands, territories and resources nor any disputes that were resolved and recorded..

3 CLIMATE

3.1 Monitoring GHG Emission Reductions and Removals

3.1.1 Data and Parameters Available at Validation (VCS, 3.16)

Data / Parameter	VTREE,j,p,i
Data unit	m^3
Description	Stem volume of trees of species or group of species j in plot p in stratum i
Source of data	Local Growth Models: Growth projections from local growth model using local parameters from AF Group for same species and silvicultural activity in the project zone.
Value applied	N/A
Justification of choice of data or description of measurement methods and procedures applied	In all cases local data is used, based on projections generated by AF for farms under similar conditions to project area by species, using average projection values.
Purpose of data	Value used to determine the project ex – ante carbon sequestration
Comments	In case of ex-ante calculation, growth was estimated based on average growth according to specific site conditions presented in the project site. Local growth models were used for ex-ante estimation to describe the yield curve and determine the Long-

	Term Average of available carbon credits. Local growth models will not be used for ex-post estimation which were based on field measurements: tree´s DBH and height.

Data / Parameter	D_j
Data unit	t d.m. m^{-3}
Description	Density (over-bark) of tree species j
Source of data	ACHUGAR, L.; SCAGLIONE, G. 2003. Evaluación de propiedades de la madera en clones de Eucalyptus grandis Hill (ex Maiden). Thesis Ing. Agr. Montevideo, Uruguay, Universidad de la República-Facultad de Agronomía
Value applied	0.38 to 0.49 (depending on the tree age)
Justification of choice of data or description of measurement methods and procedures applied	1) basic density values are taken from results of a thesis investigation work (national and local data) 2) the values used are the ones from the bottom of the confidence interval of 95%, to be conservative 3) values are plotted, and tendency line is added, the tendency line with the highest r^2 4) power function is used to estimate the density values for the whole period 5) real and calculated values are plotted
Purpose of data	Calculation of project emissions
Comments	-

Data / Parameter	$BEF_{2,j}$
Data unit	Dimensionless
Description	Biomass expansion factor for conversion of stem biomass to above-ground biomass for tree species j
Source of data	Default values from Table 3A.1.10 of IPCC GPG-LULUCF 2003

Value applied	1.15 to 3.2 (depending on the tree age) for ex-ante and 1.15 will be used for ex-post estimations
Justification of choice of data or description of measurement methods and procedures applied	BEF varies with the age, being the highest values for young plantations and the lowest for mature plantations. A conservative approach was taken varying the BEF very quickly, reducing it to a half by year 5 and considering the forest as mature at the age of 10 years.
Purpose of data	Calculation of project emissions
Comments	According to the A/R methodological tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities", for ex post estimation the conservative default value of 1.15 will be used unless transparent and verifiable information can be provided to justify a different value.

Data / Parameter	Rj
Data unit	Dimensionless
Description	Root-shoot ratio for tree species j
Source of data	Table 3A.1.8 of IPCC GPG-LULUCF 2003.
Value applied	0.20 to 0.45
Justification of choice of data or description of measurement methods and procedures applied	According to IPCC 2003, the value of R depends on aerial biomass (t / ha). For values less than 50 tonnes / ha 0.45 was used, for values between 50 and 150t/ha 0.35 was used and for over 150 0.2 was used
Purpose of data	Calculation of project emissions
Comments	Ex-post, the equation in CDM´s AR TOOL 12 will be used, based on biomass (b) data: $R_j = \frac{e^{(-1.085+0.9256\times \ln b)}}{b}$

Data / Parameter	CF_{TREE}
Data unit	t C $(t.d.m)^{-1}$
Description	Carbon fraction of tree biomass

Source of data	A/R Methodological tool: Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities, version 04.2
Value applied	0.47
Justification of choice of data or description of measurement methods and procedures applied	Default value
Purpose of data	Calculation of project emissions
Comments	-

Data / Parameter	DF_{DW}
Data unit	Per cent
Description	Conservative default factor expressing carbon stock in dead wood as a percentage of carbon stock in tree biomass
Source of data	A/R Methodological tool: Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities; Version 03.1
Value applied	8%
Justification of choice of data or description of measurement methods and procedures applied	The chosen value of 8% corresponds to a Temperate/Boreal Biome.
Purpose of data	Calculation of project emissions
Comments	N/A

Data / Parameter	DF_{LI}
Data unit	Per cent
Description	Default factor for the relationship between carbon stock in litter and carbon stock in living trees

Source of data	A/R Methodological tool: Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities; Version 03.1
Value applied	4%
Justification of choice of data or description of measurement methods and procedures applied	The chosen value of 4% corresponds to a Temperate/Boreal Biome.
Purpose of data	Calculation of project emissions
Comments	-

Data / Parameter	SOC_{REF}
Data unit	t C ha^{-1}
Description	Reference SOC stock corresponding to the reference condition in native lands (i.e. non-degraded, unimproved lands under native vegetation. normally forest) by climate region and soil type applicable to stratum i of the areas of land
Source of data	Table 3, Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities, v 01.1.0
Value applied	88
Justification of choice of data or description of measurement methods and procedures applied	The chosen value of 88 corresponds to a “warm temperate” climate region and soils with high activity clay.
Purpose of data	Calculation of project emissions
Comments	-

Data / Parameter	$f_{LU,i}$
Data unit	Dimensionless

Description	Relative stock change factor for baseline land-use in stratum i of the areas of land
Source of data	Tables 6, Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM Project" activities, v 01.1.0
Value applied	1
Justification of choice of data or description of measurement methods and procedures applied	All permanent grassland is assigned a land-use factor of 1.
Purpose of data	Calculation of project emissions
Comments	-

Data / Parameter	$f_{MG,i}$
Data unit	Dimensionless
Description	Relative stock change factor for baseline management regime in stratum i of the areas of land
Source of data	Tables 6, Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM Project" activities, v 01.1.0
Value applied	0.95
Justification of choice of data or description of measurement methods and procedures applied	The chosen value of 0.95 corresponds to a moderately degraded grassland on a Temperate/Boreal climate regime.
Purpose of data	Calculation of project emissions
Comments	-

Data / Parameter	$f_{IN,i}$
Data unit	Dimensionless

Description	Relative stock change factor for baseline input regime (e.g. crop residue returns, manure) in stratum i of the areas of land
Source of data	Tables 6, Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM Project" activities, v 01.1.0
Value applied	1
Justification of choice of data or description of measurement methods and procedures applied	The chosen value of 1 corresponds to a low/medium level for all grassland without input of fertilizers.
Purpose of data	Calculation of project emissions
Comments	-

3.1.2 Data and Parameters Monitored (VCS, 3.16)

Data / Parameter	A_i
Data unit	Ha
Description	Area of stratum i
Source of data	Monitoring of strata and stand boundaries was done using a Geographical Information System (GIS)
Description of measurement methods and procedures to be applied	Strata area was measured based on cartography documents, related with GIS.
Frequency of monitoring/recording	Every time the project boundaries are modified, when disturbances events take place, the project participants shall re-built the stratum and add the area of the project under disturbance in the GIS

Value monitored	

SPECIE	YOP	CONEAT	Stratum	Area (ha)
Edun	2016	2	1	74,38
Edun	2017	2	2	96,79
Edun	2018	2	3	99,67
Egra	2016	2	4	285,46
Egra	2017	2	5	224,76
Egra	2018	2	6	189,71
Egra	2019	2	7	82,56
		Total	7	1.053,34

Monitoring equipment	Garmin GPS, model eTrex Legend.
QA/QC procedures to be applied	N/A
Purpose of the data	Calculation of project emissions
Calculation method	The value was used in equations N° 3, 12 y 24 of the Methodological tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" (Version 4.1), Equations N° 7 and 13 of the Methodological tool "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities" (Version 3.1)
Comments	N/A

Data / Parameter	DBH
Data unit	Cm
Description	Diameter at Breast Height of tree
Source of data	Field measurements
Description of measurement methods and procedures to be applied	DBH is measured at 1.3 m above ground, over the bark. In case of stem deformation at this level, measurement was done over the deformation once the stem took its normal shape, with the purpose of being conservative. DBH was measured in all trees within the plots.
Frequency of monitoring/recording	Every tree within sample plots

Value monitored	Varies with stratum
Monitoring equipment	In most of the cases, the instrument used for measuring DBH was a caliper model "Mantax Blue" of Haglof, Sweden. Also, for the minority of trees, it was used a diametric tape for measuring DBH.
QA/QC procedures to be applied	A quality control procedure consisted in qualified personnel conducting the measurements in the first place, and the first control is conducted by contractor. Secondly, a random control of 5% of the plots measured is made by AF personnel, using the same data collection sheet, where unsupported errors include: – a difference of more than 3% in the DBH measured with caliper Instruments were checked and tested before starting the verification process. Items checked: – Correct visualization if numbers in the calliper. – The straightness of the calliper and the lack of mechanical problems. – The calliper length is not a problem since it is impossible for the equipment stretches. Bark that is not stick to the stem was removed before measuring.
Purpose of the data	Calculation of project emissions.
Calculation method	The trees are inside the plot if more than 50% of DBH is inside the plot. Diameters were measured by taking one measure, always pointing the instrument´s shaft in direction to the middle of the plot. Parameter used indirectly in Equation N° 1 of the Methodological tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" (Version 4.1); for calculation of basal area and then volume.
Comments	N/A

Data / Parameter	H

Data unit	m
Description	Height of trees within sample plot
Source of data	Field measurement
Description of measurement methods and procedures to be applied	All trees within the plot in the case of permanent plots. In relation to the height measurement, the following considerations according to each situation take place: 1. Trees with zero slope: To achieve a correct measurement, the operator must be located at a distance equivalent to the tree height. It is important to keep in mind that the distance taken with the tape measure is the one entered in the inclinometer. 2. Measurements with slope (positive or negative): In those cases where the tree base is located over the contractor's visual sight, the measurement and total height will be a result of the subtraction of the measurements. If the operator is over a hill, the height will be the sum of the measurements. 3. Trees that are dead, burned, or broken will be excluded from the measurement. 4. In order to always measure the heights from the same location and thus avoid bias or errors, height records must always be made in the same direction. For this, the face of the tree where the measurement took place will be marked and identified with paint.
Frequency of monitoring/recording	During every monitoring, for every plot within different stratum.
Value monitored	Varies according to tree classes in plot
Monitoring equipment	Haglöf ECII-D Electronic Clino/Height Meter
QA/QC procedures to be applied	A quality control procedure consists in qualified personnel conducting the measurements in the first place, and the first control is conducted by a contractor. Secondly, a random control of 5% of the plots measured is made by AF personnel, using the same data collection sheet, where unsupported errors include:

	Height measurements will not be made on those days where the wind speed exceeds scale 5 of Beaufort (30-38 km / hr), causing a great movement of the trees top (NOAA, 2020). - In the same way as with the DAP record, the height values will be expressed in decimeters, avoiding errors in the register. When referring to this electronic device, it is recommended to check the correct visualization of the display. The clinometer was always kept in safe places in order to avoid display rupture. The equipment was always full charged batteries and back up batteries were always available in case of emergency. At the same time, it must previously be calibrated before each daily measurement activity. Make control measurements using all involved equipment (human error should be minimized at minimum with well training and cross-checked control measurement activities).
Purpose of the data	Calculation of project emissions.
Calculation method	Once the plot is delimited and all trees to be included are defined, all tree heights are measured in permanent plots. According to the measurement description.
Comments	Parameter used indirectly in Equation N° 1 of the Methodological tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities" (Version 4.1); for project emissions.

Data / Parameter	$A_{PLOT,i}$
Data unit	m^2
Description	Area of sampling plot
Source of data	Field measurement
Description of measurement methods and procedures to be applied	The center of the plot was marked with the assistance of a GPS. One staff member stayed at the center of the plot taking notes of the diameters and heights measured while the other expert of the team walked inside the plot measuring them. Both experts were

	always connected with a measuring tape, and every tree measured was previously checked in order to determine if the distance to the center was minor to 9.77/15.95 m (radius of a circular plot of 300/800m^2).
Frequency of monitoring/recording	Every plot measured in BDU II, 43 in total.
Value monitored	Varies with every plot
Monitoring equipment	N/A
QA/QC procedures to be applied	The company´s cartography area generates a GEOpdf with the location and numbering of each sample plot to be installed. This point is validated in the field with the capture of the UTM coordinates of the center of the plot installed. The original location is then checked in the office with respect to the actual location of each plot. A minimum of 15 trees must be included per plot, if this is not so, the contractor communicates with the forest manager to define action which may include increasing plot size.
Purpose of the data	Calculation of project emissions
Calculation method	300m^2=r2(9.77).π (E.dunni) 800m^2= r2 (15.95).π (E.grandis) The center of the plot will be marked with a stake painted, at a visible height and depth that can be maintained for at least 6 months after the completion of the plot. The two trees that make up the center of the plot must be marked with a letter "C". The center of the plot is identified with a tape measure based on this point, the perimeter of the circle is delimited, identifying the trees to be included. Finally, the plot number will be recorded in tree 1. The delimitation of the plot will be done using a tape measure or electronic instruments (distance meter, for example), the trees will be marked and they must always be visible from the center of the plot. In turn, the plot will be limited with anti-water paint or aerosol and all trees within radius used will be counted. Those trees where half or more of the diameters are within the plot, will be included in it.

	The first tree in the plot will be the one furthest to the left of the center of the plot, always heading towards the steepest slope and will be marked with the number 1. The order of tree numbering is as follows: from tree 1 the specimens are numbered towards the right to the end of the parcel in that row and then move to the next row above to finish the semicircle on the side of tree 1. Then you go to the other semicircle and repeat the process. Within the plot, all places with or without trees are counted
Comments	Sample plots are permanent and circular. The plots were laid down in a shapefile, positioned systematically with a random start. The location of the plots within the forest plantation was done with a GPS. The area of each plot is not a variable but a fixed value, but must be measured by its radius in order to determine the variable "number of trees within the plot".

Data / Parameter	T
Data unit	Year
Description	Time period elapsed between two successive estimations of carbon stock
Source of data	Recorded time
Description of measurement methods and procedures to be applied	N/A
Frequency of monitoring/recording	Every monitoring period
Value monitored	1th August 2021 – 23rd August 2024
Monitoring equipment	N/A

QA/QC procedures to be applied	N/A
Purpose of the data	Calculation of project emissions
Calculation method	When two successive estimations of carbon stock are carried out at different points of time then a fractional value is assigned to T. This is the case of vintage 2021: 1th August 2021- 31st December 2021.
Comments	N/A

3.1.3 Monitoring Plan (VCS, 3.16, 3.20)

AF has in place a Quality Management System certified UNIT-ISO 9001 since 2/12/2004. Furthermore, AF has set a forest management system for BDU projects. The system includes a Monitoring Plan - which specifies (among other relevant information) the forestry inventory -, procedures and monitoring reports. The documents are publicly available on BDU website.

BDU Forest Management system received on March 2016 the FSC certification as a recognition of its well managed forest[53]. These certifications evidence the concern and experience of AF in the implementation and management of very demanding control systems, and consequently in the monitoring of them to ensure the quality of the forestry. Therefore, AF staff is aware of the importance that monitoring has and is committed to monitor the data correctly for the entire crediting period.

BDU monitoring plan has been designed in line with the methodology AR-ACM0003 and its applicable tools referenced in sections 2.1 and 2.2 above in order to provide all relevant data necessary to verify: i) the applicability conditions listed under section 2.2 are met; ii) changes in carbon stocks in the pools selected; and iii) project emissions and leakage emissions.

The monitoring activities were carried out by a third party in accordance with the Forest Inventory Manual guidelines[54]. Read below detailed information on the monitoring process:

Organizational structure, responsibilities and competencies.

The organizational structure and responsibilities of AF team with regards to the monitoring system are as follow[55]:

[53] UNIT-ISO 9001 and FSC certifications are available for the VVB in shared folder "FSC"

[54] Available to VVB during verification in shared folder "Forest Management".

[55] BDU management plan; Company description; http://www.bosquesdeluruguay.com/download/PMBU-4-Descripcion-Empresa.pdf; and AF organizational chart and Job profiles and responsibilities (available for the VVB)

- ***General Manager:*** has the overall responsibility for the forest management system and thus, the monitoring plan.
- ***Forests Administration Chief:*** responsible for the operational management; resources monitoring; forestry inventories; coordination and control of activities; selection and control of contractors; supervision of AF personnel in various fields and approval of all system documentation.
- ***Lands supervisors (AF personnel in the fields):*** responsible for controlling the contractors' personnel activities in the fields; supervising the plantations; reporting the forest administration chief; among other activities.
- ***Forest inventory third party:*** Bosques Servicios Forestales SA and Pal Monte SAS are the contractors in charge of installing sample plots in the field and conducting forest inventories, first data consistency analysis and checks

BDU technical team receives training on: the environmental management policy of the AF, the FSC principles and requirements, the management plan main chapters – among other issues - to warranty their competencies to perform their duties as established in BDU Training Plan Procedure[56]. Contractors also receive training on various topics among security and FSC principles and criteria. Contracts include the inventory guidelines described in the mentioned Forest Inventory Manual.

[56] Available for the VVB at verification in shared folder "Training".

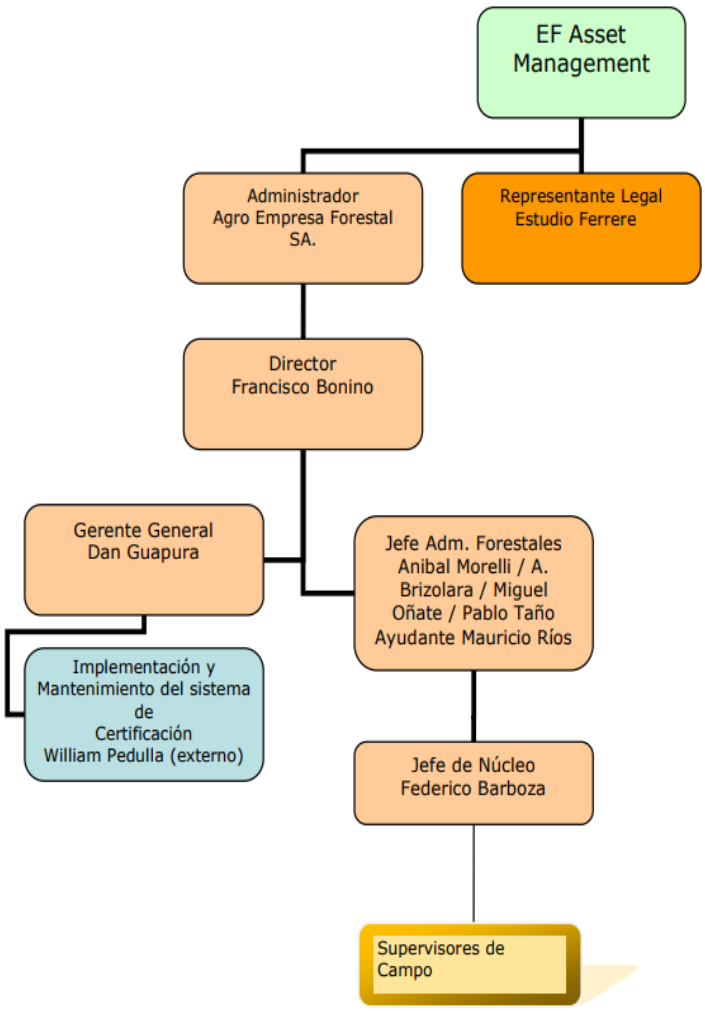


Figure 10. Organizational structure diagram

Inventory for permanent plots

They are fixed plots that are installed in the different stratum and whose purpose is to represent and reflect the different productivities. These plots are measured annually.

