New Planting Procedure - Summary of Assessments

NPP Reference number	SCS-RSPONPP-000324
NPP's country of presentation	Colombia
RSPO member number	1-0079-09-000-00

Section 1: General Information

The evaluations were carried out for two (2) Management Units (MU) called "Bogante 1" and "Casuarito 1", managed by the company Poligrow Colombia S.A.S., which are located in the municipality of Mapiripan, department of Meta, in the Republic of Colombia.
UM Bogante 1 has an area of 156.67 ha, while UM Casuarito 1 has an area of 116.26 ha, covering a total of 272.93 hectares.

Table 1. Land legality.

Company	Area	Property	Description
Poligrow Colombia S.A.S	Bogante 1	**Real estate registration No:** 236-7861 **Real estate deed No:** 340. October 27, 2005.	**People envolved in the process:** From: Inversiones Alborada Limitada en Liquidación To: Aristizabal Hoyos Fabi. **Means of title:** Adjudication Liquidation Commercial Company.
Poligrow Colombia S.A.S	Casuarito 1	**Real estate registration No:** 236-24180 **Real estate deed No:** 1067. June 06, 2010.	**Persons involved:** From: Correa Ángel Álvaro To: Inversiones Casuarito LTDA: **Means of titling:** Purchase and sale with the authorization of the Committee of Displaced Persons.

Source: (BioAp, New planting procedure , 2022)

1.1. General Description and Blackground.

POLIGROW COLOMBIA S.A.S. is a company founded in 2008 dedicated to the development of a responsible, sustainable, profitable, scalable and beneficial agro-industrial project for the development of the municipality of Mapiripán, located in the department of Meta, in the Republic of Colombia. It has about 8,000 hectares of oil palm planted, which are part of this study and are located in the municipality of Mapiripán in the southeast of the department of Meta, where 100% of these are in production with 17 varieties of palm.

Description of the location

The evaluation area is located in the municipality of Mapiripan, in the southeast of the department of Meta, Colombia. The total area under study corresponds to 11,982.59 hectares, where 5 plots correspond to areas proposed for new oil palm developments, and 7 plots represent areas with already established oil palm plantations. However, in the procedure for new plantations it is stated that, of these 5 proposed plots, 2 will be taken into account, which correspond to Bogante 1 and Casuarito 1, with a total area of 362.05 hectares.
The most dominant land cover in the Bogante 1 MU corresponds to clean pastures, occupying 89.79% of the Management Unit, followed by morichal (9.96%) and gallery and riparian forest (0.25%). Consequently, the land uses correspond to agricultural-livestock (89.79 %) and natural forests (10.21 %).

The main land cover in the Casuarito 1 MU is clean pasture (85.11%), followed by gallery and riparian forest (13.87%), open shrubland (0.74%) and secondary or transitional vegetation (0.28%). The land uses identified in the MU correspond to agricultural-livestock (85.11%), natural forests (14.15%) and semi-natural areas (0.74%).

1.1.1. Primary forests in the evaluation area

There are no primary forests within the concession. There are gallery and riparian forests, dense forests, dense nonforested flood meadows, Moriche forest, and secondary or transitional vegetation which have a high capacity to host concentrations of biological diversity, both non-endangered species and RAP species. The identified land uses correspond to agricultural-livestock areas (78.57%), natural forests (17.21%), floodable natural areas (2.55%), water bodies (1.34%), semi-natural areas (0.18%) and artificial territories (0.15%).

1.1.2. Peat soils areas

There are not peat soils areas in the evaluation area.

1.1.3. Local people's land

There are not local people´s land within the Project boundaries. According to the registration of lands rights with the Agustín Codazzi Geographic Institute through the Land Information System based on the property or Cadastral Information System (SIC), which shows that the properties meet the requirements that define the legality and tenure of the land (Table 20), taking into account that this is conceived as private property and its exchange is governed by agreements between the parties, in which it is clarified that "there are no encumbrances, annotations or limitations on the property under contract, as well as judicial, administrative and municipal issues that may harm the buyer and that in any case, because of the law, the buyer is obliged to clean it up".

1.2. Evaluation References.

All of the related assessments were professionally conducted and were therefore generally very thorough and detailed. The resulting management plans include the findings of the various impact assessments conducted by separate independent consultants, including the Environmental Impact Assessment, High Conservation Value Assessment verified by the HCV resource network (https://www.hcvnetwork.org/reports/hcv-assessment-report-poligrow-colombia-and-allies-colombia), Land Uses Change Analysis, Soil Survey conducted by accredited consultants, . Therefore, Poligrow Colombia S.A.S has strictly adhered to the RSPO New Planting Procedures (NPP) and has documented the assessments and plans in accordance with the RSPO NPP guidelines.

1.2.1. Scope of evaluations

The evaluations made for the specific area of the Project Poligrow S.A.S. and the authors are as follows:

Table 2. Assessments conducted for the proposed area of the Poligrow S.A.S. and the authors.

Documents	Authors
Social Impact Assessment (SIA) of the Oil Palm Plantation Development Project of Poligrow Colombia S.A.S., in the municipality of Mapiripan, Meta, Colombia, carried out in January 2020.	BioAp S.A.S
Environmental Impact Assessment (EIA) of the Development Project of the Oil Palm Plantation of Poligrow Colombia S.A.S., in the municipality of Mapiripan, Meta, Colombia, conducted in February 2020.	BioAp S.A.S
Participatory mapping report: Mapiripan extensions, 2018.	BioAp S.A.S
Land use change analysis to support Poligrow Colombia S.A.A.'s proposed expansion of the new oil palm development in Mapiripan, Meta, Colombia, was initially conducted on 21 April 2021 through the BioAp report, which included maps and satellite imagery. However, on 26 December 2023, the company has conducted a comprehensive review and update of the interpretation of Sentinel 2 and Planet mosaic imagery to improve the identification of land cover.	BioAp S.A.S
HCV Assessment of Poligrow Colombia S.A.S. extension and its allies. Concession in Mapiripan, Meta, Colombia. Conducted in January 2020. (https://www.hcvnetwork.org/reports/hcv-assessment-report-poligrow-colombia-and-allies-colombia).	BioAp S.A.S
GHG Assessment report for the extension concession of Poligrow Colombia S.A.S and its allies, in Mapiripan, Meta, Colombia, conducted November 2021.	BioAp S.A.S

Source: Lead auditor.

Table 3. Summary of the activities implemented and the respective dates.

Phase	Activity	Date
Pre- evaluation phase	First approach with the company, presentation of the technical and economic proposal based on their needs, identification of the areas to be evaluated (Management Units) and the specific objectives of the study.	February 05, 2018- February 14, 2018.
	Compilation of secondary information (geographic, socioeconomic, ecological and environmental) on the areas to be evaluated.	February 19, 2018 – March 16, 2018.

Study phase	Scoping. Consultation with members of the company and social and institutional entities, where an analysis of the territory and identification of stakeholders was developed. Territory recognition is generated, verifying the information with the accompaniment of company representatives on environmental and social issues (Poligrow Foundation). The guidelines for the convening process are provided there, identifying the stakeholders to be consulted.	March 19, 2018 – March 23, 2018.
Complete evaluation phase	Delimitation of the Area of Indirect Influence considering the scale of the project and the geographic distribution of the MUs.	March 26, 2018 –April 06, 2018
	Planning and preparation of the field phase. Definition of the methodology and schedule for the development of the field phase (identification of stakeholders, preparation of social work agenda, identification of sampling points (Rapid Ecological Assessment) and coverage verification).	April 09, 2018 – April 14 2018.
	Development of the Rapid Ecological Assessment, verification of cover and collection of primary information (fauna and flora).	April 16, 2018 – April 24 2018
	Consultation with stakeholders through the implementation of participatory tools such as participatory mapping and SWOT matrix with the communities Vereda Caño Ovejas and Naexal Lajt Jiw Reservation, workers of the company POLIGROW COLOMBIA S.A.S. and Mesa de Victims. Interviews were held with the Mapiripán Municipal Mayor's Office, Land Liaison Office, Victims' Promotion Committee, Poligrow Foundation, Vereda Sabanas de Guaracú (Vereda Morropelado) and Vereda Esteros Altos. Similarly, a social mapping and timeline exercise was carried out with the company's allied suppliers.	April 17, 2018 – April 23, 2018.
	Processing, analysis and interpretation of secondary information.	May 07, 2018 – September 28, 2018.
	Processing, analysis and interpretation of primary information (obtained in the field) of the social, environmental and biotic components.	October 01, 2018 – February 15, 2019
	Preparation of studies and cartography. Definition of HCV areas, HCVMAs, identification of HCV threats and management and monitoring recommendations. Preparation of socio-environmental impact study (EISA), Greenhouse Gas (GHG) study and Land Use Change Analysis (LUCA).	February 18, 2019 – March 29, 2019.
	Final consultation of results and findings. Based on the preliminary results, the different stakeholders were convened for the socialization of results, which was carried out through meetings.	January 16 – 23, 2020
	Processing of the information collected and adjustment of the document and mapping taking into account the comments and/or suggestions of the aforementioned stakeholders. Incorporation of the results of the final consultation of results and findings in the document.	January 24, 2020
	Submission of the study to the HCVRN Quality Panel (QP).	January 27, 2020

Source: (BioAp, New planting procedure , 2022)

1.2.2. Evaluation team

The evaluation teams for each evaluation were composed of specialists with diverse academic and professional backgrounds and extensive experience appropriate to the task. The teams consisted of professionals from a variety of fields.

Table 4. Evaluation team.

Name	ALS License	Institution	Role	Experience
Juan Pablo Zorro Cerón	ALS14011 J Z	BioAp S.A.S.	Biologist – Asesor Líder	Experience in HCV assessments and LUC (Land Use Change) studies for oil palm plantations in Colombia, Mexico and Ecuador.
Fabio Ernesto	Not Applicable	BioAp S.A.S.	Biologist, specialized in geographic	General experience in spatial interpretation with GIS resources and aquatic ecosystems for environmental impact

Álvarez Morales			Information systems (GIS)	studies. Has participated as a GIS specialist in HCV studies in Colombia, Mexico and Ecuador.
Wendy Julieth Acosta Rodríguez	Not Applicable	BioAp S.A.S.	Cadastral and Geodesist Engineer	Experience in geographic information management and analysis, spatial database management and satellite image processing focused on the development of HCV studies.
Erika Naileth Casallas Garzón	Not Applicable	BioAp S.A.S.	Environmental Engineer	Experience in data collection and processing for the elaboration of Environmental Impact Assessments, High Conservation Value Studies and construction of Compensation and Remediation Plans under RSPO guidelines.
Diana Nathaly Monroy Piratoba	Not Applicable	BioAp S.A.S.	Biologist. Master in Sustainable Development of the Humid Tropics. Specialist in Environmental Management and Law.	Experience in planning and execution of scientific research and development programs in various fields of biological sciences. Experience in working with traditional and local communities, preparation of environmental impact studies, environmental consulting, environmental management plans, characterization and evaluation of natural resources.
Gina Olarte González	Not Applicable	BioAp S.A.S.	Wildlife Biologist Specialist.	Experience in conservation and ecology of flying and non-flying mammals, medium and large. Experience in HCV studies in Colombia and Ecuador.
Angélica María Grisales	Not Applicable	BioAp S.A.S.	Biologist.	Experience in monitoring terrestrial and flying mammals. Experience in HCV studies in Colombia and Mexico.
Camilo Andrés Herrera Motta	Not Applicable	BioAp S.A.S.	Forestry Engineer	Experience in the development of forest inventories in the field, knowledge of floristic and structural forest composition, dynamics and ecological restoration.
Jina Katerine Melo Ramírez	Not Applicable	BioAp S.A.S.	Social Worker	Professional in social work with experience in the elaboration of Social Impact and High Conservation Values 5 and 6 studies; identification and weighting of stakeholders; community work with ethnic and rural population through the implementation of participatory tools. Coordination of projects oriented to environmental education and management, conflict resolution and individual and community intervention.
David Alexander Bonilla Martínez	Not Applicable	BioAp S.A.S.	Social Worker	Experience in community work, specifically with indigenous populations in the areas of Guainía and Vichada. Execution of social and educational projects with families victims of the conflict.

Source: (BioAp, New planting procedure , 2022)

1.2.3. Organizational information and contact people

Table 5. Information and contact.

Name of the organization	Poligrow Colombia SAS
Nature of business	Dedicated to the development of a profitable, scalable, sustainable, inclusive and beneficial agro-industrial project for the development of the municipality of Mapiripán (Meta, Colombia).
Existing properties	Bogante 1 and Casuarito 1,
Date of incorporation	21/04/2008
Notary office	Notary N° 6 Bogotá
Deed number	0002637
Tax identification number	900215262-1
Name of legal representative	Carlo Vigna Taglianti

Identity number (I.D)	CE 365821
Name of the Company's Environmental manager	Zoilita Florez Martinez
Identity number (I.D)	1.128.054.184
E-mail address	z.florez@poligrow.com
Company name	Poligrow Colombia SAS

Source: (BioAp, Environmental Impact Study EIA, chap 1, 2020).

1.2.4. Personnel involved in evaluation planning and implementation

Table 6. personnel involved in evaluation planning and implementation.

No	Name	Organization	Role	Contact
1	Zoilita Flórez Martínez	Poligrow Colombia S.A.S	Integral Management Coordinator	z.florez@poligrow.com
2	Emilio Fandiño Laverde	Poligrow Colombia S.A.S	Environmental Coordinator	e. fandiño@poligrow.com
3	Juan Pablo Zorro	BioAp S.A.S	General manager	Juan.zorro@bioap.com.co

Source: (BioAp, New planting procedure , 2022)

1.2.5. List of the stakeholders Involved in the process.

Table 7. Stakeholders Involved in the process.

Category	Description	Stakeholders
Community	Population group located in a specific territory, with similar socio-cultural characteristics and common interests, including the diversity of inhabitants (indigenous and mestizo), determined by the political-administrative distribution, secondary documentary information and cartographic location.	Naexal Lajt (Jiw) Indigenous Reservations
		Betania - Caño Ovejas (Sikuani) Indigenous Reservations
		Vereda Caño Ovejas
		Vereda Sabanas de Guaracú (Vereda Morropelado)
		Vereda Esteros Altos
Government Entities (GE)	They include state monitoring and control institutions for economic, environmental and health issues.	Land Liaison
		Mayor's Office of Mapiripán
Government No Entities (GNE)	Corresponds to companies or organizations located in the territory for economic or social purposes.	Victims' Promotion Committee
		Poligrow Foundation
		Victims' Table
		Omacha Foundation
		Wildlife Conservation Society (WCS) Colombia
		ASOPESMA
		Asodemapi
Other	Corresponds to the labor personnel working in the organization.	Poligrow collaborators

Sourse: (BioAp, Document FPIC, 2018)

1.2.6 List of legal documents, regulatory permits and property titles related to the assessed area

Table 8. List of legal documents, regulatory permits and property titles related to the assessed area.

Aspect	Bogante 1	Casuarito 1
Real estate registration number	236-761	236-24180

Real estate deed No	3240 October 27, 2005	1067. June 04, 2010
Persons involved	From: Inversiones Alborada Limitada in Liquidation To: Aristizábal Hoyos Fabio	From: Correa Ángel Álvaro To: Inversiones Casuarito LTDA.
Means of titling	Award of liquidation Commercial Company	Purchase and sale with the permission of the IDP committee..
Current status of the land	Status: The administrative process was terminated. Date of response: Sep 12, 2019. It is not in process before the land restitution unit, since at the request of the applicant the land protection measure was cancelled.	No report in the RTDAF. No verification of application to the National Land Agency.

Source: (BioAp, New planting procedure , 2022)

1.3. Land clearing plans.

New plantation development is planned to take place in 2024. Development will depend on capabilities and could be delayed and occur over several years. Land preparation will only begin when the boundaries of the conservation areas are clearly demarcated and the remaining crops have been harvested.

Table 9. Schedule of plan determined for the development of new plantations.

Year		2024																			
Activity	Property	February				March				April				May				June			
		5	6	7	8	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Land preparation																					
Raking 1 pass	Bogante 1	x																			
Raking 2 pass		x																			
Liming with verion		x																			
Planting		x																			
Chiseling 1 pass		x																			
Chiseling 2 pass		x																			
Equipped		x																			
Polishing machine 1 pass		x																			
Mogot cleaning			x																		
Planting																					
Ploughed	Bogante 1																				
Normal ploughed																					
Loading of palms from plant nursery and unloading at final site																					
Transport of palms with tractor for replanting																					
Laying of holes planting collection bags stakes fertilizing																					
Sowing cover crop seeds							x														
Boron application to the soil																					
Application of fertilizer 101 to 200 gr Phosphate Rock																					

Fertilizer application 201 to 500 gr Magistral																					
Internal transport of Boron fertilizer with tractor																					
Internal transport of fertilizer from 101 to 200 (Rock)																					
Internal transport of fertilizer from 201 to 500 (Magistral)																					
Land preparation																					
Raking 1 pass	Casuarito 1		x																		
Raking 2 pass																					
Liming with verion			x																		
Planting			x																		
Chiseling 1 pass			x																		
Chiseling 2 pass																					
Equipped			x																		
Polishing machine 1 pass				x																	
Mogot cleaning																					
Planting																					
Ploughed	Casuarito 1														x						
Normal ploughed															x						
Loading of palms from plant nursery and unloading at final site																x					
Transport of palms with tractor for replanting																x					
Laying of holes planting collection bags stakes fertilizing																x					
Sowing cover crop seeds																					
Boron application to the soil																x					
Application of fertilizer 101 to 200 gr Phosphate Rock																x					
Fertilizer application 201 to 500 gr Magistral																x					
Internal transport of Boron fertilizer with tractor																x					
Internal transport of fertilizer from 101 to 200 (Rock)																x					
Internal transport of fertilizer from 201 to 500 (Magistral)																x					

Source: (Poligrow, Cronograma de plan determinado para el desarrollo de las nuevas plantaciones., 2023)

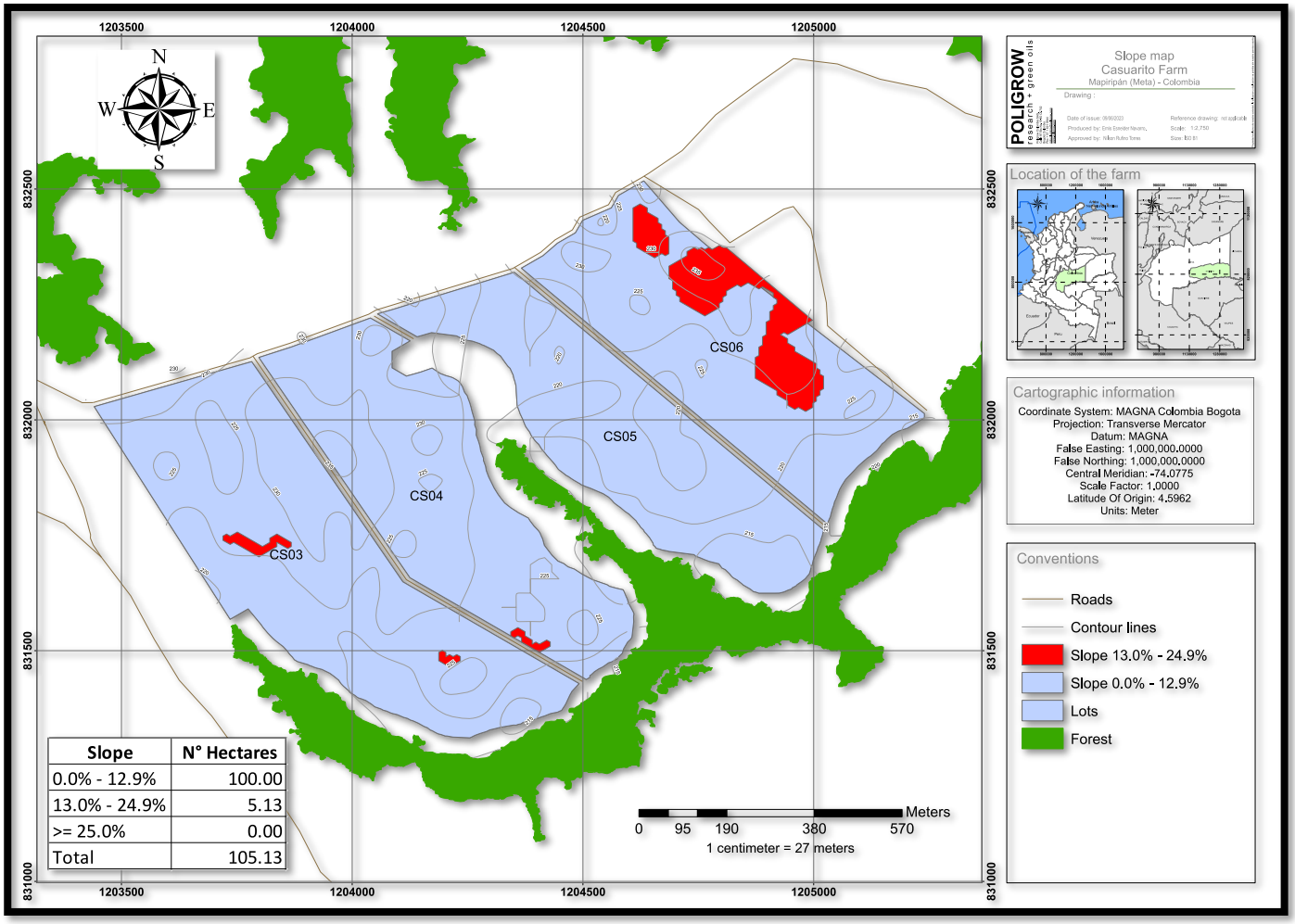
Section 2: Maps

Figure 1. New planting Causarito 1.

Lots	Palms	Área (Ha)	Variety	% Stake
CSO3	4627	32.4	Deli x La Mé #S	56.3
CSO4	3423	23.9	Deli x La Mé #S	
CSO5	3103	21.7	Deli x La Mé #C	43.7
CSO6	3147	22.0	Deli x La Mé #C	
TOTAL	14300	100		100

Source: (Ernis Navarro, 2022)

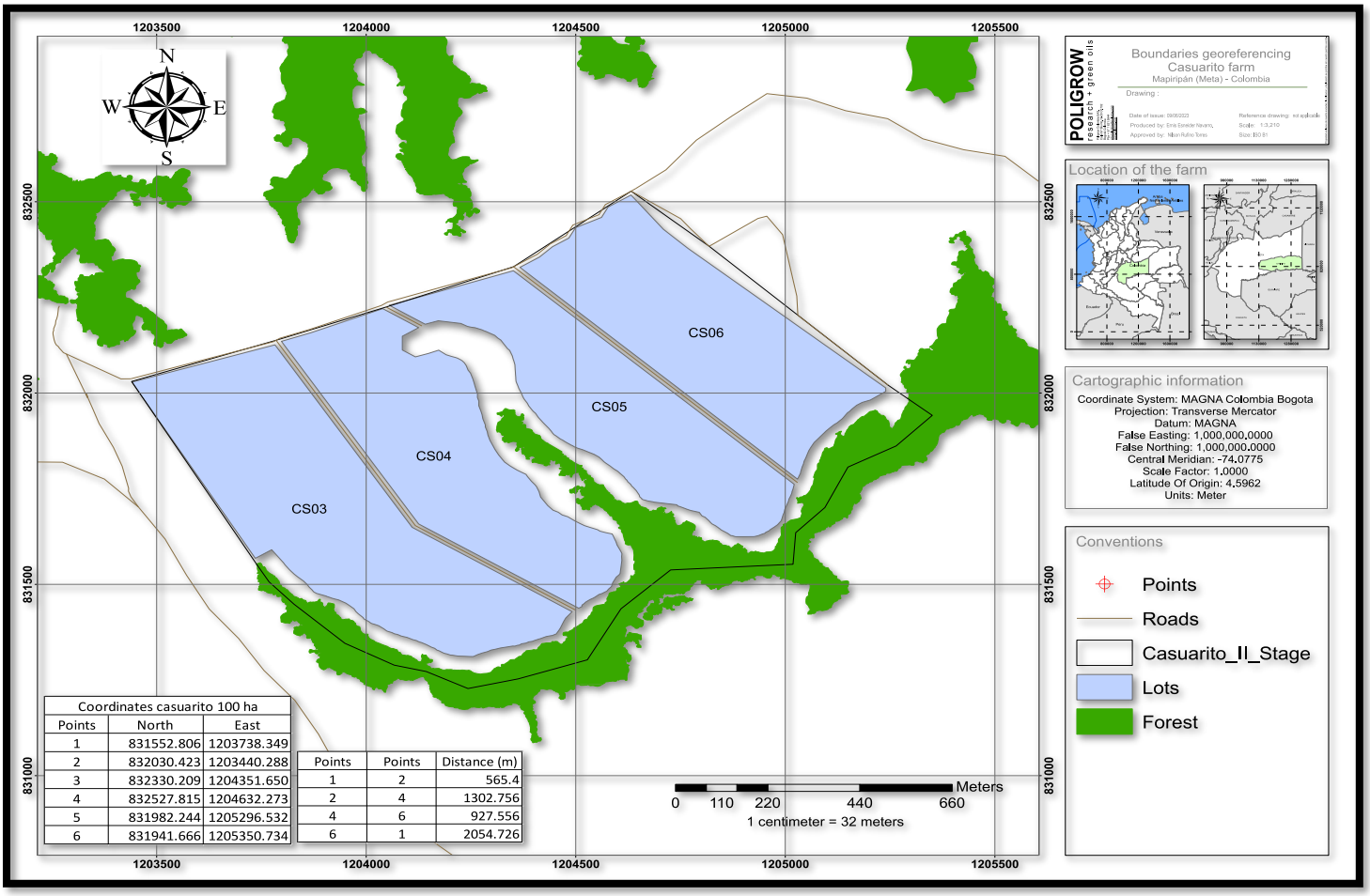
Figure 2. Slope Maps _ Casuarito 1.



Slope	N° Hectares
0.0% - 12.9%	100.00
13.0% - 24.9%	5.13
>= 25.0%	0.00
Total	105.13

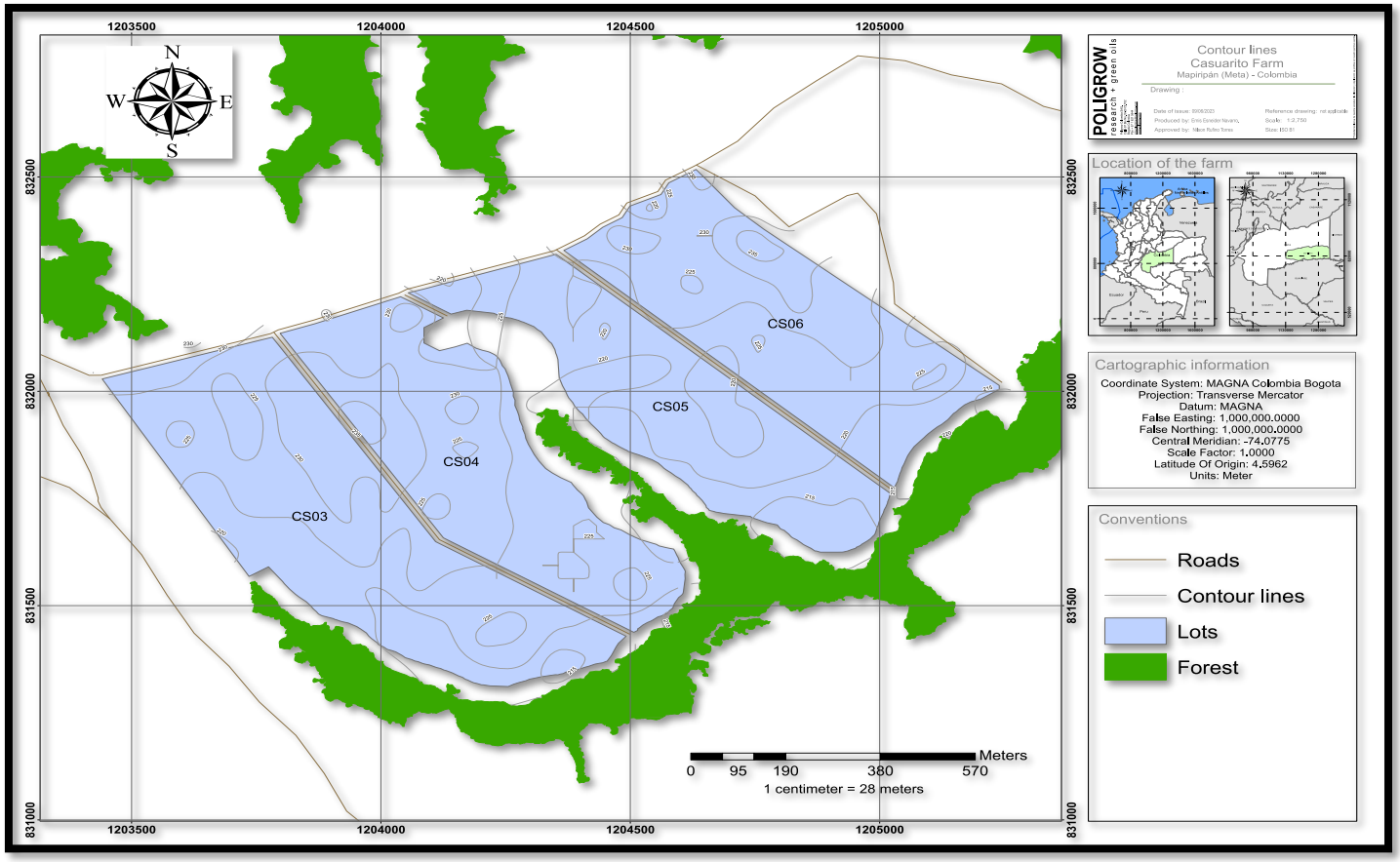
Source: (Poligrow, Slope map - Bogante 1, 2023)

Figure 3. Georeferencing of boundaries (mojones)_ Casuarito 1.