The objective is to generate information on the growth rate of a species in certain sites for decision-making related to forest management and monitoring carbon sequestration.

The permanent plots are installed as of the third year from plantation and are measured in the months of June to August when vegetative growth is slowed down. These plots have been installed following a stratified sampling design. The strata are defined as a combination of site quality, planting year, and species as already mentioned.

In case of installing a new permanent plot, this is defined in accordance with the criterion mentioned above. The site of the new permanent plot is located at a distance greater than or equal to 50 m from the edge and with a percentage of 90% live trees.

- Stratification

Stratification eliminates sources of variation that can mask the results of the inventory, once the variability inside the strata shall be lower than that of the whole population. Hence, it will be possible to obtain more precise statistics due to the population stratification. The stratification also facilitates the data collection and the processing of it per stratum, being also suitable for the planning and execution of the work on the field.

Stratification was done only considering age class (plantation date 2016, 2017, 2018, 2019); and species planted (*E. grandis* & *E. dunnii*) as soil quality is homogenous in all the project area (CONEAT group 2). Total project area will be divided into 8 stratums.

Current stratification could suffer subdivisions or merges in the case unexpected disturbances occur or insignificant intra-stratum variability is detected in the annual variation in carbon pools (e.g: forest fires).

- Sampling

The sample size involves the number of plots to be distributed with a certain statistical criterion in every stratum. The representative number of plots of the total project area and of every stratum shall be previously decided in order to accomplish the predefined level of accuracy and precision.

The size of the sample plot is a trade-off between accuracy, precision, and time (cost) of measurement. The size is also related to the number of trees, their diameter and the carbon stock variance among plots. The plot should be large enough to contain an adequate number of trees per plot to be measured.

Due to the application of thinning, forest stands in this project have a low number of trees per hectare, tending to have a few large trees per hectare as the stands get older, and uniformly distributed. Thus, taking into consideration the project-specific conditions and the IPCC guidance, circular plots of 300 m^2 have been selected for monitoring of stratums with *E. dunnii* (not thinned, higher density throughout the rotation) and 800 m^2 for stratums with *E. grandis*.

Permanent sampling plots are used to measure and monitor changes in carbon stocks from the most relevant carbon pools over time. These are considered to be more efficient for estimating changes in carbon stocks by filtering out any variance due to plot effect. The plots will be located with GPS and same treatment is assured, in the same way as all the project extension (e.g. during site and soil preparation, weeding, fertilization, harvesting, etc.) and are prevented from being deforested over the crediting period.

The number of sample plots was first estimated according to the “Calculation of the number of sample plots for measurements within A/R CDM project activities” tool. The outcome of the estimation from the tool was a total of 43 plots for the whole project area. The plots were later updated and increased to 52 seeking higher confidence values but during this monitoring period the value was reduced back to 43 plots.

An example of Power BI dashboard where all permanent plots information is managed is available in figure 11.

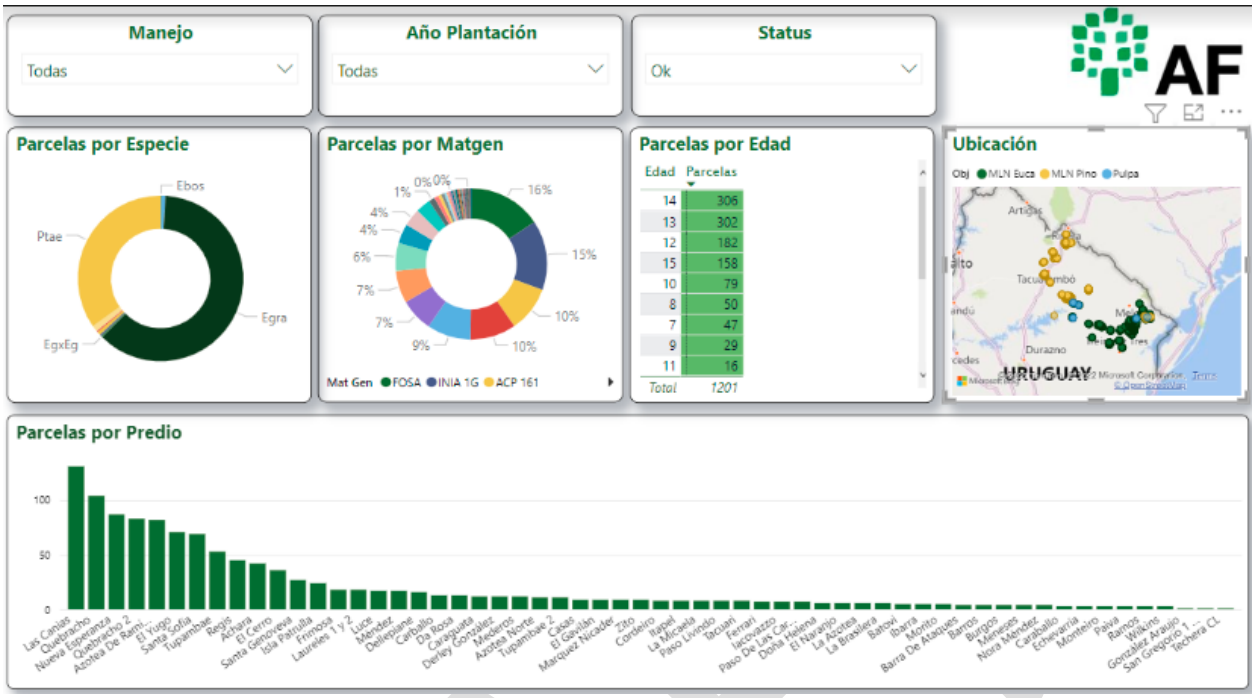


Figure 11. Sample plots management dashboard under AF management

- **Mapping**

The location of the plots will follow the guidance given by the corresponding methodological tool, as well as IPCC Good Practice Guidance for LULUCF (2002), Chapter 4.3.

Plot grid is done using QGIS or ArcMaps to randomly locate the permanent sampling plots (location is systematic with random start). The map with the location of the sampling plots (geopdf) is loaded on the GPS receptors used by forest inventory crews, usually AvenzaMaps app, so that they can reach the plots accurately.

Further information about the inventory, stratification, sampling, data collection, etc. is available in BDU Management System – Monitoring System document and Forest Inventory Manual[57]

Once the plot was located, the coordinates were registered in the GPS and recorded in the spreadsheet. Afterwards, the previously defined circular plot area was installed. The center of the plot corresponded to the midpoint between two trees (1 per row, faced) and in between. These two trees were marked with the corresponding plot number and the letter "C", from where the plot was delimited, identifying those trees that are on the plot edge.

The next step included marking every tree that was within the plot. The first tree in the plot is the one furthest to the left of the plot, based on how the operator arrived at the site, and this is marked with the number 1. The numbering was then carried out as follows: starting from tree 1, the trees to the right to the end of the plot in that row are numbered. Then it's the turn for the

[57] Available to VVB during verification in shared folder "Forest Management"

next row above, to finish the semicircle on the side of tree 1. Then, the same procedure was repeated on to the other side of the plot.

Measurement

Each source of GHG emissions/removals is estimated ex post according to the equations previously described and based on the following methods and monitored parameters:

- CTREE (carbon stocks in above and below ground biomass of trees): will be estimated based on stratified random sampling method as described. For this purpose, VTREE (stem volume of tree) will be calculated applying a manual of procedures developed for local conditions, based on diameter at breast height (DBH) and height (H) measurement in each plot.
- DBH measuring: By convention, the diameter is measured at 1.30 m from the ground level, so this measure remains standardized independently of the operator and its height. At this height the instrument is also easy to manage. The DBH is a direct measure from which it is possible to calculate the transverse area, the basal area, the individual and total volume, the growth and the form quotient of the tree, and other variables of interest. In the estimating processes that involve the use of regression functions, the DBH is always the first independent variable because of its easy assessment and for presenting normally a high correlation with the volume, weight and other dependent variables.
- H measuring: The height of a tree or portion of it is the linear distance along its principal axis, departing from the ground up to the top or up to another referential point, always in conformity with the type of height that is needed to measure. The height serves essentially for the calculation of volume and for the calculation of increases in height and in volume. Total Height refers to the distance between the ground and the apex along the principal axis.

Data processing

Once the data has been collected in the field, the contractor must send them by email specifying the type of inventory carried out, establishment surveyed, number of plots and location in kmz format. This data is sent in the electronic spreadsheet (see figure 12) according to the type inventory, in a neat and orderly manner, previously verified that the data does not present errors or repetitions. All those doubts or modifications that arose during monitoring out in the field are clarified in the column called "comments".

The data obtained in the field during monitoring, was then revised, processed and analyzed by the forest planning team in charge of inventories (Daniel Romero y Christian Acuna). In case of finding any inconsistency or doubt, a field check was performed when necessary.

Once the data was reviewed, it was processed using the data processing system Caliper [https://webapp.avlchile.cl/caliper/caliper.dll]. It is a software for processing forest inventories that calculates dasometric variables and other variables defined by the user.

In addition, it has a module called "Validator", which allows a review of the consistency of the data, detecting possible inconsistencies in the values that could affect the results. In case of detecting inconsistencies, they are analyzed and evaluated prior to processing.

After processing the data with the configured and established parameters, the software generated an inventory report made with all the information for analysis (these results are presented at product, log, tree, and parcel or stand level).

Finally, the results obtained at the stand level were uploaded to the Forest Management System INFLOR [https://af.inflor.cloud/sgf/], generating a database with which reports are made both for volume estimates for carbon sequestration estimates and support for the forestry and strategic planning of the company.

NRO_INVENT	FECHA_INV	PREDIO	ID_PREDIO	ANO_PLAN	RODAL	SUP_RODAL	PARCELA	SUPPARCELA	N° Arbol	Especie	DAP	Alt Total	Calidad	HCalidad	UTM_N	UTM_E	Marcados	Sanidad	Forma	Daño	Comentarios
									1												
									2												
									3												
									4												
									5												
									6												
									7												
									8												
									9												
									10												
									11												
									12												
									13												
									14												
									15												
									16												
									17												
									18												
									19												
									20												
									21												
									22												
									23												
									24												
									25												
									26												
									27												
									28												
									29												
									30												
									31												
									32												
									33												
									34												
									35												
									36												
									37												

ESPECIES	
CODIGO	DESCRIPCIÓN
1	E.dunnii
2	E.smithii

NOMENCLATURA	
CODIGO	DESCRIPCIÓN
PREDIO	Código del predio
ID_PREDIO	Nombre del predio
SUPPARCELA	300;500;800;1.000
DAP	Milimetros
Alt. Total	Decimetros
UTM N	7 digitos
UTM E	6 digitos

Figure 12. spreadsheet used during monitoring by contractor

QA/QC procedures

The implementation of the monitoring plan includes a QA/QC system to minimize errors in measurement and data analysis, and to provide documentation and consistency in data archiving. Quality Assurance measures are implemented, in order to verify that data quality objectives are met, and in general, to support the effectiveness of the QC system. QA/QC plan includes some activities aiming at achieving accuracy and precision of data, and transparency of procedures are:

- Development of Standard Operating Procedures for field measurements, clearly defining objectives, admissible and inadmissible errors during monitoring, procedures, and responsibilities[58];
- Training of personnel in field measuring and hiring experienced technicians for the task.
- Assure periodical check and maintenance of measuring instruments: all mechanical, optical and electronic instruments will be periodically checked by qualified personnel.
- In addition, consistency on field data will be permanently monitored, in order to detect any error.
- Fully document and archive field and processed data: to ensure data preservation, all relevant monitoring documents (data, data analyses, static factors, photos, images, GIS output and other data) will be stored in electronic and/or paper format and back-ups will be done periodically.

During the execution of the monitoring activities, quality controls were carried out in the field, without previous notice. The quality of the measurement carried out is controlled with an intensity of 10% of the plots measured, using the same data collection sheet.

The following aspects are evaluated:

- -Location: the plot must be clearly identifiable and agree with the location predefined geographic location.
- -Identification: the plot must be correctly marked with a stake and trees must be correctly numbered.
- -Total height: differences of more than 5% in height measured with clinometer will not be accepted.
- -DAP: differences greater than 3% in the DAP measured with diametric tape will not be accepted.

In those cases where the errors were greater than is admissible, the contractor had to re-measure 100% of the plot. If the QA/QC process fails, in the monthly evaluation of the contractor, it would be reported negatively possible affecting future hiring if the general evaluation of the contractor´s performance failed.

Another measure in place for permanent plots is the “buffer area”. The establishment of buffer areas in permanent plots is intended to avoid edge problems, wind damage, accidental extraction of trees, pathways, etc. and allows destructive sampling of trees for various purposes without altering the measurement plot itself. The buffer area consists of 1.56ha whose center is the plot itself [square area of 125 * 125 m. sideways].

Moreover, in order to reduce the influence of errors in the calculations, first errors are mitigated. Later, standard deviations are estimated and evaluated. These tend to be lower with the aging of

[58] Forest Inventory manual available for VVB during verification in shared folder “Forest Management”

tree plantation, while young plantations show higher variations. For the case of carbon capture in trees and shrubs, uncertainty is calculated based on the Annex 2 of Tool 14. When the uncertainty in the estimated mean value of a parameter is more than 10 per cent, the estimated mean value is either increased or decreased by a percentage of the uncertainty default value.

Further information about QA/QC is available in BDU Management System – Monitoring System document[59].

3.1.4 Dissemination of Monitoring Plan and Results (VCS, 3.18; CCB, CL4.2)

Along with the project implementation, the project documentation will be published on VCS and CCB website for all stakeholders, so that they can obtain the detailed project information and development progress. Also, the project´s information is available in local language at BDU website. This includes management and monitoring plans.

Results from climate monitoring analysis will be available in BDU II website after verification together with updated risk analysis at specific brochures describing the project characteristics and benefits now available.

Uruguay reached 88% of population with internet access. Still, given access to internet may still be limited within local communities, summary reports are handed personally to local references. Other instances include events where the main objective of the forestry activity and results are detailed[60]. Monitoring reports are also presented to communities during face-to-face training and communications (see more detail on document dissemination in section 2.3.2 and 2.3.3).

Moreover, different communications are made publicly in the media regarding carbon certification of the project[61].

3.2 Quantification of GHG Emission Reductions and Removals

3.2.1 Baseline Emissions (VCS, 3.15)

As validated in PD, since continuation of an activity that has been applied without changes for more than 20 years has been selected as the baseline scenario, it is assumed, in agreement with IPCC Good Practice Guidance for Land Use, Land Use Change and Forestry (2003) that the net GHG removals by sinks in the baseline equals zero. This has resulted from applying the “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities”.

3.2.2 Project Emissions (VCS, 3.15)

[59] Available at: https://www.bosquesdeluruguay.com/media/2024/08/GAF-PM-Resumen-Publico-Plan-de-Manejo-Grupo-AF-2024.pdf as well as Forest inventory manual available to VVB during verification in shared folder “Forest Management”.

[60] Available to VVB during verification in shared folder “Communication”.

[61] Radio, local newspaper and events where project´s communication regarding carbon credits takes place available for VVB during verification in shared folder “Communication”

BDU II project activity does not have GHG emissions. However, this section refers to the removals of GHG performed by this project activity. According to methodology AR-ACM0003 Version 02.0, section 5.5, GHG emissions resulting from removal of herbaceous vegetation, combustion of fossil fuel, fertilizer application, use of wood, decomposition of litter and fine roots of N-fixing trees, construction of access roads within the project boundary, and transportation attributable to the project activity shall be considered insignificant and therefore accounted as zero.

Actual net GHG removals by sinks

The actual net GHG removals by sinks shall be calculated as follows:

$$\Delta C_{ACTUAL,t} = \Delta C_{P,t} - GHG_{E,t}$$

Where:

$\Delta C_{ACTUAL,t}$	=	Actual net GHG removals by sinks, in year *t*; t CO_2-e
$\Delta C_{P,t}$	=	Change in the carbon stocks in project, occurring in the selected carbon pools, in year *t*; t CO_2-e
$GHG_{E,t}$	=	Increase in non-CO_2 GHG emissions within the project boundary as a result of the implementation of the A/R CDM project activity, in year *t*, as estimated in the tool "Estimation of non-CO_2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity"; t CO_2-e

The use of fire for site preparation and/or to clear the land of harvest residue prior to replanting is specifically excluded from the project management and therefore project emissions are estimated as zero as suggested in the tool for "Estimation of non-CO_2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity".

$$GHG_{E,t} = 0$$

Change in the carbon stocks in the project, occurring in the selected carbon pools in year t shall be calculated as follows:

$$\Delta C_{P,t} = \Delta C_{TREE\_PROJ,t} + \Delta C_{SHRUB\_PROJ,t} + \Delta C_{DW\_PROJ,t} + \Delta C_{LI\_PROJ,t} + \Delta SOC_{AL,t}$$

Where:

$\Delta C_{P,t}$	=	Change in the carbon stocks in project, occurring in the selected carbon pools, in year *t*; t CO_2-e
$\Delta C_{TREE\_PROJ,t}$	=	Change in carbon stock in tree biomass in project in year *t*, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; t CO_2-e
$\Delta C_{SHRUB\_PROJ,t}$	=	Change in carbon stock in shrub biomass in project in year *t*, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"; t CO_2-e

$\Delta C_{DW\_PROJ,t}$	=	Change in carbon stock in dead wood in project in year *t*, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities"; t CO_2-e
$\Delta C_{LI\_PROJ,t}$	=	Change in carbon stock in litter in project in year *t*, as estimated in the tool "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities"; t CO_2-e
$\Delta SOC_{AL,t}$	=	Change in carbon stock in SOC in project, in year *t*, in areas of land meeting the applicability conditions of the tool "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities", as estimated in the same tool; t CO_2-e

According to the "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activity" tool, change in carbon stock in trees in a year is estimated as follows:

$$\Delta C_{TREE,t} = \frac{C_{TREE,t_2} - C_{TREE,t_1}}{T} \times 1\ year$$

Where:

$C_{TREE,t2}$	=	Carbon stock in trees within the project boundary at time *t2*; t CO2e.
$C_{TREE,t1}$	=	Carbon stock in trees within the project boundary at time *t1*; t CO2e.
T	=	Time elapsed between two successive estimations (T=*t*2 – *t*1); yr.