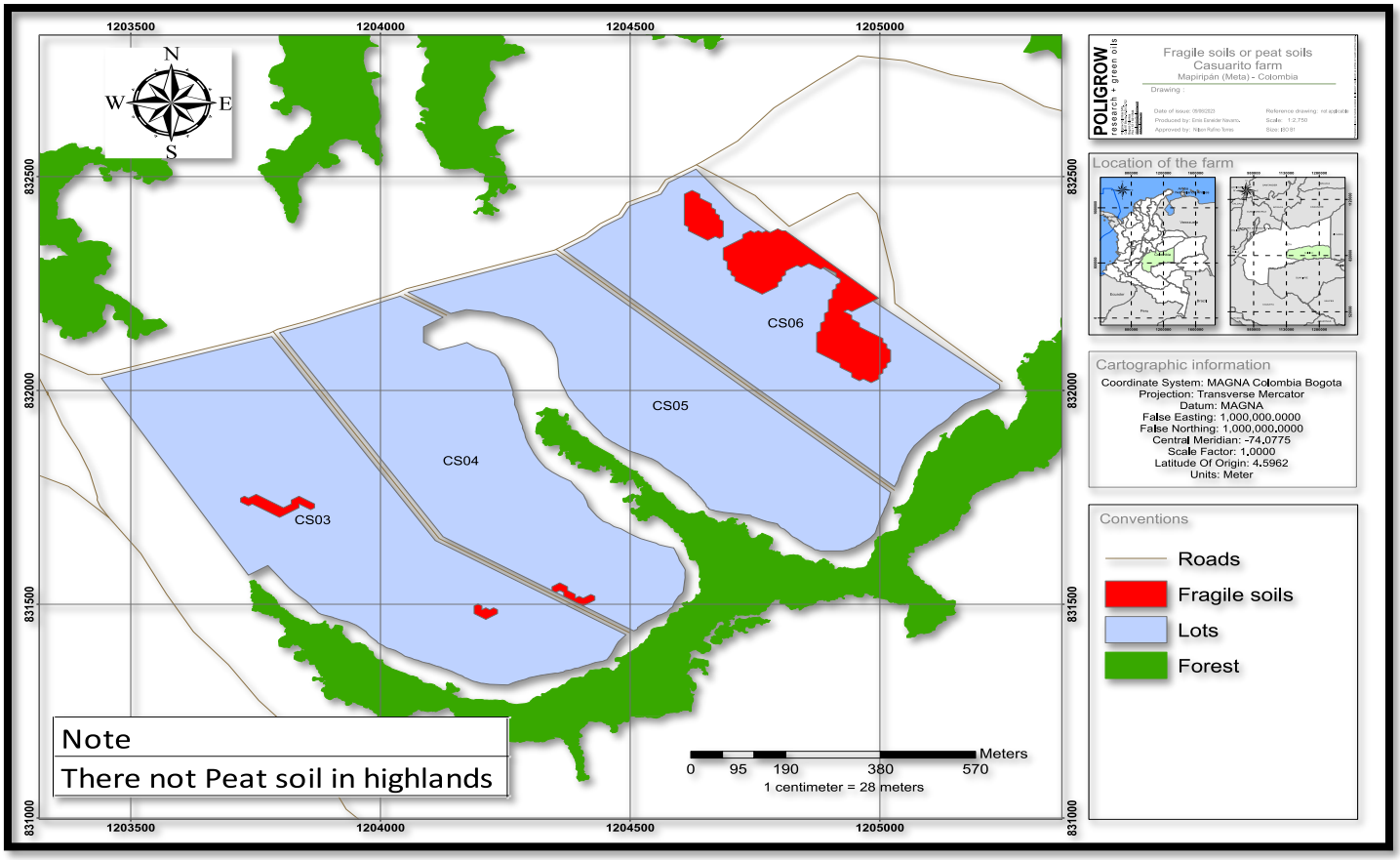
Source: (Poligrow, Georeferencing of boundaries investments Causarito, 2023)

Figure 4. Contour line maps - Casuarito 1.



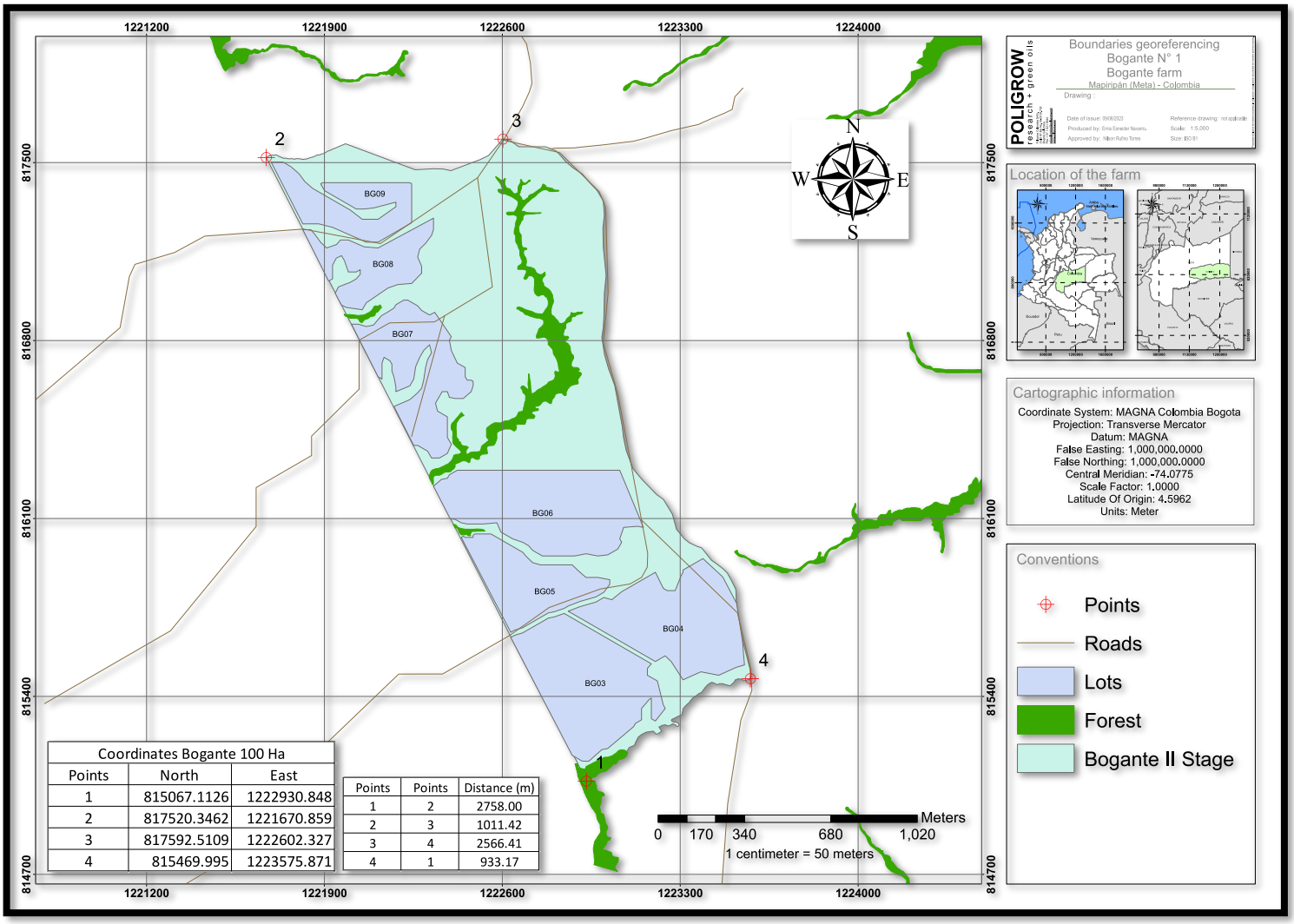
Source: (Poligrow, Contour lines Casuarito investments., 2023)

Figure 5. Fragile soils or peat maps _Casuarito 1.



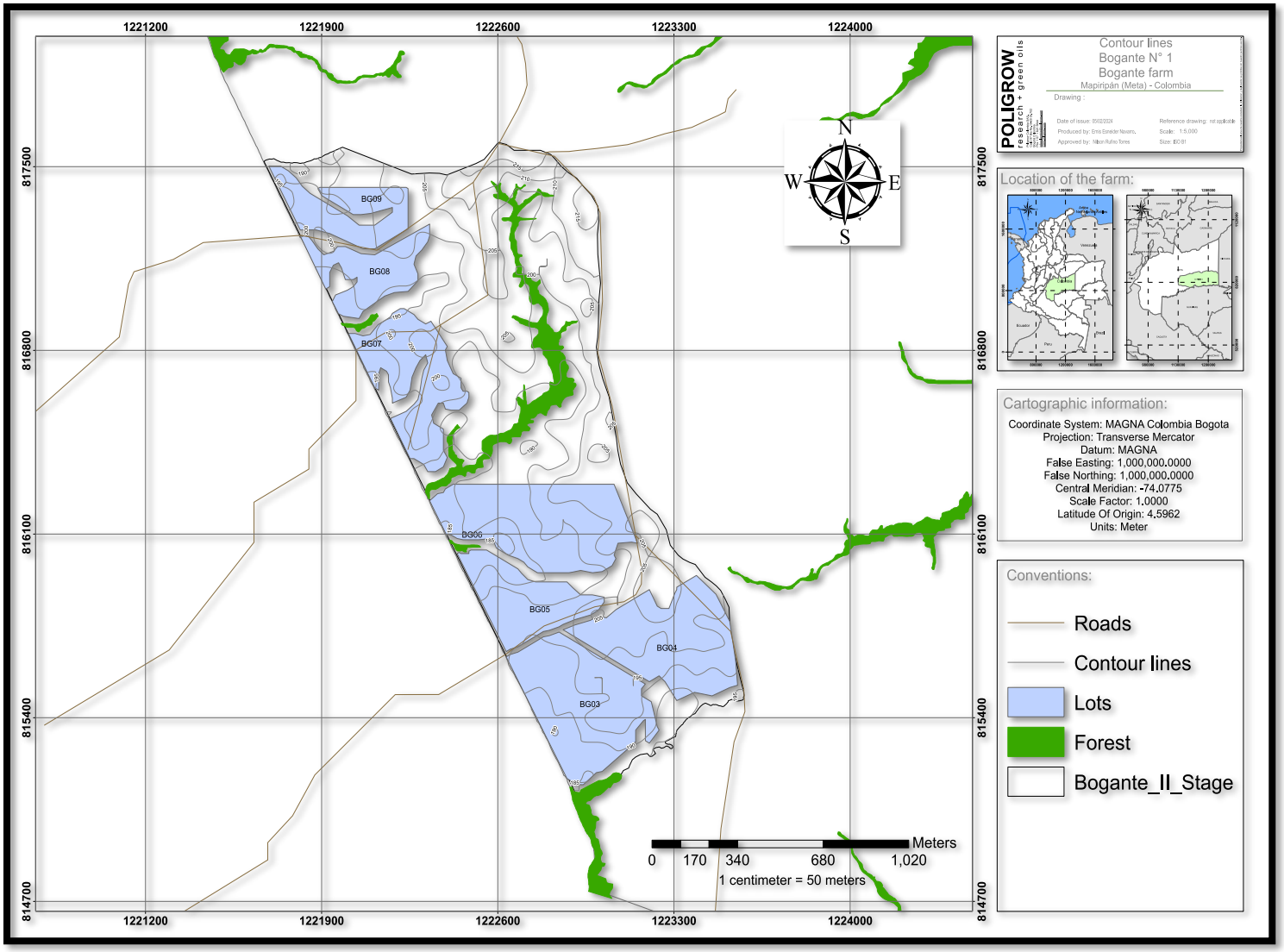
Source: (Poligrow, Fragile or peaty soils Causarito investments, 2023)

Figure 6. Georeferencing of boundaries (mojones) Bogante 1.



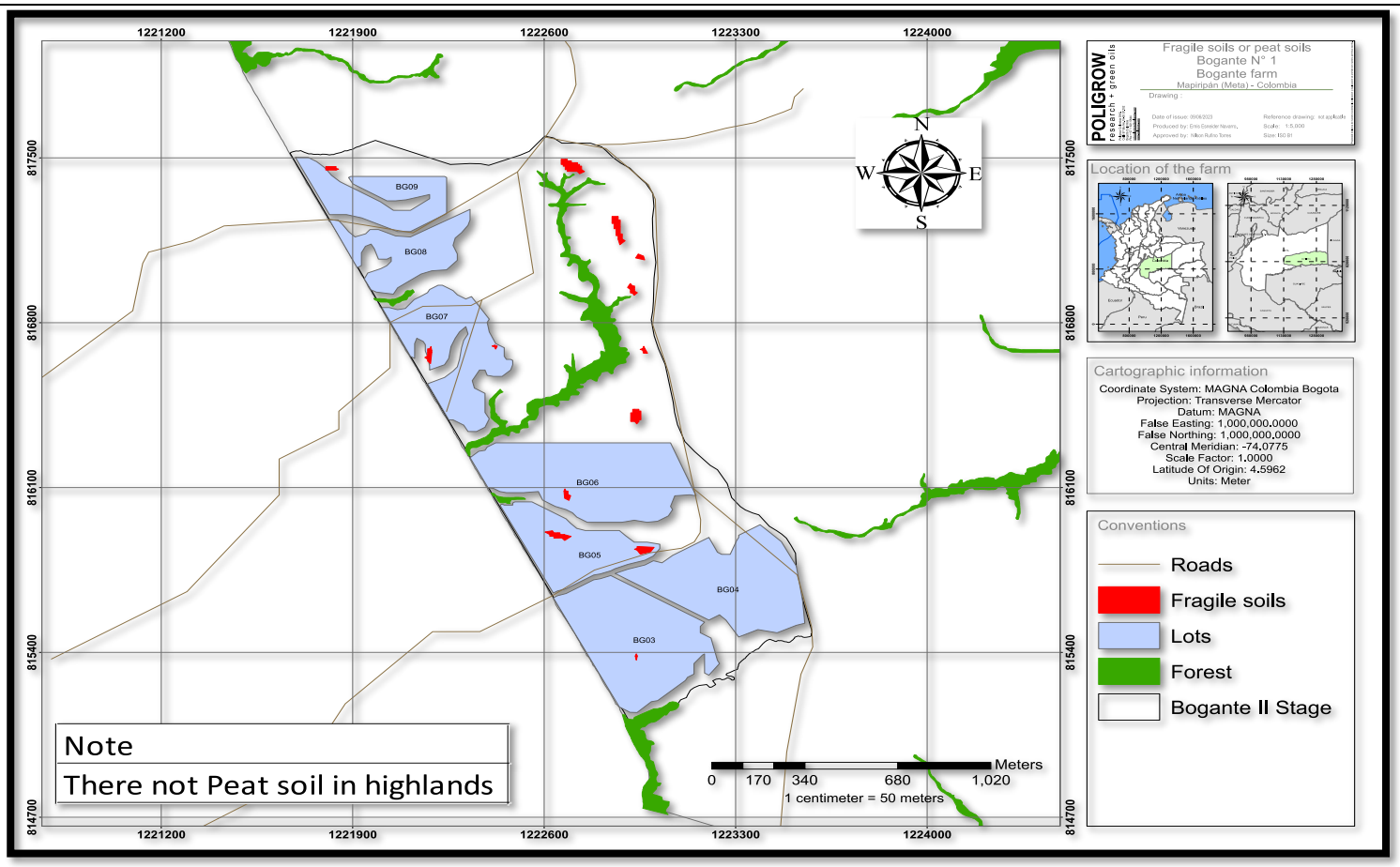
Source: (Poligrow, Georeferencing of boundaries (mojones) Bogante 1, 2023)

Figure 7. Contour line maps Bogante 1



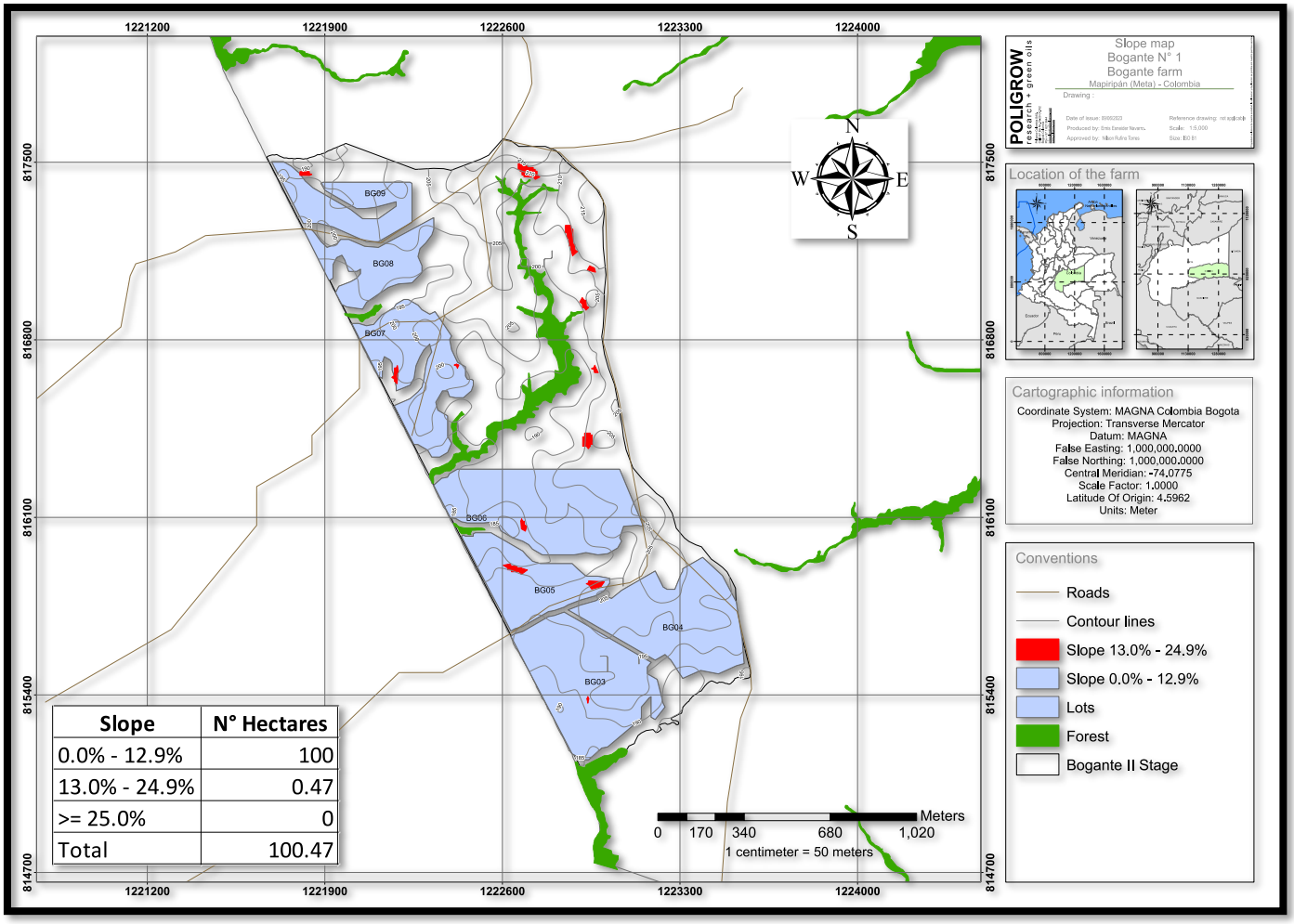
Source: (Contour line maps - Bogante 1, 2023)

Figure 8. Maps of fragile peat soils, Bogante 1.



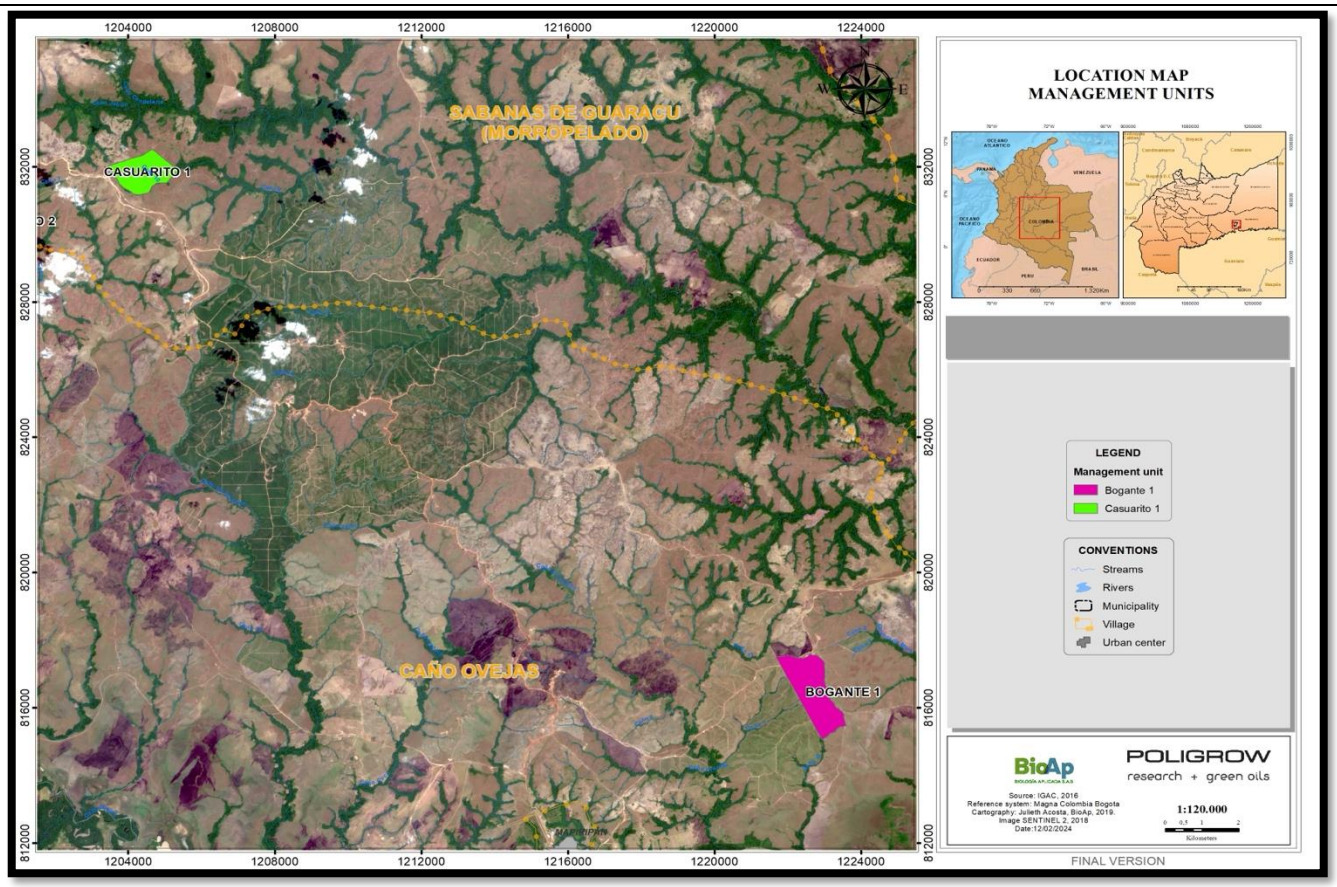
Source: (Poligrow, Maps of fragile peat soils, Bogante 1.)

Figure 9. Slope maps Bogante 1.



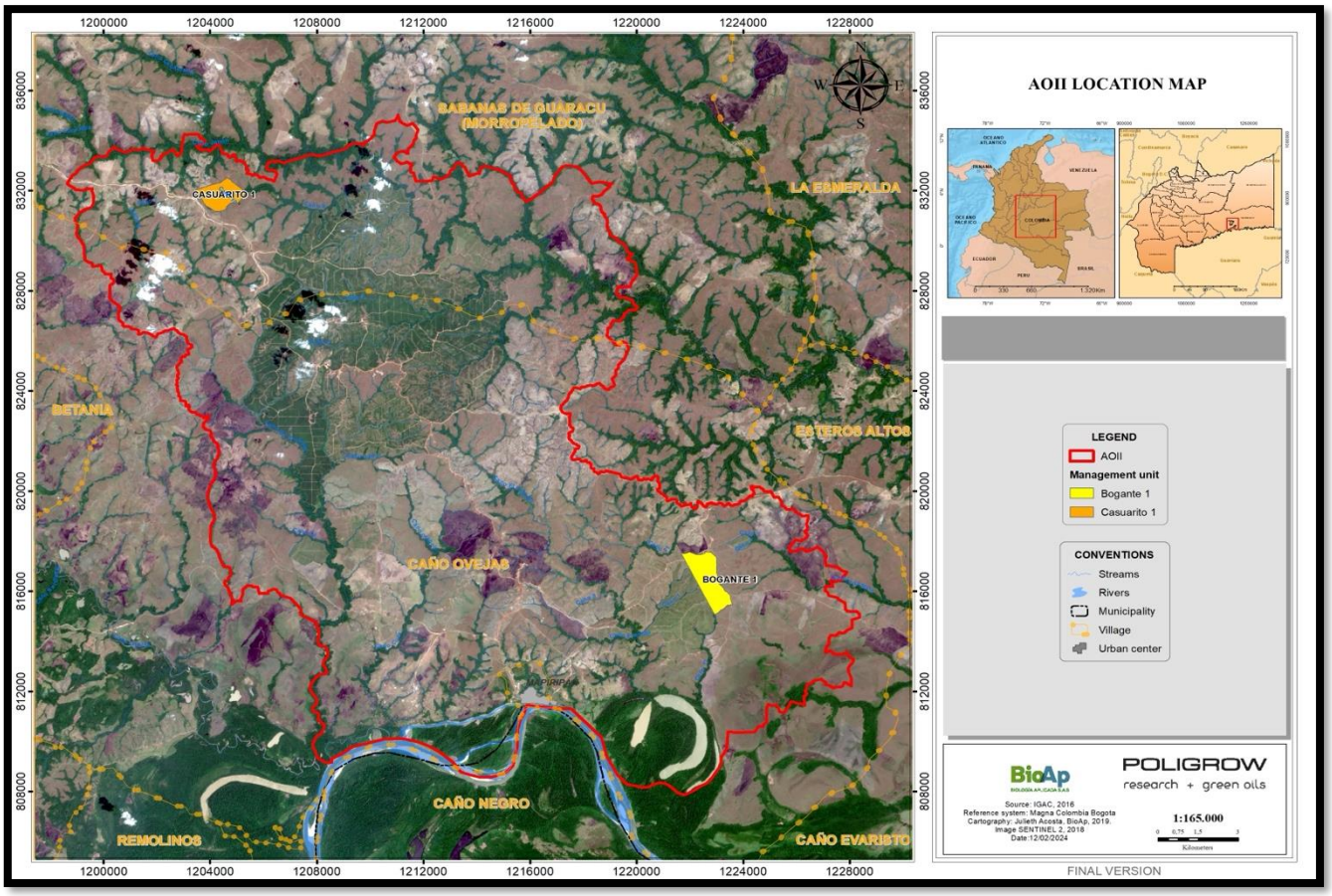
Source:: (Poligrow, Slope map - Bogante 1, 2023)

Figure 10. Location map of the proposed Management Units for new oil palm plantations.



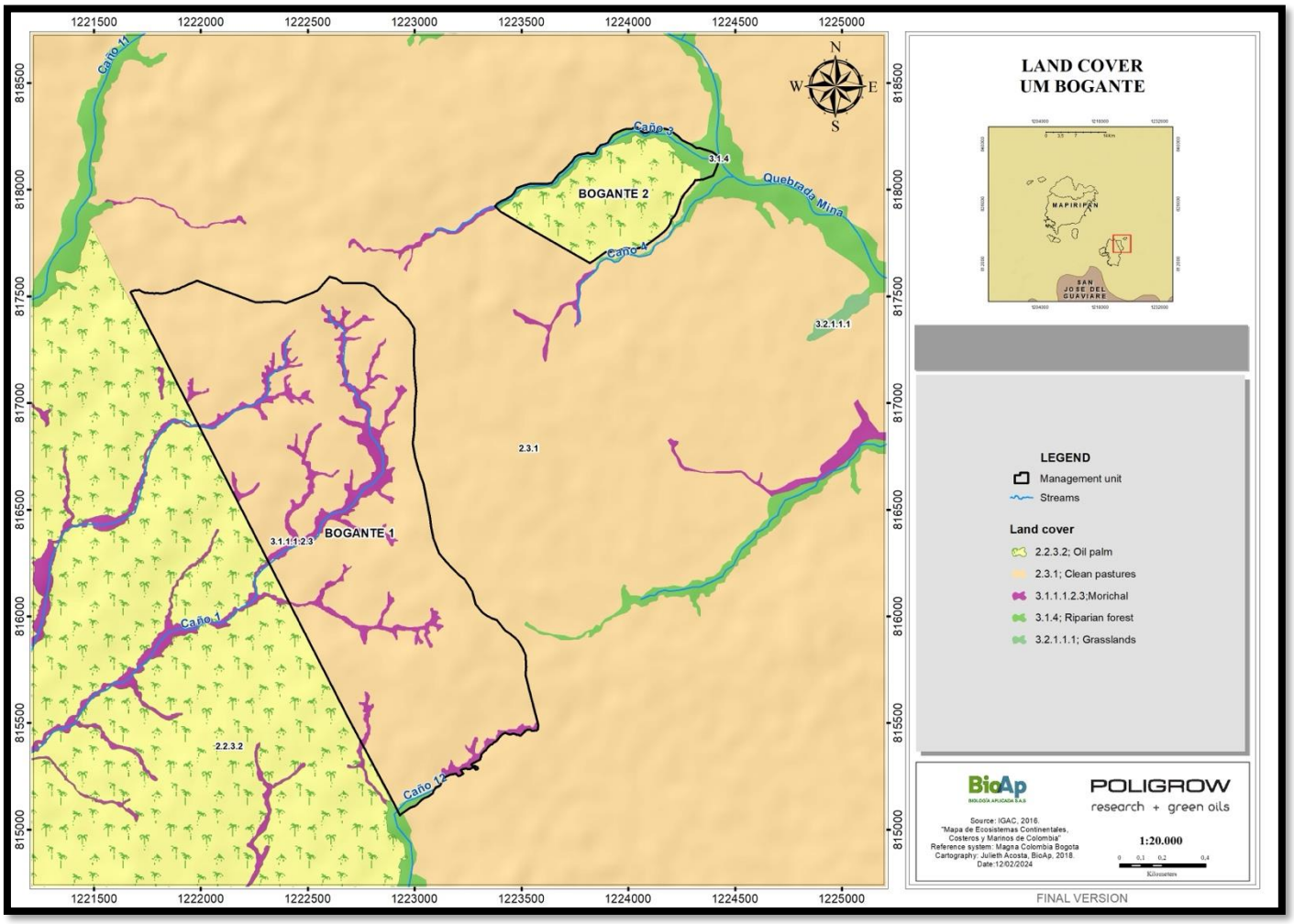
Source: (BioAp, New planting procedure , 2022)

Figure 11. Location map of the Area of Indirect Influence.



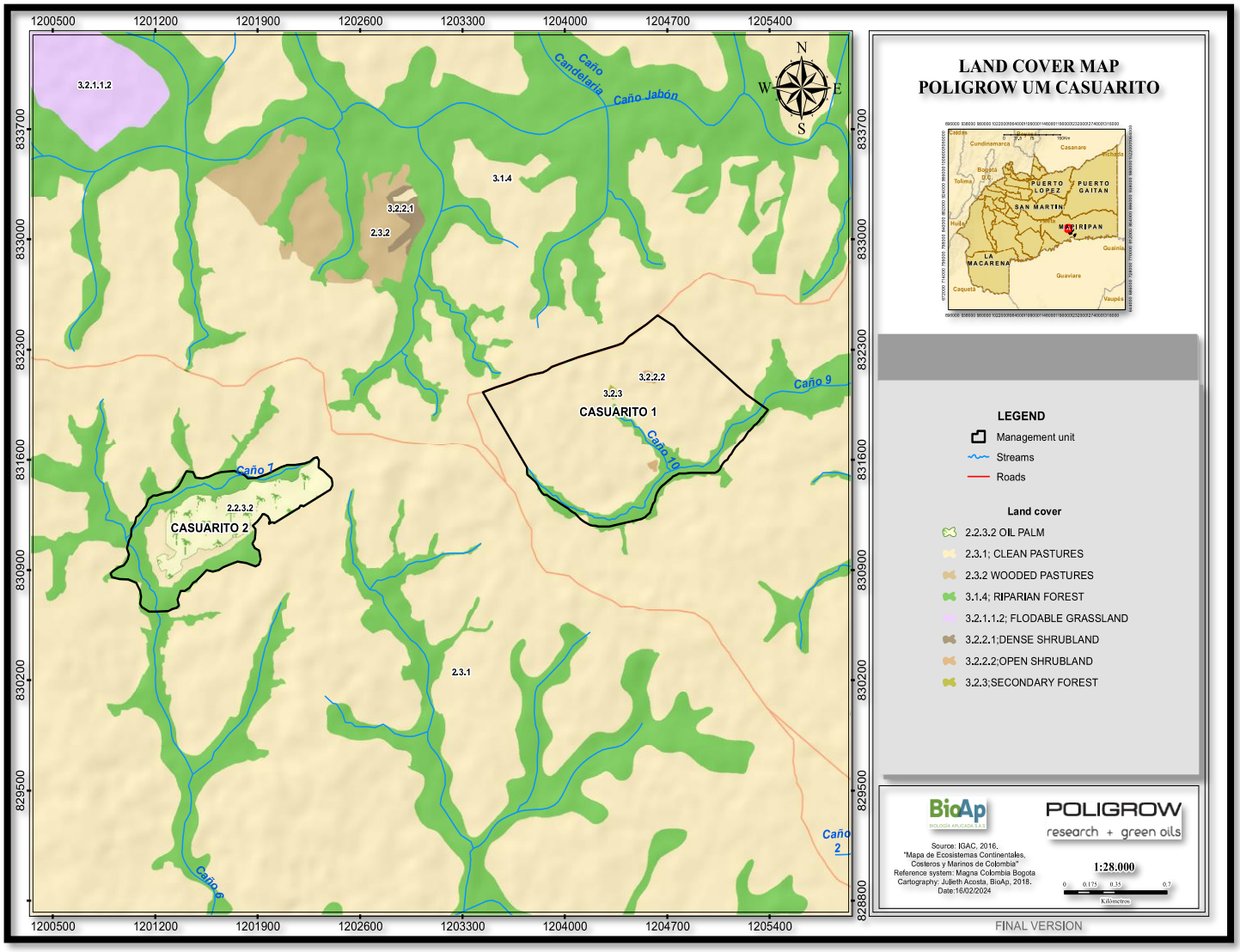
Source: (BioAp, New planting procedure , 2022)

Figure 12. Land cover map, UM Bogante 1.



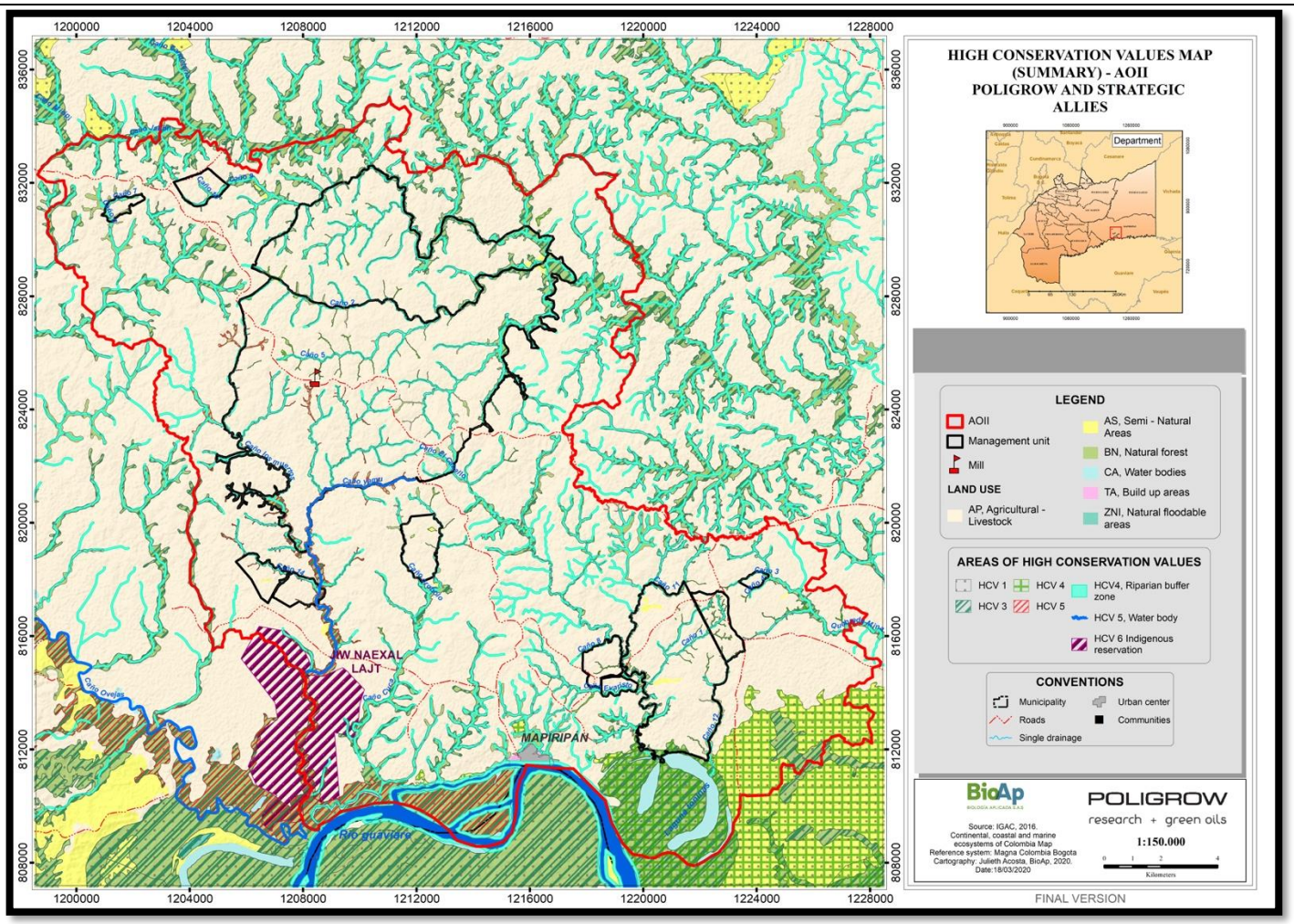
Source: (BioAp, New planting procedure , 2022)

Figure 13. Land cover map, UM Casuarito 1.



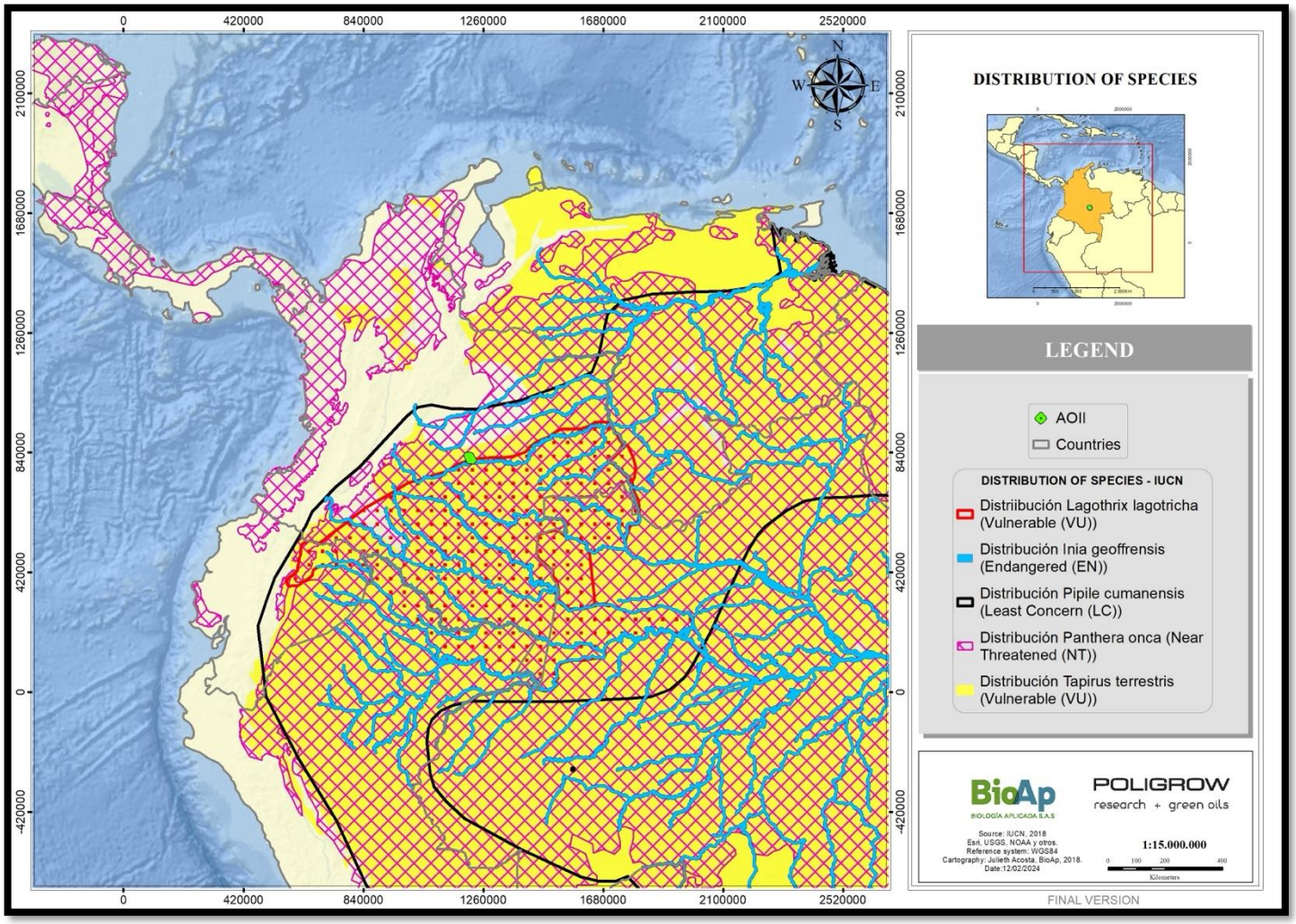
Source: (BioAp, New planting procedure , 2022)

Figure 14. Map of High Conservation Value Areas (HCV), Poligrow Colombia S.A.S.



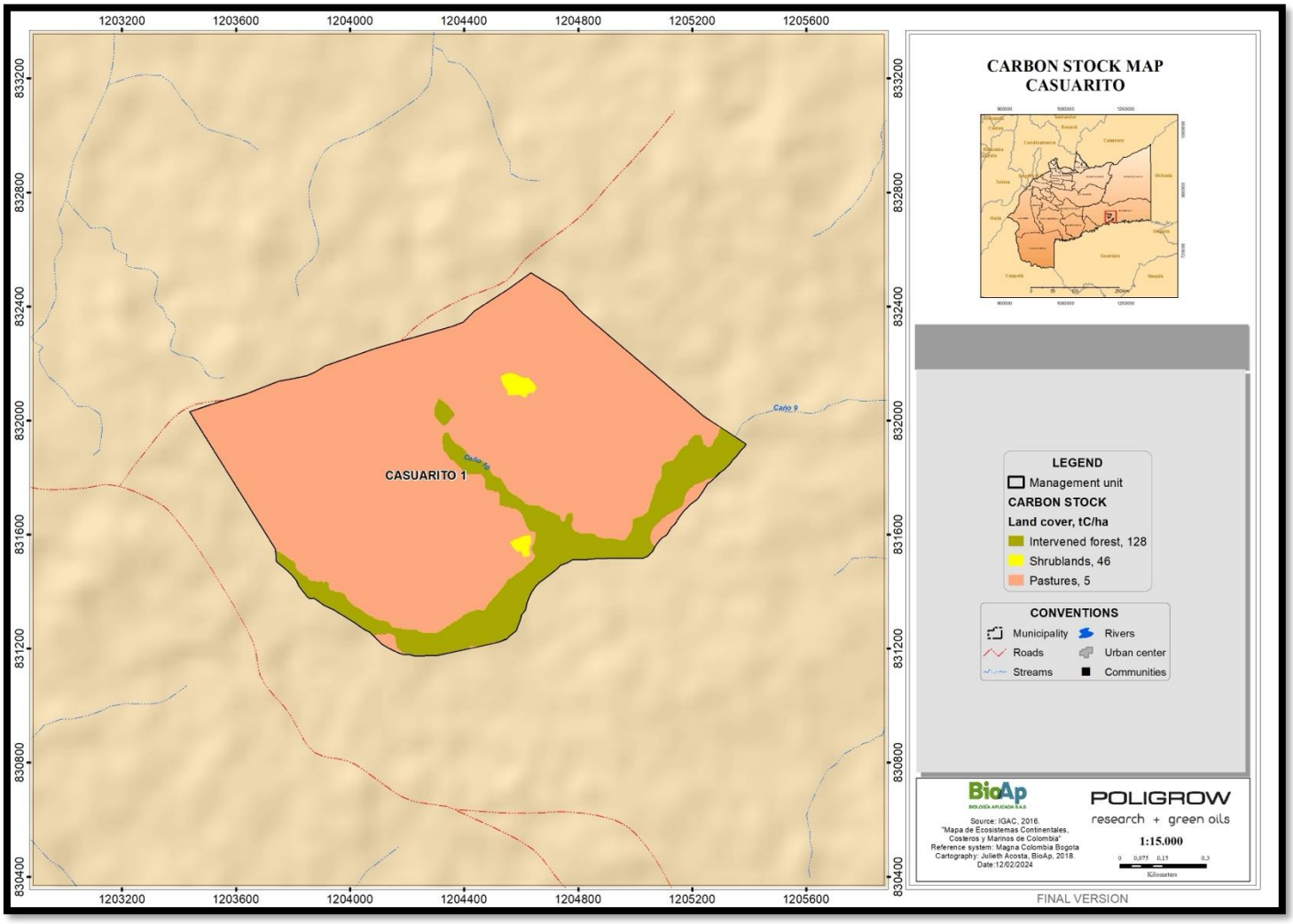
Source: (BioAp, Study of high HCV conservation values, 2020)

Figure 15. Species distribution map.



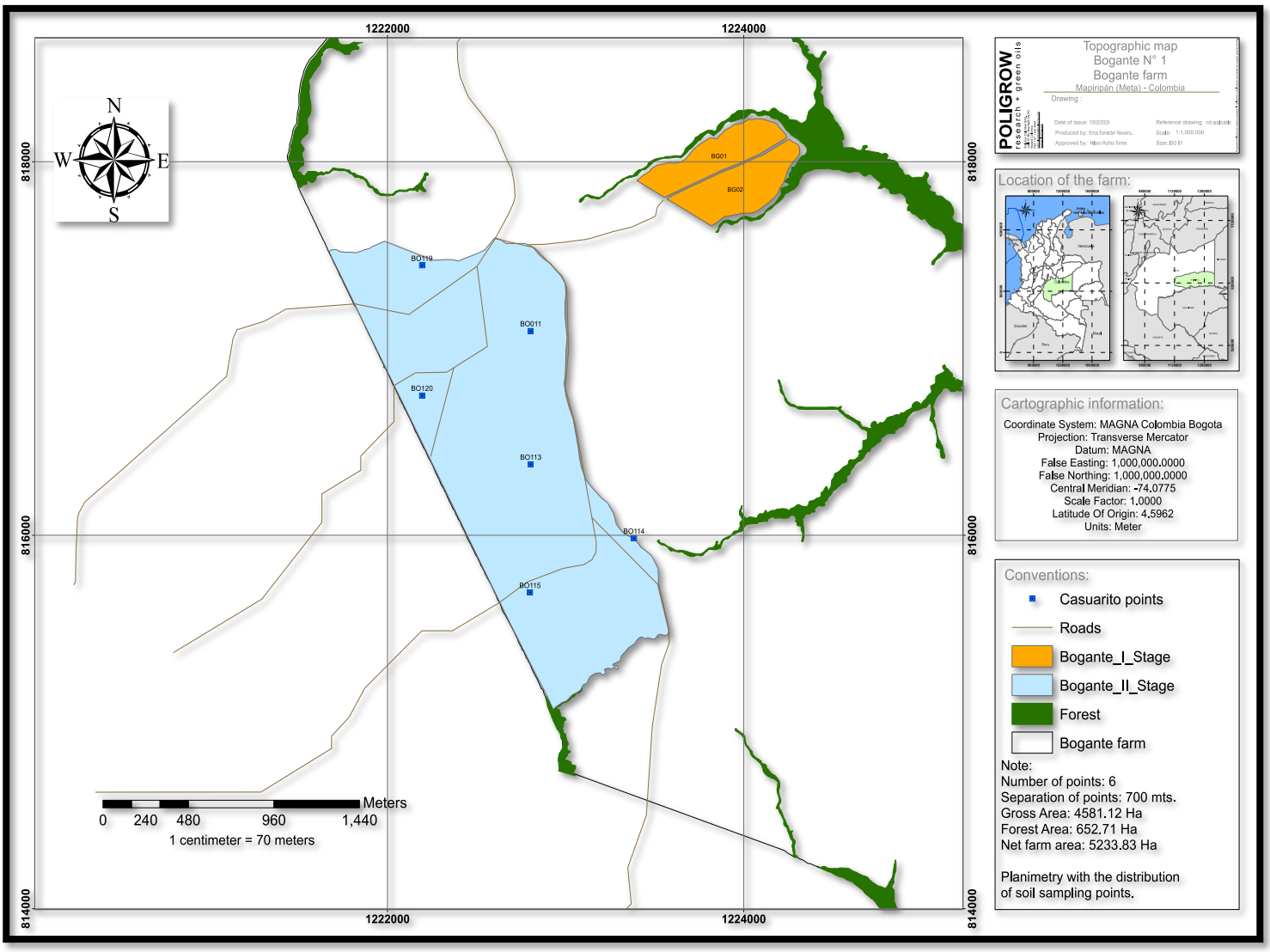
Source: (BioAp, Study of high HCV conservation values, 2020)

Figure 16. Carbon stock map, coverage tC/ha- Casuarito 1.



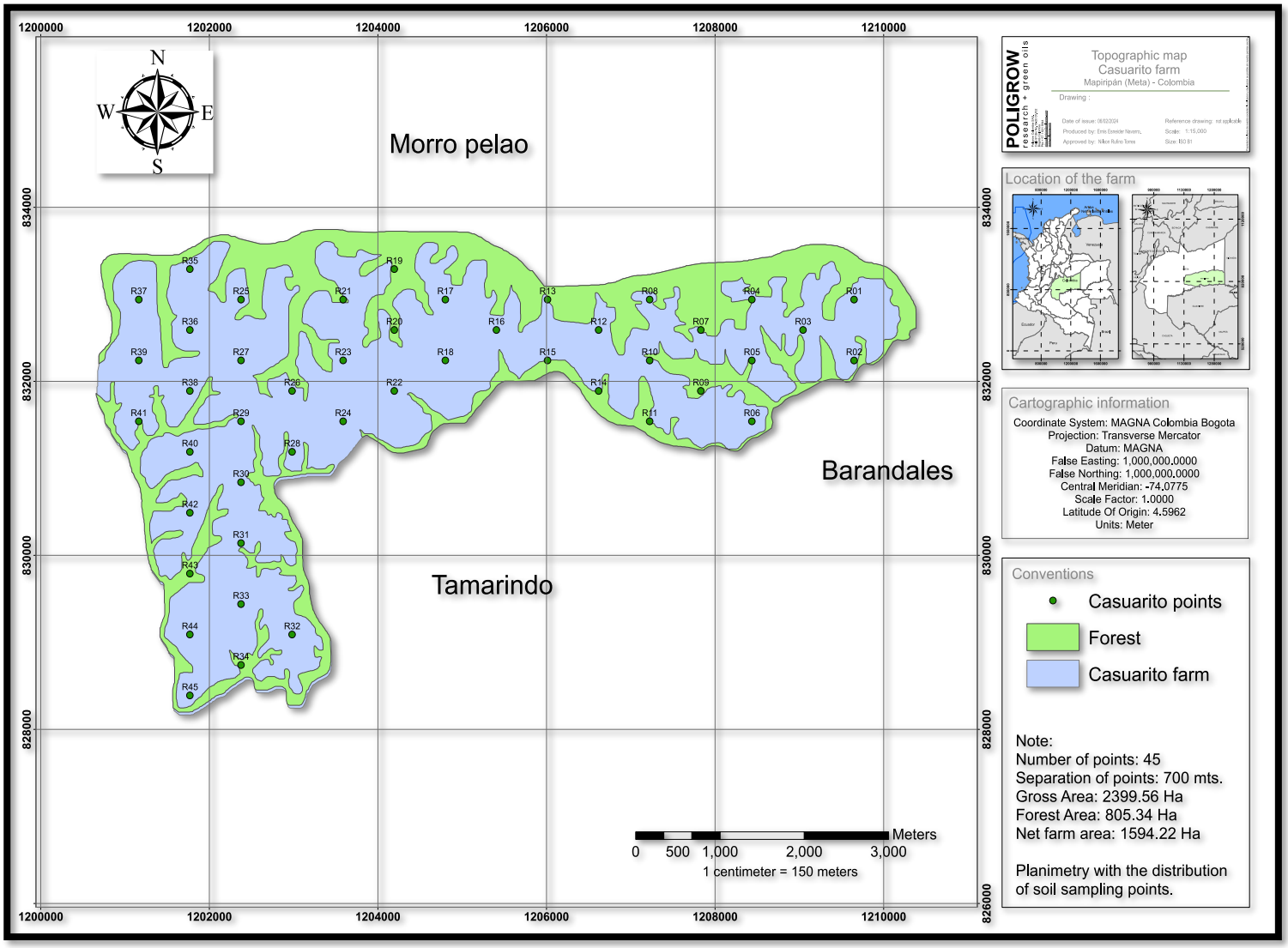
Source: (BioAp, New planting procedure , 2022)

Figure 17. Map distribution of forest area, savanna and points over study area – Bogante 1.



Source: (Poligrow, Soil potentiality study Bogante 1, 2012)

Figure 18. Map of forest area distribution and points on study area farm Casuarito 1.



Source: (Poligrow, Soil potentiality study Causarito 1, 2011)

Section 3: EIS

3.1 Summary of EIS.

The environmental impact assessment for the new oil palm plantation project of Poligrow Colombia S.A.S., proposed in the municipality of Mapiripan, department of Meta, Colombia, was carried out by BioAp S.A.S. and with the acceptance of the owner of the property.

Report date: February 04, 2020.

Table 10. Date of field data collection for the EIS.

No.	Activity	Date
1	Review of secondary information	March 16-19, 2018
2	Field phase: Observation tours, search for traces, installation of camera traps, interviews.	March 20-23, 2018
3	Collection of camera traps	April 13 and 14, 2018
4	Analysis of information	April 23 - 30, 2018
5	Preparation of report	May 1-12, 2018

Source: (BioAp, Environmental impact study EIS, cap 2, 2020)

3.3.1. EIS evaluation team.

Table 11. EIS assessment team.