According to the tool, carbon stock in trees at a point of time can be estimated by using one or a combination of four methods.

- *Ex-post estimation of carbon stock in trees*

Ex-post estimations are based on method (a) of the applicable AR-TOOL14 (method ("Estimation by measurement of sample plots") and more specifically in option (a) of this method: "Stratified random sampling".

According to this method, mean carbon stock in trees within the tree biomass estimation strata and the associated uncertainty will be estimated as follows:

$$C_{TREE} = \frac{44}{12} \times CF_{TREE} \times B_{TREE}$$

$$B_{TREE} = A \times b_{TREE}$$

$$b_{TREE} = \sum_{i=1}^{M} w_i \times b_{TREE,i}$$

$$u_C = \frac{t_{VAL} \times \sqrt{\sum_{i=1}^{M} w_i^2 \times \frac{s_i^2}{n_i}}}{b_{TREE}}$$

Where:

C_{TREE}	=	Carbon stock in trees in the tree biomass estimation strata; t CO_2e
CF_{TREE}	=	Carbon fraction of tree biomass; t C (t d.m.)$^{-1}$. A default value of 0.47 is used unless transparent and verifiable information can be provided to justify a different value.
B_{TREE}	=	Tree biomass in the tree biomass estimation strata; t d.m.
A	=	Sum of areas of the tree biomass estimation strata; ha
b_{TREE}	=	Mean tree biomass per hectare in the tree biomass estimation strata; t d.m. ha^{-1}
w_i	=	Ratio of the area of stratum i to the sum of areas of tree biomass estimation strata (i.e. $w_i = A_i / A$); dimensionless
$b_{TREE,i}$	=	Mean tree biomass per hectare in stratum i; t d.m. ha^{-1}
u_c	=	Uncertainty in C_{TREE}
t_{VAL}	=	Two-sided Student's t-value for a confidence level of 90 per cent and degrees of freedom equal to $n - M$, where n is total number of sample plots within the tree biomass estimation strata and M is the total number of tree biomass estimation strata
si^2	=	Variance of tree biomass per hectare across all sample plots in stratum i; (t d.m. ha^{-1})^2
n_i	=	Number of sample plots in stratum i

Mean tree biomass per hectare in a stratum (bTREE) and the associated variance (si^2) will be estimated as follows:

$$b_{TREE,i} = \frac{\sum_{p=1}^{n_i} b_{TREE,p,i}}{n_i}$$

$$s_i^2 = \frac{n_i \times \sum_{p=1}^{n_i} b_{TREE,p,i}^2 - \left(\sum_{p=1}^{n_i} b_{TREE,p,i}\right)^2}{n_i \times (n_i - 1)}$$

Where:

$b_{TREE,p,i}$	=	Tree biomass per hectare in plot p of stratum i; t d.m. ha^{-1}
n_i	=	Number of sample plots in stratum i

Finally, according to Appendix 1 (Methods of plot biomass measurement) of the tool, the plot biomass value will be determined as follows:

$$b_{TREE,p,i} = \frac{B_{TREE,p,i}}{A_{PLOT,i}}$$

$$B_{TREE,p,i} = \sum_j B_{TREE,j,p,i}$$

$$B_{TREE,j,p,i} = \sum_l B_{TREE,l,j,p,i}$$

Where:

$b_{TREE,p,i}$	=	Tree biomass per hectare in sample plot p of stratum i; t d.m. ha^{-1}
$B_{TREE,p,i}$	=	Tree biomass in sample plot p of stratum i; t d.m.
$A_{PLOT,i}$	=	Size of sample plot in stratum i; ha
$B_{TREE,j,p,i}$	=	Biomass of trees of species j in sample plot p of stratum i; t d.m.
$B_{TREE,l,j,p,i}$	=	Biomass of tree l of species j in sample plot p of stratum i; t d.m.

With:

$$B_{TREE,l,j,p,i} = f_j(x_{1,l}, x_{2,l}, x_{3,l}, \ldots) \times (1 + R_j)$$

$$B_{TREE,l,j,p,i} = V_{TREE,j}(x_{1,l}, x_{2,l}, x_{3,l}, \ldots) \times D_j \times BEF_{2,j} \times (1 + R_j)$$

Where:

$f_j(x_{1,l}, x_{2,l}, x_{3,l}, \ldots)$ = Above-ground biomass of the tree returned by the allometric equation for species *j* relating the measurements of tree *l* to the above-ground biomass of the tree; t d.m.

R_j = Root-shoot ratio for tree species *j*; dimensionless.

The value of R_j is estimated as:

$$R_j = \frac{e^{(-1.085+0.9256\times \ln b)}}{b}$$

where b is the above-ground tree biomass per hectare (in t d.m. ha^{-1}), unless transparent and verifiable information can be provided to justify a different value.

Note. If trees have grown as coppice regeneration after a harvest, then the value of R_j should be multiplied by a factor equal to $v_{harvest}/v_{tree}$ or 1, whichever is greater, where $v_{harvest}$ is the volume per hectare of trees harvested and v_{tree} is the volume per hectare of trees standing in the plot at the time of measurement.

$V_{TREE,j}(x_{1,l}, x_{2,l}, x_{3,l}, \ldots)$ Stem volume of tree *l* of species *j* in sample plot p of stratum i, estimated from the tree dimension(s) as entry data into a volume table or volume equation; m^3

Vtree

Aboveground biomass is calculated based on Bruce et al (1968) regression models (taper function) and the volumetric equation expressed below. The equations were updated from PDD in line with the calculations during forestry inventories:

Bruce et al (1968) taper function is used based on the parameters for each species. The taper model is based on a mathematical equation that describes how the diameter of the trunk decreases as one moves up the stem of the tree. It is a polynomial model widely used in different forest species, such as those belonging to the *genus pinus sp* and *eucalyptus sp*.

$dwb_{(h)}^2 / DBH_b^2 = b_1 . X^{1,5} + b_2 (X^{1,5} - X^3) DBH_b + b_3 (X^{1,5} - X^3) H + b_4 (X^{1,5}-X^{32}) H . DBH_b + b_5 (X^{1,5} - X^{32}) H^{0,5} + b_6 (X^{1,5} - X^{40}) H^2$

Where,

dwb(h) = diameter (cm) without bark, measured at stem height (m)

DBH(b) = diameter (cm) with bark at breast height, 1,3m from ground

H = total height (m)

hj = height (m) from ground to diameter gj (j=1,...n)

X = (H-hj) / (H-1,3)

bi = parameters estimated for each species (i=1, ...6)

Parameter	Egrandis	Edunni
b1	0,88612	0,79307
b2	-0,01139	-0,01139
b3	0,01628	0,01645
b4	-0,00008	-0,00002
b5	-0,00137	0,00272
b6	0,00004	-0,00006

The universal volumetric equation by smalian used is:

V_{tree}= DBH*DBH*0.785*H

Where,

V_{tree} = Total volume without bark (m^3)

DBH = Diameter (cm) extracted from Bruce et al. equation

H = Height (cm) equal to 1cm

The next step is to add each section calculated and applied factor to include total volume with bark.

D_j = Density (over-bark) of tree species *j*; t d.m. m^{-3}

According to the methodology values are taken from Table 3A.1.9 of IPCC GPG-LULUCF 2003 unless transparent and verifiable information can be provided to justify different values.

Note. Where density (specific gravity) of the bark of a tree species is different from the density of the wood, suitable correction should be applied to estimate a conservative value of the overall (over-bark) density of tree stem.

In this case, ACHUGAR, L. & SCAGLIONE, G. (2003) was used to calculate *Eucalyptus* densities at different ages. Based on the values published by Achugar et al. a regression was conducted to generate values for all rotation period. The procedure is described as follows:

1) basic density values are taken from results of a thesis investigation work (national and local data)
2) the values used are the ones from the bottom of the confidence interval of 95%, to be conservative
3) values are plotted and tendency line is added, the tendency line with the highest r^2
4) power function is used to estimate the density values for the whole period
5) real and calculated values are plotted.

$BEF_{2,j}$ = Biomass expansion factor for conversion of tree stem biomass to above-ground tree biomass, for tree species *j*; dimensionless.

For ex-post estimation the volume provided includes total biomass, so indicator BEF is not used. If needed, the conservative default value of 1.15 is used, unless transparent and verifiable information can be provided to justify a different value.

- *Change in carbon stock in shrub biomass in the project*

Regarding change in carbon stock in shrub biomass in the project, since the baseline scenario is the continuation of extensive cattle breeding in pasture land, this landscape does not present shrubs on it. Therefore it is not a source of GHG emissions.

$$AC_{SHRUB\ PROJ,t} = 0$$

Litter and Dead Wood Carbon Pools

The "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities" tool was used to estimate carbon stock in these pools.

- *Estimation of carbon stock and change in carbon stock in dead wood*

The conservative default factor based method has been selected as the preferred method to estimate this source of emissions since the dead wood will remain in situ and will not be removed

from the project boundary through any type of anthropogenic activities. According to it, the carbon stock in dead wood is estimated as:

$$C_{DW,i,t} = C_{TREE,i,t} * DF_{DW}$$

Where:

$C_{DW,i,t}$	Carbon stock in dead wood in stratum i at a given point of time in year t; t CO2-e
$C_{TREE,i,t}$	Carbon stock in trees biomass in stratum I at a point of time in year i, as calculated in the tool "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activity"; t CO2-e
DF_{DW}	Conservative default factor expressing carbon stock in dead wood as a percentage of carbon stock in tree biomass; per cent

- *Estimation of carbon stock and change in carbon stock in litter*

The conservative default factor based method has been selected as the preferred method to estimate carbon stock and change in carbon stock in litter since litter will remain in situ and will not be removed from the project boundary through any type of anthropogenic activities.

According to it, the carbon stock in dead wood is estimated as:

$$C_{LI,i,t} = C_{TREE,i,t} * DF_{LI}$$

Where:

$C_{LI,i,t}$	Carbon stock in litter in stratum i at a given point of time in year y; t CO2-e
$C_{TREE,i,t}$	Carbon stock in trees biomass in stratum i at a point of time in year y, as calculated in the tool "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activity"; t CO2-e
DFLI:	Conservative default factor expressing carbon stock in litter as a percentage of carbon stock in tree biomass; percent

Soil organic carbon Pool

As from the "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities", Version 01.1.0 , it is assumed that:

- Site preparation and planting take place within a year of each other;
- The implementation of the project activity increases the SOC content of the lands from the pre-project level to the level that is equal to the steady-state SOC content under native vegetation;
- The increase in SOC content in the project scenario takes place at a constant rate over a period of 20 years from the year of planting.

The initial SOC stock ($SOC_{INITIAL,i}$) at the start of the project is estimated as follows:

$$SOC_{INITIAL,i} = SOC_{REF,i} * f_{LU,i} * f_{MG,i} * f_{IN,i}$$

Where:

$SOC_{INITIAL,i}$	SOC stock at the beginning of the A/R CDM project activity in stratum *i* of the areas of land; t C ha^{-1}
$SOC_{REF,i}$	Reference SOC stock corresponding to the reference condition in native lands (i.e. non-degraded, unimproved lands under native vegetation, normally forest) by climate region and soil type applicable to stratum *i* of the areas of land; t C ha^{-1}
$f_{LU,i}$	Relative stock change factor for baseline land-use in stratum *i* of the areas of land; dimensionless
$f_{MG,i}$	Relative stock change factor for baseline management regime in stratum *i* of the areas of land; dimensionless
$f_{IN,i}$	Relative stock change factor for baseline input regime (e.g. crop residue returns, manure) in stratum *i* of the areas of land; dimensionless
i	*1, 2, 3…* strata of areas of land; dimensionless

Values considered are:

SOC REF,I = 88 Table 3. HAC soils, warm temperate

fLU,i = 1 Table 6. All permanent grasslands

fMG,I = 0.95 Table 6 Moderately degraded grassland overgrazed or moderately degraded grassland, with somewhat reduced productivity (relative to the native or nominally managed grassland) and receiving no management inputs

fN,I = 1 Table 6 Grassland without input of fertilizer

As per the tool, for each stratum of the areas of land which is subject to soil disturbance attributable to project activity and for which the total area disturbed, over and above the area disturbed in the baseline (if any), is greater than 10 percent of the area of the stratum, which is the case of the present project activity, the following carbon loss is accounted:

$$SOC_{LOSS,I} = SOC_{INITIAL,i} * 0.1$$

Where:

$SOC_{LOSS,i}$	Loss of SOC caused by soil disturbance attributable the A/R CDM project activity, in stratum i of the areas of land; t C ha^{-1}
0.1	The approximate proportion of SOC lost within the first five years from the year of site preparation
i	*1, 2, 3…* strata of areas of land; dimensionless

For this project the soil disturbance area was calculated considering a ploughing strip of 80 cm every 4 meter (distance between plantation lines). This results in a 20% of the area disturbed, i.e. above the 10% established by the tool.

The rate of change in SOC stock in project scenario until the steady-state SOC content is reached is estimated as follows:

$$dSOC_{t,i} = 0 \quad \text{for } t < t_{PREP,i}$$

$$dSOC_{t,i} = -\frac{SOC_{LOSS,i}}{1\ year} \quad \text{for } t = t_{PREP,i}$$

$$dSOC_{t,i} = \frac{SOC_{REF,i} - (SOC_{INITIAL,i} - SOC_{LOSS,i})}{20\ years} \quad \text{for } t_{PREP,i} < t \leq t_{PREP,i} + 20$$

Where:

$dSOC_{t,i}$	the rate of change in SOC stock in stratum i of the area of land, in year t; t C ha^{-1} yr^{-1}
$t_{PREP,i}$	the year in which first soil disturbance takes place in stratum i of the areas of land
$SOC_{LOSS,i}$	Loss of SOC caused by soil disturbance attributable the A/R CDM project activity, in stratum i of the areas of land; t C ha^{-1}
$SOC_{REF,i}$	Reference SOC stock corresponding to the reference condition in native lands by climate region and soil types applicable to stratum i of the area of land; t C ha^{-1}
$SOC_{INICIAL,i}$	SOC stock at the beginning of the A/R CDM project activity in stratum i of the areas of land; t C ha^{-1}
i	1,2,3…strata of areas of land; dimensionless
t	1,2,3…years elapsed since the start of the A/R CDM project activity

Furthermore, according to the tool, due to uncertainties and inherent limitation of the precision of a factor-based estimation used in the tool, value of the rate of change of SOC stock is not accounted as more than 0.8 t C ha^{-1} yr^{-1}, that is:

If $dSOC_{t,i}$, > 0.8 t C ha^{-1} yr^{-1} then $dSOC_{t,i}$ = 0.8 t C ha^{-1} yr^{-1}

Finally, the change in SOC stock for all the strata of the areas of land, in year t, is calculated as:

$$\Delta SOC_{AL,t} = \frac{44}{12} * \sum_i A_i * dSOC_{t,i} * 1year$$

Where:

$\Delta SOC_{AL,t}$	Change in SOC stock in areas of land meeting the applicability conditions of this tool, in year *t*; t CO2-e
A_i	The area of stratum *i* of the areas of land; ha
$dSOC_{t,i}$	The rate of change in SOC stocks in stratum *i* of the areas of land; t C ha^{-1} yr^{-1}
i	*1, 2, 3…* strata of areas of land; dimensionless

3.2.3 Leakage Emissions (VCS, 2.5, 3.2, 3.6, 3.15, 4.3)

According to the methodology AR-ACM003 v.2.0, section 5.6, leakage emissions shall be estimated as follows:

$$LK_t = LK_{AGRIC,t}$$

Where:

LK_t = GHG emissions due to leakage, in year *t*; t CO_2-e

$LK_{AGRIC,t}$ = Leakage due to the displacement of agricultural activities in year *t*, as estimated in the tool "Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity"; t CO_2-e

According to the *"Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity"* tool, leakage emission attributable to the displacement of agricultural activities due to implementation of an A/R CDM project activity is estimated as the decrease in carbon stocks in the affected carbon pools of the land receiving the displaced activity.

Leakage emission attributable to the displacement of grazing activities under the following conditions is considered insignificant and hence accounted as zero:

a) Animals are displaced to existing grazing land and the total number of animals in the receiving grazing land (displaced and existing) does not exceed the carrying capacity of the grazing land;

b) Animals are displaced to existing non-grazing grassland and the total number of animals displaced does not exceed the carrying capacity of the receiving grassland;

c) Animals are displaced to cropland that has been abandoned within the last five years;

d) Animals are displaced to forested lands, and no clearance of trees, or decrease in crown cover of trees and shrubs, occurs due to the displaced animals;

e) Animals are displaced to a zero-grazing system.

For the case of the BDU II project, condition "a" applies. Agreements with previous land owners and external cattle breeders were reached in which cattle could keep grazing the land until the moment of plantation. Then, once plantations are established, the cattle have to leave the area temporarily until the trees reach the age of 2 years. During that period the cattle is transferred to other plots of the project that are not planted yet, will never be planted or were planted already 2 years ago. This scheme is possible given the effective area to be covered with new forests and the rate of plantation. About 60% of the area will be planted, the remaining of it for grazing activities (after discounting areas of infrastructure, water courses, etc.). Regarding plantation rate, activities will be carried out in 3 years meaning that by the third year of plantations, the cattle could go back to the areas planted in the first year. If this area is not enough to hold 100% of the cattle then part of it could also go back to the farm of their owner or to other neighboring farms with vacant capacity.

Since the type of production carried out in this region is extensive, the carrying capacity of the grazing land was not reached before the project start. According to Marcos Martinez, from Plan

Agropecuario[62], the mean carrying capacity for this region is 0.71 UG/ha with a pasture harvest efficiency of 44%. This is for a region that produces an annual mean of 4.4 tn/dry matter with an annual consumption of 2.7 tn/dry matter. Several authors indicate that efficiencies of harvest of more than 50% are indicative of heavy grazing and loss of species. For the case of BDU II project´s region there is still room for the efficiency to increase (from 44% to 50%) before pastures start to degrade. Therefore, the cattle could be moved to the unplanted areas or to neighbor farms without exceeding the carrying capacity.