Name	Institution	Role	Experience
Rodrigo Ramírez Sandoval	BioAp S.A.S	Biologist Specialist in Environmental Impact Assessment of projects and Specialist in Industrial Safety, Hygiene and Environmental Management.	Experience in environmental impact assessment of more than 10 years, of which 5 years in the coordination of environmental impact studies in the oil palm and sugar cane sector in Colombia, Mexico, Ecuador and Peru, under the RSPO and Bonsucro® schemes in the company Biología Aplicada BioAp SAS.
Juan Pablo Zorro Cerón	BioAp S.A.S	Biologist and HCVRN HCV Advisor	Experience in HCV assessments, LUC (Land Use Change) studies, Environmental and Social Impact Assessments, Remediation and Compensation Procedures for oil palm plantations in Colombia, Mexico, Ecuador, Peru and Guatemala under the RSPO, ISCC and Bonsucro® schemes. Expert in Geographic Information Systems. He has advised more than 30 companies in the implementation of sustainability schemes such as RSPO, ISCC and Bonsucro. Trainer endorsed by RSPO through Checkmark Training for Lead Auditors in P&C. Reviewer for Latin America of LUCA studies for RSPO, member of the Latin American Advisory Group of RPSO (GCAL).
María Paula Romero Cerón	BioAp S.A.S	Bioengineer	Experience in the execution of Socio-Environmental Impact Assessments (SEIA) and Greenhouse Gas Evaluation (GHG), carried out nationally and internationally under the RSPO and ISCC certification schemes in the Palm Sector.
Erika Casallas Garzón	BioAp S.A.S	Environmental Engineer	Experience in information gathering and processing for the preparation of Environmental Impact Studies, High Conservation Value Studies and construction of Compensation and Remediation Plans under RSPO and Bonsucro® guidelines.
Gina Olarte González	BioAp S.A.S	Wildlife Biologist Specialist	Experience in conservation and ecology of neotropical mammals. Work done in the private, public and NGO sectors. With

			experience in HCV studies in Colombia, Ecuador and Mexico.
Angélica Grisales Segura	BioAp S.A.S	Biologist	Experience as a field assistant and sample processing assistant in the Functional Ecology Laboratory (LEF). Assistant in biological collections (preparation of skins and tissues) in Museums.
Diana Nathaly Monrroy Piratoba	BioAp S.A.S	Biologist with a master's degree in Sustainable Development Planning, specialist in Environmental Management and Law.	Experience in the development of environmental impact studies, biologist in wildlife rescue and relocation programs, researcher, professional in consulting projects.
Camilo Andres Herrera Motta	BioAp S.A.S	Forestry Engineer	Experience in the development of forest inventories in the field, knowledge on floristic and structural composition of the forest; dynamics and ecological restoration, through the experience of the Ecological Restoration Seedbed of the Universidad Distrital.
Laura Johanna Nova León	BioAp S.A.S	Biologist	Experience in primate ecology studies (behavior, distribution and diet) both in captivity and in the wild, as well as experience in monitoring medium and large terrestrial mammals. Also, experience in HCV studies, in the design of remediation and compensation plans.
Fabio Ernesto Álvarez Morales	BioAp S.A.S	Biologist Specialist in Geographical Information Systems (GIS)	General experience in spatial interpretation with GIS resources and aquatic ecosystems for environmental impact studies. He has participated as a GIS specialist in HCV studies in Colombia, Mexico and Ecuador under the RSPO and Bonsucro® schemes.
Julieth Acosta Rodríguez	BioAp S.A.S	Cadastral engineer and geodesist	General experience in management and analysis of geographic information for environmental studies and High Conservation Value (HCV) studies. Accompaniment in projects, development of cartography and digitalization and interpretation of images for land cover surveys, among others.
Jina Katerine Melo Ramírez	BioAp S.A.S	Social Worker- Aspiring Specialist in Environmental Education and Management.	Experience and knowledge in community work, with emphasis on leading the planning and execution of educational and environmental projects, conducting workshops and implementing participatory tools under the RSPO and Bonsucro® schemes.
David Bonilla Martínez	BioAp SAS	Social Worker	Experience and knowledge in community work, educational agent, mobile unit social worker.
Harol Jeisson Rodríguez Ortiz	BioAp S.A.S	Field Assistant	Experience as a field assistant in all wildlife areas, mainly in Herpetofauna (Amphibians and Reptiles).

Source: (BioAp, Environmental impact study EIS, cap 2, 2020)

3.3.2. EIS Methodology and procedure

The biophysical, socioeconomic, and health environments that could be affected by the proposed project were determined from field data collection, previous environmental and natural resource studies, and internal company environmental records.

3.3.3. EIS General Methodology

The methodology consists of 4 phases, defined as follows:

Pre-Field Phase

Consisted of the integration of relevant secondary information, the unification of formats, scales, homogenization of information and databases on socio-environmental issues (abiotic, biotic and socioeconomic), as well as the digitization of base and complementary thematic cartography (climate, topography, soil units, geological/geomorphological units, hydrography, municipal boundaries, etc.). In this phase, the digital processing of the satellite images was carried out in order to standardize some parameters for their interpretation and to define the study zones and the routes for field verification.

Field Phase

In this phase, field verification of the aspects of each unit was carried out as a result of the consultation of base and thematic cartography, preliminary to the interpretation of satellite images on the type of vegetation, land use, vegetation cover, social infrastructure, priority conservation areas and delimitation of properties, among others. Likewise, the established verification points are marked using a previously calibrated GPS and the development of detailed analyses on the possible impact on the environment with respect to the stages and activities of the project.

Production phase of the Environmental Management Plan (EMP) and Follow-up and Monitoring (SMO).

The results obtained through the development of the environmental evaluation and zoning allow the construction of environmental programs, whose main objective is to compensate, correct, mitigate and prevent the impacts generated during the development of specific activities as part of the core production process for each of the project areas.

EIS Results

Once the qualification of the impacts for each of the scenarios and environments (physical, biotic and socioeconomic) has been completed, the respective analysis is developed; this is presented in two sections: one corresponds to the results of the magnitude and qualification that the activities of the expost scenarios cause in the environment, and the other contains the analysis of the valuation of each of the identified impacts.

3.3.4. Results biotic environment.

Table 12. Impact on wildlife.

Impact on wildlife				
Activity	**Subactivity**	**Environmental aspect**	**Effect**	**Importance**
AC_3. PRE-SOWING	Delimitation of planting areas	Demarcation of HCV Areas	Protection of HCV areas	(+) MODERATELY BENEFICIAL
AC_3. PRE-SOWING	Delimitation of planting areas	Demarcation of areas not suitable for planting.	Conservation of HCV areas, marginal soils and slopes.	(+) MODERATELY BENEFICIAL
AC_3. PRE-SOWING	Adequacy of the land (machinery) and removal of vegetation cover.	Handling of cutting tools (scythes, machetes and hooks)	Accidental loss of fauna (machinery)	(-)SIGNIFICANT
AC_4. SEEDING	Removal of weeds, clearing and cleaning of the land, fumigation, etc.	Handling of cutting tools (scythes, machetes and hooks)	Accidental loss of fauna due to poisoning.	(-)SIGNIFICANT
AC_7. CONSTRUCTION AND ADEQUACY OF ROADS AND TRACKS	Delimitation of the track and roads (Rem_cob_vegetable) and clearing of the land, etc.	Operation of vehicles and machinery	Accidental loss of wildlife (machinery)	(-) SIGNIFICANT
AC_5. FERTILIZATION	Fertilizer mixing and application	Excessive use of agricultural products	Accidental loss of wildlife by poisoning	(-) SIGNIFICANT
AC_6. MAINTENANCE OF WEEDS, PESTS AND DISEASES	Weed control, weeding and land clearing	Excessive or inappropriate use of	Accidental loss of wildlife by poisoning	(-) SIGNIFICANT

	Chemical and product mixing and blending	agricultural products (Type 1A & 1b)		
Analysis of Results and Environmental Impact				
The results of the impact assessment for the new oil palm plantations on the land of the allied suppliers of Poligrow Colombia SAS identified a total of 30 environmental aspects for this impact, of which 2 had a MODERATELY BENEFICIAL positive importance and 5 had a SIGNIFICANT negative importance. This support emphasizes the results with SIGNIFICANT categories, taking into account that they represent the highest levels of affectation to the fauna present in the area of influence of the new palm plantations; in this case, no environmental aspects were identified that generate SEVERE or MILD impacts for this impact. The environmental aspects that generate a positive effect (MODERATELY BENEFICIAL) on the fauna component are the protection of HCV areas in CA_3. PRE-SEEDING and the demarcation of areas not suitable for planting in CA_3. PRE-SEEDING; this activity is important for the study because it protects and conserves the most sensitive and important areas for the ecosystems and more for this case the protection of the fauna (RAP). The sub-activities that generate SIGNIFICANT affectations on the fauna component and that consequently increase the impact are Land Adequacy (Machinery) and removal of vegetation cover in CA_3, PRE-SEEDING, Weed removal, clearing and cleaning of the land, fumigation, etc. in CA_4. Panting, Delimitation of the road and paths (Removal vegetation) and clearing of the land, etc. AC_7. CONSTRUCTION AND ADAPTATION OF ROADS AND ROADS, Mixing and application of fertilizers in CA_5. FERTILIZATION, Weed control, weeding and land clearing Chemical and product mixing in AC_6. WEED, PEST AND DISEASE MAINTENANCE, and Land Adequacy (Machinery) and removal of vegetation cover in AC_3. PRE-SEEDING. A total of 65 species were identified in the areas of influence that are in some category of threat of which 14 were mammals, 4 of reptiles, 44 of birds and 3 of amphibians; these species were identified in the listings of the CITES international convention, the IUCN red list of threatened species, the Colombian Red Books and Resolution 1912 of 2017.				

Table 13. Flora Affected.

Flora affected				
Activity	**Subactivity**	**Environmental aspect**	**Effect**	**Negative Importance**
AC_3. PRE-SOWING	Delimitation of planting areas	Demarcation of HCV Areas	Protection of HCV areas	(+) MODERATELY BENEFICIAL
AC_3. PRE-SOWING	Delimitation of planting areas	Demarcation of unsuitable planting areas	Conservation of HCV areas, marginal soils, and slopes.	(+) MODERATELY BENEFICIAL
AC_3. PRE-SOWING	Adequacy of the land (machinery) and removal of vegetation cover.	Adequacy of work areas	Loss of vegetation cover	(-) SIGNIFICANT
AC_3. PRE-SOWING	Layout and construction of roads and harvesting paths.	Adequacy of work areas	Loss of vegetation cover	(-) SIGNIFICANT
AC_6. WEED, PEST AND DISEASE MAINTENANCE	Weed control, clearing and cleaning of the land Chemical and product mixes	Excessive or inappropriate use of agricultural products (Type 1A & 1b)	Loss of vegetation cover	(-) SIGNIFICANT
AC_7. CONSTRUCTION AND ADEQUACY OF ROADS AND TRACKS	Opening and consolidation of roads and harvesting paths.	Layout Water bodies	forestry use	(-) SIGNIFICANT
Analysis of Results and Environmental Impact				

The results of the impact assessment for the new oil palm plantations on the land of the allied suppliers of Poligrow Colombia SAS; a total of 15 environmental aspects were identified for this impact (Flora), of which 2 presented a positive importance MODERATELY BENEFICIAL, 4 presented a negative importance SIGNIFICANT. This support emphasizes the results with categories SIGNIFICANT considering that they represent the highest levels of affectation to the flora found in the area of influence of the plantations; in this case no environmental aspects were identified that generate SEVERE impacts.
The environmental aspects that generate a positive effect (MODERATELY BENEFICIAL) on the flora component and therefore are relevant for the study are the protection of HCV areas in CA_3. PRE-SEEDING and the demarcation of areas not suitable for planting in CA_3. PRE-SEEDING; this activity is important for the study because it protects and conserves the most sensitive and important areas for the ecosystems and natural cover.
The sub-activities that have a SIGNIFICANT impact on the flora component and therefore increase the impact are the Land Adequacy (Machinery) and removal of vegetation cover in AC_3. PRE-SEEDING, Layout and construction of roads and harvesting paths in AC_3. PRE-SEEDING in the Weed control, clearing and cleaning of the land Chemical and mixture of products in AC_6. WEED, PEST AND DISEASE MAINTENANCE, and opening and consolidation of roads and harvesting paths in CA_7. CONSTRUCTION AND ADAPTATION OF ROADS AND ROADS; it is important to mention that the reason why SEVERE impacts were not considered is due to the fact that there will be no planting in forest areas.
In the areas of influence, 8 species of flora were identified that are in some category of threat according to the CITES international agreement, the IUCN red list of endangered species, the Colombian Red Books and Resolution 1912 of 2017.

Source: (BioAp, Environmental Impact Assessment EIA, Cap 4, 2020)

3.3.5. Results abiotic environment

Tabla 14. Change in air quality.

Change in Air Quality				
Impacts on the air component				
Activity	**Subactivity**	**Environmental aspect**	**Effect**	**Negative importance**
AC_2. PLANT NURSERY	Weeding, clearing and cleaning of land, spraying, etc.	Wind mobilization bare soil.	PM dispersion and volatilization of chemicals	MODERATE
AC_4. PLANTING	Weeding, clearing and cleaning of the land, fumigation, etc.	Wind mobilization bare soil.	PM dispersion and volatilization chemicals	MODERATE
AC_4. PLANTING	Application of fertilizers, organic matter, minerals at planting time.	Wind mobilization bare soil.	PM dispersion and chemical volatilization	MODERATE
AC_4. PLANTING	Transport, distribution of seedlings and planting.	Machinery operation.	PM dispersion	MODERATE
AC_5. FERTILIZATION	Fertilizer mixing and application.	Wind mobilization bare soil.	PM dispersion and volatilization of chemicals	SIGNIFICANT
AC_7. CONSTRUCTION AND ADEQUACY OF ROADS AND TRACKS	Mobilization of vehicles and machinery in general	Machinery operation	Alteration of noise levels	SIGNIFICANT
Impacts on the Atmosphere component				

Activity	Subactivity	Environmental aspect	Effect	Negative importance
AC_3. PRE-SEEDING	Adequacy of the land (machinery) and removal of vegetation cover.	Fossil fuel consumption	Emission CO2, CO, SO2, NOx, HC and MP	SIGNIFICANT
AC_3. PRE-SEEDING	Land leveling (mobilization of machinery).	Fossil fuel consumption	Emission CO2, CO, SO2, NOx, HC and MP	SIGNIFICANT
AC_4. SEEDING	Removal of weeds, clearing and cleaning of the land, fumigation, etc.	Fossil fuel consumption	Emission CO2, CO, SO2, NOx, HC and MP	SIGNIFICANT
AC_5. FERTILIZATION	Fertilizer mixing and application	Decomposition of agricultural products	Emissions N2O and CO2	SIGNIFICANT
Analysis of Results and Impact on the Environment				
The evaluation showed 4 results with MODERATE negative significance and 2 results with SIGNIFICANT negative significance for this impact for the air component, while for the atmosphere component 28 results were identified with MODERATE negative significance and 4 results with SIGNIFICANT negative significance. This support emphasizes the results with SIGNIFICANT and MODERATE categories (with direct effect) considering that they represent the highest levels of impact generation, however, activities and sub-activities with MODERATE negative importance (with indirect and direct effect) should be considered because if the necessary measures for control, prevention, mitigation or compensation (as appropriate) are not adopted, the category may increase, increasing the occurrence of impacts with a magnitude greater than that identified in this assessment. The sub-activities that generate significant effects on the air component and therefore increase the impact are the mixing and application of fertilizers in CA_5. FERTILIZATION and the movement of vehicles and machinery in CA_7. CONSTRUCTION AND ADAPTATION OF ROADS AND ROADS, while in the atmosphere component, the significant impacts are caused by the sub-activities land preparation, removal of vegetation cover and land leveling in CA_3. SEEDING and the mixing and application of fertilizers in CA_5. FERTILIZATION. The environmental aspects that cause deterioration of the atmosphere and air and that generate the impact are the aeolian dispersion of particles as a consequence of the uncovered soils, which leads to the dispersion of particulate material and the volatilization of chemical substances, the operation of machinery and the alteration of noise levels, the consumption of fossil fuels and their emission of polluting gases such as CO2, CO, SO2, NOx and HC, and the decomposition of agricultural products that result in the emission of nitrous oxides and carbon dioxide into the atmosphere, which act directly on the atmospheric component, adding greenhouse gases and degrading the ozone layer, significantly reducing air quality.				

Source: (BioAp, Environmental impact study EIS, Chap 3., 2020)

Table 15. Changes in noise levels.

Changes in noise levels				
Activity	**Subactivity**	**Environmental aspect**	**Effect**	**Negative importance**
AC_1. PRE- SEEDING	Mobilization of personnel and supplies	Operation of vehicles	Alteration of noise levels	MODERATE
AC_3. PRE- SEEDING	Land leveling (mobilization of machinery)	Operation of machinery and equipment	Alteration of noise levels	MODERATE
AC_3. PRE- SEEDING	Layout and construction of roads and harvest roads	Operation of machinery and equipment	Alteration of noise levels	MODERATE
AC_4. SEEDING	Transport, seedling distribution and planting.	Operation of machinery	Alteration of noise levels	MODERATE

AC_6. MAINTENANCE OF WEEDS, PESTS AND DISEASES.	Pest Control: Mechanical (Chemical)	Operation of machinery	Alteration of noise levels	MODERATE
AC_7. CONSTRUCTION AND ADEQUACY OF ROADS AND TRACKS.	Delimitation of roads and paths (removal of vegetation cover) and land clearing, etc.	Operation of machinery	Alteration of noise levels	MODERATE
AC_7. CONSTRUCTION AND ADEQUACY OF ROADS AND TRAILS.	Opening and consolidation of roads and harvesting paths.	Operation of machinery	Alteration of noise levels	MODERATE
AC_8. ORGANIC SOIL CONDITIONING.	Adequacy of terrain (harrowing and/or deep chisel).	Operation of machinery	Alteration of noise levels	MODERATE
AC_8. ORGANIC SOIL CONDITIONING.	Application of organic material	Operation of machinery	Alteration of noise levels	MODERATE

Analysis of Results and Impact on the Environment

For this impact, the evaluation showed 2 results with LEVEL negative significance and 9 results with MODERATE negative significance. This support emphasizes the results with MODERATE category considering that in this case it represents the highest level of impact generation, however, the activities and sub-activities with LEVEL negative significance should be considered because if the necessary measures for control, prevention, mitigation or compensation (as appropriate) are not adopted, the category may increase, increasing the occurrence of impacts with a magnitude greater than that identified in this assessment.

The sub-activities that generate moderate impacts on the air component (noise) and that produce the impact are the mobilization of personnel and inputs in CA_1. PRE-NURSERY, land leveling (mobilization of machinery) and layout and construction of roads and harvest roads in CA_3. PRE-SEEDING, transport and distribution of seedlings and planting in CA_4. SEEDING, pest control in CA_6. WEED, PEST AND DISEASE MAINTENANCE, the delimitation of roads and tracks and their respective opening and affirmation in AC_7. CONSTRUCTION AND ADAPTATION OF ROADS AND ROADS and the adaptation of the soil and application of organic material in AC_8. ORGANIC SOIL CONDITIONING.

The development of new oil palm plantations will generate an increase in sound pressure levels, mainly due to environmental aspects such as the operation of vehicles, machinery and equipment that will cause an alteration in noise levels considering the frequency of operations and the number of vehicles to be used, thus interrupting the sound stability of the environment under natural conditions.

Source: (BioAp, Environmental impact study EIS, Chap 3., 2020)

Table 16. Soil Structure Changes.

Soil Structure Changes				
Activity	**Subactivity**	**Environmental aspect**	**Effect**	**Negatite importance**
AC_3. PRE- SEEDING	Adequacy of the land (Machinery) and removal of vegetation cover.	Vehicle mobilization	Alteration of soil structure (compaction).	SIGNIFICANT
AC_7. CONSTRUCTION AND ADEQUACY OF ROADS AND TRACKS	Delimitation of the track and roads (removal of vegetation cover) and land clearing, etc.	Removal of vegetation cover	Alteration of rainwater infiltration capacity.	SIGNIFICANT

AC_7. CONSTRUCTION AND ADEQUACY OF ROADS AND TRACKS	Opening and consolidation of roads and harvesting paths.	Roadway consolidation	Alteration of soil structure	SIGNIFICANT
Affectation by Natural Causes				
AC_7. CONSTRUCTION AND ADEQUACY OF ROADS, TRACKS AND DRAINAGE SYSTEMS.	Purchase, transport and distribution of material on tracks.	Purchase of construction material (Alluvial)	Use of natural resources (Soil)	MODERATE
Analysis of Results and Environmental Impact				
For the impact "Changes in soil structure", the evaluation showed 1 result with a MILD category, 10 results with MODERATE negative significance, and 3 results with SIGNIFICANT negative significance, as indicated above, while for the impact "Affectation of natural watercourses" the evaluation yielded a single result with MODERATE negative significance. This support emphasizes the results with SIGNIFICANT and MODERATE categories, taking into account that they represent the highest levels of impact generation in this case; however, the activities and sub-activities with LEVEL and MODERATE negative significance should be considered because if the necessary measures for control, prevention, mitigation or compensation (as appropriate) are not adopted, the category may increase, increasing the occurrence of impacts with a magnitude greater than that identified in this assessment. The sub-activities that generate significant impacts on soil structure are land preparation and removal of vegetation cover in CA_3 PRE-SEEDING and delimitation and opening of roads and harvesting paths in CA_7. CONSTRUCTION AND ADAPTATION OF ROADS, PATHWAYS AND DRAINS, while for the impact "Affectation of natural watercourses" the sub-activity of purchase, transport and distribution of dragging material on roads during CA_7. CONSTRUCTION AND ADAPTATION OF ROADS AND PATHWAYS is the only one that causes a negative impact because the development of new crops will require the opening of roads and pathways for which it will be necessary to use alluvial or dragged material, so the elimination of this impact and the protection of the affected water bodies will be achieved by confirming the origin of the material through the certification of the product-seller. The change in soil structure due to the environmental aspects of vehicular movement, elimination of vegetation cover and road consolidation modifies the relationship between the soil and the different communities and abiotic factors that depend on the resource, causing compaction and the infiltration capacity of rainwater.				

Source: (BioAp, Environmental impact study EIS, Chap 3., 2020)

Table 17. Affect on soil fertility.

Affect on soil fertility				
Activity	**Subactivity**	**Environmental aspect**	**Effect**	**Negative Importance**
AC_3. PRE-SEEDING	Adequacy of the land (machinery) and removal of vegetation cover.	Soil cover removal	Acceleration of erosion processes	SIGNIFICANT
AC_3. PRE-SEEDING	Layout and construction of roads and harvesting paths.	Excavation and machinery movement	Alteration of soil structure	SIGNIFICANT
Analysis of Results and Environmental Impact				
The evaluation showed 2 results with LEVEL category, 14 results with MODERATE negative importance (of which 6 have direct incidence in the generation of the impact), and 2 results with SIGNIFICANT negative importance, as indicated above. This support emphasizes the results with SIGNIFICANT category, taking into account that in this case it represents the highest level of impact generation; however, the activities and sub-activities with LEVEL and MODERATE negative importance should be considered because if the necessary measures for control, prevention, mitigation or compensation (as appropriate) are not adopted, the category may increase, increasing the occurrence of impacts with a magnitude greater than that identified in this evaluation. The sub-activities that generate significant impacts on the soil component are the adaptation of the land and removal of vegetation cover and the layout and construction of roads and harvesting roads in CA_3. Soil fertility is a fundamental characteristic to know its condition and health because it represents the efficiency of the nutrient recycling cycle and therefore the proportion of nutrients available in the soil depending on the different abiotic factors present such as temperature, humidity and precipitation. This is due to the fact that the adaptation of the land for planting oil palm seedlings requires stripping and removal of the natural cover, removing any type of component that is considered inappropriate for optimal plant growth, allowing soil aeration and the circulation of nutrients in the resource, but eliminating natural components that allow the evolution of the soil and the increase of its properties, accelerating erosion processes and the degradation of the structure of the resource.				

Table 18. Changes In Surface Water Quality.

Changes In Surface Water Quality				
Activity	**Subactivity**	**Environmental aspect**	**Effect**	**Negative Importance**
AC_5. FERTILIZATIÓN	Fertilizer mixing and application	Bare soils wind mobilization	Dispersion of PM and volatilization of chemicals	SEVERE
AC_6. WEED, PEST AND DISEASE MAINTENANCE	Pest control: mechanical (chemical) pest control.	Agricultural product application	Alteration of F/Q surface water conditions	SEVERE
AC_3. PRE-SEEDING	Layout and construction of roads and harvesting paths.	Mobilization of machinery and unprotected soils	PM emission and dispersion	SIGNIFICANT
AC_7. CONSTRUCTION AND ADEQUACY OF ROADS AND TRACKS	Track and road delimitation (removal of vegetation cover) and land clearing, etc.	Washing of bare soils	Increased runoff	SIGNIFICANT
AC_7. CONSTRUCTION AND ADEQUACY OF ROADS AND TRACKS	Track and road delimitation (removal of vegetation cover) and land clearing, etc.	Washing of bare soils	Alteration of F/Q surface water conditions	SIGNIFICANT

AC_8. ORGANIC SOIL CONDITIONING	Application of organic material.	Washing of organic substrate	Alteration of surface water F/Q conditions	SIGNIFICANT

Analysis of Results and Environmental Impact

For this impact, the evaluation showed 11 results with MODERATE negative significance, 4 results with SIGNIFICANT negative significance and 2 results with SEVERE significant significance. This support emphasizes the results with SEVERE and SIGNIFICANT category, taking into account that in this case it represents the highest level of impact generation; however, the activities and sub-activities with MODERATE negative importance should also be considered, because if the necessary measures for control, prevention, mitigation or compensation (as appropriate) are not adopted, the category may increase, increasing the occurrence of impacts with a magnitude greater than that identified in this assessment.
The sub-activities that generate severe alterations on surface water quality are the mixing and application of fertilizers in CA_5. FERTILIZATION and chemical pest control in CA_6. WEED, PEST AND DISEASE MAINTENANCE, while the sub-activities that cause significant alterations on this impact are the layout and construction of roads and harvesting paths in CA_3. PRE-SEEDING, the delimitation of roads and paths in CA_7. CONSTRUCTION AND ADAPTATION OF ROADS AND PATHWAYS, and the application of organic material in CA_8. ORGANIC SOIL CONDITIONING.

These activities, which will be carried out during the useful life of the crop, require the adaptation of the soil, generating the dispersion of particulate matter and increasing the concentration of sediments in the water, as well as the application of agrochemical products that improve the nutrient richness of the soil, control and manage pests, diseases or weeds and prevent their appearance in the future, optimizing the production process. However, when nutrients are washed away, residues or excesses end up in the nearest water sources, causing changes in their quality and a possible nutrient overload (eutrophication). According to the Environmental Management Plan, in order to reduce the impact that these activities have on water resources, it is recommended that the application of agrochemicals be directly related to the climatological behavior of the plantations (precipitation, temperature, and sunlight) and therefore during the months of April to November these activities should be avoided because increased water runoff contributes to soil washing and the transport of toxic components to the nearest water sources, altering their natural characteristics.

Source: (BioAp, Environmental impact study EIS, Chap 3., 2020)

Table 19. Affect on the availability of water resources.

Affect on the availability of water resources				
Activity	**Subactivity**	**Environmental aspect**	**Effect**	**Negative importance**
AC_1. PRE PLANT NURSERY	Water collection for seedling irrigation.	Water consumption	Use of water resources	MODERATE
AC_1. PRE PLANT NURSERY	Pre-nursery construction and installation (irrigation lines)	Water consumption	Use of water resources	MODERATE
AC_2. PLANT NURSERY	Seedling irrigation	Water consumption	Use of water resources	MODERATE
AC_2. PLANT NURSERY	Weeding, clearing and cleaning of the land, fumigation, etc.	Consumption of water for filling pumps	Use of water resources	MODERATE
AC_4. PLANTING	Weeding, clearing and cleaning of the soil, fumigation, etc.	Water consumption	Use of water resources	MODERATE

AC_6. WEED, PEST AND DISEASE MAINTENANCE	Pest Control: Mechanical (Chemical)	Consumption of water resources for solution preparation	Use of water resources	MODERATE
Analysis of Results and Environmental Impact				
The evaluation showed 8 results with MODERATE negative importance for this impact, 6 of which have a direct impact on it. This support emphasizes the results with MODERATE category (with direct effect) taking into account that it represents for this case the highest level in the generation of the same, however, the activities and sub-activities with MODERATE negative importance and indirect effect should also be considered because in case the necessary measures are not adopted for their control, prevention, mitigation or compensation (as appropriate) the category may increase, enhancing the occurrence of impacts with a higher magnitude than that identified in this assessment. The sub-activities that generate moderate and direct impacts on the availability of water resources are the collection of water for seedling irrigation and the construction and installation of the Pre-nursery (irrigation lines) in CA_1. PLANT NURSERY, seedling irrigation and weeding, clearing and cleaning of the soil, fumigation and others in AC_2. PLANT NURSERY, the elimination of weeds, clearing and cleaning of the land together with irrigation to the plant material in AC_4. SEEDING, weed control, clearing and cleaning of the land, mixing of products and pest and disease control in AC_6. MAINTENANCE OF WEEDS, PESTS AND DISEASES. These activities affect the availability of water resources due to the water consumption necessary to carry out each of the tasks required in the oil palm cultivation process. The reduction in the valuation of this impact will depend primarily on the management of the necessary environmental permits for surface and groundwater concessions, as well as the design and implementation of policies for the efficient use and management of the resource to promote water regulation within the basin.				