The previous conditions allow concluding that the displacement of grazing activities is considered insignificant and hence accounted as zero.

$LK_t = 0$

3.2.4 GHG Emission Reductions and Carbon Dioxide Removals (VCS, 3.15, 4.1)

Net anthropogenic GHG removals by sinks is estimated as the actual net GHG removals by sinks minus the baseline net GHG removals, minus leakage. The following general formula described in the methodology is used to calculate the net anthropogenic GHG removals by sinks of an A/R project activity, in t CO2-e:

$$C_{AR-CDM} = \Delta C_{ACTUAL} - \Delta C_{BSL} - LK$$

Where,

C_{AR-CDM} = Net anthropogenic GHG removals by sinks; tCO2-e

ΔC_{ACTUAL} = Actual net GHG removals by sinks; tCO2-e

ΔC_{BSL} = Baseline net GHG removals by sinks; tCO2-e

LK = Total GHG emissions due to leakage; tCO_2-e

Based on the methodology and parameters detailed in section 3.1.1 and 3.1.2, for this monitoring period Net anthropogenic GHG removals by sinks, before buffer discounts, equals 121,588 tCO_2e as a result of actual net GHG removals by sinks, as there is no baseline removals nor leakage emissions.

Biomass 2021-2024 based on forest inventories

							2022				2023				2024			
Stratum	Area (HA)	wi	Vol 2022	Vol 2023	Vol 2024	Plots	ABG (tdm/ha)	BBG (tdm/ha)	BTREEi (tdm/ha)	BTREE (tdm/ha)	ABG (tdm/ha)	BBG (tdm/ha)	BTREEi (tdm/ha)	BTREE (tdm/ha)	ABG (tdm/ha)	BBG (tdm/ha)	BTREEi (tdm/ha)	BTREE (tdm/ha)
1	74,38	0,071	155,34	184,06	227,50	6	79,76	28,36	117,69	8,31	95,30	33,66	140,40	9,91	118,66	41,62	174,52	12,32
2	96,79	0,092	114,47	139,57	178,50	4	58,22	20,99	86,19	7,92	71,66	25,59	105,85	9,73	92,42	32,68	136,19	12,51
3	99,67	0,095	37,91	59,66	103,76	3	19,06	7,43	28,78	2,72	30,34	11,38	45,36	4,29	53,28	19,29	78,97	7,47
4	285,46	0,271	127,44	152,17	184,09	12	65,44	23,46	96,75	26,22	78,79	28,02	116,27	31,51	96,02	33,90	141,45	38,33
5	224,76	0,213	94,81	122,54	164,75	8	48,22	17,55	71,56	15,27	62,92	22,60	93,07	19,86	85,30	30,25	125,79	26,84
6	189,71	0,180	37,02	50,36	78,83	7	18,62	7,27	28,12	5,07	25,61	9,73	38,42	6,92	40,48	14,89	60,22	10,85
7	82,56	0,078	46,28	67,84	120,18	3	22,95	8,80	34,51	2,70	34,12	12,69	50,90	3,99	61,13	21,98	90,44	7,09
7	1.053,34	1				43				68,21				86,21				115,42
	783				MBS				Total 2022	71.849,84			Total 202	90.810,13			Total 2024	121.574,90
	271								Total 2022	123.821,22			Total 202	156.496,12			Total 2024	209.514,08

[62] "¿Cuánto produce un campo de las sierras del este y cúal sería la estrategia de manejo con cría vacuna?"; Ing. Agr. Marcos Martínez; Instituto Plan Agropecuario; Magazine N° 138; Recursos Naturales; Page 58; May 2011. Available at: http://www.planagropecuario.org.uy/publicaciones/revista/R138/R_138_56.pdf (Accessed on: 26/03/2016)

Finally, the change in SOC stock for all the strata of the areas of land, in year t, is calculated as:

$$\Delta SOC_{AL,t} = \frac{44}{12} * \sum_i A_i * dSOC_{t,i} * 1year$$

Where,

$\Delta SOC_{AL,t}$	Change in SOC stock in areas of land meeting the applicability conditions of this tool, in year *t*; t CO2-e
A_i	The area of stratum *i* of the areas of land; ha
$dSOC_{t,i}$	The rate of change in SOC stocks in stratum *i* of the areas of land; t C ha^{-1} yr^{-1}
i	*1, 2, 3...* strata of areas of land; dimensionless

And the results for the monitoring period are shown below

Stratum				Soil 2024		Soil 2023		Soil 2022	
Species	YOP	Soil	Area (ha)	tCO2/ha soil	tCO2	tCO2/ha soil	tCO2	tCO2/ha soil	tCO2
Edun	2016	2	74,38	2,34	174,00	2,34	174,00	2,34	174,00
Edun	2017	2	96,79	2,34	226,41	2,34	226,41	2,34	226,41
Edun	2018	2	99,67	2,34	233,17	2,34	233,17	2,34	233,17
Egra	2016	2	285,46	2,34	667,79	2,34	667,79	2,34	667,79
Egra	2017	2	224,76	2,34	525,79	2,34	525,79	2,34	525,79
Egra	2018	2	189,71	2,34	443,81	2,34	443,81	2,34	443,81
Egra	2019	2	82,56	2,34	193,14	2,34	193,14	2,34	193,14

Moreover, uncertainty is estimated and when higher than 10% a correction factor is used in accordance to methodology tool AR TOOL 14:

$$u_{\Delta C} = \frac{t_{VAL} \times \sqrt{\sum_{i=1}^{M} w_i^2 \times \frac{s_{\Delta i}^2}{n_i}}}{|\Delta b_{TREE}|}$$

Where,

Uc = Uncertainty in C_{TREE}

t_{VAL} = Two-sided Student's t-value for a confidence level of 90 percent and degrees of freedom equal to n-M, where n is total number of sample plots within the tree biomass estimation strata and M is the total number of tree biomass estimation strata

w_i = Ration of the area of stratum *i* to the sum of areas of tree biomass estimation strata (i.e. $w_i=A_i/A$); dimensionless

Δb_{TREE} = Mean change in tree biomass per hectare in the tree biomass estimation strata; t.d.m ha^{-1}

s_i^2 = Variance of tree biomass per hectare across all sample plots in stratum *i*; (t.d.m. $ha^{-1)}$ ^2

n_i = Number of sample plots in stratum *i*

For this monitoring period, the value equals 3.6% which in accordance to the tool meaning no adjustments are necessary.

State the non-permanence risk rating (%)	17 %
Has the non-permanence risk report been attached as either an appendix or a separate document?	☒ Yes ☐ No
For ARR and IFM projects with harvesting, state, in tCO2e, the Long-term Average (LTA).	246,196
Has the LTA been updated based on monitored data, if applicable?	☒ Yes ☐ No
State, in tCO2e, the expected total GHG benefit to date.	218,614
If a loss occurred (including a loss event or reversal), state the amount of tCO2e lost:	No loss event took place

Vintage period	Baseline emissions (tCO_2e)	Project emissions (tCO_2e)	Leakage emissions (tCO_2e)	Buffer pool allocation (tCO_2e)	Reductions VCUs (tCO_2e)	Removals VCUs (tCO_2e)
1-Aug-2021 to 31-Dec-2021	0.00	-8,383.33	0.00	2,012	0	6,371
1-Jan-2022 to 31-Dec-2022	0.00	-22,584.10	0.00	5,421	0	17,163

Vintage period	Baseline emissions (tCO_2e)	Project emissions (tCO_2e)	Leakage emissions (tCO_2e)	Buffer pool allocation (tCO_2e)	Reductions VCUs (tCO_2e)	Removals VCUs (tCO_2e)
1-Jan-2023 to 31-Dec-2023	0.00	-35,139.01	0.00	8,434	0	26,705
1-Jan-2024 to 23-Aug-2024	0.00	-55,482.07	0.00	13,316	0	42,166
Total	0.00	-121,588.52	0.00	29,183	0	92,405

Vintage period	Ex-ante estimated reductions/ removals	Achieved reductions/ removals	Percent difference	Explanation for the difference
01-Aug-2021 to 31-Dec-2021	39,756	8,383.33	-78.91%	During this monitoring period, five months out of 12 are considered and calculated as linear growth from 2022 vintage, while the ex-ante values are those obtained during the last MR for the whole vintage.
01-Jan-2022 to 31-Dec-2022	14,480	22,584.10	55.97%	In order to assigned a linear growth to the previous five months vintage (2021), the 2022 vintage removals are divided by 17 and only 12 parts are considered in this vintage. Still, the value achieved is higher and this can be attributed to the ex-ante update.
01-Jan-2023 to 31-Dec-2023	68,405	35,139.01	-48.63%	The difference is thought to be attributed to thinning effect on biomass growth
01-Jan-2024 to 23-Aug-2024	50,197	55,482.07	10.52%	The difference is thought to be attributed to thinning effect on biomass growth

Vintage period	Ex-ante estimated reductions/ removals	Achieved reductions/ removals	Percent difference	Explanation for the difference
Total	172,837	121,588	-29.65%	The differences is thought to be attributed to ex- ante updates and silvicultural activities impacts on biomass growth.

It must be stated that the ex-ante values are those which have been updated in last MR

3.3 Optional Criterion: Climate Change Adaptation Benefits

Not applicable as the project has not validated at the Gold Level for climate change adaption benefits.

3.3.1 Activities and/or processes implemented for Adaptation (CCB, GL1.3)

Not applicable as the project has not validated at the Gold Level for climate change adaption benefits.

4 COMMUNITY

4.1 Net Positive Community Impacts

4.1.1 Community Impacts (CCB, CM2.1)

As previously mentioned, periodic surveys to the community allow the project proponent to identify the forestry activity impacts on the communities. In this line the impacts analyzed include impact on local jobs, community well-being, employees respect for local communities' culture, environment conservation, among others. These surveys are conducted on stakeholders (both neighbors, and other interested parties). It includes the visit or digital contact, once a year or as demanded, of BDU employees (or in the last years of third parties) to conduct interviews and surveys regarding project´s impacts. Moreover, stakeholders can complete the "complaints and claims section" to inform discomfort over actions implemented by the project (the complaints and claims are resolved based on specific resolution procedures detailed in section 2.3.14, and active throughout the year). The information is collected, processed and recorded by BDU (or third party) and published in the annual monitoring report available online at BDU website.

Moreover, the Company interacts with the community in accordance with the criteria of Social Responsibility and assuming its role as a neighbor. Through socio-cultural studies, possible interactions are identified, for example:

a. Generation of manpower and use of local services.
b. Collaboration with educational activities (presentations, collaborations, etc.).

c. Talks on forest fire prevention and care for the environment in schools and high schools in areas of influence, whether rural or urban.

As a result of the project activity an increase in the creation of jobs in an area with high unemployment and high poverty rate is observed with 52 direct jobs (114 direct and indirect jobs) generated during this MR, with 2 estimated to be women. In the case of the project, all direct workers are annually trained on FSC principles and criteria, AF policies, working security as well as others providing experience of forest planting and sustainable forest management in degraded grasslands in connection to HCV areas. The forest activity in Uruguay causes an increase in the number of jobs compared to extensive farming activity[63], as well as job quality, since forestry wages are typically higher than other activities in rural areas. These will contribute to the attenuation or reversal of the phenomenon of population migration from the project zone to urban and other areas of the country. Moreover, the development of services in the towns next to the project area has expected to increase due to project activity.

In addition, there is a tendency in the country were forestry workers return home after each workday, which is a big improvement in respect to livestock, which strongly depends on the residence of workers on farms, far from their families.

On the other hand, the gross value of production per unit land area will increase more than 10 times compared to extensive livestock farming. Forestry produces an increase in tax revenue. Biomass production and energy resource is of high strategic value for Uruguay, the project increased supply of forest residues, which are considered a security for the country in terms of energy sources[59].

Regarding each community group, impacts have been identified:

Community group	Cattle breeders
Impact	Temporary relocation of activities, changes in the beef cattle breeding system (to silviculture)
Type of benefit/cost/risk	Actual and predicted impacts beneficial to the cattle breeders (with temporary inconveniences)
Change in well-being	Changes towards silvicultural activities have shown to bring benefits to cattle animals in comparison to grassland breeding, as the provision of shelter from high temperature weather and storms. Moreover, with the objective of reducing fire risks, cattle breeders and neighbours are capacitated on fire prevention and care for the environment during talks and community work.

[63] SPF (2020) Contribución del complejo forestal a la economía Uruguaya. Available at: https://www.spf.com.uy/wp-content/uploads/2023/12/Contribucion-del-Complejo-Forestal.-Impacto-Forestacion_Diciembre2020.pdf

Community group	Rural population
Impact	Increase in economic activities and demand for services in the area; improve of local community's well-being and livelihoods.
Type of benefit/cost/risk	A direct actual benefit is that BDU has implemented a program to support and assist local communities, public schools, public entities (firefighters, police) or any stakeholders identifying together problems solvable by BDU, with donations of various types[64]. From materials goods (firewood, tools, and school supplies) to staff time (educational presentations in schools). BDU II is committed to promote and enhance the well-being of the community. An indirect predicted benefit with the increase in the demand for services in the area, as a result of more activities taking place, is the generation of more jobs in different sectors[65]. This value is expected to represent a 150% in relation to direct jobs generated by the project[66], meaning an improvement in the livelihood of 171 persons (considering direct and indirect jobs, including cattle breeders and beekeepers within the project boundary) of which 7 are estimated to be women[67]. Another direct benefit for rural communities´ well-being is erosion control and areas of particular conservation interest conservation. Impacts rating is measured based on annual surveys to community
Change in well-being	Improvement given more people access jobs and training, conservation of environmental services. In this line, formal and informal training has reached 141 community members. The implementation of the project activity results in an effective protection of the soil against erosion and in a reversion of the degradation by building up soil organic carbon. Soils are disrupted only once each rotation cycle and site preparation will

[64] A complete and detailed list of donations is available for VVB in shared folder "Community impacts"

[65] Based on the report by Ferrere (2017) "Contribución de la Cadena Forestal a la Economía de Uruguay" available at https://www.cpaferrere.com/en/"

[66] Based on information from the report of Ferrer, 2017 (previous reference); where induced jobs from the forestry sector represented more than 150% of direct jobs in 2016.

[67] Based on General Census 2011 values for population structure.

	be based on strip tillage, with strips oriented perpendicularly to slope direction, and use of glyphosate herbicide to minimize the exposure the soil to erosion agents The tree vegetation will completely protect the soil and at harvest, bark, leaves and branches will be left on the ground, thus minimizing any negative impacts of erosion by rainfall and soil degradation by harvesting machinery

Community group	Forest producers and workers
Impact	Increase in scale and demand for jobs and industries; management experience improvement
Type of benefit/cost/risk	Indirect predicted benefit given by economic studies and survey results in the project zone.
Change in well-being	The project will contribute to create a development pole away from Montevideo and other areas which concentrate most of the economic activity in the country, with 114 direct and indirect jobs related to forestry activities, created in this MR, also increasing health conditions to the 52 new direct jobs generated.

Community group	Project forestry workers
Impact	Chemical management
Type of benefit/cost/risk	Identified direct potential risk – low significance (given the mitigation actions in place).
Change in well-being	Potential health risk.

Community group	Rural school students and staff
Impact	Education improvements by upgrading education facilities that are child sensitive
Type of benefit/cost/risk	Actual direct benefit received by students and education institution staff
Change in well-being	This has been achieved through the project´s donations to improve the school infrastructure and maintenance. It also

[redacted]	includes talks on subject of interest to school authorities as: locally transmitted diseases, risk of locally present ophidians, flora and others[68]. Both activities have reached 185 students during this MR.

4.1.2 Negative Community Impact Mitigation (VCS, 3.19; CCB, CM2.2)

Forestry in Uruguay is considered of low risk as impacts can be reduced through mitigation actions, for this reason only an EIA is requested in case of plantations of more than 100ha in the same property or productive area (Law Decree N° 349/005). Category A, assigned to the project area, considers that the project only presents non-significant negative environmental impacts, within what is tolerated and foreseen by current regulations. The project area is in areas with soils categorized for forest plantation activities. The precautionary principle enables decision-makers to adopt precautionary measures when scientific evidence about an environmental or human health hazard is uncertain and the stakes are high, which is not the case for forestry activity in the project area.

Nevertheless, the effectiveness of management based upon precaution depends in large measure upon anticipation of impacts. Based on this theoretical assessment of the impacts identified as negative because of the planned interventions and related forest activities, the aim is to establish mitigation measures that will depend on each particular situation. Mitigation is understood as the design and execution of works, activities or measures aimed at moderating, attenuating, minimizing or diminishing the negative impacts that this project may generate on the human and natural environment.

The project impacts identified in the Environmental Impact Assessment are mitigated based on:

Impacts on personnel: the mitigation measures that result in a low risk weighting are: the mandatory use of PPE (shoes or rubber boots, overalls, nitrile gloves, respirator for organic vapors, cap and goggles in the case of transferring products to be filled, etc.) rubber boots, overalls, nitrile gloves, respirator for organic vapors, cap and goggles in the case of transferring products for filling goggle backpacks). It is also compulsory to have an applicator's license which implies going through a specific training course in the application of chemical products.

Roads and Routes: the company establishes that on rainy days it is forbidden to drive on unpaved roads to avoid road and routes deterioration.

Soil and water contamination by chemicals: there is an operating procedure in place for the correct use and care to be taken to avoid spills and contamination by limiting use, trained personnel in charge, among other actions.

Flora: operators will be trained in operational IT to prevent the product from contaminating the local flora.

To the extent that negative impacts are identified that could have a greater significance than foreseen, the necessary corrective measures will be taken immediately. These will depend on the

[68] A complete and detailed list of donations is available for VVB during verification in shared folder “Community impacts”.

specific situation in each case and will be evaluated by the management of the legal entity, the AF GROUP and the appointed technical advisors.

No elements have been established to determine or establish compensation measures to restore environmental impacts, given that they have not been identified in the production process of the properties that make up the AF GROUP. The following are some of the situations that could be found and the measures that could be taken in the event that they are found:

Gullies: if there are significant gullies, their surface area is measured and monitored to ensure that it does not increase. If this is the case, the area is measured and monitored to ensure that it does not increase, and if it does, it will be filled in or trees will be planted, selecting the most appropriate measure for each situation.

Erosion: planting lines should preferably be carried out perpendicular to the slope, if there is a longitudinal and transverse slope, it shall be cross slope, with drains/roads that allow for a change in the direction of the tillage so that there are no downhill furrows. The furrows should have a slight slope (2%), which is necessary to prevent the accumulation of water that would limit the growth of the trees.