Table 20. Changes in groundwater quality.

CHANGES IN GROUNDWATER QUALITY				
Activity	**Subactivity**	**Environmental aspect**	**Effect**	**Negative Importance**
AC_5. FERTILIZATION	Fertilizer mixing and application	Excessive use of agricultural products and bare soils	Alteration of ground water F/Q conditions	MODERATE
AC_5. FERTILIZATION	Washing of fertilizer application containers	Dumping of wash water in unsuitable areas	Alteration of F/Q conditions groundwater	MODERATE
Analysis of Results and Environmental Impact				
For this impact, the evaluation showed 1 result with Slight negative significance, 2 results with MODERATE negative significance and 1 result with SIGNIFICANT negative significance. This support emphasizes the results with categories MODERATE and SIGNIFICANT considering that in this case they represent the highest levels of impact generation; however, activities and sub-activities with Slight negative significance should also be considered because if the necessary measures for control, prevention, mitigation or compensation (as appropriate) are not adopted, the category may increase, increasing the occurrence of impacts with a magnitude greater than that identified in this assessment. The sub-activity that generates significant impacts on groundwater is weed control, weeding and land clearing in CA_6. WEED, PEST AND DISEASE MAINTENANCE, while moderate impacts are caused by the sub-activities fertilizer mixing and application and washing of fertilizer application containers in CA_5. FERTILIZATION. Changes in groundwater quality result in the contamination of these water sources, with negative consequences on the health of the people who use the resource, the development of the hydrological cycle and the recharge of aquifers, which are a fundamental element in freshwater reserves at the regional, national and global levels. Taking into account the above, the measures to be implemented should be aimed at the construction of SOPs that regulate the application of chemical substances in planting areas and design special areas for washing chemical containers in order to ensure that groundwater quality is not affected.				

Source: (BioAp, Environmental impact study EIS, Chap 3., 2020)

Table 21. Compliance with new planting procedures.

Compliance With The New Oil Palm Plantations Procedure				
Activity	**Subactivity**	**Environmental aspect**	**Effect**	**Positive Importance**
AC_3. PRE-SEEDING	Delimitation of planting areas	Demarcation of areas not suitable for sowing	Conservation of HCV areas, marginal soils and slopes	MODERATELY BENEFICIAL
Soil, Water and Atmosphere Protection				

AC_3. PRE-SEEDING	Delimitation of planting areas	Demarcation of HCV Areas	Protection of areas HVC	MODERATELY BENEFICIAL
Analysis of Results and Environmental Impact				
For the impacts Compliance with the procedure for new oil palm plantations and Protection of soil, water and atmosphere, the evaluation showed in each of them a single result with positive significance MODERATELY BENEFICIAL because before the development of any type of work, Before developing any type of work, task or activity related to new developments, the project will exclude areas unsuitable for planting (areas of High Conservation Values, HCV management areas, areas of vulnerable soils and areas with high carbon stocks), promoting their conservation and the protection of the water, air-atmosphere and soil components.				

Source: (BioAp, Environmental impact study EIS, Chap 3., 2020)

3.4. SIA SUMMARY

The social impact assessment for the new oil palm plantation project of Poligrow Colombia S.A.S., proposed in the municipality of Mapiripan, department of Meta, Colombia, was conducted by the company BioAp S.A.S. and with the acceptance of the owner of the land..

Report date: January 2020.

Table 22. Date of field data collection for the EIS.

No.	Activity	Date
1	Scoping stage / scoping	March 19 and 23, 2018
2	Field phase: Participatory activities	April 17 to 24, 2018

Source: (BioAp, Study social impact EIS, 2020)

3.4.1. Methodology.

Tabla 23. Methodologycal tools.

Methological Tool	General Description
Formal and Semi-Structured Interviews	The objective of this study was to learn the opinion of the different stakeholders, especially institutional ones, with respect to the topic under analysis. We inquired about the aspects that, from the perspective of each actor, are being affected or impacted in some way by the oil palm cultivation process. Initially, the RSPO certification process was presented, seeking to know the interest and need for an articulated work with the company Poligrow Colombia to achieve common objectives in the region. Regarding governmental entities, questions were asked about perceptions of oil palm cultivation, relationship with the company, living conditions in the area, mechanisms for obtaining income, use of resources, suggestions or recommendations for management or mitigation of impacts. In order to avoid bias in the handling of information, each meeting was recorded with the prior approval of the participants.
Participatory Workshops / Social Mapping	Participatory workshops were developed with members of the communities and workers, through focus groups for the implementation of different participatory tools, some of these are: o Social Map or Current Situation Map, which through a graphic representation seeks to know the current situation of the community (workers-palm growers-neighboring inhabitants) in terms of services, security, income, food, health, recreational activities, etc. It aims to assess the community's resources and problems through an inventory of basic infrastructure and services. This map can be complemented with a second map or by including within it, the identification of the situation of the dynamics of community life (work, income generation, food, use and management of natural resources, cultural appreciation, etc.). o Historical Chart and Timeline, seeks to identify the changes that have affected the community - workers in different periods of time, such as forest extension, water quality and quantity, crop areas, commercialization, changes in economic activities, community organizations, etc. o Trend line. It is important to understand how people perceive changes that have occurred over time, especially those related to

	development, such as climate change, changes in production, resource availability, income and nutrition, etc. The trend of change provides important information, even if it cannot be quantified. It is also important to see if different groups have different views of the changes.

Source: (BioAp, Study social impact EIS, 2020)

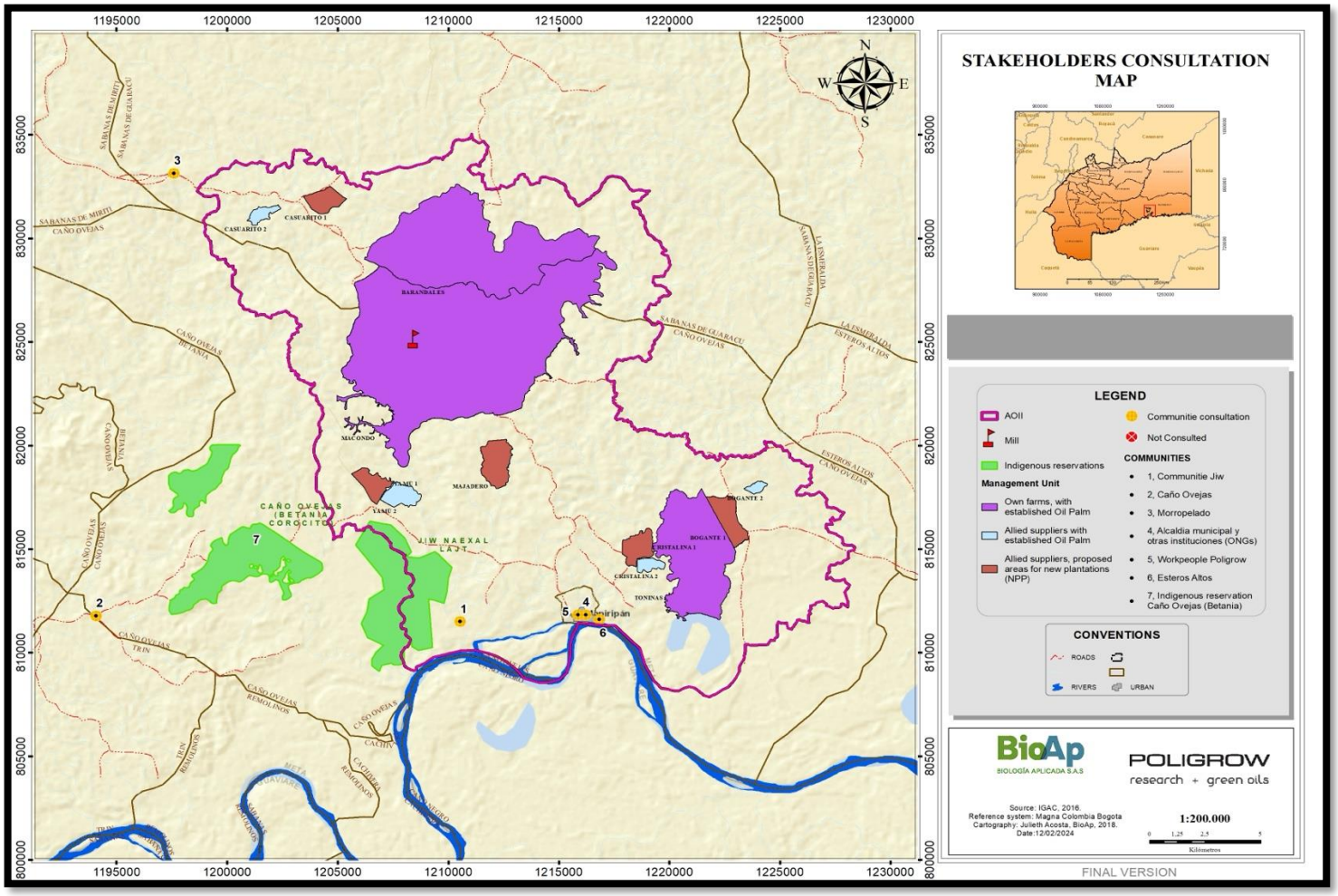
3.4.2. Stakeholders.

Table 24. Stakeholders.

Category	Description	Stakeholders
Community	Population group located in a specific territory, with similar socio-cultural characteristics and common interests, including the diversity of inhabitants (indigenous and mestizo), determined by the political-administrative distribution, secondary documentary information and cartographic location.	Naexal Lajt (Jiw) Indigenous Reservation
		Betania Reservation - Caño Ovejas (Sikuani)
		Vereda Caño Ovejas
		Vereda Sabanas de Guaracu (Vereda Morropelado)
		Vereda Esteros Altos
Governmental Entities	Includes state monitoring and control institutions for economic, environmental and health issues.	Land Liaison
		Mayor's Office of Mapirípan
Non-Governmental Entities	Corresponds to companies or organizations that are in the territory for economic or social purposes.	Poligrow Foundation
		Victims Table
		Impulse Committee
		ASOPESMA
		Asodemapi
		Senior Living Center
		Interchurch Commission for Justice and Peace
		INDEPAZ
Collaborators	Corresponds to the labor personnel working in the organization.	Collaborators

Source: (BioAp, Study social impact EIS, 2020)

Figure 19. Summary stakeholders consultation.



Source: (BioAp, Study social impact EIS, 2020)

Table 25. Stakeholders.

Category	Stakeholders	Methodological tools	Total, Participants
Community	Caño Ovejas Community	Participatory Mapping (Social Map) Comparative Chart	**25**
	Morropelao Community	Semi-structured interview	**6**
	Jiw Indigenous Community	Participatory Mapping (Social Map) Timeline Description of Impacts	**13**
	Esteros Altos Community	Semi-structured interview	**6**
Governmental Entities	Mapiripán Municipal Mayor's Office	Semi-structured interview	**2**
	Land Liaison	Semi-structured interview	**1**
Non Governmental Entities	Committee of Victims of the Conflict	Matrix SWOT	**6**
	Committee for the Promotion of Victims of the Conflict	Semi-structured interview	**6**
	Poligrow Foundation	Semi-structured interview	**1**
Collaborators	Poligrow allied fruit suppliers	Field Opening Meeting - Presentation of the BioAp team.	**10**

	Poligrow allied fruit suppliers	Participatory Mapping (Social Map) Timeline	**5**
	Group 1 Poligrow workers	Participatory Mapping (Social Map) Comparative Chart SWOT Matrix Trend line	**18**
	Group 2 Poligrow Workers	Socio-gram Comparative Chart	**22**

Sourcee: (BioAp, Study social impact EIS, 2020)

3.4.3. Results, identified impacts.

Table 26. Results, identified impacts..

Identified Impacts	
Communities	
Transit change	- Risk of traffic accidents. -Use and maintenance of roads
Changes in the local economy	-Discretionary income in the community -Employment offer (labor inclusion) -Labor conditions
Changes in living conditions	Quality of natural resources Support for the improvement of living conditions
Community relations	Communication mechanisms -Community recognition -Conflict management
External Entities	
Communication and relationship	-Communication mechanisms (accessible and timely) -Strategic alliances -Acknowledgements

Source: (BioAp, Study social impact EIS, 2020)

Justification for why the SIA remains in force:

It is important to mention that the socio-economic characteristics of the municipality such as demography, economy, infrastructure and services, political-administrative division are maintained, as well as the presence of social actors who are close to the plantations and/or who carry out some type of activities with the communities in the area.
The area of direct and indirect influence of the Casuarito and Bogante properties maintains the abiotic, biotic, social and cultural variables, therefore, the identification of potential environmental impacts to be generated during the development of the activities is maintained.
Finally, the owners continue to demonstrate legal ownership of the properties and to date there are no claims, the activities carried out on the properties are maintained, the land cover of the properties and the area of influence have not changed, the area has not been intervened, no land preparation work has been carried out in accordance with the declaration signed by the owners of the properties and Poligrow, Therefore, there have been no changes in land use, no complaints have been received from the communities, so the identified social and environmental aspects and impacts are maintained, as well as the necessary management measures to ensure that the works to be carried out in the project are environmentally and socially viable.

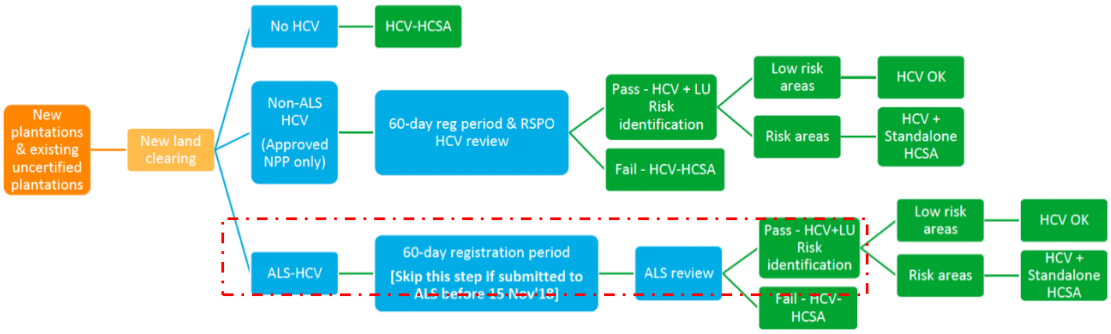
Sección 4: HCV- Assessment

4.1. General description of the evaluation.

The independent HCV assessment (https://www.hcvnetwork.org/reports/hcv-assessment-report-poligrow-colombia-and-allies-colombia) was conducted by BioAp S.A.S and led by Juan Pablo Zorro Cerón, fully licensed by the HCVRN with license number ALS14011JZ (https://www.hcvnetwork.org/people/juan-pablo-zorro-ceron). The assessment is dated January 2020 and was contracted by the company, POLIGROW COLOMBIA S.A.S. and its strategic allies (AGROINDUSTRIAL YAMÚ S.A.S., AGROPECUARIA EL BOGANTE S.A.S, INVERSIONES CHIRAJARA S.A.S. Y PROMOTORA CORREA VÉLEZ Y CIA S.A.S.).
The location of the evaluation was in the Municipality of Mapiripán. Department of Meta. Republic of Colombia.
Additionally, it is important to mention that the HCV-HCSA or
a stand-alone HCSA, are not applicable for this process. This is because the company initiated the studies before the 2018 RSPO P&Cs were approved. At that time, a clarification was published in Annex 5 of the 2018 RSPO P&C, announcing an extension that allowed the HCSA study to be valid if it was ongoing and approved by the HCV Network. This is indicated in scenario 4.3 New

plantings and uncertified outbound plantings (new land clearings). In this scenario, companies with HCV assessments had up to 60 days to report and register their assessments with the RSPO secretariat for inclusion and "case registration", so the company registered the studies with the RSPO under code (CR0087), and was approved by the RSPO on 12 June 2019.

4.2. 4.3 New Plantations & Existing Uncertified Plantations (New Land Clearing)



Source: (pág. Annex 5 of the 2018 RSPO P&C)

Date of evaluation: April 2018**.**
Extent of the assessment area: 11,982.59 Ha**.**
Total net area designated for HCV management: 2560.62 Ha.
Current land use: Agriculture and livestock.
Proposed land use: Oil palm
Certification scheme: RSPO.
Level classification: Level 1

4.3. Evaluation team.

4.4. Table 27. Evaluation team..

Name	ALS License	Institution	Role	Experience
Juan Pablo Zorro Cerón	ALS14011J Z	BioAp S.A.S.	Biologist - Lead Consultant	Experience in HCV assessments and LUC (Land Use Change) studies for oil palm plantations in Colombia, Mexico and Ecuador.
Fabio Ernesto Álvarez Morales	Not Applicable	BioAp S.A.S.	Biologist, specialist in Geographic Information Systems (GIS)	General experience in spatial interpretation with GIS resources and aquatic ecosystems for environmental impact studies. Has participated as a GIS specialist in HCV studies in Colombia, Mexico and Ecuador.
Wendy Julieth Acosta Rodríguez	Not Applicable	BioAp S.A.S.	Cadastral and Geodetic Engineer	Experience in management and analysis of geographic information, administration of spatial databases and processing of satellite images focused on the development of HCV studies.
Erika Naileth Casallas Garzón	Not Applicable	BioAp S.A.S.	Environmental Engineer	Experience in information gathering and processing for the elaboration of Environmental Impact Studies, High Conservation Value Studies and construction of Compensation and Remediation Plans under RSPO guidelines.
Diana Nathaly Monroy Piratoba	Not Applicable	BioAp S.A.S.	Biologist. Master in Sustainable Development of the Humid Tropics. Specialist in Environmental Management and Law	Experience in planning and execution of scientific research and development programs in various fields of biological sciences. Experience in working with traditional and local communities, elaboration of environmental impact studies, environmental consulting, environmental management plans, characterization and evaluation of natural resources.
Gina Olarte González.	Not Applicable	BioAp S.A.S.	Wildlife Biologist	Experience in conservation and ecology of flying and non-flying mammals, medium and large. Experience in HCV studies in Colombia and Ecuador.

Angélica María Grisales	Not Applicable	BioAp S.A.S.	Biologist	Experience in monitoring of terrestrial and flying mammals. With experience in HCV studies in Colombia and Mexico.
Camilo Andrés Herrera Motta	Not Applicable	BioAp S.A.S.	Forestry Engineer	Experience in the development of forest inventories in the field, knowledge of floristic and structural forest composition, dynamics and ecological restoration.
Jina Katerine Melo Ramírez	Not Applicable	BioAp S.A.S.	Social Worker	Professional in social work with experience in the elaboration of social impact studies and High Conservation Values 5 and 6; identification and weighting of stakeholders; community work with ethnic and rural population through the implementation of participatory tools. stakeholders; community work with ethnic and rural populations through the implementation of participatory tools. Coordination of projects oriented to environmental education and management, conflict resolution and individual and community intervention.
David Alexander Bonilla Martínez	Not Applicable	BioAp S.A.S.	Social Worker	Experience in community work, specifically with indigenous populations in the areas of Guainía and Vichada. Execution of social and educational projects with families victims of the conflict.

4.5. HCV assessment methodology

4.5.1. Evaluation schedule

Table 28. HCV assessment methodology and assessment methods.

Phase	Activity	Date
Preliminary evaluation phase	First approach with the company, presentation of a technical and economic proposal based on their needs, identification of the areas to be evaluated (Management Units) and the specific objectives of the study.	February 05, 2018 - February 14, 2018
	Compilation of secondary information (geographic, socioeconomic, ecological and environmental) on the areas to be evaluated.	February 09, 2018 - March 16, 2018
Scoping phase	Scoping. Consultation with members of the company and social and institutional entities, where an analysis of the territory and identification of stakeholders was developed. A reconnaissance of the territory is generated, verifying the information with the accompaniment of company representatives on environmental and social issues (Poligrow Foundation). There the guidelines for the convening process are provided, identifying the interested parties to be consulted.	March 19, 2018 - March 23, 2018
Full evaluation phase	Delimitation of the Area of Indirect Influence considering the scale of the project and the geographic distribution of the MUs.	March 26, 2018 – April 06, 2018
	Planning and preparation of the field phase. Definition of the methodology and schedule for the development of the field phase (identification of stakeholders, preparation of the social work agenda, identification of sampling points (Rapid Ecological Assessment) and coverage verification).	April 09, 2018 - April 14, 2018
	Development of the Rapid Ecological Assessment, verification of cover and collection of primary information (fauna and flora).	April 16, 2018 - April 24, 2018
	Consultation with stakeholders through the implementation of participatory tools such as participatory mapping and SWOT matrix with the communities Vereda Caño Ovejas and Naexal Lajt Jiw Reservation, workers of the company POLIGROW COLOMBIA S.A.S. and Mesa de Víctimas. Interviews were held with the Mapiripán Municipal Mayor's Office, Land Liaison Office, Victims' Promotion Committee, Poligrow Foundation, Vereda Sabanas de Guaracú (Vereda Morropelado).	April 17, 2018 - April 23, 2018
	(Vereda Morropelado) and Vereda Esteros Altos. Similarly, a social mapping and timeline exercise was carried out with the company's allied suppliers.	May 07, 2018 - September 28, 2018

	Processing, analysis and interpretation of secondary information.	October 01, 2018 - February 15, 2019
	Processing, analysis and interpretation of primary information (obtained in the field) of the social, environmental and biotic components.	February 18, 2019 - March 29, 2019
	Preparation of the document and cartography. Definition of HCV areas, HCVMA, identification of HCV threats and management and monitoring recommendations.	January 16 - 23, 2020
	Processing of the information collected and adjustment of the document and mapping taking into account the comments and/or suggestions of the above-mentioned stakeholders. Incorporation of the results of the final consultation of results and findings in the document.	January 24, 2020
	Submission of the study to the HCVRN Quality Panel (QP).	January 27, 2020

Source: (BioAp, Study of high HCV conservation values, 2020)

Theoretical study

Consultation and Verification of geographic information: with the personnel in charge of the company POLIGROW COLOMBIA S.A.S. we sought to corroborate the information initially presented in the terms of reference of the proposal. Some of the information consulted was the boundary of the Management Units, plantation projection plans, as well as base information (soils, water bodies , locations, contour lines, etc.), which was provided through physical or digital cartography.

Reconnaissance of the Management Units: a tour was carried out together with the technical team of POLIGROW COLOMBIA S.A.S. to corroborate the location of the Management Units, general characteristics of the territory (road infrastructure, water sources, neighboring companies and communities, forest cover, etc.) in order to define the sampling points for the rapid ecological assessment and identify other interested parties.

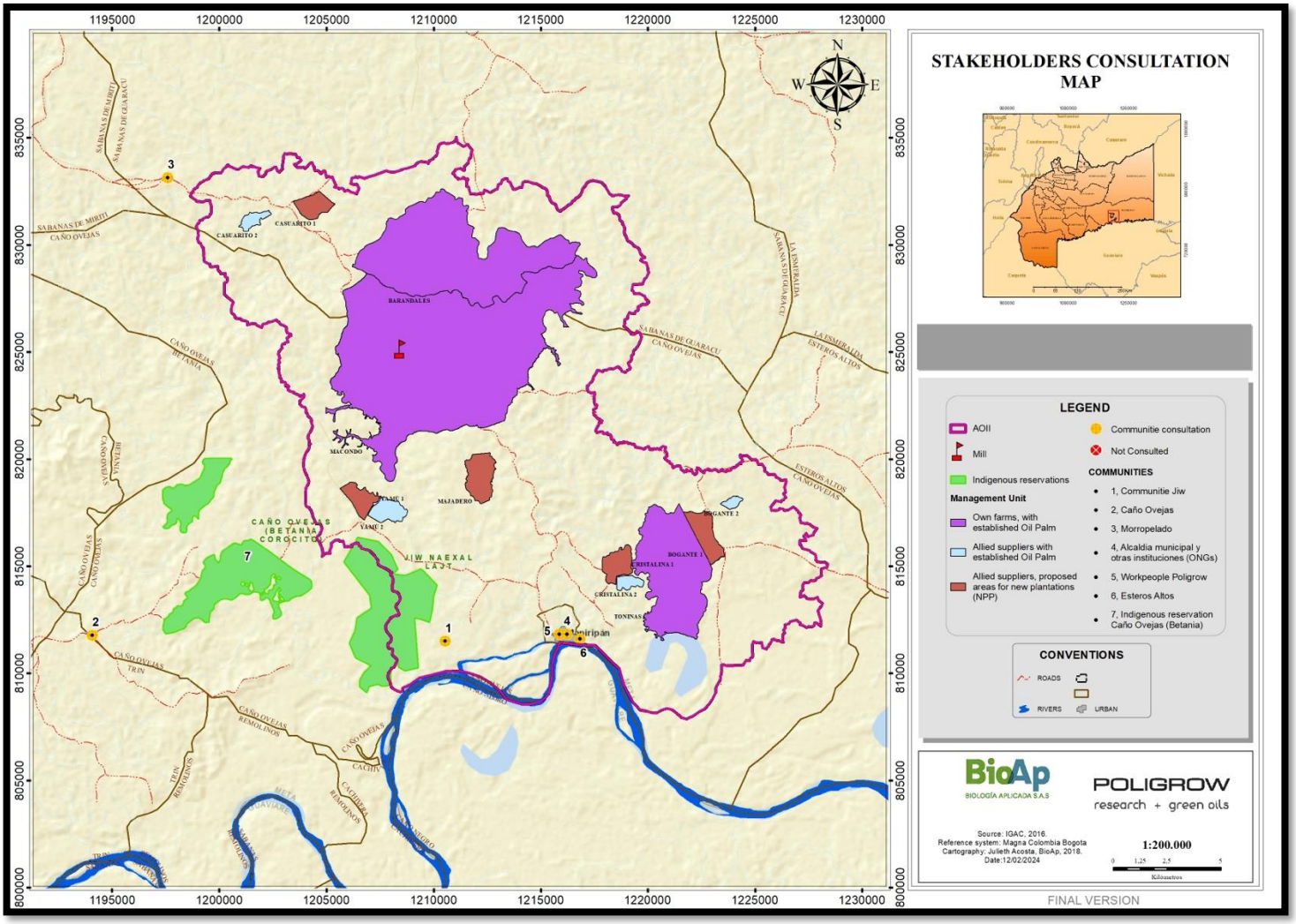
Preliminary identification of interested parties: together with the social manager of POLIGROW COLOMBIA S.A.S., a preliminary identification of the communities and institutional actors to be consulted was carried out. Social information was reviewed (list of interested parties, outreach reports and work with communities) and studies previously conducted in the region. In addition, a dialogue was generated regarding the dynamics of the territory and the company's relationship with stakeholders. Four categories of stakeholders were identified corresponding to 1) Communities, Stakeholder consultation.

Table 29. Stakeholder.

Category	Description	Stakeholder
Communities	Population group located in a specific territory, with similar socio-cultural characteristics and common interests, including the diversity of inhabitants (indigenous and mestizo), determined by political and administrative distribution, secondary documentary information and cartographic location.	Naexal Lajt (Jiw) indigenous Reservation
		Betania - Caño Ovejas (Sikuani) indigenous Reservation.
		Vereda Caño Ovejas
		Vereda Sabanas de Guaracú (Vereda Morropelado)
		Vereda Esteros Altos
Governmental Entities (GE)	They include state monitoring and control institutions for economic, environmental and health issues.	Land linkage
		Mayor's Office of Mapiripán
Non-Governmental Entities	Corresponds to companies or organizations located in the territory for economic or social purposes.	Victim Support Committee
		Poligrow Foundation
		Victims' Table
		Omacha Foundation
		Wildlife Conservation Society (WCS) Colombia
		ASOPESMA
		Asodemapi
Other	Corresponds to the labor personnel working in the organization.	Colaboradores Poligrow

source: (BioAp, Study of high HCV conservation values, 2020)

Figure 20. Map of affected communities.



Source: (BioAp, Study of high HCV conservation values, 2020)

Table 30. Categories.

HCV	Elements	Sources of information	Criteria for classification and delimitation of HCV areas
HCV 1. Species diversity	- Rare, threatened or endangered species. - Endemic species. - Migratory species.	Protected areas mapping (Parques Nacionales Naturales de Colombia, 2016). - Official mapping of ecosystems, land cover and land use (IDEAM, IGAC, IAvH, Invemar, I.Sinchi & IIAP, 2017). - Information on Important Bird and Biodiversity Areas (IBAs), Key Biodiversity Areas (KBA) and Alliance for Zero Extinction sites (AZE) (BirdLife International, 2019a), (BirdLife International, 2019b) and (American Bird Conservancy, 2019). - Field surveys to identify RAP, endemic or migratory species by communities and/or government agencies. - Field surveys to identify the status of vegetation present. - Stakeholder consultation.	-Forests and forest relicts with presence or potential for RAP, endemic or migratory species. - Areas classified as secondary vegetation, scrub or forest fragments where RAP or endemic species have been recorded.

HCV 2. Landscape-scale ecosystems and mosaics and Intact Forest Landscapes.	- Ecosystems and habitats larger than 50,000 hectares.	- Land cover and current land use mapping (IDEAM, IGAC, IAvH, Invemar, I.Sinchi & IIAP, 2017). - Satellite images. - Mapping on protected areas, key biodiversity areas and Intact Forest Landscapes (National Natural Parks of Colombia, 2016), (BirdLife International, 2019a), (BirdLife International, 2019b), (American Bird Conservancy, 2019) and (Potapov, et al., 2016). - Stakeholder consultation.	- Presence of ecosystems larger than 50,000 hectares. - Presence of smaller ecosystems that provide connectivity and buffering to larger areas in the wider landscape. - Presence of Intact Forest Landscapes.
HCV 3. Ecosystems and Habitats	- Ecosystems and habitats smaller than 50,000 hectares that provide connectivity and buffer functions to larger areas.	- Satellite images. - Land cover and current land use mapping (IDEAM, IGAC, IAvH, Invemar, I.Sinchi & IIAP, 2017). - Ecoregion classification (World Wildlife Fund, 2019). - Threatened ecosystems in Colombia (Etter, Andrade, Saavedra, Amaya, & Arévalo, 2017). - Information on Important Bird and Biodiversity Areas (IBAs) (BirdLife International, 2019a). - Land cover change and loss of forest cover (IDEAM, IGAC, IAvH, Invemar, I.Sinchi & IIAP, 2017) and (Hansen, et al., 2013). - Stakeholder consultation	- Fragments of forest ecosystems that maintain characteristics of the forest itself, and that are currently under some state of threat or danger.
HCV 4. ecosystem services	- Critical areas in relation to in relation to the flow and quality of the water resource. - Riparian areas susceptible to erosion. - Riparian areas that provide connectivity.	- Land cover and current land use mapping (IDEAM, IGAC, IAvH, Invemar, I.Sinchi & IIAP, 2017). - Stakeholder consultation and participatory mapping with local communities. - Basin and sub-basin mapping (Institute of Hydrology, Meteorology and Environmental Studies, 2014).	- Identification of riparian areas Riparian areas that provide ecosystem services of water flow and quality regulation (used by local communities), fire prevention and protection, wind protection, and pollination services. - Riparian areas that provide connectivity between forest fragments containing RAP species or threatened or endangered ecosystems.
HCV 5. Community needs	- Critical areas for water supply for human consumption, sanitation, or recreational use. - Critical areas for fruit gathering, medicinal plants, fishing, or subsistence hunting. - Critical areas for the extraction of fuels for cooking, lighting and home heating. - Critical areas for the extraction of construction materials. - Critical areas that provide agriculture and fodder for subsistence livestock.	- Socioeconomic assessments conducted in the area. - Mapping of land cover and current land use (IDEAM, IGAC, IAvH, Invemar, I.Sinchi & IIAP, 2017). - Departmental development plan (Governor's Office of Meta, 2012). - Municipal characterization studies (Municipality of Mapiripán, 2000a) and (Municipality of Mapiripán, 2015) - Participatory mapping with the communities. - Interviews with governmental, non-governmental and NGO entities. - Sikuani safeguard plan (Ministry of Interior, 2012).	- Water sources within the area of indirect influence. - Traditional economic activities. - Surrounding communities (ladino or indigenous). - Type of natural resource use (water, fauna and flora).

HCV 6. Cultural values	- Archaeological findings - Sacred places or ceremonial sites	- World Heritage Records (United Nations Educational, Scientific and Cultural Organization, 2019). - Archaeological finds and material heritage records (Colombian Institute of Anthropology and History, n.d.). - Departmental development plan (Governor's Office of Meta, 2012). - Municipal characterization studies (Municipality of Mapiripán, 2000a) and (Municipality of Mapiripán, 2015). - Sikuani safeguard plan (Ministry of the Interior, 2012). - Research studies (thesis, research). - Maps of registered sacred sites. - Participatory mapping with communities. - Interviews with government entities and NGOs.	- Archaeological sites recorded within the area of influence. - Indigenous communities in the area of influence. - Sacred or ceremonial sites of indigenous communities. - Use of fauna or flora for ceremonial activities.

Source: (BioAp, Study of high HCV conservation values, 2020)

4.6. HCV assessment results.

4.6.1. Summary of HCV areas

In total, the HCV areas identified within the 12 Management Units assessed in this study comprise an area of 3,501.73 ha. However, specific results for the 2 management units proposed for new oil palm plantations.

Table 31. Summary of HCV areas.

Management unit	HCV Summary	Forest cover	Area (ha)
Bogante 1	HCV 1	Gallery and riparian forest	0,54
	HCV 1 and 4	Morichal	21,55
	HCV 4	Gallery and riparian forest	0,53
		Morichal	8,13
		Clean pastures	6,38
Total, Bogante 1			**37,13**
Casuarito 1	HCV 1 and 3	Gallery and riparian forest	20,20
	HCV 1	Secondary or transitional vegetation	0,41
	HCV 4	Gallery and riparian forest	13,92
		Clean pasture	1,78
Total, Casuarito 1			**36,31**

Source: (BioAp, Study of high HCV conservation values, 2020)

Section 5: FPIC

The FPIC report was carried out by BioAp S.A.S., contracted by Poligrow Colombia S.A.S. and its allies. The total assessment area was verified by the assessment team through satellite images and site visits, which facilitated the identification of stakeholders and delimitation of the area of influence.

Free, Prior and Informed Consent (FPIC) has been a fundamental requirement of the RSPO Principles and Criteria since their adoption in 2005.

Respect for the right to FPIC is designed to ensure that RSPO-certified sustainable palm oil is sourced from areas free from conflict or land grabbing. FPIC is as much about the company learning from communities about their customary tenure as it is about their customary tenure, livelihoods, history, social organisation, representation and decision-making structures, and aspirations. decision-making structures and aspirations for development, as well as the company conveying unbiased and comprehensive information to communities. Impartial and comprehensive information to communities about planned development.

This is exemplified by the central role that communities must play in the design, implementation and validation of EIA, HCV SIA, participatory mapping and so on (RSPO, 2015).

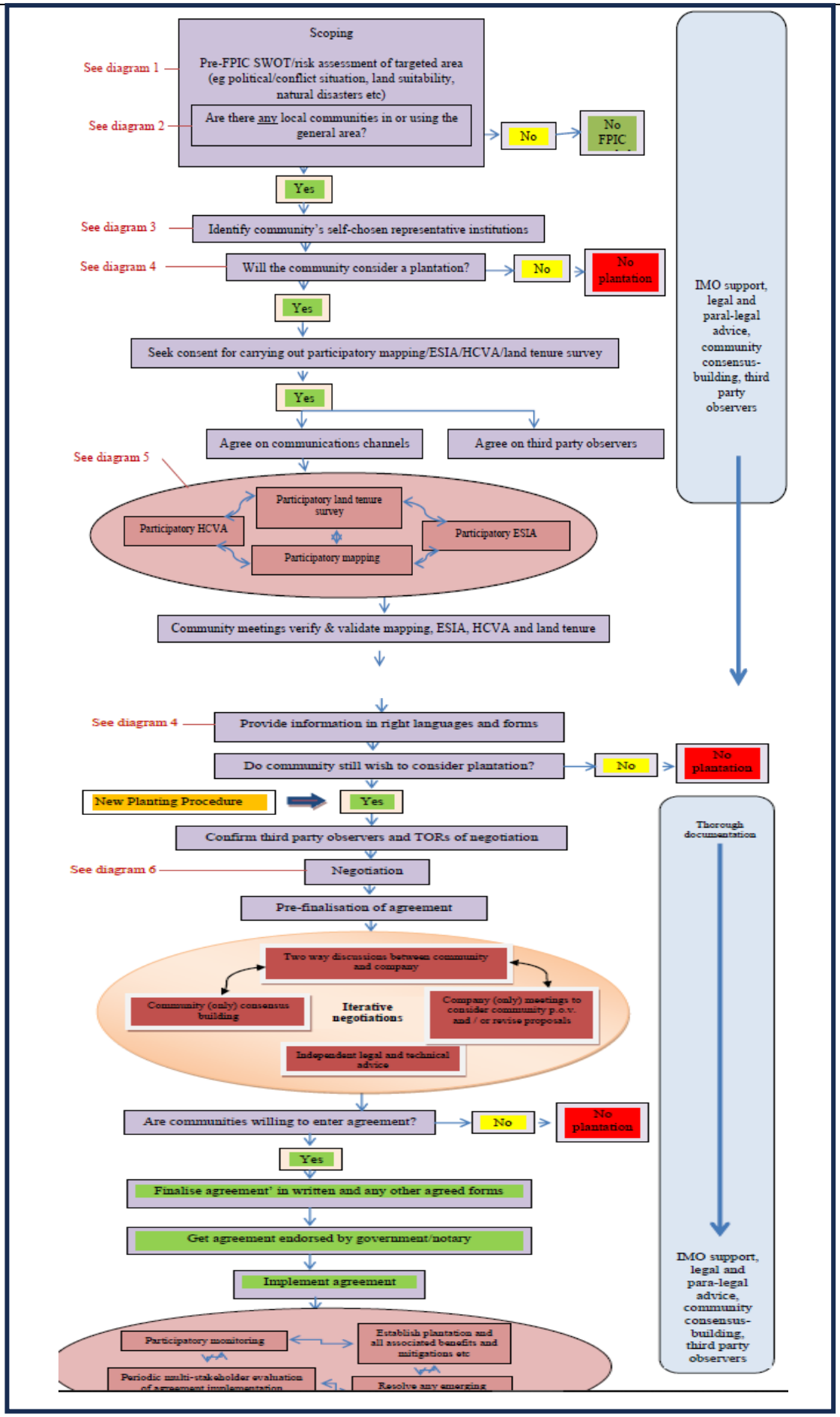
Therefore, the proper conduct of FPIC is the basis for trust-based, transparent and sustainable relationships with local communities and, if they consent, the development of contracts and agreements that are equitable and binding on the parties, and therefore more likely to be achieved in practice (RSPO, 2015). For this reason, the consultant team makes use of the guidelines in the RSPO Guidance on Free, Prior and Informed Consent for RSPO members, which are presented in Figure 2. Guidelines for the elaboration of Free, Prior and Informed Consent.

Figure 21. Methodology.

FPIC Methodoloy

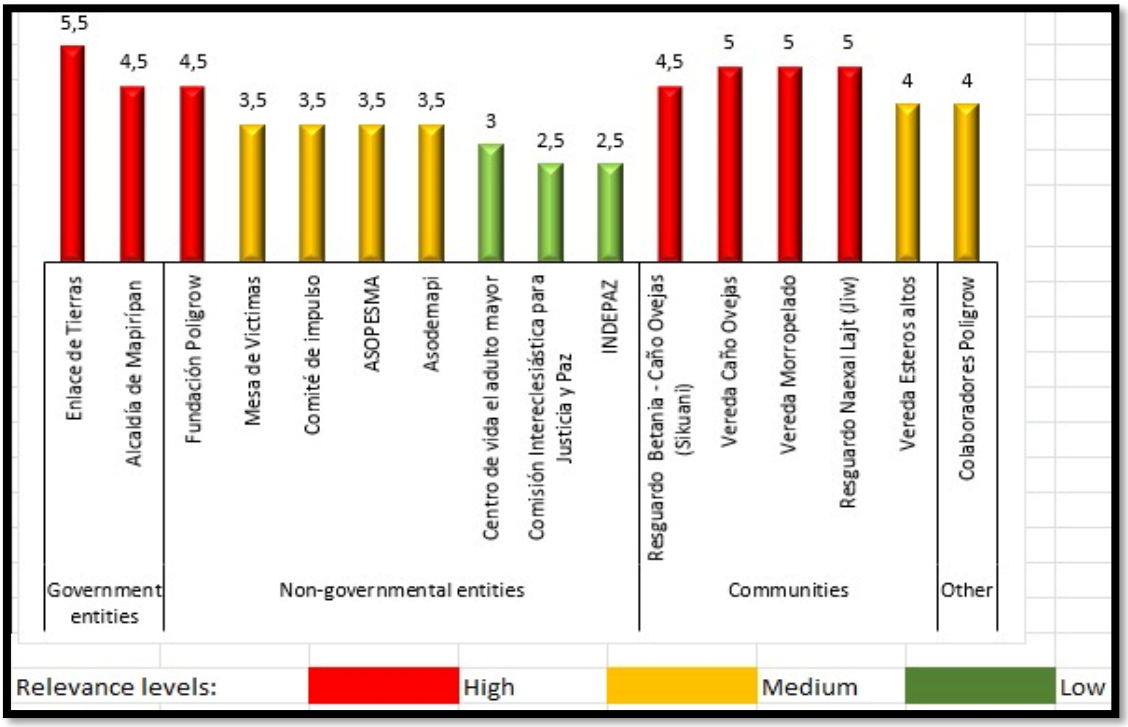
Methodological tool	**General description**
Formal and semi-structured Interviews	This tool allows generating an open dialogue with the different social actors, knowing their perceptions, opinions and suggestions regarding aspects present in the territory, such as daily economic activities, biodiversity concentration zones, hunting and fishing practices, the use of flora and fauna resources and the transformation of these resource zones over time, sites or cultural conditions of each community. This tool was implemented by representatives of government entities and non-governmental organizations, who expressed their knowledge of the territory in light of the regulations.
Surveys	Surveys are a method of data collection based on a series of standardized questions that are asked to a representative sample of the territory with the purpose of revealing opinions, characteristics or specific facts (ECLAC, 2012). The use of this tool is generated from the development of a questionnaire. The survey inquired about general aspects of the communities, such as: living conditions (access to public services), economic activities, sites of cultural or ceremonial importance, use of resources and perceptions about the implementation of the project.
Participatory Workshops / Social Mapping	The implementation of social cartography has variations according to the type of community and its conception of the territory, which allows generating a graphic representation of the relationships between the community, resources and other social actors in the area. This cartography includes perceptions at the group level, regarding the location of the natural or legal limits of the community in relation to the execution of the project; location and identification of the bodies of water (rivers, streams, springs, and streams and their current status (present conflicts, management and use); of access roads; of representative sites of landscape, religious and cultural importance; location of crops, livestock, fishing and hunting activities, identification of eating habits and use of available resources. In addition, the presence of species of fauna and flora, or other elements belonging to the daily life of the population is also investigated.

Source : (BioAp, Document FPIC, 2018)



Source : (BioAp, Document FPIC, 2018)

Figure 22. Identification of stakeholders.



Source: (BioAp, Document FPIC, 2018)

Based on the identification and weighting, a previous approach process was carried out in which the company representatives established an informative dialogue with the social actors, in order to invite and involve them in the process of construction and validation of the ESIAs, EAVC, guaranteeing the transparency of the FPIC process.

5.1. Participatory Mapping

Participatory mapping was the methodological tool used for FPIC to determine the scope of the communities. This tool was carried out with the communities Caño Ovejas, Esteros Altos, Naexal Lajt indigenous reservation, as well as with territorial entities, which participated openly in the outreach meetings.

Table 32. Community Caño Ovejas.

COMMUNITY CAÑO OVEJAS		
Place and Date	**Total, Assistants**	**Participatory tools implemented**
Caño Ovejas School (Pela bobos) April 21, 2018	25 people	Participatory Mapping (Social Map) Comparative Chart (SWOT Matrix)
PERCEPTIONS AND COMMENTS		
The consultation with the community of Caño Ovejas was generated through the implementation of methodological tools through these tools it was possible to identify the following: • They recognize the ovejas river as the main water source in the area, where indigenous communities and the community in general fish. In addition, they identify the Yamú stream as a recreational site for the municipality where fishing and bathing activities take place. • They say that the area is mainly cattle-raising although they consider that the soils are fertile for growing pineapple, bananas, rice, cassava, corn, cocoa, avocado, sugar cane, citrus, etc. • Negative aspects include the following: Contamination of water sources due to the application of agrochemicals and poor waste management, migration of the population in search of employment, noncompliance with obligations to workers, damage to roads, little support for the rural population, and difficulty in accessing the fishing zone. Regarding the positive aspects, they recognize the economic activation of the municipality. • Finally, they hope that with the presence of the palm company they can obtain improvements in roads, technical assistance to small farmers and support for the improvement of the village school.		
PARTICIPATORY MAPPING SUPPORT		
		

APPROACHING SUPPORT

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FECHA: 21-04-2018 STAKEHOLDER: Vereda Caño Dulce

No.	NOMBRES Y APELLIDOS	CARGO/OCUPACIÓN	CELULAR	FIRMA
1	Oscar Pinilla	Agricultor	3701	
2	Jenifer Hidalgo	Ama de casa	3143	Jenifer Hidalgo
3	Humberto Ramirez	agricultor	3124	Humberto
4	Bertulfo Villada	agricultor	3209	Bertulfo
5	Luis Carlos Hurtado	Agricultor	3227	
6	Carlos Andres Jimenez	enfermero	3142	
7	NORBEY ESTIÑA R	Agricultor	3103	
8		Agricultor		
9	FIDEL TORRES H	agricultor	3144	
10		Ganadero	310	
11	Martin Emilio Rodriguez	Ganadero	3212	
12	Hector Bulla	Ganadero	No	
13	Pedro del estiño	Ganadero	No	
14	Norsiso Calderon	Ganadero	No	
15	Wilmer Diaz Reyes	Hogar	3146	
16	Hugo Reyn N.	Ganadero	3143	
17	LUX MERT	Sanchez		LUX MERT
18	Jose Antonio sanchez	agricultor	3202	Jose
19	Gabriel mondragon	Trabajador	No	Gabriel
20	Alexander Zabala	Presidente	3110	

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FECHA: 21-04-2018 STAKEHOLDER: Vereda Caño Dulce

No.	NOMBRES Y APELLIDOS	CARGO/OCUPACIÓN	CELULAR	FIRMA
1	Dominso Partes	Finquero	3043	Dominso Partes
2	Javier E. Bulla. M.	agricultor	3142	
3	Pablo Diaz	agricultor	3224	
4	Jimmy plazas	agricultor	3224	Jimmy plazas
5	Edgar Ussa	agricultor	3173	
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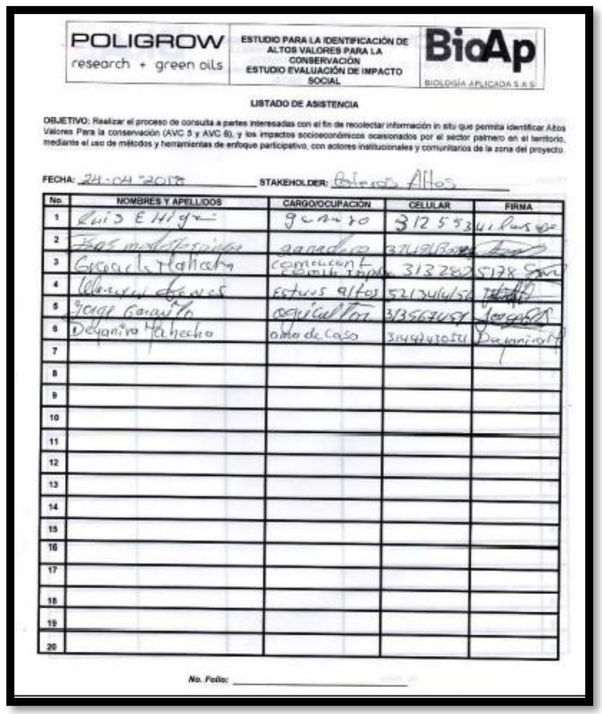
Source: (BioAp, Document FPIC, 2018)

Table 33. Community Esteros Altos

COMMUNITY ESTEROS ALTOS		
Place and Date	**Total, Assistants**	**Participatory tools implemented**
Commercial establishment in the Mapirípan urban area April 24, 2108	6 people	Participative dialogue
PERCEPTIONS AND COMMENTS		
Esteros Altos community was approached through an interview, where some aspects to consider were highlighted: They express concern about contamination of water sources such as Caño Jabón, due to agrochemical removal processes during the winter season. Therefore, they suggest reviewing the proximity of fertilization and agrochemical applications to any natural drainage to avoid impacts on these sources. In addition, they report contamination from the extraction plant, given its lack of processing capacity, which leads to the presence of flies, loss of fruit, spillage from oxidation ponds and bad odors, as well as problems in complying with labor conditions in terms of stability in payments to workers. On the other hand, they state that the company has been a key player in the economic and social development of the municipality, as it was an opportunity in the face of the illicit crop substitution crisis and the armed conflict. ***NOTE: It was not possible to obtain photographs of the meeting, only the audio support of the dialogue and the attendance register.***		
APPROACHING SUPPORT		



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ESTUDIO EVALUACIÓN DE IMPACTO SOCIAL

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FECHA: 24-04-2018 STAKEHOLDER: Esteros Altos

No.	NOMBRES Y APELLIDOS	CARGO/OCUPACIÓN	CELULAR	FIRMA
1	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]
3	[illegible]	[illegible]	[illegible]	[illegible]
4	[illegible]	[illegible]	[illegible]	[illegible]
5	[illegible]	[illegible]	[illegible]	[illegible]
6	[illegible]	ama de casa	[illegible]	[illegible]
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Source: (BioAp, Document FPIC, 2018)

Table 34. Naexal Jalt Indigenous Reserve

NAEXAL JALT INDIGENOUS RESERVE		
Place and Date	**Total, Assistants**	**Participatory tools implemented**
NAEXAL JALT INDIGENOUS before Zaragoza Indigenous Settlement 21/04/2018	13 people	Participatory Mapping (Social Map) Timeline Description of Impacts

PERCEPTIONS AND COMMENTS

Jiw community is a displaced indigenous community, which in 2005 arrived in the urban center of Mapiripán. In 2007, with support from the Ministry of the Interior, they relocated to the area known as Zaragoza, where they still live today. This community recognizes itself as semi-nomadic and also as hunters and gatherers, as dictated by their traditions, maintaining an almost annual mobilization; however, limiting the community to a specific territory limits the development of these activities, according to community representatives. They also mention that given the conditions of the territory and their traditions, they have been required to plant yucca, known as Konucos or chagras.

Regarding their relationship with the palm oil sector, the community reports that employability is difficult, considering that it is the only source of income in the area. On the other hand, they perceive changes in water quality and difficulty in developing fishing and hunting activities, given the current conditions of the territory and the presence of oil palm plantations. In addition, they report hunting activities in areas near the company's properties and some suppliers since the policies established by the organization do not authorize this activity.

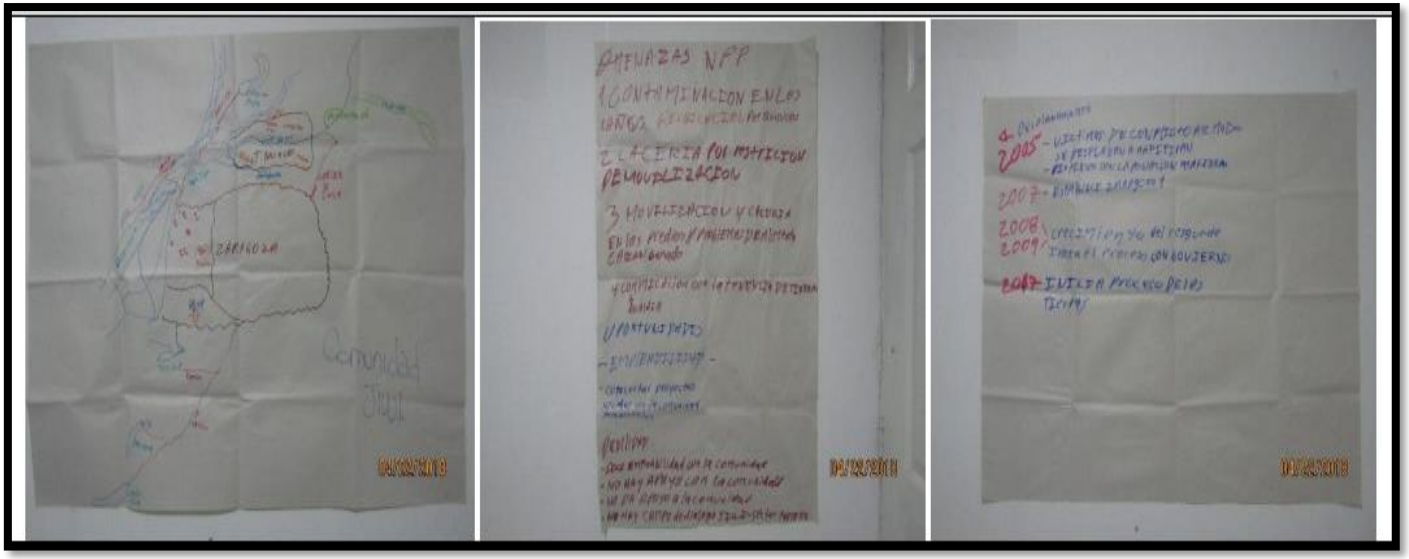
On the other hand, it is recognized that the community has communication channels from the company, however, this community is focused on achieving its recognition and right to the land, due to the recent constitution of the settlement, considering this territory as part of its ancestral tradition.

Jiw indigenous community of the Zaragoza settlement defines its opinion as negative regarding the expansion of new crops on the allied lands based on the following aspects:

1. According to the community, whose leaders expressed their ideas, they first mentioned that this situation of crop expansion could have a negative impact on their food sources, such as their hunting and fishing dynamics, because they consider that these new plantations will use chemicals that could alter water conditions and limit free transit for hunting and fishing activities.
2. As the new plantations require large extensions of land that they currently own or are privately owned, these properties are on routes that they use to reach lagoons, streams and forests where they practice their fishing and hunting activities.
3. The community is currently in the process of acquiring the status of reservations, in another area far from Zaragoza, in lands further north which are being managed by the Ministry of the Interior and as a land restitution measure, according to the community the lands that will be part of the new palm plantations are located nearby and consider a deterioration in the lands surrounding these lands of new crops.

Note: The community did not authorize the consulting team to take photographs or record the meeting, so we only have the support of the participatory mapping and attendance list.

PARTICIPATORY MAPPING SUPPORT



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FECHA: 21-04-2018 STAKEHOLDER: Comunidad Jiw

No.	NOMBRES Y APELLIDOS	CARGO/OCUPACIÓN	CELULAR	FIRMA
1	Juan Ladino	Gobierno Mayor	3207091534	
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Source: (BioAp, Document FPIC, 2018)

Table 35. Mapiripan mayor's office

MAPIRIPAN MAYOR'S OFFICE		
PLACE AND DATE	**Total, Assistants**	**Participatory tools implemented**
MAYOR'S OFFICE April 17, 2018	2 people	Semi-structured interview

PERCEPTIONS AND COMMENTS

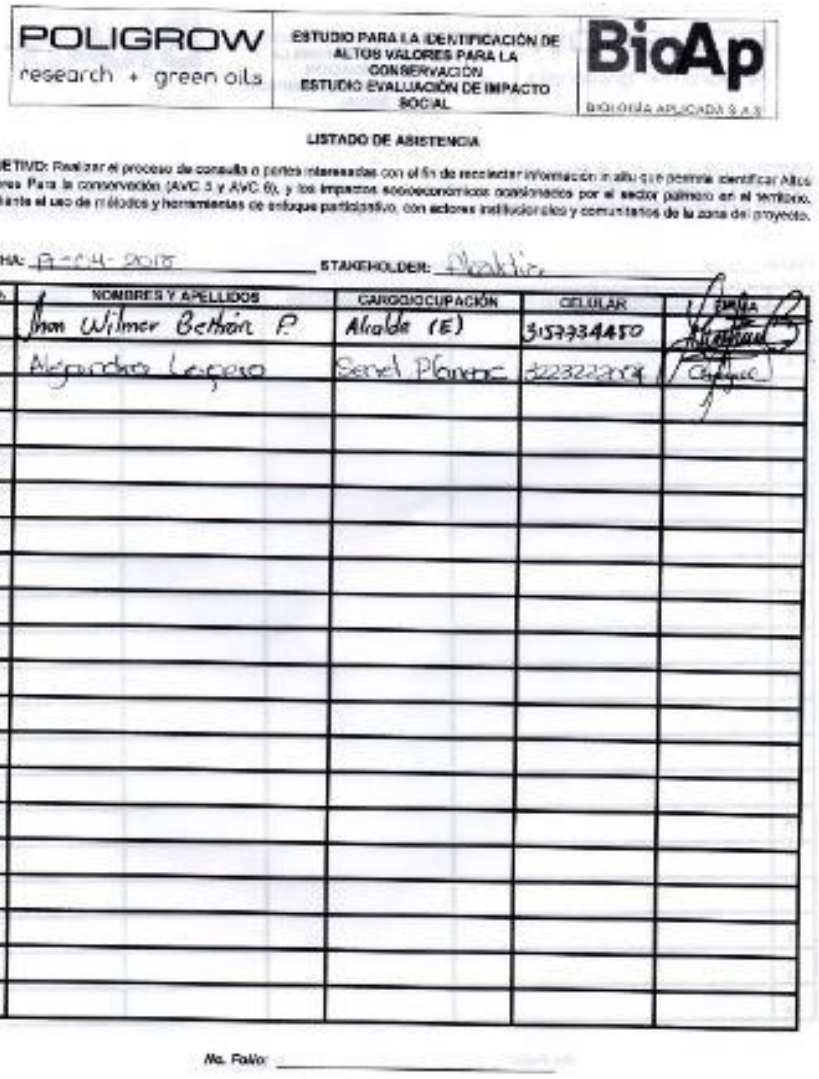
The representatives of the mayor's office state that in 2008, a collective protection measure was established in the municipality in order to generate guarantees on land tenure and limit any type of sale or purchase transaction, but not the agricultural exploitation of the land (land linkage). They also expressed their point of view on the request to expand the Caño ovejas reservation, which currently has approximately 20,000 hectares (Sikuani indigenous community) and the request for transit easements. Regarding the palm sector of the municipality, they mention that they have good relations with the community. They also identify it as a generator of employment and municipal economic transformer, through joint support for the construction and maintenance of roads. As negative aspects of the mayor's office - palm sector, they mention complaints regarding contracting and payment processes, which are not the responsibility of the government entity. He defines livestock as the second economic activity of the municipality and fishing, which he says has its own association (ASPESMA). He also mentions the need for support to strengthen these activities.