Whenever possible, roads should not be used when they are wet, so as not to risk jeopardizing their preservation.

Water wells: in the water wells, physical and chemical analysis of the water is carried out and the water table is measured on a biannual basis.

Soil analysis: if necessary, soil analysis will be carried out at selected sites. This can be defined e.g. when plantations are monitored, and growth is found to be below expectations.

Harvesting: given that forest harvesting is the activity that potentially generates the greatest impacts, certain aspects to be considered after harvesting are recorded in the Harvest Environmental Monitoring Sheet.

Roads: given that forest harvesting is the activity that potentially generates the greatest impacts, certain aspects to be considered after harvesting are recorded in the Harvest Environmental Monitoring Sheet.

Moreover, the project area has management and monitoring plans in place for HCV and APIC areas to ensure the conservation of those areas identified, throughout the project´s lifetime. Anyway, based on the description of Section 4.1.3 of project´s PD, no HCVs were identified related to community well-being in the project area, and those within project zone will not be negatively impacted by the project activities as identified threats by the project´s activities are of low impact and primarily within project area; moreover HCVs are conserved either by public or private entities.

In conclusion, the project´s activity does not represent a significant threat to HCVs of community´s well-being according to governmental regulation, the environmental impact assessment conducted or communities' communication with the PP. Anyway, different measures to avoid or minimize such threats are in place.

4.1.3 Net Positive Community Well-Being (VCS 3.19; CCB, CM2.3, GL1.4)

The main source of income for communities associated with agriculture in the project area is beef-cattle breeding (cow-calves). Production methods have been applied for the last 300 years

(extensive production) and are affected by natural disasters such as droughts and floods. Overall, agricultural production is low. The project is benefiting communities economically and socially.

1) **Income improvement:** during the project period, the net income generated by the project includes generation of employment and increasing labor income
2) **Job creation**: the project provides permanent, temporary, direct and indirect employment opportunities.
3) **Enhance social cohesion:** project developers have generated a closer interaction channel, strengthening communication between communities, local/national governments and forestry contractors' companies.
4) **Technical training:** people from communities hired to develop forest activities are technically trained.
5) During the project implementation, it contributes to **areas conservation**.

Those impacts identified will be mitigated based on the procedures further described in the general Forest Management Plan.

All the previous benefits lead to the improvement in the well-being of 4,930 people (of whom 2,435 are estimated to be women). These values take into consideration those areas where direct and indirect jobs have been generated (generated and expected to have been generated), donations and development projects with the communities for the verification period, as well as population near HVC identified. This is estimated then as the total population for the corresponding communities:

Community	Population (INE, 2023)[69]	Men	Women
ARBOLITO (CEL)	277	50.2%	49.8%
CERRO CHATO (DUR)	1,321	48.6%	51.4%
MARIA ALBINA	Less than 100 (In 2011 there were 68)	-	-
FRAILE MUERTO	3,264	49.5%	50.5%
TOTAL	4,930	49.4% (average)	50.6% (average)

Evidence of the net positive impact of the project´s activity is the results of the activity´s rating by the stakeholders on the well-being, job generation and other variables analyzed in the annual community survey. These results are reported in section 4.3.1 of this report.

Those impacts identified will be mitigated based on the procedures further described in the general Forest Management Plan leading to net positive impacts.

4.1.4 Protection of High Conservation Values (CCB, CM2.4)

None of the HCV have been negatively affected by the project because they are either protected by national laws or voluntarily protected by the project proponent (for those within private lands).

[69] INE (2023). National Population Census. https://www5.ine.gub.uy/documents/VisualizadorCenso2023.html

Almost all HCV related to community well-being are not located in the rural areas, but in towns, negligible being affected by the project activity.

If HCV for community are found within the project area, they´ll be monitored and protected as mentioned in the BDU II project Management Plan. The BDU II project is not affected or affecting HCV areas.

4.2 Other Stakeholder Impacts

4.2.1 Mitigation of Negative Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.2)

It is well known that planting trees on a grassland site usually causes a reduction in the runoff and an increase in evapotranspiration. This might cause some competition for water with other users (e,g, cattle farms located downstream in the watersheds, hydroelectric power generation, and water for human consumption). Some studies (e.g. Silveira et al., 2006[70]) have shown that this effect is not significant in Uruguay at the medium-size watershed scale (due to high precipitation). At the micro-watershed level, this effect can be minimized by plantation design (e.g. by limiting the extent of forest plantations in a watershed)[71]. The proposed project leaves at least 35-40% of the land area unplanted, which would greatly reduce the hydrological effects, as compared with a more common 25- 30% of unplanted area. In addition, since most of the project area flows into rivers with relatively high flow rate, no significant downstream effects are expected.

On the other hand, given the fact that climate change in Uruguay has increased precipitations and is expected to continue causing an increased frequency of extreme precipitation events associated with flooding[72] causing severe infrastructure damage and displacement of people from their homes, the establishment of forests acts as a factor attenuating such negative impacts, by moderating the runoff. This is in fact a project's positive environmental service. Given the fact that soil erosion will be controlled and that a minimal amount of agro chemicals will be used, no negative impacts on water quality is expected either.

Any potential negative impacts on the hydrological cycle processes will be minimized by: a) the design of plantations leaving areas without plantation, specifically avoiding sensitive areas; and b) the fact that the annual rainfall, and in particular during the spring-summer period, when usually water deficits occur, has been increasing over recent decades, and is expected to continue in the future, thus offsetting the expected decrease in runoff.

No other negative impacts have been identified on other stakeholders, but constant monitoring of project activities impacts will allow quick identification and opportunity for its mitigation.

[70] Silveira, L., Alonso, J., y Martínez, L. 2006. Efecto de las plantaciones forestales sobre el recurso agua en el Uruguay. Agrociencia (2006) Vol. X N°2 pág. 75-93

[71] Nosetto, M. & Jobbagy, G. (2016) Análisis del impacto hídrico de la expansión forestal en cuencas de Uruguay at Sociedad de Productores Forestales Uruguay

[72] As mentioned in section III of: Giménez et al (2006) Cambio climático en Uruguay, posibles impactos y medidas de adaptación en el sector agropecuario. Serie Técnica Nº 178, INIA

4.2.2 Net Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.3)

As previously analyzed, given the fact that climate change in Uruguay has been causing and is expected to continue causing an increased frequency of extreme precipitation events associated with flooding causing severe infrastructure damage and displacement of people from their homes, the establishment of forests acts as a factor attenuating such negative impacts, by moderating the runoff. Together with the mitigating actions, with proper forest design, instead of causing a negative impact on other stakeholders in terms of runoffs, the project presents a clear environmental service.

As there has not been identified other negative impacts, there is no need to anticipate their results.

In order to evaluate that no net negative impacts on other stakeholders have taken place surveys are conducted not only with neighbours, but different stakeholders with different backgrounds, activities and relation to the project (including contractors and other interested parties) as mentioned. Moreover, during annual FSC certification, a wide array of stakeholders is interviewed and no complaints have arisen regarding negative impacts of the project, other than local impacts mitigated, such as rural road deterioration[73].

4.3 Community Impact Monitoring

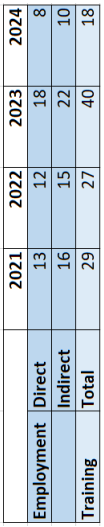
4.3.1 Community Monitoring Plan (CCB, CM4.1, CM4.2, GL1.4, GL2.2, GL2.3, GL2.5)

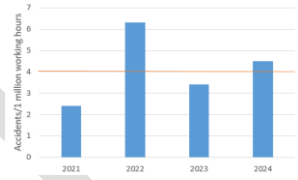
The community monitoring plan includes a matrix where the different variables analyzed are monitored (monthly or annually according to indicator) and publicly available on BDU webpage to stakeholders in the form of summary monitoring reports, in local language.

Impacts on the communities´ well-being is analyzed from the information collected through the annual survey conducted by BDU (see section 2.3.9). The results for the verification period are reported in the annual summary monitoring reports mentioned where the rating for different forestry activity impacts is summarized. Other variables are systematically monitored using internal reports including working accidents, jobs generated, trained employees, water and soil quality, number of complaints resolved, contribution of project developer to communities in material assistance. Results for the verification period of some of the variables are reported below:

Cost/benefit/risk	Indicator	Monitoring frequency	Goal	Results for verification period
Improvement of livelihoods of communities and stakeholders	Number of direct and indirect employees	Annual	Prioritize local hiring if needs are met	

[73] FSC summary reports available for VVB during verification in shared folder “FSC”.

Cost/benefit/risk	Indicator	Monitoring frequency	Goal	Results for verification period
Improvement of technical capacities of communities and stakeholders	Number of trained people in forestry-related areas	Annual	100% forestry contracted companies should be trained every year	
Achieve exceptional community communication and participation throughout the project lifetime	Number of complaints resolved	Annual	100% of complaints should be answered and solved in line with procedures in place	No complaints received during verification period unresolved
	Communities valorization of project communication procedures	Annual	Maintain values of good/very good results above 60%	Average for the period 60%
Improvement of communities well-being	Contribution of project developer to communities in material assistance	Annual	Contribute with communities with what is possible	4 schools benefited (painting, firewood, park maintenance, park game fixing) 2 community institutions (firewood)
	Communities valorization of project improvement to community well-being	Annual	Maintain values of good/very good results above 60%	Average for the period 75%

Cost/benefit/risk	Indicator	Monitoring frequency	Goal	Results for verification period
Cattle breeders participation	Number of cattle breeders in properties	Annual	Maintain interaction with cattle breeders	7 cattle breeders
Maintenance of community HCV	Community HCV conservation status within premises	Annual	No HCV negatively impacted	No community HCV within the project area or impacted by project
Mitigate workers health risks	N° of accidents/1million working hours	Monthly	Reduce accidents to 4 accidents every 1 million working hours	

Regarding community HCV, non-have been identified within the project area. Those within the project zone have not been negatively affected by the project as they are either protected by national laws or voluntarily protected by private land owners. Almost all HCV related to community well-being are not located in the rural areas, but in towns, negligible being affected by the project activity. If HCV for community are found within the project area, they´ll be monitored and protected as mentioned in the BDU II project Management Plan. In conclusion, the BDU II project is not affected or affecting HCV for community well-being.

4.3.2 Monitoring Plan Dissemination (CCB, CM4.3)

The monitoring plan and annual monitoring results are published on BDU II website for the whole Trust Fund and which can be consulted openly by stakeholders[74].

The summary of the Monitoring report in local language is presented to different stakeholders during face-to-face presentations organized with the communities, during FSC certification and specifically shared using main communication media (mail, telephone).

4.4 Optional Criterion: Exceptional Community Benefits

Not applicable as the project has not validated at the Gold Level for exceptional community benefits.

4.4.1 Short-term and Long-term Community Benefits (CCB, GL2.2)

[74] Annual monitoring reports available for VVB during verification in shared folder “Community impacts” and available at BDU website as Impact Report and Public Monitoring summary: https://www.bosquesdeluruguay.com/en/impact/

Not applicable as the project has not validated at the Gold Level for exceptional community benefits.

4.4.2 Marginalized and/or Vulnerable Community Groups (CCB, GL2.4)

Community Group	Not applicable
Net positive impacts	Not applicable
Benefit access	Not applicable
Negative impacts	Not applicable

4.4.3 Net Impacts on Women (CCB, GL2.5)

Not applicable as the project has not validated at the Gold Level for exceptional community benefits.

4.4.4 Benefit Sharing Mechanisms (CCB, GL2.6)

Not applicable as the project has not validated at the Gold Level for exceptional community benefits.

4.4.5 Governance and Implementation Structures (CCB, GL2.8)

Not applicable as the project has not validated at the Gold Level for exceptional community benefits.

4.4.6 Smallholders/Community Members Capacity Development (CCB, GL2.9)

Not applicable as the project has not validated at the Gold Level for exceptional community benefits.

5 BIODIVERSITY

5.1 Net Positive Biodiversity Impacts

5.1.1 Biodiversity Changes (VCS, 3.19; CCB, B2.1)

The expected biodiversity changes include an improvement of the ecological environment of the planted areas and the native forest and grassland surrounding these forest plantations, meaning the total of the properties (only considering the cadastral units part of the project) reaching 1,653ha , plus surrounding HCV areas in other properties managed by AF.

These is due to the fact that native forests won´t be impacted by the activity and monitored to avoid negative impacts, whereas those degraded grasslands due to cattle breeding with conservation potential are being protected and monitored, allowing its recovery. Cattle breeding activity did not include this measures, leading to degradation in the area.

Change in Biodiversity	Fauna biodiversity increase in species richness
Monitored Change	Potential species presence is first predicted and later monitored (annually in HCV areas and every five years in APIC as established in the monitoring plan). This is carried out evaluating the following parameters: • Specific richness (number of different species) of each one of the studied zoological classes (amphibians, reptiles, birds and mammals) general of the property. • Proportion of resident and migratory species of the Class Aves. • Maintained presence or not of the species that appear in the IUCN threat categories, both on a global scale (for their entire distribution) and for the region, strictly. • Maintained presence or not of the species integrated to the List of Priority Species for Conservation in Uruguay (Soutullo et alli, 2013). A general increase in the number of species richness has been observed. For example, Don Ramón fauna biodiversity results show:

Year/ Endangered category	Amphibians	Reptiles	Birds	Mammals
2020	11	10	106	12
Global IUCN	-	-	-	-
Local IUCN	-	-	3 VU	-
SNAP	1	2	14	8
2021	14	11	108	13
Global IUCN	-	-	-	-
Local IUCN	-	-	3 VU	-
SNAP	1	2	15	8

Complete information from biodiversity reports from the different properties is available in appendix

Justification of Change	HCV "Las Vertientes I" was later re-categorized to conservation area, so the last annual monitoring took place in the previous MR, and in line with the Monitoring Plan, now monitoring is done every 5 years (next expected in 2025). The last monitoring carried out in 2020 resulted in: Specific wealth found: amphibians 10 / reptiles 9 / birds 88 / mammals 13 total of 120 species of which 12 are within the National SNAP list and 1 VU under IUCN category (*Sporophila cinnamomea* (gray crown capuchin), meaning the fauna biodiversity was maintained during the previous verification period. *Still, d*uring this monitoring period, new farms have been studied "Fraile Muerto", "Vicentino" and "Los Morochos", identifying potential species and compared to observed species. In the case of Fraile Muerto, these were observed in a neighbouring property managed by AF (Don Ramón) and have been evaluated over a period of time. Fraile Muerto has been categorized as HCV an it´s annual monitoring to be implemented as of this monitoring period.

Change in Biodiversity	Flora biodiversity richness
Monitored Change	Potential species presence is first predicted and later monitored (annually in HCV areas and every five years in APIC as established in the monitoring plan). This is carried out evaluating the following parameters: – Specific richness (number of different species) in general on the farm. – Presence or non-presence of species listed in IUCN threat categories, both on a global scale (for their entire distribution) and strictly for the region. – Presence or not of species included in the List of Priority Species for Conservation in Uruguay (Soutullo *et al.*, 2013) For HCV "La Cascada" (later re-categorized to APIC) the indicators surveyed show 1 Endangered and 3 Vulnerable IUCN species can be found: – *Frailea buenekeri (E)* – *Frailea phaeodisca (VU)* – *Parodia ottonis (VU)* – *Parodia neoarechavaletae (VU)*

	Moreover, total values show an increase in the number of species identified:

Year/Endangered category	SNAP	CITES-IUCN	Totals species
2019	9	12	336
2020	13	12	351
2023	9	16	352

Justification of Change	The first changes observed may have been attributed to a low level of thoroughness in during the first survey, mainly given it consists of a baseline analysis which is expected to be completed after different surveys have been implemented.

Change in Biodiversity	Invasive species control/reduction
Monitored Change	Visual inspection of field supervisor tours (with camera tool) Analyzing: – Is there natural regeneration of Eucalyptus and Pinus in unwanted areas? – Are there populations of other invasive plant species within the native forest, conservation areas and HCV? – Is the execution of extra-stand forestry practices invading conservation areas? – State of natural field areas (height of horizon of leaves in pastures,% of soil covered, erosion)? – Is any animal species displayed, if YES which one? Results have shown the presence of invasive species: *Cynodon dactylon, Senecio madagascariensis and Carduus sp.*
Justification of Change	The control plan for invasive species is effective and so the monitoring shows no increase in invasion indicators.

Change in Biodiversity	Maintain HCV and APIC grassland quality
Monitored Change	The area of APIC grassland (ha) within the project´s properties is calculated with GIS and mapped, along with other land uses of the properties; quality of grassland in HCV and APIC areas are determined based on: – -Exotic and invasive species presence – -Grassland height – -Uncovered soil (%)

	– -Erosion rate – -Cattle presence/intensity – -Number of species present – -Vegetation types and dominant demeanor This can be evidenced in the 2020 and 203 biodiversity report for La Cascada farm[75], where the evolution throughout the monitoring period is reported and show no changes in the vegetation type and dominant bearing, a reduction in grassland height, no sign of erosion and an increase in soil coverage percentage. There evidence of invasive species: *Senecio madagascariensis, Cynodon dactylon* typically found in productive farms.
Justification of Change	This variables were analyzed for La Cascada property. The difference can be explained given the cattle-grazing reduction.

Change in Biodiversity	Maintained native forest area
Monitored Change	The area of native forest (ha) within the project´s properties is calculated with GIS and mapped, along with other land uses of the properties; quality of native forests in HCV and APIC areas are determined based on: – -Natural regeneration – -Forest undergrowth – -Epiphytes present – -Vines present – -Exotic and invasive species present – -Harvest/burnt individuals – -Cattle presence/intensity Positive changes in native forest area in the properties have taken place[76]. This can be evidenced in the 2023 biodiversity report for La Cascada farm[77], where the evolution throughout the monitoring period is reported and show no evidence of invasive species nor harvest or burning of native forests, and an increase in natural regeneration and forest understorey.

[75] Observation in monitoring site LCa6. See section 5.3.1 for site reference

[76] Observations in sites LCa 1, LCa 4 y LCa 5 of 2023 monitoring. See section 5.3.1 for site references.

[77] Annual biodiversity reports for La Cascada available in shared folder “Biodiversity” to VVB and results reported in section 5.1.1

Justification of Change	Positive changes in native forest area in the properties have taken place due to the native forest managements (burning, cutting and harvesting of native forests prevention).

5.1.2 Mitigation Actions (VCS, 3.19; CCB, B2.3)

As mentioned, forestry in Uruguay is considered of low risk as impacts can be reduced through mitigation actions, for these reason only an EIA is requested in case of plantations of more than 100ha in the same property or productive area (Law Decree N° 349/005). The category A assigned to the project area considers that the project only presents non-significant negative environmental impacts, within what is tolerated and foreseen by current regulations.

Nevertheless, the effectiveness of management based upon precaution depends in large measure upon anticipation of impacts. In this sense, the precautionary criteria considered in the definition of HCVAs seeks to ensure their conservation until information is obtained to reconsider them, meaning HCV areas are first defined based on bibliography, communities and expert´s criteria, and later re-categorized, if needed, in the case the expected biodiversity conservation values are not found during annual monitoring.

In the case of mitigation actions for the conservation and management of these areas, the measures that can be taken according to need are listed below:

- Mapping of the conservation area and implementation of procedures to be respected by others activities (crops, alternative productions, vehicular traffic, activities not in accordance with the objective of the area, etc.).
- Control the entry of hunters, fishermen, birders, and people outside the company staff in general (Figure 13).

Figure 13. La Cascada property fenced and with “no hunting” signs and to the right, the HCV, now part of larger APIC.

- Evaluate the relevance of carrying out livestock management with objectives compatible with the conservation of environments, their flora and fauna.
- Minimize the use of dogs in livestock management, since in general they are an important cause of mortality of wild fauna, mainly of small and medium-sized mammals.
- Fence the area where vulnerable species have been found.
- Reconstruction plan: management of invasive alien species and Pines
- There are a number of aspects that are common to the management plan for unplanted areas of all farms (from the point of view of the fauna tetrapode) and with greater emphasis on HVCs.
- Access restriction. The presence of people should be restricted to the minimum essential in the case of company personnel and contractors.
- Establish effective surveillance of the areas by Field Supervisors.
- Perform access control tasks and installation of posters deterrent. It would be desirable to prohibit (and enforce the prohibition) the access to unauthorized persons, in particular, but not exclusively, hunters, fishermen, campers, birders, etc.
- Prohibit (as far as possible, and if not reduce to a minimum essential) the presence of dogs linked to the performance of livestock movement tasks, in the environment of residences or accompanying visitors. Dogs in living areas must:
- Restrict employee’s circulation, preventing them from entering conservation areas and particular to HVCs.
- Maintain special attention on the presence of exotic species feral (wild boar dogs and pigs (Sus scrofa), axis deer - Axis and Hare - Lepus europaeus), mainly) for detect presences, or substantial increases that warrant taking control actions.
- Control the presence, within the HVC, of plant species invasive aliens that imply an impoverishment of the environments for tetrapod fauna.
- Adjust livestock endowments (and categories and species) in response to its affectation to the vegetation cover, keeping in the as much as possible a good soil cover and the supply of Shelters (tall grass, accumulated plant material) and food (seeds, leaves) for wildlife. It is desirable to consider cattle within HVCs as a management tool for the vegetation rather than as a strictly productive objective.
- Reduce the risk of fire through: perimeter firewalls, green areas, surveillance, and prohibition of fire and control of access.
- In the particular case of HVC it is desirable to avoid inter-fingering between cultivation and natural areas, minimizing the area contact and avoiding, in particular, cutting or narrowing excessive, biological corridors and connections.
- In all cases, the installation of posters relating to areas of conservation or HVC should be one of the last actions (subsequent to the establishment of controls and specific surveillance) since many times they have the opposite effect, warning about the presence of securities and tending to illegal access rather than avoiding it.
- Vegetable waste must be at least 20 meters away with respect to the areas defined as priority conservation areas, as well as of water courses, buffer zones and ecotones.
- The roads and storage areas will be planned avoiding affecting areas of conservation of the property, as well as the shallows, water courses, etc. and in special conservation priority areas.

After the harvest:

- Verification that the 20 m buffer zones have been well defined with respect to the plantation firebreak.
- Verification that there are no specimens of Eucalyptus (or other exotics invasive) in conservation priority areas or other sites.

Moreover, specific considerations are defined for each HCV area in the Fund, applicable to others if defined in the project area. For example:

- Control possible fragmentation or discontinuity of areas and corridor
- Control the natural regeneration of cultivated forest species towards unwanted areas.
- Eliminate invasive species populations outside the plantation area.
- Verify that extra-stand forestry practices are not carried out.
- Verify the status of non-forested areas, fences and posters.
- Verify the ground cover and adjust accordingly the provision of livestock.
- Circulation with heavy machinery is restricted in areas to conserve and areas to conserve.

Specific considerations for areas of particular conservation interest are defined, as is the case for La Cascada establishment as of 2020 (previously considered HCV):

- Take care of the possible fragmentation or discontinuity of areas and corridors.
- Control the natural regeneration of forest species cultivated towards unwanted areas.
- Eliminate invasive species populations within areas of special interest for conservation
- Verify that extra-stand forestry practices are not carried out.
- Verify the status of non-forested areas, fences and signage.
- Verify the ground cover and adjust accordingly the provision of livestock.
- Circulation with heavy machinery is restricted in the areas to be conserved and areas to conserve.

5.1.3 Net Positive Biodiversity Impacts (VCS, 3.19; CCB, B2.2, GL1.4)

As demonstrated during VCS validation in PD, the identified baseline activity: cattle breeding, represents a degrading land activity in the region. The activity does not required an Environmental Impact Assessment, leading to no mitigation plans, or HCV areas identification and conservation. No mitigation plans means no actions taken to avoid soil erosion, plant invasion, among other activity´s impacts. From the biodiversity monitoring conducted in the different farms, it can be seen that those areas impacted by grazing presented low potential to provide native biodiversity habitats, and only species adapted to disturbed areas were present. This is due to the grazing management in the area, affecting vegetation cover and available resources. Moreover, it presents low employment rates per hectare in comparison to other economic activities.

First, due to long-term farming, ecological structure of most project sites were afforestation takes place was relatively homogenous, with low biodiversity. BDU project implemented afforestation activities with scientific and reasonable configuration method, with no burning and slash. The row site preparation protects the existing vegetation as much as possible. Therefore, the implementation of this project has not decreased biodiversity of project sites.

Second, because ecotones and buffer areas are very important areas from the point of view of biodiversity and its conservation, BDU project focused special studies in those areas. In them, the biggest number of fauna species are registered in relation to forestry plots, inside each farm. At the same time, they act as biological corridors, avoiding isolation or genetic drift. The implementation and maintenance of buffer zones between forest plantations and native forests of more than 20 meters, allow the development and, in some cases, the improvement of pastures. These pastures are habitat and biological corridors for many RAE fauna species.

The positive impacts of the development of the project are demonstrated in section 5.1.1 and 5.3.1 compared with conditions under the without-project land use scenario.

Species and habitat	Properties have gone through a biodiversity monitoring identifying areas of interest for biodiversity conservation according to national conditions: • Conservation Areas of the National System (SNAP) • Areas of interest for Bird Conservation • 20% of national territory Prioritized for Conservation by the National Protected Areas System (SNAP) Based on the property monitoring areas of particular conservation interest or areas of high conservation interest are classified and monitored according to the monitoring plan in place. Natural forest and grassland habitats which include some threatened and endangered species have been identified within the properties and are being monitored. As shown in section 5.3.1, they have not been negatively impacted by the project as specific richness and presence of this species is still observed throughout the monitored years.
Areas needed for habitat connectivity	As mentioned above, properties go through biodiversity monitoring identifying this kind of habitats. Furthermore, neither native forests nor natural grassland not degraded are impacted by the project activity as they are not harvest, burnt, and are monitored. See section 5.1.1 and 5.3.1 for more information on positive impacts.

5.1.4 High Conservation Values Protected (CCB, B2.4)

The project has an Area of Particular Interest for Conservation (APIC) at "La Cascada" property, which was originally categorized as HCV area. It is located in Lavalleja Department. In the biodiversity monitoring carried out in 2023 it was found that vascular plants increased in comparison with previous assessment. It was confirmed that the natural ecosystems representative of the region are included in the current forest management plan, showing a very good state of conservation that ensures their representativeness while coexisting with productive activities. The proposal to designate them as Areas of Particular Interest for Conservation (APIC) is maintained, covering 26% of the property's surface area. Populations of *Frailea buenekeri* W.R. Abraham are *Frailea phaeodisca* (Speg.) Backeb. & F.M. Knuth were maintained.

Moreover, a new HCV area has been identified in Fraile Muerto property, neighbouring another HCV managed by AF, but not part of the project area. This area will be monitored annually as per the next verfication and in line with the monitoring plan in place. This means the area has been correctly managed and conserved in order to be monitored and managed as a HCV area. See figure 3 showing a map for the property where the HCV area is defined.

Duties related to the presence of exotic species were done. Eucaliptus individuals inside the APIC were removed, as it was asked in previous monitoring assessments during 2019 and 2020. However, some nonnative species remain in the area as *Cynodon dactilon* and *Senecion madagascariensis*.

5.1.5 Species Used (VCS, 3.19; CCB, B2.5, 2.6)

Species introduced	Classification	Justification for use	Adverse effects and mitigation
Eucalyptus grandis	Non- native, non-invasive[78]	They ensure an adequate productivity level and a market access for the products to be obtained, which would not be possible if other species were used. The project will produce high quality wood suitable for plywood and saw wood production.	As a general measure, the project will voluntarily adopt the application of the National Code of Good Forest Practices. Likewise, an environmental management system will be implemented with a focus on continuous
Eucalyptus dunnii	Non- native, non-invasive[79]	This specie will be planted in lower areas where *E.*	

[78] Available at: https://www.gub.uy/ministerio-ambiente/comunicacion/publicaciones/lista-especies-exoticas-invasoras-uruguay#:~:text=El%20Comit%C3%A9%20de%20Especies%20Ex%C3%B3ticas,requieren%20de%20atenci%C3%B3n%20prioritaria%20dado

[79] Available at: https://www.gub.uy/ministerio-ambiente/comunicacion/publicaciones/lista-especies-exoticas-invasoras-uruguay#:~:text=El%20Comit%C3%A9%20de%20Especies%20Ex%C3%B3ticas,requieren%20de%20atenci%C3%B3n%20prioritaria%20dado

Species introduced	Classification	Justification for use	Adverse effects and mitigation
		grandis can be affected by frost damage. Similarly to *E. grandis, E. dunnii* ensure an adequate productivity level and a market access for the products to be obtained, which would not be possible if other species were used.	improvement, following the FSC (Forest Stewardship Council) standard. Based on the environmental impact studies carried out, a significant negative environmental impact is not expected as a consequence of the implementation of the project activities and the use of this species. The Exotic Invasive Species Committee for Uruguay (CEEI) has published a list of invasive flora and fauna, where Eucalyptus is not among them. Still, the Forestry Management Plan includes exotic and non-native species control, which consist of monitoring and extraction of individuals if necessary.

5.1.6 Invasive Species (VCS, 3.19; CCB, B2.5)

Existing invasive species	Mitigation measures to prevent the spread or continued existence of invasive species
Senecio madagascariensis	The Forestry Management Plan includes exotic and non-native species control, which consist of monitoring and extraction of individuals when necessary. The annual monitoring report evidence the actions taken in this regards for the different properties.
Cynodon dactylon	The Forestry Management Plan includes exotic and non-native species control, which consist of monitoring and extraction of individuals when necessary. The annual monitoring report evidence the actions taken in this regards for the different properties.

5.1.7 GMO Exclusion (CCB, B2.7)

This project is FSC certified so it has a commitment with FSC values. One of them is the prohibition of introduction of genetically modified organisms in forestry operations.

5.1.8 Inputs Justification (VCS, 3.19; CCB, B2.8)

Based on FSC Principle 6, Environmental Impact, management systems should promote the development and adoption of non-chemical methods for pest management, in order not to harm the environment. The use of chemical pesticides should be avoided. Because of that, AF has in place an internal policy and strategy to minimize the use of chemical substances. In the case of pest control, if chemical pesticides are needed, an environmental and social risk assessment is conducted prior to application, with the aim of identifying impacts, mitigation and monitoring measures of the different chemical alternatives.

At the same time, given forestry sanitation is considered to need a national scale solution among producers, AF channels its efforts through the Health Commission of the Society of Forest Producers (CS-SPF), participating actively. The CS-SPF establishes a short and medium-term work plan, which includes lines of work in aspects of monitoring, control, investigation and training / dissemination for pests considered priority. In turn, forest health issues at the national level are coordinated by the CECOPE (Executive Council for the Coordination of Pests and Diseases forestry) made up of representatives of the MGAP through the General Directorate Forestry and the General Directorate of Agricultural Services, INIA and SPF.

Moreover, a report conducted by a specialist in the use of agrochemicals "Report on the justification of the use of agrochemicals (herbicides and ant killer) in forest plantations" (2020) includes a technical analysis of weed control and agrochemicals, including a detailed national and regional literature review. The analysis concludes the need for the use of agrochemicals as the most economically profitable method and the impossibility of the mechanical method for areas larger than 100 ha per hectare due to the lack of local labour, as well as being more costly and involving a higher level of risk. There is a history that the non-use of agrochemicals for weed control significantly reduces the yield of Eucalyptus plantations, making them unviable.

Agrochemicals are used responsibly and operational procedures are in place for the storage, transport and use of agrochemicals, according to CNBPF guidelines and FAO codes.

In reference to the use of ant-killers, it presents studies that conclude at the local level that there are no alternatives to the use of ant-killer and that plantations cannot be established without ant control, citing studies carried out by the Universidad de la República at the request of the working group of the Health Commission of the Society of Forest Producers.

The use of inputs varies due to plantation age, as well as internal policies implemented aiming to meet the requirements of the National Code of Good Forest Practices and the ILO Code. It is also established that products prohibited by the FSC will not be utilized.

Many of the inputs used in the previous monitoring period are no longer used during this period, such as: Fipronil, Metsulfuron, Glyphosate, NPK, Phosphorite, Chlorine-free insecticides, 2,4 D-Amine, Haloxifop metil, S-metolachlor, and Oxyfluorfen. On the other hand, **Triclopyr butoxyethyl ester** is used in this period and described in the table below[80].

Name	Triclopyr butoxyethyl ester[81]
Justification of Use	It's a selective, post-emergence systemic herbicide used to control woody plants, as well as annual and perennial weeds.
Adverse Effect	Triclopyr butoxyethyl ester is classified by EPA as slightly toxic (toxicity class III). In humans and animals, it can cause eye and skin irritation, but it is highly toxic to fish and other aquatic invertebrates. In terms of persistence, the butoxyethyl ester formulation degrades in the soil and water to triclopyr acid, which has a relatively short half-life. However, repeated applications can lead to accumulation and potential risks to the ecosystem. In the environment it behaves as: Solubility in water: low. Persistence in the soil: low to medium. Mobility on the ground: low. Persistence in water sediment: less persistent. Volatility: volatile. Bioaccumulation: not bioaccumulate.

All pesticide and agrochemical inputs used are public information available in BDU annual reports in the web (Public Summary Monitoring). This information includes: the pesticides used by active principle, quantities applied and area.

[80] A complete list of inputs used annually, quantity and establishments where it is applied is available at annual monitoring reports in shared folder during verification “Forest management”

[81] Source: https://www3.epa.gov/pesticides/endanger/litstatus/effects/triclopyr/analysis.pdf

5.2 Offsite Biodiversity Impacts

5.2.1 Negative Offsite Biodiversity Impacts (CCB, B3.1) and Mitigation Actions (CCB, B3.2)

Negative Offsite Impact	Mitigation Measure(s)
Livestock enters protected natural areas or the exclusion of livestock in those areas.	Build fences or exclusion of livestock in those areas.
High density of cattle – degradation of grasslands and native forest, by shift of livestock from plantation to said natural areas.	Proper management. Livestock density control (units per ha). Livestock management plan. Evaluation of pastures within afforestation. Annual survey on impacts in HVC areas within farms.
The advance of the native forest towards the plantation eliminates the buffer areas.	Buffer zones are established or re-established between forest plantation and native forests. These grasslands buffers zones must be equal or bigger than 20 meters.
Plague outbreaks	BDU II project works together with the Health Commission of the Forest Producers Society (CS-SPF for its acronym in Spanish). CS-SPF establishes a short- and medium-term work plan, which includes monitoring, control, research and training/dissemination for priority pests, training/dissemination for priority pests. In this framework, the activities of the AF Group's health management plan are part of or aligned with the activities of the CS-SPF. The main areas of the plan include: – Preventive actions: material selection; health check of seedlings on entry; silvicultural management (timing, procedures) – Monitoring: systematic survey; survey of specific events – Control: biological; silvicultural (sanitary thinning); chemical as last resource.

5.2.2 Net Offsite Biodiversity Benefits (VCS, 3.19; CCB, B3.3)

The BDU II project is a subgroup of lands within BDU II trust fund total plots. BDU II trust fund comprises 21 properties or plots located in the Central East region of Uruguay (the host country), with a total area of 14,703 ha of which 9,087 ha are effectively planted (2024). Due to the above, BDU project area corresponds to 1,053.34 ha effectively planted in 6 plots (5 entire plots and 28% of the 6th one).

The project area has a long history of grazing by beef cattle, activities that have caused soil erosion and land degradation. BDU II project, forest plantations for obtaining pulp and saw wood and removing carbon dioxide from the atmosphere have been established since 2016, significantly decreasing soil erosion and soil degradation.

Before the implementation of the BDU II project, native fauna or flora studies in the area were never conducted. Extensive beef production companies did not have the habit nor the obligation to carry out this kind of studies, since traditionally the extensive cattle is not certified by international standards (for example, FSC or similar), nor is it controlled by the Ministry of the Environment (ex-DINAMA). Burning was a common activity in pastures by cattle breeders. Only recently had some of the first forestry companies in the area started identifying areas of potential interest for conservation within their properties, when the project started. With the BDU II project implementation, new conservation areas were defined, native forests are strictly controlled, fires are controlled, and periodic monitoring activities allows to identify the activities´ impacts.

5.3 Biodiversity Impact Monitoring

5.3.1 Biodiversity Monitoring Plan (CCB, B4.1, B4.2, GL1.4, GL3.4)

In 2017, the La Cascada property was surveyed, having been selected during preliminary studies as representative of the Sierras del Este due to its potential floristic biodiversity, as well as other relevant characteristics linked to the unique geology of the area. Between 2018 and 2020, the site was revisited, and monitoring of flora and habitats was conducted in the areas previously identified as representative in the initial report. The 2019 report recommended a reassessment of the conservation strategy, proposing the integration of the previously identified AVC (High Conservation Value Areas) and RA (Representative Areas) into a broader, unified approach under the designation of Areas of Particular Interest for Conservation (APIC). This recommendation was reiterated in the 2020 monitoring, considering that the forest and livestock management practices allowed for the preservation of the key attributes identified on the property. As a result, it was proposed that monitoring be carried out every three years. Since then, the representative areas present on the site have been considered APIC by the company.