The mayor states that the municipality does not have an updated EOT (2000), so its growth is limited by organizational and internal management factors. Regarding tourism, he determines that there is an ecosystemic potential to develop this activity, transforming the negative vision that exists by taking advantage of the media's attention in order to increase its potential.

The mayor determines that the cost of living is high, due to the difficulty in road infrastructure and public order situation, as well as the culture adopted by the population to bring and not generate consumption of local products. Finally, the mayor states that the Toninas Lagoon is an important site and there is no evidence of archeological findings in the area.

PARTICIPATORY MAPPING SUPPORT

APPROACHING SUPPORT



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FECHA: [illegible] STAKEHOLDER: [illegible]

No.	NOMBRES Y APELLIDOS	CARGO/OCUPACIÓN	CELULAR	FIRMA
1	Juan Wilmer Bethan P.	Aliada (E)	3157334450	
2	Alejandra Lagos	Servi Plenos	3223222259	
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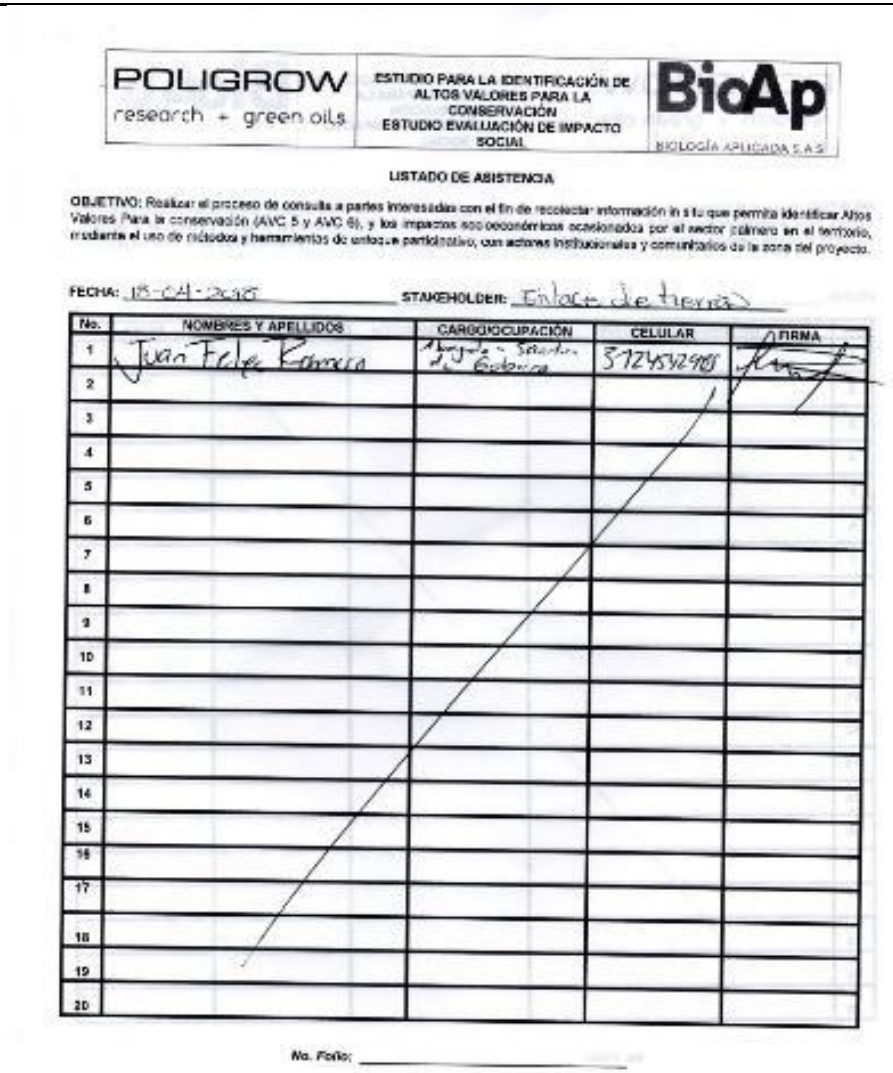
Source: (BioAp, Document FPIC, 2018)

Table 36. Land Linkage

LAND LINKAGE		
Place and Date	**Total, Assistants**	**Participatory tools implemented**
Mapiripán Municipal Mayor's Office April 18, 2018	1 person	Semi-structured interview
PERCEPTIONS AND COMMENTS		
The meeting begun with explaining the NPP process, the representative mentions that the actions of the land unit in terms of compensation, states that there are two mechanisms: cash compensation and/or land compensation in sites other than the municipality. In addition, he states that in case of submitting any request for restitution of the land in question (NPP), the legality of the land must be demonstrated and supported by public deed, letter of purchase, time of permanence, photographs, among others. He also mentions that in the case of illegal invasion of private property, lawsuits must be filed to relocate the invasion; however, cases such as the one in the San Antonio village (16 settled families) cause conflicts and hinder the relocation process. There is also the situation of the Sikuani reservation located in Caño Oveja, which is in the judicial stage for its expansion, a situation that would affect several owners of nearby properties. This expansion corresponds to approximately 60,000 hectares and has been in process for three years. Finally, it relates that municipal development is limited by the ongoing armed conflict and the lack of guarantees for land restitution and illicit crop substitution.		

PARTICIPATORY MAPPING SUPPORT

APPROACHING SUPPORT



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FECHA: 18-04-2018 **STAKEHOLDER:** Enlace de tierras

No.	NOMBRES Y APELLIDOS	CARGO/OCUPACIÓN	CELULAR	FIRMA
1	Juan Felipe Romero	Apoyo de Gestión Catastral	3124542985	
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Sources: (BioAp, Document FPIC, 2018)

Table 37. Victims of the conflict.

COMMITTEE OF VICTIMS OF THE CONFLICT		
Place and Date	**Total, Assistants**	**Participatory tools implemented**
Mapiripán Municipal Mayor's Office April 18, 2018	6 people	SWOT Matrix

PERCEPTIONS AND COMMENTS

The approach was generated through the application of a SWOT matrix, in which the participants expressed their opinions about the company, and the results are shown below:

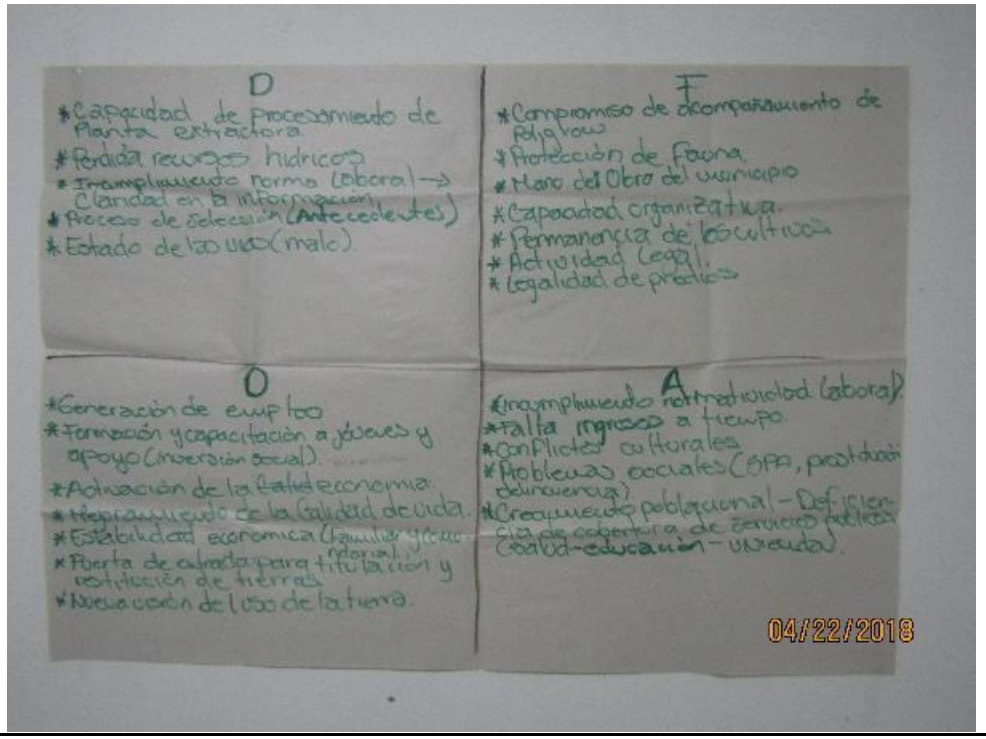
Strengths: Commitment to support and advice from Poligrow to its fruit suppliers; Protection of fauna; Demand for labor in the municipality; Organizational capacity; Permanence of the crops; Legal activity and legality of the farms.

Weaknesses: Processing capacity of the extraction plant; Loss of water resources; Noncompliance with labor regulations- Clarity of information; Labor selection and hiring process (criminal background check); and Poor Road conditions.

Opportunities: Employment generation; education and training for young people, and support for social investment; activation of the local economy; improved quality of life; family and community economic stability; gateway to land titling and restitution; and, new vision for land use.

Threats: Cultural conflicts; social problems (PAS, prostitution, delinquency); population growth; and, deficiency in the coverage of basic needs and public services (health, education, housing).

PARTICIPATORY MAPPING SUPPORT



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FECHA: 18-04-2018 **STAKEHOLDER:** Mesa de Victimas

No.	NOMBRES Y APELLIDOS	CARGO/OCUPACIÓN	CELULAR	FIRMA
1	Monica Andrea Espinel	Representante de Victimas	3102984126	
2	Nelson Flores Reyes	Coy Estatuo	3102783556	
3	Fanides Araujo V.	Mesa Victimas	3143782333	
4	Blanca Marina Lopez	Mesa victimas	318 334 5689	
5	Nortiso Cerrato	Mesa Victimas	3143335726	
6	Hector Freddy patiño	cordinador mesa victimas	3144452099	
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Source: (BioAp, Document FPIC, 2018)

Table 38. Victims' Promotion Commission

VICTIMS' PROMOTION COMMISSION		
Place and Date	**Total, Assistants**	**Participatory tools implemented**
Commercial establishment Mapiripán City Center Mapiripán April 18, 2018	6 people	Semi-structured interview
PERCEPTIONS AND COMMENTS		
The representatives express changes due to palm cultivation such as population migration, dynamization of the local economy, changes in water quality that affect the consumption of fish from the Guaviare River, which has changed the taste and makes it difficult to access income; however, they recognize that municipal wastewater is discharged into the river and it is not possible to attribute this change directly to the company. They state that the Guaviare River is scouring, which has caused some houses to be abandoned due to the risk of flooding and landslides. They report that the municipality suffered a flood in 1986, which damaged the infrastructure at the time. In addition, they state that the cost of living in the urban area is too high due to the poor state of the road infrastructure and the armed conflict. They consider the improvement of the quality of life, in terms of access to employment and activation of the local economy, however, they state the difficulty in terms of clarity of payments to workers, since most businesses depend on their income. They say they are unaware of the social investment made by the company.		
PARTICIPATORY MAPPING SUPPORT		
		

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FECHA: 18-04-2018 STAKEHOLDER: Comite de impulso

No.	NOMBRES Y APELLIDOS	CARGO/OCUPACIÓN	CELULAR	FIRMA
1	Blanca Hauria Lopez Sedgwick	Comite impulso	312 336 8639	
2	PATRICIA SAAVEDRA	COMITE IMPULSO	310-5297312	
3	Luis Antonio Castilla	Comite UP	3123400	
4	Carmen Elvira Rodriguez	Comite impulso	3134103943	
5	Ana Francisca Rodriguez	Comite Impulso	3202115278	
6	Deyanira Maluecha	Comite Impulso	3144743054	
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Source: (BioAp, Document FPIC, 2018)

Conclusion

During the verification of the legality of the land, it was noted that the company has land titles that guarantee the acquisition of the properties through the sale of the previous owners, which has not implied the displacement of communities or the violation of territorial rights.
During the approach with the social actors generated contributions for the identification of High Conservation Values (HCV), where it is evident that the presence of HCV 5 on a landscape scale of the use of water sources for the supply of water for human and domestic consumption, traditional fishing and recreation. These activities are carried out outside of the management units, so no rights of way and/or customary rights within the units have been identified.

On the other hand, the Social Impact Study shows that the management units do not report any impacts due to land appropriation or displacement of communities for the establishment and maintenance of oil palm plantations. Finally, no customary rights are recognized on the property units under study; therefore, it is concluded that the Free Prior and Informed Consent study for the Casuarito 1 and Bogante 1 properties, according to the FPIC flowchart of the Guide on Free, Prior and Informed Consent for RSPO members, Nov. 2015, is under development as it requires joint processes for the management of socio-environmental impacts as well as the development of conservation strategies as long as community use resources are involved.

Section 6: Soil and Topography

6.1 Bogante 1 and Causarito 1

6.2 Soil and Topography Methodology

The study was carried out according to the technical data sheet for Soil Survey CO_MP GO_AGR FT ESS, which is available on the Poligrow Colombia server.
The Soil Potential Survey on the Bogante 1 and Casuarito 1 farm was carried out in the following stages:

Compilation of information:
Basically, it corresponds to the compilation of secondary information concerning the area under study, consisting of: recent aerial photographs, topographical plan, radar and satellite images and in general of the natural environment that allowed to know the study area, its planning and execution.
Photo interpretation: The available aerial photographs were preliminarily interpreted, with emphasis on the physiographic aspect. The criteria derived from the photo-interpretation were complemented in the field by corroborating what was initially obtained, such as the distribution and shape of the morichales and gallery forests, thus supporting, with additional secondary information, the carrying out of a morphological and morphochronological analysis, which helped in the separation of the different landforms.
Once the photo-interpretation was completed, a map of points was drawn up, which was adapted taking into account the global vision of the area of the farm, its boundaries, distribution and shape of the morichales in the area under study, thus allowing the programming of the reconnaissance of the area of interest and the displacement from one geographic point to another to carry out the observation boxes in order to measure the physical variables and take the sample for physical-chemical analysis.
Field work: The field work was carried out by 1 agronomist, 1 agricultural technologist and 1 agricultural engineer with extensive experience in management of geographic information systems and plantation design for oil palm crops, all with extensive and proven specific experience for this type of survey for the development of sustainable oil palm projects.
During the field survey, real precision GPS with a radius of 3 m was used.
The work was carried out by preparing observation pits 40 cm wide and 60 cm deep in order to observe the horizons in detail, especially in soils with a petrophyric layer, in order to accurately establish their thickness and the volume of rock fragments present in them; in addition, those soils that presented the same modal profile or common characteristics within a cartographic unit were checked.
A total of 118 observations were made at a distance of 700m from one trench to another, from which approximately 1000 grams of soil were taken from a depth of 0-30 cm for physical-chemical analysis, 500 grams to be sent to the laboratory and 500 grams for counter-sampling.

6.3 Distribution of soils by taxonomic groups farm Bogante 1: In general, 7 subgroups of taxonomic importance for intrinsic soil management were found, distributed in Petroferric Haplodux with 1701,55 representing the second highest value with 32,5% of participation, Oxic dystrudepts 2131,41Has representing the highest value with 40,7%, Typic Tropoflovents with 404, 56 ha which is equivalent to 7,7%, Typic Dystrudepts with 203,58 ha which support 3,9%, Typic Humaquepts with 77,76 ha with 1,5%, Aquic Dystrudepts with 37,24 ha with 0,5%, Aquic Humaquepts with 25 ha with 0,5%, the forest with 652,71 ha which corresponds finally to 12,5% respectively (See table 39).

Table 39 Distribution of soils by taxonomic groups farm Bogante 1.

Subgroups	Area	% Shareholding
Petroferric Haplodux	1701,55	32,5
Oxic Dystrudepts	2131,41	40,7
Typic Tropoflovents	404,56	7,7
Typic Dystrudepts	203,58	3,9
Typic Humaquepts	77,76	1,5
Aquic Dystrudepts	37,24	0,7
Aquic Humaquepts	25	0,5
Forest Area	652,71	12,5
Total Area	5233,83	100,0

Source: (Poligrow, Soil potentiality study Bogante 1, 2012)

In general, the soils of the farm are found in a high percentage on a landscape that naturally belongs to the strongly dissected Altillanura, and to the type of relief of hills and hills, 269.86 hectares with a participation of 5.2% that belong to the form of the land of sharp and tabular peaks, of tabular peaks there are 696.52 hectares with 13.3% of participation, Convex summits account for 537.08 ha (10.3%), colluvial glaciers account for 875.5 ha (16.7%), and one of the best landforms for soil preparation are the convex interfluves with 1856.32 ha (35.5% of the total area). For the landscape of narrow colluvio-erosional valleys and alluvial plains, the latter not very common in the soils of the Altillanura, therefore it is found parallel to the banks of large rivers such as the Guaviare, types of relief such as flood plains with landforms commonly known as vegas were detected with 345.8 hectares, equivalent to 6.6% of the area studied.

Distribution of soils according to the Level of Acceptance for oil palm at farm Bogante: Of the 5233.83 Has comprising the study area, 1876.69 Has were found in their order of importance in acceptance level 1 and with qualification Excellent equivalent to 35.9%, in level 2 with qualification Good 1330.36 Has equivalent to 25.4%, in level 3 with a rating of Fair 1017.16 ha, corresponding to 19.4%, in level 4 with a rating of Poor, 356.9 ha, corresponding to 6.8%, and the area of forest with high values for the final conservation, 652.71 ha, corresponding to 12.5% of the overall total.

Tabla 40: Distribution of soils according to the Acceptance Level for oil palm.

Qualification	Zone	Area	% Shareholding
Level 1	Excelente	1876,69	35,9
Level 2	Good	1330,36	25,4
Level 3	Regularly	1017,16	19,4
Level 4	Malo	356,9	6,8
Forest Area		652,71	12,5
Total Area		5233,83	100,0

Source: (Poligrow, Soil potentiality study Bogante 1, 2012)

Bogante 1 Soil Potentiality Study Summary Report, conducted by the research and development area of Poligrow, on March 22, 2012.

The total area under study corresponds to 5233.83 Has. The savanna area studied corresponds to 4581.12 with a percentage of participation of 87.5% Ha which presents different geomorphs, the forest comprises a total of 652.71 Ha which has a

participation of 12.5% of the total area of the Hacienda, distributed in important gallery forests and morichales, which are habitats with high value for conservation.

Table 41. Geomorphology of the Bogante.

	Geomorphological Unit			slope	Symbol
Climatic unit	Landscape	Type of relief	Landform		
Hot humid lands	Highly dissected uplands (A)	Hills	Tabular summits	3-25%	ALCbd
			Convex summits	3-25%	ALCbd
			Interfluvios convexos (H)	3-7%	ALHb
			Glacis coluviales (G)	3-7%	ALGb
	Narrow colluvioerosional valleys "Rivers" (V)	Flood Maps	Vegas (V)	1-3%	VPVa

source: (Poligrow, Soil potentiality study Bogante 1, 2012)

In general, of the 5233.83Ha studied, 4187.44Ha were found to be suitable, corresponding to 80% of the farm, for sustainable oil palm cultivation. The remaining 393.66 hectares correspond to 7.5% that for reasons of topography, thickness and depth of the petropheric layer, wetlands of conservation importance, were ruled out for the establishment of oil palm. Likewise, the forest area, which totals 652.71 hectares and corresponds to 12.5% of the total area, is also excluded for the project due to environmental policies that do not allow cutting down the forest to plant African palm.

Figure 23. Soil sampling, El Bogante.

source: (Poligrow, Soil potentiality study Bogante 1, 2012)

Property: Casuarito 1

Summary Report of the Soil Potentiality Study Casuarito 1, carried out by the research and development area of Poligrow, on February 15, 2011.

The gross area under study corresponds to 2399.56 Ha. The forest area comprises a total of 805.34 hectares which has a share of 33.6% of the total area of the farm, distributed in important gallery forests and morichales, which are habitats with high conservation value, over the remaining area totaling 1594.22 hectares corresponding to 66.4%.

Table 42. Geomorphology of Casuarito 1

	Geomorphological Unit		Symbol	Ha

Climatic unit	Landscape	Type of relief	Landform		Slope		
Hot humid lands	Highly dissected uplands (A)	Hills	Tabular summits		3-25%	ALCbd	63,1
			Convex summits		3-25%	ALCbd	844,48
			Interfluvios convexos (H)		3-7%	ALHb	547,83
			Glacis coluviales (G)		3-7%	ALGb	58,88
	Valles coluvioerosionales estrechos "Caños" (V)	Flood Maps	Vegas (V)		1-3%	VPVa	79,93

Source: (Poligrow, Soil potentiality study Causarito 1, 2011)

In general, of the 2339.56 hectares studied, 1047.27 hectares were found to be suitable for sustainable oil palm cultivation, corresponding to 43.6% of the farm. The remaining 546.95 hectares correspond to 22.8% of the total area, which for reasons of topography, thickness and depth of the petropheric layer, and wetlands of conservation importance, were ruled out for the establishment of oil palm. The forest area, which totals 805.34 hectares and corresponds to 33.6% of the total area, was also excluded from the project because environmental policies do not allow cutting down the forest to plant African palm.

6.4 Distribution of the taxonomic subgroups of the Casuarito Farm soils: In general, 3 subgroups of taxonomic importance were found, distributed in Oxic dystrudepts with 837.24 ha representing the highest value with 34.9%, followed by the petroferric hapludox subgroup with 721.45 ha representing 30.1% and finally the Typic humaquepts subgroup with 35.53 ha equivalent to 1.5% of the total area of the farm (see table).

Table 43: Distribution of soils by taxonomic groups farm Bogante 1.

Subgroups	Area	% Shareholding
Petroferric Haplodux	837,24	34,9
Oxic Dystrudepts	721,45	30,1
Typic Humaquepts	35,53	1,5
Forest Area	805,34	33,6
Total Area	2399,56	100

Source: (Poligrow, Soil potentiality study Bogante 1, 2012)

The soils of the farm are found in a high percentage on a landscape that naturally belongs to the strongly dissected Altillanura, and the type of relief of hills and hills, with 63.1 hectares with a share of 2.6% belonging to the landform of tabular summits, the largest area is 844.48 ha with 35.2% for convex ridges, colluvial glaciers are very few with 58.88 ha, equivalent to 2.5%, and one of the best landforms for soil preparation are the convex interfluves with 547.83 ha, corresponding to 22.8% of the area.

Figure 24. Convex interfluves with shrub vegetation. Casuarito.

Source: (Poligrow, Soil potentiality study Causarito 1, 2011)

Table 44. Evaluation team

Name	Institution	Role	Experience
Juan Esteban Cataño	Poligrow S.AS	Agronomist Engineer	Specialist in soil surveys and sustainable land management, more than 20 years of experience in soil and topographic surveys for agricultural purposes.
Nelson Torres C.	Poligrow S.AS	Agronomist Engineer	21 years of experience in planning, management, execution and control of agricultural processes.
Roosevel Charry V.	Poligrow S.AS	Agronomist Engineer	More than 20 years of experience in plantation design, irrigation, drainage and various surveys, contractor and entrepreneur.
Juan Carlos Calderon	Poligrow S.AS	Agronomist Engineer	23 years of experience in the provision of services to the national and international palm sector.

Section 7: Greenhouse Gas (GHG)

The GHG assessment is covered by the Carbon Stock Assessment and GHG Emissions Report for the Bogante 1 and Casuarito 1 extension concession, Mapiripan, Meta, Colombia, conducted by the company BioAp S.A.S, dated november, 2021 using the GHG calculator v4.
This spreadsheet has 16 tabs, 7 of which must be filled in. These are the production of oil palm fresh fruit bunches, annual fuel consumption, expected annual fertiliser consumption, sequestration data in conservation areas and palm oil information.

7.1 Methodology Greenhouse Gas (GHG)

Image interpretation:
For the analysis of cover and biomass estimation, satellite images were used as base information supported by official vector information on cover and ecosystems in the digital resources of the Colombian environmental information system (SIAC), specifically the map of continental, coastal and marine ecosystems of Colombia, scale 1:100,000; the processing of the information was carried out using the desktop system ArcGIS licensed by ESRI (Version 10.5), Quantum GIS (QGIS desktop version 2.12.1) and ERDAS IMAGINE.

In this case, SENTINEL 2 images were used as the main source of analysis to corroborate and update coverage. This process was carried out under the concept of visual interpretation and band mapping. This method was divided into 2 phases (interpretation and verification; and analysis and digitisation).

Phase 1. Interpretation and verification:
For the interpretation of the management area, SENTINEL 2 images from the year 2020 were analysed, with a resolution of 10 m for bands 2, 3, 4 and 8, these bands were compiled into an image and structured into a mosaic over the general management area. For the interpretation, combinations of bands were made to determine the type of cover and its status, supported as described above with vector data from the map of continental, coastal and marine ecosystems of Colombia. Likewise, coverages were corroborated in the field, some geographical features, structures and constructions, and these data were georeferenced and documented.

Phase 2. Analysis and digitization:
All the information was organized and analyzed together. Firstly, the visual interpretation of the images was carried out, superimposing the land cover verification points and the land use shape, this process was carried out using combinations of bands,

Table 42: Evaluation team.

Name	Role	Institution	Relevant Experience	Studies in which he/she participated
Juan Pablo Zorro Cerón	Lead Advisor Full ALS license (ALS14011J Z). Biologist and HCVRN HCV Advisor. Specialist in Photojournalism. Master in Territorial Planning and Environmental Management	BioAp S.A.S.	Experience in HCV assessments, LUC (Land Use Change) studies, Environmental and Social Impact Assessments, Remediation and Compensation Procedures for oil palm plantations in Colombia, Mexico, Ecuador, Peru and Guatemala under the RSPO, ISCC and Bonsucro® schemes. Expert in Geographic Information Systems. He has advised more than 30 companies in the implementation of sustainability schemes such as RSPO, ISCC and Bonsucro. Trainer endorsed by RSPO through Checkmark Training for Lead Auditors in P&C. Reviewer for Latin America of LUCA studies for RSPO, member of the Latin American Advisory Group of RSPO (GCAL)	Assessment GHG
Fabio Ernesto Álvarez Morales	Biologist. Specialist in Geographic Information Systems	BioAp S.A.S.	General experience in spatial interpretation with GIS resources and aquatic ecosystems for environmental impact studies. He has participated as a GIS specialist in HCV studies in Colombia and Latin America under the RSPO and Bonsucro® schemes	Assessment GHG
Wendy Julieth Acosta Rodríguez	Cadastral Engineer y Geodesta. Specialist in Natural Resources Management	BioAp S.A.S.	Experience in generation, analysis and management of geographic information; with knowledge of spatial analysis, processing and interpretation of satellite images and aerial photographs focused on the development of LUCA, HCV and EIA studies	Assessment GHG
María Paula Romero	Bioengineer, Master Candidate in Renewable	BioAp S.A.S.	Experience in the execution of Socio-Environmental Impact Studies (EIA) and Greenhouse Gas Assessment (GHG), carried out	Assessment GHG

	Energies and Energy Efficienc		nationally and internationally under the RSPO, ISCC and Bonsucro certification schemes.	

Natural and artificial land covers function as natural reservoirs of carbon, which has been fixed as a result of photosynthesis by plants, whereby carbon dioxide is absorbed and transformed into organic material or biomass, depending on the type of cover and the plant stratum to which each species belongs, the proportion of biomass that accumulates in each type of cover is defined (Greenpeace, 2013). Shows the proportion of carbon sequestered by each cover type according to the RSPO Procedural Guidance on Assessment for New Developments in 2021.

It is important to note that there are five carbon pools (aboveground biomass, belowground biomass, dead wood, litter and soil organic matter) as defined by the Intergovernmental Panel on Climate Change (IPCC), however, applying RSPO, this assessment only needs to take into account aboveground biomass (AGB), belowground biomass (BGB) and soil organic matter.

If the default AGB and BGB values and default RSPO land cover classes are used, there is no need to conduct field sampling and the PalmGHG Calculator could calculate GHG emissions based on the land cover classes present and the size (in hectares) of each land cover class.

Table 43. Default AGB and BGB values of the RSPO (tC/ha) for 6 land cover classes

No.	Vegetation cover classes	Default value (tC/ha)
1	Intact forest	268
2	Intervened forest	128
3	Tree crops	75
4	Shrubs	46
5	Food crops	8.5
6	Grassland	5

Source: (Poligrow, Greenhouse gas (GHG) assessment study and carbon stock assessment for new plantation development, 2021)

Figure 25. Carbon Stock Map.

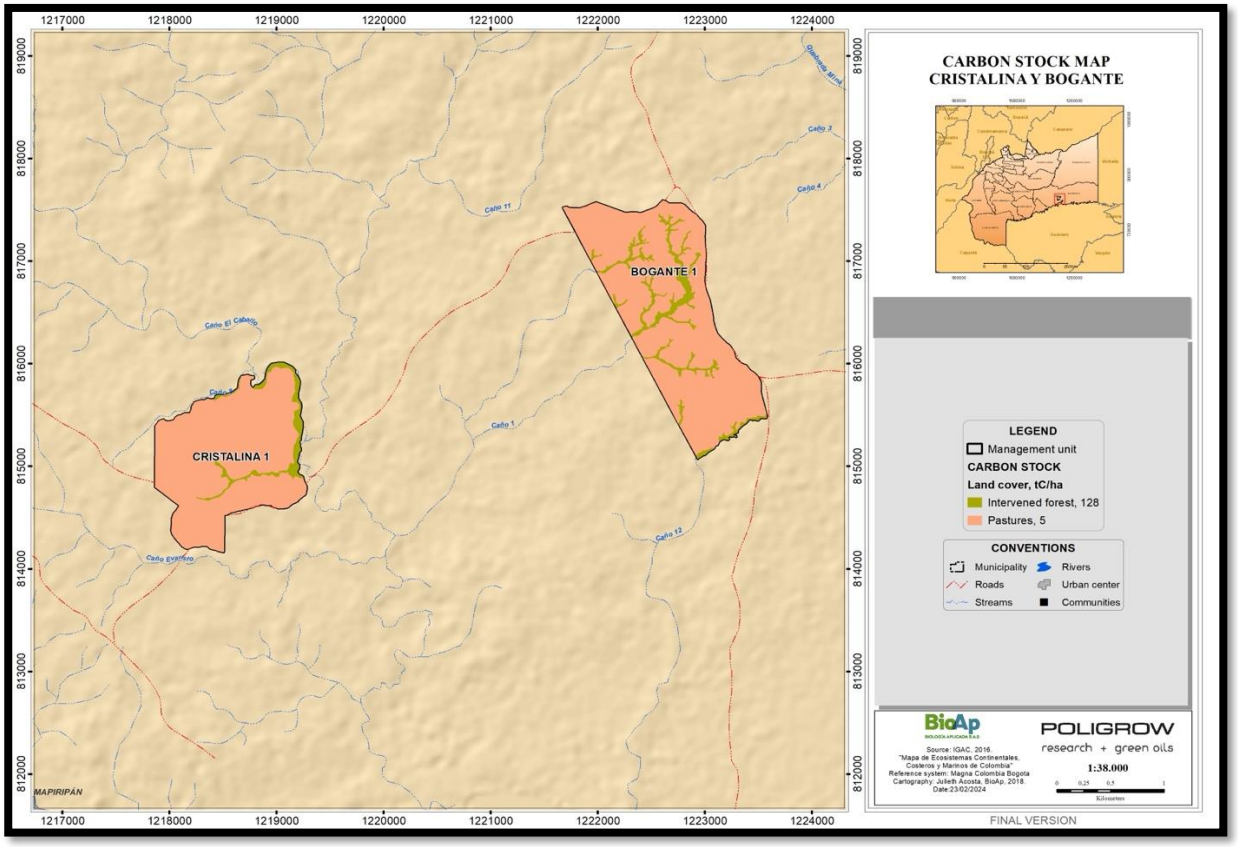
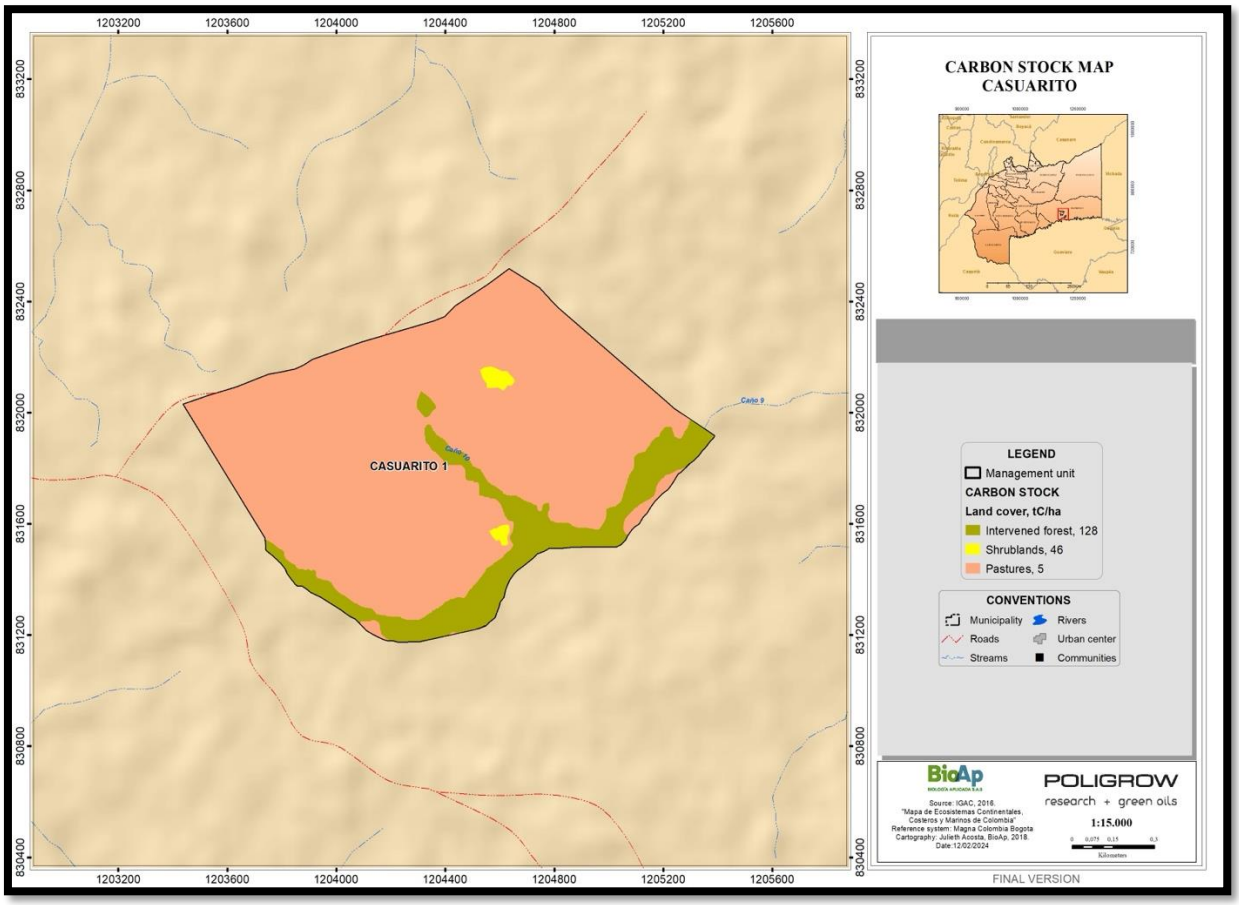


Figure 26. Carbon Stock Map Casuarito 1.



Source: (Poligrow, Greenhouse gas (GHG) assessment study and carbon stock assessment for new plantation development, 2021)

7.2. Results

Based on the results obtained from the carbon stock and the analysis of the greenhouse gas (GHG) calculator, scenarios are defined.

Table 44. Greenhouse gas scenarios.

Scenario	Description
Scenario 1	All potential areas (Grasslands and Shrublands) for new plantations cleared for oil palm, except all forest areas. All disturbed forests are to be conserved, as well as no clearing in HCV areas. There are no methane capture facilities planned for the extractor.
Scenario 2	All potential areas (grasslands) for new plantations cleared for oil palm, except all forest areas. All disturbed forests are to be conserved, as well as no clearing in HCV areas. There are no methane capture facilities planned for the extractor.
Scenario 3	Potential areas (Grasslands and Shrublands) for new plantations cleared for oil palm, except all forest areas. All disturbed forests are to be conserved, as well as no clearing in HCV areas. There are methane capture facilities planned for the extractor.

Source: (Poligrow, Greenhouse gas (GHG) assessment study and carbon stock assessment for new plantation development, 2021)

Table 45. Description of the three scenarios to be evaluated.

		S1	S2	S3
Area avoided for development (ha)	Area AVC	156,8	156,8	156,8
Potential areas for new development (ha)	Shrublands	0,99	-	0,99
	Pastures	751,45	751,45	751,45
EEAP treatment	Conventional treatment	Y	Y	-
	Methane capture	-	-	Y

Source: (Poligrow, Greenhouse gas (GHG) assessment study and carbon stock assessment for new plantation development, 2021)

The results obtained in each of the 3 scenarios are presented in Table 12, it is worth mentioning that in the field activities for scenarios 1 and 3 it is established that less fertilizers are applied, this is done in order to carry out good practices in the field, however, in the case of scenario 2 the application of the normal amount of fertilizers is carried out.
For the activities in the extraction plant, methane capture is carried out only for scenario 3, while in scenarios 1 and 2 it is done in a conventional manner, it is worth mentioning that the company generates its own electricity, which means that it does not acquire its electricity from the grid, and this can be observed in the item of electricity acquired for these three scenarios was always 0, however, they do not export their electricity or sell biomass. It is also important to note that the company has a composting system, which means that EEAP emissions are not so high.

Table 46. Results of the scenarios proposed for the new planting areas.

ACTIVITY	ES 1	ES 2	ES 3
	tCO2e	tCO2e	tCO2e
Soil clearance	169,84	167,87	169,84
Crop sequestration	-7.044,14	-7.034,87	-7.044,14
Fertilizers	248,55	367,05	252,00
N2O	1.597,81	1.705,68	1.637,42
Field fuel	638,55	614,27	638,55
Peat	0,00	0,00	0,00
Conservation Credit	0,00	0,00	0,00
Total	**-4.389,39**	**-4.180,01**	**-4.346,33**
Shredder Emissions & Credit	**tCO2e**	**tCO2e**	**tCO2e**
EEAP	1.474,91	1.472,97	278,23
Extractor fuel	440,41	439,83	440,41
Acquired electricity	0,00	0,00	0,00
Credit (excess electricity exported)	0,00	0,00	0,00
Credit (sale of biomass for energy)	0,00	0,00	0,00

Total	**1.915,32**	**1.912,80**	**718,64**
Emissions totales, tCO2e (campo y extractora)	**-2.474**	**-2.267**	**-3.628**

source: (Poligrow, Greenhouse gas (GHG) assessment study and carbon stock assessment for new plantation development, 2021)

Section 8: Land Use Change Analysis (LUCA)

Land use change analysis to support Poligrow Colombia S.A.A.'s proposed expansion of the new oil palm development in Mapiripan, Meta, Colombia, was initially conducted on 21 April 2021 through the BioAp report, which included maps and satellite imagery. However, on 26 December 2023, the company has conducted a comprehensive review and update of the interpretation of Sentinel 2 and Planet mosaic imagery to improve the identification of land cover. (Date of report submission26/12/2023)

Based on the analysis of the satellite images mentioned in section 4.5.4, the following stages continue:

a) Evaluation phase: which consists of the primary classification of the satellite images.

b) Field verification phase: in which the land cover currently present is corroborated based on land use changes for the periods 2005, 2007, 2010 and 2014, taking coordinates and photographs for each case and whose information obtained is used for subsequent validation. Information related to historical land use in the study area was also collected, and areas where plantations are prohibited by RSPO P&C or national regulations were identified. Six land cover classes were identified: bare land, cleared pasture, floodable areas, grassland, grassland with shrubs, and riparian forest; all of these land covers were subject to verification for the next step.

c) Analysis and evaluation phase: in which the data obtained in the field are compared with the classified land cover information, information that is combined in a shapefile of precision evaluation points. Subsequently, the confusion matrix is constructed, which is used to perform the ground truth analysis, as well as the Kappa value. If the latter is less than 60%, the information must be adjusted, otherwise the next step is continued.

d) Composition and reporting phase: in this phase, satellite image analysis, digitization and final adjustment are performed, including the classification of vegetation coefficients and compensation analysis, and the preparation of the respective maps.

e) Phase of identification of areas of land cover change: after obtaining the vectorized coverage, the intersection is performed to identify areas of change, which were recalculated and tabulated to identify the land use values between the analysis periods. The entire process was carried out using ArcGIS, ERDAS Imagine 2014, QGIS, BaseCAMP and Google Earth software.

Table 47: Evaluation team.

Name	Role	Institution	Relevant Experience	Studies in which he/she participated
Juan Pablo Zorro Cerón	Lead Advisor Full ALS license (ALS14011J Z). Biologist and HCVRN HCV Advisor. Specialist in Photojournalism. Master in Territorial Planning and Environmental Management	BioAp S.A.S.	Experience in HCV assessments, LUC (Land Use Change) studies, Environmental and Social Impact Assessments, Remediation and Compensation Procedures for oil palm plantations in Colombia, Mexico, Ecuador, Peru and Guatemala under the RSPO, ISCC and Bonsucro® schemes. Expert in Geographic Information Systems. He has advised more than 30 companies in the implementation of sustainability schemes such as RSPO, ISCC and Bonsucro. Trainer endorsed by RSPO through Checkmark Training for Lead Auditors in P&C. Reviewer for Latin America of LUCA studies for RSPO, member of the Latin American Advisory Group of RSPO (GCAL)	LUC (Land Use Change)
Wendy Julieth Acosta Rodríguez	Cadastral Engineer y Geodesta. Specialist in Natural Resources Management	BioAp S.A.S.	Experience in generation, analysis and management of geographic information; with knowledge of spatial analysis, processing and interpretation of satellite images and aerial	LUC (Land Use Change)

			photographs focused on the development of LUCA, HCV and EIA studies	

The analysis of accuracy evaluation corresponds to crossing information of 86 control points, with the current Sentinel-2 image reclassified and the visually digitized shape of the land covers supported in said qualification and Google earth and Bing images to give better resolution.
Six types of cover lands were used: Bare lands, Clean Pastures, Floodable areas, Grassland, Pastures with shrubs and Riparian forest. For the veracity and accuracy analysis, the land cover was simplified to identify the specificity of landscape elements characteristic of the geographical structure of the region of the East of the Country.
This analysis was divided into accuracy and Kappa analysis.

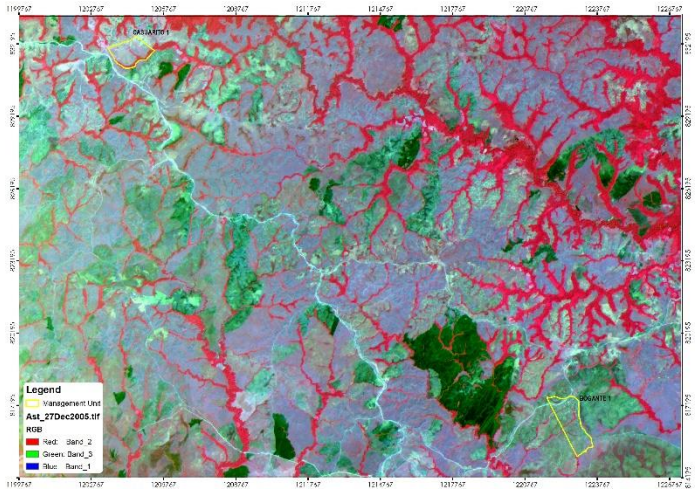
Table 48. Historical change in land use by period of analysis, UM Casuarito 1 and Bogante 1.

Land cover	Year/Area (ha)				
	2005	2007	2010	2014	2021
Bare lands/	4.63	128.93	5.16	97.19	19.04
Clean pastures/	-	-	-	-	12.96
Floodable areas/	44.84	44.84	44.84	44.84	44.84
Grassland	188.70	64.41	188.18	96.15	46.61
Pastures with shrubs	92.49	92.49	92.49	92.49	207.22
Riparian forest	31.38	31.38	31.38	31.38	31.38
Total	362.05				

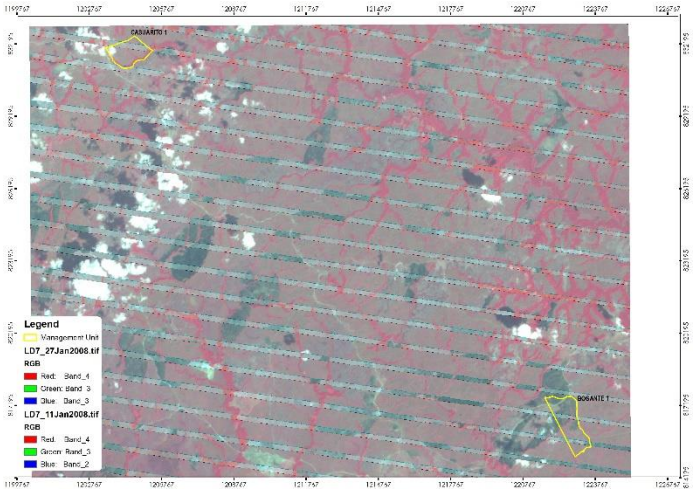
Source: (Poligrow, LUCA Reporting Checklist table, pág. 2023)

For each land cover class identified (6), a number of sampling points were established, covering a total of 86 for the Casuarito 1 and Bogante 1 MU. In this case, no remediation areas are determined; however, the company considers protecting the drainage buffer lands and water bodies, which are referred to in this study as "areas prohibited for planting" and "conservation areas".

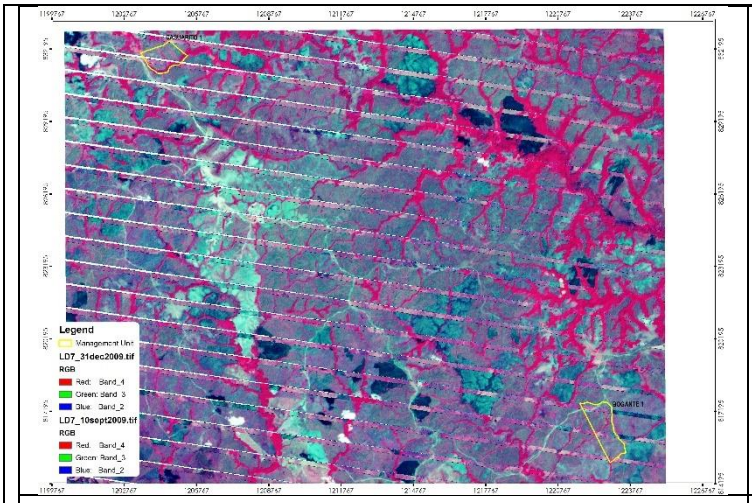
Figure 27. Field verification.



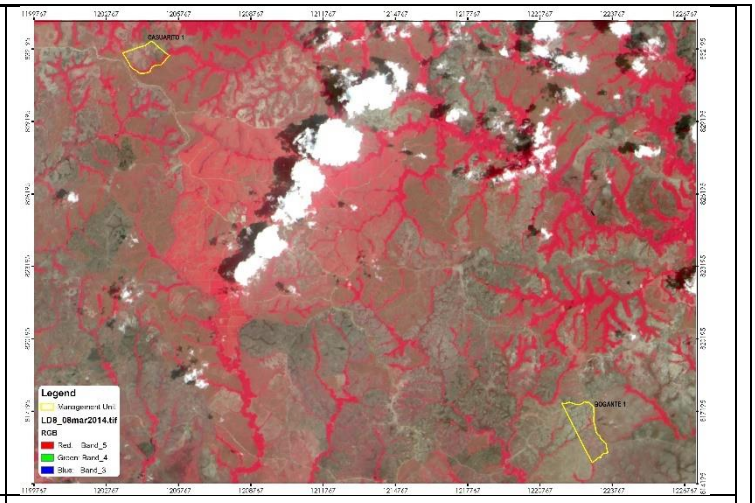
ASTER -2005



Landsat 7 -2007

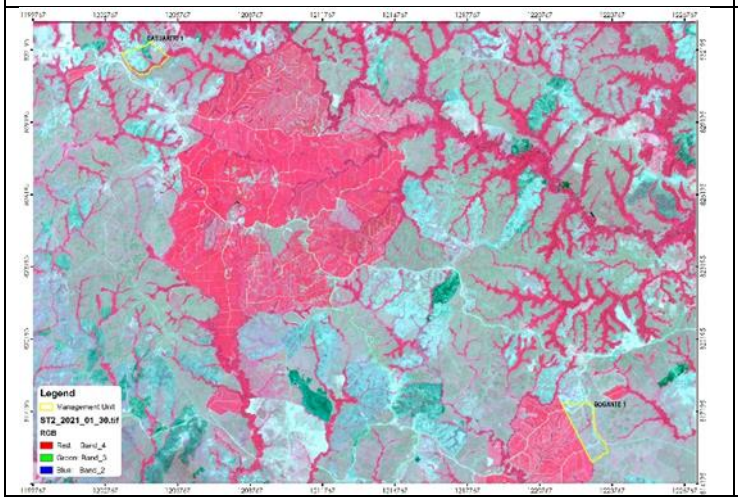


Landsat 7 -2010

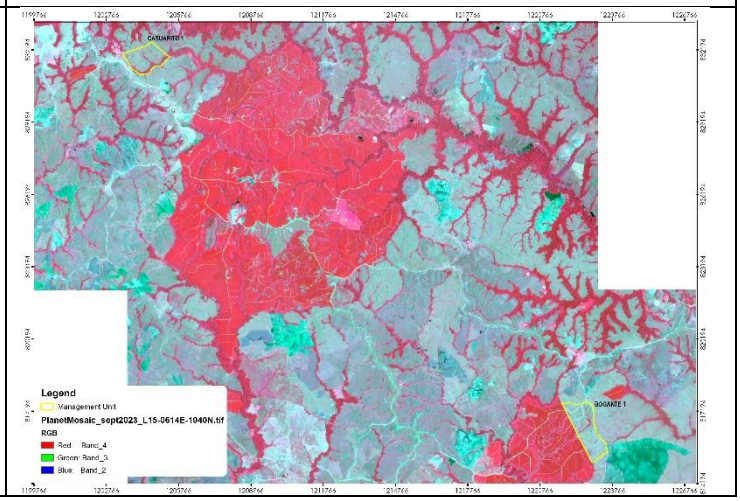


Landsat 8 -2014

Sentinel 2-2021



Planet Mosaic 2023



Fuente: (Poligrow, LUCA Reporting Checklist table, 2023)

Section 9: Conclusions

In the study of greenhouse gases in the results of the three scenarios, it is indicated that for the company Poligrow SAS and Allied Suppliers, the scenario that best suits the conditions for the development of its new plantations is Scenario 1, since it best suits the operational capacity of the company. However, it is important to mention why the other two scenarios were not chosen, in the case of Scenario 2, it is due to the fact that at the time of fertilizer application a normal amount is contemplated to that applied to the already established plantations, which generates higher emissions, In the case of soil clearing, this generates lower emissions because only pasture cover would be cleared, while in Scenario 1, both pasture and shrubland would be cleared.

The management plans proposed below are developed in order to meet the goals set by the RSPO to generate a reduction in the impacts that may be produced in the Bogante 1 and Casuarito 1 plantations.

- A total of 37.12 ha of HCV 1 and HCV 4 (without subtracting overlaps) were identified in UM BOGANTE 1.
- A total of 36.31 ha of HCV 1 and HCV 4 (without subtracting overlaps) were identified in UM CASUARITO 1.
- UM Bogante1 has a total area of 216.44 ha, of which 37.13 ha were identified as HCV areas and 156.67 ha as potential areas for planting.
- UM Casuarito1 has a total area of 145.61 ha, of which 36.31 ha were identified as HCV areas and 116.26 ha as potential areas for planting.

- A total of 272.93 ha were identified as potential planting areas in clean pasture and open bush cover.
- No peat soils were identified in the UMs assessed, although areas of fragile soils associated with a slope of more than 13% were found.
- The carbon quantification of the GHG assessment led to the conclusion that the most suitable scenario for new plantation development is Scenario 1 (All potential areas (Grassland and Shrubland) for new plantations cleared for oil palm, except all forest areas. All disturbed forests are to be conserved, as well as no clearance in HCV areas. No methane capture (no methane capture facilities planned for the oil mill).
- The company will include in its management schedule the activities proposed in each Management Plan, so that compliance can be progressively evaluated and the effectiveness of each task can be monitored according to the indicators contemplated.
- For each assessment carried out (ESIA, HCV, GHG, FPIC and soils and topography), actions have been formulated to prevent, correct or mitigate the positive or negative impacts identified in environmental and social terms, as well as to conserve the High Conservation Value areas identified. These activities will be implemented once this PNP is approved and new oil palm plantations begin.

Figure 28. Summary of the main results of the evaluations carried out for the Management Units.

Resultado	UM BOGANTE 1				UM CASUARITO 1			
Área UM	216,44 ha				145,61 ha			
Coberturas	Bosque de galería y ripario		0,54		Arbustal abierto		1,07	
	Morichal		21,55		Bosque de galería y ripario		20,20	
	Pastos limpios		194,34		Pastos limpios		123,93	
					Vegetación secundaria o en transición		0,41	
Estimación de carbono almacenado en AGB y BGB (RSPO)	Bosque intervenido	21,55	128	2.827,52	Bosque intervenido	20,61	128	2.638,08
	Pastizales	194,34	5	971,7	Arbustales	1,07	46	49,22
					Pastizales	123,93	5	619,65
Turba	0 ha				0 ha			
AVC 1	22,09 ha				20,61 ha			
AVC 2	0 ha				0 ha			
AVC 3	0 ha				0 ha			
AVC 4	36,59 ha				15,70 ha			
AVC 5	0 ha				0 ha			
AVC 6	0 ha				0 ha			
Tierras de comunidades locales	0 ha				0 ha			
AMAVC	35,44 ha AMAVC 1 15,03 ha AMAVC 4				8,14 ha AMAVC 1 7,56 ha AMAVC 3 15,70 ha AMAVC 4			
Áreas potenciales de siembra	156,67 ha				116,26 ha			

Source: (BioAp, New planting procedure , 2022)

Section 10: Confirmation of Report

Figure 29. Internal accountability letter issued by the company Poligrow Colombia S.A.S.

POLIGROW
research + green oils

Bogotá D.C., Colombia 26 de julio de 2019

A QUIEN INTERESE

El objetivo de esta carta es expresar que la empresa Poligrow Colombia S.A.S, manifiesta su acuerdo con los resultados de todos los estudios que se han realizado para cumplir con los requisitos del procedimiento de nuevas plantaciones de RSPO (EIS, EIA, AVC, LUCA, GEI e idoneidad del suelo) y que la administración general está completamente comprometida con monitorear y ejecutar el plan de acción propuesto, proporcionando recursos financieros y humanos para cumplirlo.

Carlo Vigna Tagliani
Director General Poligrow Colombia SAS
c.vigna@poligrow.com

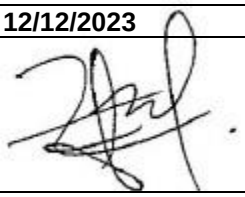
Por lo tanto, la empresa cuenta con un grupo de profesionales especializados en cada tema:

Zoilita Flórez Martínez
Coordinadora de Gestión Integral
Responsable RSPO Poligrow
z.florez@poligrow.com.co

Emilio Fandiño Laverde
Coordinador Ambiental Poligrow
e.fandino@poligrow.com

Juan Pablo Zorro Cerón
Asesor Líder BioAp S.A.S
Juan.zorro@bioap.com.co

Source: (Poligrow, LUCA Reporting Checklist table, pág. 2023)

Date of Completion	**12/12/2023**
Signature	
Name	Zoilita Florez
Position	Integral Management Coordinator