Moreover, new properties were analyzed during 2022: “Fraile Muerto”, “Los Morochos”, and “Vincentino” but no areas of particular interest were identified in the last two. In the case of Fraile Muerto, due to its proximity to Don Ramón HCV area it has also been defined as HCV area and has been recommended to be monitored together with this neighbouring area. This is to be implemented in the next monitoring period.

Back to the APIC area, a biodiversity monitoring assessment was carried out at La Cascada in December 2023. The property was surveyed using predefined sites as a reference, to gain a general overview of the conservation status and the ecological importance of the environments in relation to biodiversity and their function as biological corridors. Three sites could not be visited due to changes in soil use from 2020 to 2023, two of them were forested, while another one was classified as a connection for bigger areas.

SITIO	LATITUD	LONGITUD	VEGETACIÓN PREDOMINANTE
LCa 1	33°26'54.36"S	54°42'1.33"O	Campo natural pedregoso, matorral y bosque nativo
LCa 2	33°26'50.21"S	54°42'6.35"O	Campo natural de laderas pedregosas y bosque pantanoso
LCa 3	33°26'35.31"S	54°42'6.00"O	Campo natural de laderas pedregosas y bosque pantanoso
LCa 4	33°26'46.19"S	54°42'0.70"O	Campo natural de laderas pedregosas y roquedales
LCa 5	33°26'44.54"S	54°41'41.03"O	Campo natural de laderas pedregosas y roquedales, planicies
LCa 6	33°26'9.89"S	54°41'45.70"O	Campo natural de cumbres y laderas pedregosas

Figure 14. La Cascada 2023 monitoring sites

At each site visited, the current state of conservation was monitored through a qualitative assessment of the same parameters observed in previous stages. Data sheets were generated for each site (see example in Figure 15), which allows to determine the evolution of forest and grassland ecosystems in terms of floristic composition, presence of invasive species, among others and provide information to support management decision-making.

La Cascada

Variables	2019	2020	2023
Specific richness (number of different species) in general on the farm.	Specific richness found: Total 336	Specific richness found: Total 351	Specific richness found: Total 352
Presence or non-presence of species listed in IUCN threat categories, both on a global scale (for their entire distribution) and strictly for the region.	CITES-IUCN:12 1 under Endangered category *(Frailea Buenekeri)*	CITES-IUCN:12 1 under Endangered category *(Frailea Buenekeri)*	CITES-IUCN:16 1 under Endangered category *(Frailea Buenekeri)*
Presence or not of species included in the List of Priority Species for Conservation in Uruguay (Soutullo et alli, 2013).	SNAP: 9	SNAP: 13	SNAP: 9

RESUMEN ESTADO DE LOS ECOSISTEMAS EXISTENTES					
ESTABLECIMIENTO: La Cascada Latitud: 33°26'9.89"S		**Sitio: LCa 6** Longitud: 54°41'45.70"O			
		2018	**2019**	**2020**	**2023**
Generales	Especies Invasoras	*Cynodon dactylon*	*Cynodon dactylon*	*Cynodon dactylon*	*C. dactylon* y *Senecio madagascariensis*
	Prácticas forestales en AR	NO	NO	NO	NO
Campo (planicies)	Exóticas invasoras	*Cynodon dactylon* localizada en antiguos echaderos de ganado	*Cynodon dactylon* y *Pennisetum clandestinum*, localizados en antiguos echaderos de ganado	*Cynodon dactylon* localizado en antiguos echaderos de ganado	*C. dactylon* y *Senecio madagascariensis*
	Altura de pasturas (horizonte de hojas)	10-20 cm	10-25 cm	10-25 cm	6 cm
	% cobertura vegetal	70 - 75 %	70 - 75 %	70 - 75 %	75 – 90%
	Grado de erosión	Nulo	Nulo	Nulo	Nulo
	Presencia de ganado/intensidad	Bajo	Media	Media	Media
	Número de especies Presentes	Medio	Medio	Medio	Medio

Figure 15: Example of flora and environment conservation status checklist for one sample point for La Cascada HCV, for the period 2018-2023[82].

Following the basic guidelines recommended by DINACEA for the evaluation of ecosystems, the applied procedure was based on checking the following points:

a. Presence of SNAP species, to assign a relative importance or significance value to each area under study.

b. Possible fragmentation or discontinuity of areas and corridors.

c. Possible degradation of buffer zones surrounding potential Representative Areas.

d. Presence of invasive species populations within native forests or grassland areas.

e. Implementation of agricultural or forestry practices in potential Representative Areas subject to conservation (in the broad sense of the term).

f. Condition of natural grassland areas based on management practices: height of the pasture leaf horizon (grouped into three strata), percentage of soil cover, presence of invasive herbaceous species, and dominant vegetation types [83]

g. Condition of native forest areas considering natural regeneration, understory, litter layer, and exotic invasive species (EIS)[84].

[82] Brussa et al (2019). *Establecimiento La Cascada. Lavalleja. Monitoreo de ambientes y flora 2019*

[83] More information about the indicators used for the characterization of areas of natural fields can be found in Brussa and Walker (2023). Monitoreo e ambientes y flora 2023, Establecimiento La Cascada, Bosques del Uruguay II – Lavalleja.

[84] More information about the indicators used for the characterization of native forest can be found in Brussa and Walker (2023). Monitoreo e ambientes y flora 2023, Establecimiento La Cascada, Bosques del Uruguay II – Lavalleja.

h. In situ validation or exclusion of conservation priority areas according to the SNAP Strategic Plan for the property.

Results for La Cascada are shown below.

	2019	2020	2023
Is there natural regeneration of Eucalyptus and Pinus in unwanted areas?	No	No	No
Are there populations of other invasive plant species within native forest, conservation areas and HCVAs?	Yes, Cynodon dactylon & Pennisetum clandestinum, in previous livestock dumps	Yes, Cynodon dactylon & Pennisetum clandestinum, in previous livestock dumps	Yes, *Cynodon dactylon, Senecio madagascariensis & Carduss sp.*
Are extra-stand forestry practices encroaching into conservation areas?	No	No	No
Condition of natural field areas (height of leaf horizon in pastures, % soil cover, erosion)?	No erosion, covered soil 80 to 90%	No erosion, covered soil 80 to 90%	No erosion, covered soil 80 to 90%
Are signs posted identifying HCVF or HCVF areas and hunting and fishing prohibited?	Present	Present	Present
Are any animal species displayed, if YES, which?	No animal species identified	Foxs, hares and mules are seen	No animal species identified

Prior assessment carried out during 2020 was revised, precisely species list. New collected species were compared and identified. The afforestation project borders were maintained, respecting the environments previously identified. The populations of the two cacti rare species were maintained: *Frailea buenekeri* y *Frailea phaeodisca*, the first one categorized as endangered and the second vulnerable for IUCN clasification. Eucalyptus individuals present in the APIC were removed, as asked in previous monitoring reports, 2019 and 2020. However, exotic species such as *Cynodon cactylon* and *Senecio madagascariensis* were found, however woody invasive species were not found.

The monitoring results support the conclusion that the biodiversity values of the project area are being maintained or improved under current management practices. Conservation areas (APIC) continue to play a key role in preserving native species and ecological functions.

5.3.2 Biodiversity Monitoring Plan Dissemination (CCB, B4.3)

The project´s Biodiversity Monitoring Plan is publicly available within the Forest Management Plan (section 3 of it, under natural resources management plan). Annual reports include a review of the biodiversity monitoring plan results for HCV and APIC areas. Documents are available on BDU website online. As mentioned in section 2.3.2, Uruguay has 91% of population with access to internet. Moreover, in the project zone there are present the "MEC centers"[85]. These are public training centers for, among others, IT technology and providing infrastructure for public access to internet, the same as public schools, where internet access is free[86].

Given access to internet may still be limited within local communities, presentation on biodiversity results take place in schools and during the re-categorization of areas of biodiversity conservation interest (HCV, APIC, etc) with interested parties.

A summary of the monitoring reports is disseminated to local communities, during each verification period, during face-to-face interviews and presentations at rural schools, communicated through local media and personal communication means (telephone, WhattsApp and mail). Also, the full project documentation is published on BDU II website for public comments, together with specific brochures describing the project characteristics and benefits.

Along with the project implementation, the project documentation will be published on VCS and CCB website for all stakeholders, so that they can obtain detailed project information and development progress.

5.4 Optional Criterion: Exceptional Biodiversity Benefits

Not applicable as the project does not seek Gold standard.

5.4.1 Trigger Species Population Trends (CCB, GL3.2, GL3.3)

Trigger Species	Not applicable
With-project Scenario	Not applicable

[85] INE (2022). Encuesta de Usos de Tecnologías de la Información y Comunicación 2022.

[86] Total list of centers including those within project zone available at: https://www.gub.uy/ministerio-educacion-cultura/listado-de-centros;

APPENDIX 1: NEW PROJECT AREAS AND STAKEHOLDERS

Not applicable at it is not a grouped project. Stakeholders are updated annually, based on contact information but no new community groups were identified.

The list is available for VVB during verification in shared folder “Community”.

APPENDIX 2: PROJECT RISKS TABLE

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Natural and human induced risks to stakeholders' wellbeing	Fire Road destruction	Community well-being impacted regarding circulation in rural roads, dust and possible fires	See section 2.2.7 for more detail
Risks to stakeholder participation	No risk identified		As mentioned, the implementing partner has a long-lasting experience working with the stakeholders in the project zone, and the project does not represent a risk to the current programs and activities in place with the communities, but it further enhances them, allowing new interactions for example, with referents in the area.
Working conditions	Personal accidents	See section 2.3.15 and 2.3.17	First, there is a risk assessment in place for the different silvicultural activities to take place. Second, as part of the contingency and prevention plan, there is a training plan for forestry personnel that details the schedule for the year with the topics to be taught, the person in charge and the procedure to be applied. This is mandatory for all workers and collaborators in

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
			S&H. Personal security equipment is provided as well. Third, operations are monitored monthly in terms of environmental, S&H, social, and operating procedures through a system of nonconformities and corrective action requests, which allows the project proponent to identify deviations, determine their causes, corrective and preventive actions, and deadlines for their correction. The monitoring and surveillance of inputs, products and services is carried out by means of a system of registration and administrative control during operations.
Safety of women and girls	No risk identified		There are no specific risks to women and girls´ safety due to the project implementation. The project is implemented in a current productive private land in a rural area with limited number of neighbours.
Safety of minority and marginalized groups, including children	No risk identified		There are no specific risks to minority and marginalized groups, including children due to the project implementation. The project is implemented in a current productive private land.

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers)	Potential spills	Hazardous substances are used, handled, and stored during the production process, where occasional spills could occur. These risks are internal and, depending on their magnitude, may be low to medium risk. Within this group of substances, hydrocarbons are used during all stages of the production process for the movement of vehicles and machinery, and agrochemicals/ phytosanitary products are used to control weeds and pests, mainly during the first stage of the process. The potential environmental impacts, depending on where the spill occurs, the magnitude of the spill, and the type of substance, would be on the soil, water, and biota associated with these factors. Potential social impacts could be linked to the S&H of personnel and the neighbouring community, depending on the case.	AF implements an Agrochemicals management Program which establishes the guidelines and safe work standards for the reception, loading, unloading, storage, handling, application and final disposal of phytosanitary products. Some of the measures include different storage places for inputs based on their composition and dangerous substances content, such as hydrocarbons and/or agrochemicals. These storages are specially conditioned for their purpose, duly signposted, with signage indicative of the place and the risks associated with the stored input. These storage facilities, and in particular phytosanitary storage tanks, are places at safe distances from other facilities, such as houses, populated areas, and watercourses. The workers have PPE for handling dangerous substances and elements to act in emergency situations. Also, de access to storage places and the handling of dangerous substances is responsibility of authorized personnel. This people is trained to different types of waste in its classification, collection, transfer, treatment and final disposal.

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Discrimination	No risk identified		The project proponent or any other entity involved in project design or implementation is not involved in any form of discrimination or sexual harassment. AF is a registered company, compliant with local and national regulations regarding discrimination (National Law 17,817 (2004) – Combating Racism, Xenophobia and All Forms of Discrimination; and National Law 18.104 (2007) – Equality of Rights and Opportunities between Men and Women; National Labor Code which prohibits discrimination in employment and occupation on various grounds, aligned with ILO standards, among others), with the regarding registration certifications as evidence. Moreover, non-discrimination is part of the company's policy, providing same working opportunities without gender, colour or religion considerations[87]. At the same time, being an FSC certified company, evidence of law compliance is certified[88].

[87] Evidence for VVB during verification and information on company´s policy in the Forest Management plan in shared folder "Forestry Management Plan"

[88] FSC certification in shared folder "*FSC*"

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Sexual harassment	No risk identified		The project proponent or any other entity involved in project design or implementation is not involved in any form of discrimination or sexual harassment. AF is a registered company, compliant with local and national regulations regarding discrimination (National Law 17,817 (2004) – Combating Racism, Xenophobia and All Forms of Discrimination; and National Law 18.104 (2007) – Equality of Rights and Opportunities between Men and Women; National Labor Code which prohibits discrimination in employment and occupation on various grounds, aligned with ILO standards, among others), with the regarding registration certifications as evidence. Moreover, non-discrimination is part of the company's policy, providing same working opportunities without gender, colour or religion considerations[89]. At the same time, being an FSC certified company, evidence of law compliance is certified[90].

[89] Evidence for VVB during verification and information on company´s policy in the Forest Management plan in shared folder "Forest Management"

[90] FSC certification in shared folder "FSC"

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Equal pay for equal work	No risk identified		AF has been granted the "Best place to work" award both general and for women, showing its commitment towards gender equality. In 2022, AF was ranked 16th among the best companies in Uruguay for women to work at[91], and in 2024, it was also recognized by Great Place to Work® as 77% of employees reported that this is an excellent place to work[92].
Gender equity in labor and work	No risk identified		Non-discrimination is part of the company's policy, providing same working opportunities without gender, colour or religion considerations[93]. At the same time, being an FSC certified company, gender equity in labour and work has been worked on and accomplished. Moreover, as mentioned AF has been granted the "Best place to work" award both general and for women, showing its commitment towards gender equality. In 2022, AF was ranked 16th among the

[91] https://www.greatplacetowork.com.uy/listas/los-mejores-lugares-para-trabajar-para-mujeres-en-uruguay/2022

[92] https://certificaciones.greatplacetowork.com.uy/agroempresa-forestal

[93] Evidence for VVB during verification and information on company´s policy in the "Forestry Management Plan"

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
			best companies in Uruguay for women to work at[94], and in 2024, it was also recognized by Great Place to Work® as 77% of employees reported that this is an excellent place to work[95].
Forced labor[96]	No risk identified		As previously mentioned, the project proponent or any other entity involved in project design or implementation is not involved in any form of discrimination or sexual harassment, neither human trafficking, forced labor, and child labor. AF is a registered company, compliant with local and national regulations regarding working conditions discrimination (National Law 17,817 (2004) – Combating Racism, Xenophobia and All Forms of Discrimination; and National Law 18.104 (2007) – Equality of Rights and Opportunities between Men and Women; National Labor Code which prohibits discrimination in employment and occupation on various grounds, aligned with ILO standards, among others),, with the regarding registration certifications as evidence. At the same time, being an FSC certified

[94] https://www.greatplacetowork.com.uy/listas/los-mejores-lugares-para-trabajar-para-mujeres-en-uruguay/2022

[95] https://certificaciones.greatplacetowork.com.uy/agroempresa-forestal

[96] The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
			company, evidence of law compliance is certified[97].
Child labor	No risk identified		As previously mentioned, the project proponent or any other entity involved in project design or implementation is not involved in any form of discrimination or sexual harassment, neither human trafficking, forced labor, and child labor. AF is a registered company, compliant with local and national regulations regarding working conditions (besides the legislation previously mentioned in this section National Law 17.823 (2004) establishes 15 as the minimum age for employment, in line with ILO standards and prohibits hazardous work for anyone under 18; Uruguay has also ratified ILO convention 138 and 182), with the regarding registration certifications as evidence. At the same time, being an FSC certified company, evidence of law compliance is certified[98].
Human trafficking	No risk identified		As previously mentioned, the project proponent or any other entity involved in project design or implementation is not involved in any form of

[97] FSC certification in shared folder *"FSC"*
[98] FSC certification in shared folder *"FSC"*

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
			discrimination or sexual harassment, neither human trafficking, forced labor, and child labor. AF is a registered company, compliant with local and national regulations regarding working conditions discrimination (National Law 17,817 (2004) – Combating Racism, Xenophobia and All Forms of Discrimination; and National Law 18.104 (2007) – Equality of Rights and Opportunities between Men and Women; National Labor Code which prohibits discrimination in employment and occupation on various grounds, aligned with ILO standards, among others), with the regarding registration certifications as evidence. At the same time, being an FSC certified company, evidence of law compliance is certified[99].
Recognition of, respect of, and promotion of the rights to IPs, LCs and customary rights holders	No risk identified		All the land is privately owned by the BDU II project. The farms included in the BDU II project within the BDU II Trust Fund are: La Cascada, Las Vertientes, Fraile Muerto, Vicentino, Los Morochos and Zapicán these belong to the group of investors who acquired the forests as of 2014. Since these lands are all legal forestry land, the ownership is clear,

[99] FSC certification in shared folder *"FSC"*

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
			and there is no dispute over land ownership in the project site. Even though it is a subject of debate among different historians, the historical reports of the different auditing houses that certify in Uruguay indicate that there is no indigenous population according to the definitions of FSC. Only a new stream of people who have recognized themselves as descendants of indigenous communities, but who currently reside in cities[100].
Preserving and protecting cultural heritage	No risk identified		In line with national legislation and FSC certification, cultural heritage is identified, conserved and monitored if found within the project area. This is not the case for BDU II where no cultural heritage was identified.

[100] Roque Roldán's estimate for a paper for the Inter-American Development Bank, presented in Fortaleza in March 2002 based on ILO data, estimated its total number at only 524 (0.02% of the Uruguayan population).

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Protecting and preserving property rights, customary rights, or protecting legal or customary tenure/access rights to territories, property, and resources, including collective and/or conflicting rights	No risk identified		All the land is privately owned by the BDU II project. The farms included in the BDU II project within the BDU II Trust Fund are: La Cascada, Las Vertientes, Fraile Muerto, Vicentino, Los Morochos and Zapicán these belong to the group of investors who acquired the forests as of 2014. Since these lands are all legal forestry land, the ownership is clear, and there is no dispute over land ownership in the project site. Private owners voluntarily sold the lands to project owners, therefore the project activities will not lead to involuntary removal or relocation of property rights holders from their lands or territories and does not force rights holders to relocate activities important to their culture or livelihood. Cattle breeding activity owners are invited to continue the activity within the property once the trees are 2-3 years, to avoid damages. This is done through signed agreements.
Impacts on biodiversity and ecosystems	Land use change	Biodiversity loss	The project area has been historically converted due to extensive cattle breeding degrading the area and no ecosystem conversion takes place as part of the project activity, in line with the applicability conditions of VCS standard.

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
			Still the project has a project impact analysis, which includes harvesting activities, and a mitigation plan to avoid further impacts.
Soil degradation and soil erosion	Soil contamination	Low significance impacts to soil contamination was found from the EIA to the properties due to agrochemicals use.	Operative procedures in place to ensure a correct use of agrochemicals avoiding all risk of contamination and leak to water and soil. Water physicochemical analysis is conducted, and phreatic levels are measured.
Water consumption and stress	Water contamination	Low significance impacts to water contamination was found from the EIA to the properties due to agrochemicals use.	It is well known that planting trees on a grassland site usually causes a reduction in the runoff and an increase in evapotranspiration. This might cause some competition for water with other users (e,g, cattle farms located downstream in the watersheds, hydroelectric power generation, and water for human consumption). Some studies (e.g. Silveira et al., 2006[101]) have shown that this effect is not significant in Uruguay at the medium-size watershed scale (due to high precipitation). At the micro-watershed level, this effect can be minimized by plantation design (e.g. by limiting the extent of forest plantations in a watershed)[102]. The

[101] Silveira, L., Alonso, J., y Martínez, L. 2006. Efecto de las plantaciones forestales sobre el recurso agua en el Uruguay. Agrociencia (2006) Vol. X N°2 pág. 75-93
[102] Nosetto, M. & Jobbagy, G. (2016) Análisis del impacto hídrico de la expansión forestal en cuencas de Uruguay at Sociedad de Productores Forestales Uruguay

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
			proposed project leaves at least 35-40% of the land area unplanted, which would greatly reduce the hydrological effects, as compared with a more common 25- 30% of unplanted area. In addition, since most of the project area flows into rivers with relatively high flow rate, no significant downstream effects are expected. Moreover, operative procedures in place to ensure correct use of agrochemicals avoiding all risk of contamination and leak to water and soil. Water physicochemical analysis is conducted, and phreatic levels are measured. See section 4.2.1
Habitats (and areas needed for habitat connectivity) for rare, threatened, and endangered species	No risk identified		Identification, conservation and monitoring of these areas take place in line with FSC certification, as described in section 5.1.3 and 5.3.1.
Areas needed for habitat connectivity	No risk identified		Biodiversity analyses are conducted for the properties, taking into consideration national conservation criteria: The environmental characteristics of the properties are analyzed with the aim of identifying sensitive areas both for their tetrapod biodiversity and for the environments they represent (STAGE 1). Subsequently, those selected as of potential interest of diversity values

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
			are visited and analyzed in greater depth (STAGE 2), seeking to detect High Conservation Value Sites and/or internal conservation areas. The analysis includes 1) links between each establishment and national conservation strategies (SGM grids prioritized for conservation, 20% of the national territory, protected wilderness areas of the National System SNAP) and international strategies (Areas of Importance for Bird Conservation). 2) the location of each establishment in relation to biological connections (biological corridors) and their integration into watersheds of recognized value for the conservation of biodiversity. See section 5.1.3
Invasive species	No risk identified		Non-native species used in the plantations (Eucalyptus) are not considered an invasive species by national government[103], still monitoring and invasion control is in place in line with the company´s forest management plan. See section 5.1.6

[103] https://www.gub.uy/ministerio-ambiente/sites/ministerio-ambiente/files/documentos/publicaciones/CEEI_Invasiones%20Biologicas_WEB.pdf

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Ecosystem conversion	No risk identified		The project area has been historically converted due to extensive cattle breeding degrading the area and no ecosystem conversion takes place as part of the project activity, in line with the applicability conditions of VCS standard.

APPENDIX 3: COMMERCIALLY SENSITIVE INFORMATION

Section	Information	Justification
N/A	N/A	N/A

APPENDIX 4: COMMUNITY MONITORING RESULTS

Some of the project´s impact survey results, conducted annually to neighbours and interested parties[104]

AF valorization

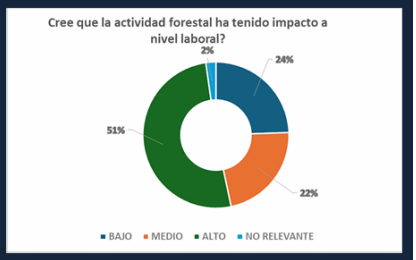
Impact over job opportunities

[104] Full report available for VVB during verification in shared folder “Community impacts”

Impacto Laboral

El 73% de los entrevistados cree que el impacto laboral ha sido significativo.
Se identifica impacto en el aumento del trabajo formal.

Consideran que se requieren puestos de trabajo con personal calificado de nivel educativo alto y tambien personal no calificado de nivel educativo medio a bajo. Siendo las contrataciones de personal de la zona especialmente no calificado, para momentos de plantación.



APPENDIX 5: BIODIVERSITY MONITORING RESULTS

1.1 Biodiversity results

The next table shows 2023 biodiversity monitoring report results for La Cascada property showing those priority species for Uruguay identified in the field;

Criteria classification references are:

1. Endemic species for Uruguay
2. Weird species (those rarely collected in Uruguay)
3. Restricted distribution in Uruguay
4. Species with important decreases in population numbers

FAMILIA	GÉNERO	EPÍTETO	VEGETACIÓN	CRITERIO			
EUPHORBIACEAE	*Acalypha*	*senilis*	campestre pedregoso	1			
PTERIDACEAE	*Anogramma*	*osteniana*	campestre pedregoso	1			
EUPHORBIACEAE	*Bernardia*	*sellowii*	campestre pedregoso			3	
SOLANACEAE	*Calibrachoa*	*humilis*	campestre pedregoso	1			
THELYPTERIDACEAE	*Christella*	*hispidula*	bosque			3	
CACTACEAE	*Frailea*	*buenekeri*	campestre pedregoso			3	
CACTACEAE	*Frailea*	*phaeodisca*	campestre pedregoso			3	
RUBIACEAE	*Galium*	*ostenianum*	campestre pedregoso	1		3	
JUNCACEAE	*Luzula*	*campestris*	campestre pedregoso	1	2	3	
ORCHIDACEAE	*Pelexia*	*lindmanii*	bosque			3	
COMPOSITAE	*Sommerfeltia*	*spinulosa*	campestre pedregoso	1			
EUPHORBIACEAE	*Tragia*	*melochioides*	campestre pedregoso			3	
CACTACEAE	*Wigginsia*	*corynodes*	campestre pedregoso	1		3	

La Cascada biodiversity results in terms of SNAP/IUCN and CITES classification:

FAMILIA	GÉNERO	EPÍTETO	SNAP	UICN	CITES
CACTACEAE	*Cereus*	*hildmannianus*		LC	Ap II
CACTACEAE	*Echinopsis*	*oxygona*		LC	Ap II
CACTACEAE	*Frailea*	*buenekeri*	1	E	Ap II
CACTACEAE	*Frailea*	*phaeodisca*	1	VU	Ap II
CACTACEAE	*Gymnocalycium*	*netrelianum*		NA	Ap II
CACTACEAE	*Parodia (=Notocactus)*	*mammulosa*		LC	Ap II
CACTACEAE	*Parodia (=Notocactus)*	*ottonis*		VU	Ap II
CACTACEAE	*Parodia (=Notocactus)*	*turbinata*		LC	Ap II
CACTACEAE	*Parodia (=Wigginsia)*	*corynodes*	1	LC	Ap II
CACTACEAE	*Parodia (=Wigginsia)*	*erinacea*		LC	Ap II
CACTACEAE	*Parodia (=Wigginsia)*	*neoarechavaletae*		VU	Ap II
CACTACEAE	*Rhipsalis*	*lumbricoides*		LC	Ap II
ORCHIDACEAE	*Chloraea*	*membranacea*		NA	Ap II
ORCHIDACEAE	*Cyclopogon*	*Sp.*		-	Ap II
ORCHIDACEAE	*Habenaria*	*parviflora*		LC	Ap II
ORCHIDACEAE	*Pelexia*	*lindmanii*	1	NA	Ap II

Biodiversity monitoring matrix for BDU II

AF	PLAN DE MONITOREOS		
Parámetros a Monitorear	**Indicador**	**Herramienta de Monitoreo**	**Informes/ Registros**
AAVC FAUNA LAS VERTIENTES I	Riqueza específica (cantidad de especies diferentes) de cada una de las Clases zoológicas estudiadas (anfibios, reptiles, aves y mamíferos) general del predio. **Riqueza específica por ambientes**, dentro de cada establecimiento. Se determinará el número de especies diferentes en cada uno de los ambientes más relevantes de cada establecimiento. Proporción de especies residentes y migratorias de la Clase Aves. Las especies migratorias muchas veces han demostrado ser más sensibles a cambios ambientales en los sitios a los que arriban, determinando que puedan dejar de ser sitios de escala, alimentación, reproducción o descanso. La proporción de especies migratorias en el total de las detectadas es un buen indicador de la conservación o no de las aptitudes ambientales. Proporción de especies de aves en categorías de frecuencia de observación. Las categorías consideradas son Común, Bastante Común, Poco Común y Rara (según Azpiroz, 2003). Los ambientes que sufren fuertes perturbaciones suelen variar las proporciones de categorías de frecuencia de observación, generalmente se observa un aumento de las especies Común y Poco Común en detrimento de las Poco Común y Raras. Se constituyen en un buen indicador del grado de salud de los ambientes estudiados. Presencia mantenida o no de las especies que figuran en categorías de amenaza de UICN, tanto a escala global (para toda su distribución) como para la región, estrictamente. Presencia mantenida o no de las especies integradas a la Lista de Especies Prioritarias para la Conservación en Uruguay (Soutullo et alli, 2013).	Linea base robusta Relevamiento de campo intenso en variaciones estacionales **Metodologia: Avistamientos en diferentes estaciones (a menos una en frio y otra en epocas de calor)**	Informes de relevamientos
AAVC FLORA LA CASCADA	¿Existe regeneración natural de Eucaljptus y Pinus en áreas no deseadas? ¿Existe poblaciones de otras especies vegetales invasoras dentro del monte nativo, zonas de conservación y AAVC? ¿Se observa ejecución de prácticas forestales estra rodales invadiendo áreas de conservación? ¿Estado de las áreas de campo natural (altura de horizonte de hojas en pasturas, % de suelo cubierto, erosión)? ¿Se ubican los carteles identificando zonas de AAVC o BAVC y prohibido cazar y pescar? Se visualiza alguna especie animal, en caso de SI cuál?	Determinación de los valores de conservación de cada predio **Inspección visual en recorridas del supervisor de campo (herramienta camara fotografica** **Metodología: avistamiento**	Informe de monitoreo de AAVC

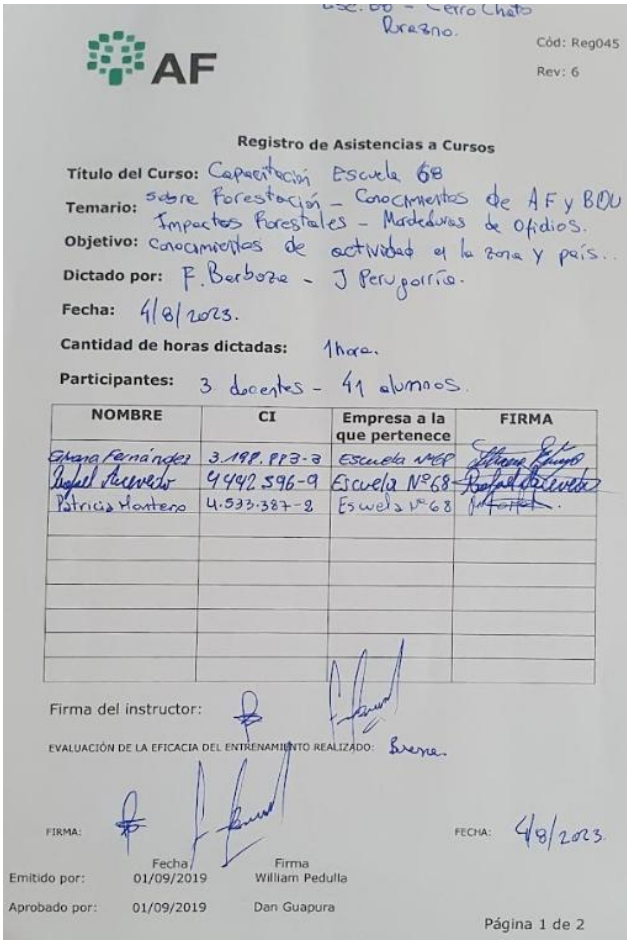
AF				
Parámetros a Monitorear	Informes/ Registros	PERIODICIDAD	Responsables	Fuentes utilizadas para la obtención de los datos
AAVC FAUNA LAS VERTIENTES I	Informes de relevamientos	Anualmente	Experto en Fauna	Las Vertientes I
AAVC FLORA LA CASCADA	Informe de monitoreo de AAVC	Relevamientpo anual por parte del experto en Flora y de evaluación trimestral o semestral depende de cada predio	Jefe de Adm. Forestal	Predios

APPENDIX 6: SDG EVIDENCE

Some of the measures implemented with the communities are evidence below.

Presentation in Zapican rural school and community

Community training in Vergara



AF

Cód: Reg045
Rev: 6

Registro de Asistencias a Cursos

Título del Curso: Capacitación Escuela 68
Temario: sobre Forestación - Conocimientos de AF y BOU Impactos Forestales - Mordeduras de Ofidios.
Objetivo: Conocimientos de actividad en la zona y país.
Dictado por: F. Berboze - J Perugorría.
Fecha: 4/8/2023.
Cantidad de horas dictadas: 1hora.
Participantes: 3 docentes - 41 alumnos.

NOMBRE	CI	Empresa a la que pertenece	FIRMA
Chiara Fernández	3.198.893-3	Escuela MEP	
Angel Acevedo	4442.596-9	Escuela Nº68	
Patricia Montero	4.533.387-2	Escuela Nº68	

Firma del instructor:

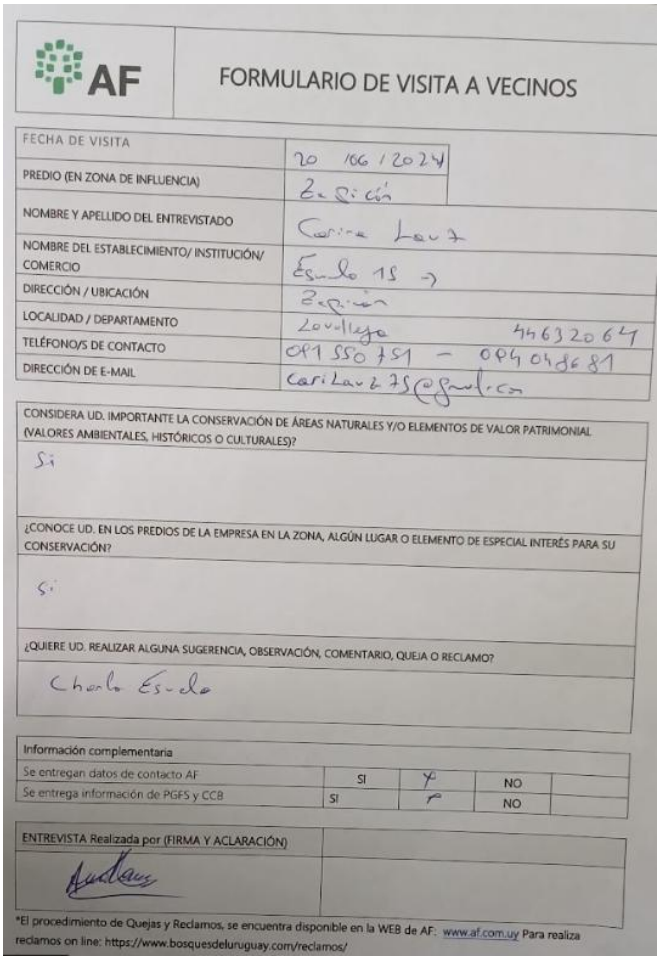
EVALUACIÓN DE LA EFICACIA DEL ENTRENAMIENTO REALIZADO: Buena.

FIRMA: FECHA: 4/8/2023.

	Fecha	Firma
Emitido por:	01/09/2019	William Pedulla
Aprobado por:	01/09/2019	Dan Guapura

Página 1 de 2

Participation in training in Cerro Chato



AF

FORMULARIO DE VISITA A VECINOS

FECHA DE VISITA	20/06/2024
PREDIO (EN ZONA DE INFLUENCIA)	Zapicán
NOMBRE Y APELLIDO DEL ENTREVISTADO	Carina Lau
NOMBRE DEL ESTABLECIMIENTO/ INSTITUCIÓN/ COMERCIO	Escuela 15
DIRECCIÓN / UBICACIÓN	Zapicán
LOCALIDAD / DEPARTAMENTO	Lavalleja 44632064
TELÉFONO/S DE CONTACTO	091550751 - 094048681
DIRECCIÓN DE E-MAIL	carilau275@gmail.com

CONSIDERA UD. IMPORTANTE LA CONSERVACIÓN DE ÁREAS NATURALES Y/O ELEMENTOS DE VALOR PATRIMONIAL (VALORES AMBIENTALES, HISTÓRICOS O CULTURALES)?

Si

¿CONOCE UD. EN LOS PREDIOS DE LA EMPRESA EN LA ZONA, ALGÚN LUGAR O ELEMENTO DE ESPECIAL INTERÉS PARA SU CONSERVACIÓN?

Si

¿QUIERE UD. REALIZAR ALGUNA SUGERENCIA, OBSERVACIÓN, COMENTARIO, QUEJA O RECLAMO?

Charla Escuela

Información complementaria				
Se entregan datos de contacto AF	SI	X	NO	
Se entrega información de PGFS y CCB	SI		NO	

ENTREVISTA Realizada por (FIRMA Y ACLARACIÓN)	

*El procedimiento de Quejas y Reclamos, se encuentra disponible en la WEB de AF: www.af.com.uy Para realiza reclamos on line: https://www.bosquesdeluruguay.com/reclamos/

Zapican community, talk and information provided evidence

CAIF material donation, invoice