

CO2Bio Project 2

| Project Document Format (PD) (Version 2) | |
|--|---|
| Name of the project | CO2Bio P2 |
| Project Proponent | Cataruben Foundation |
| Project proponent's contact information | Lisbeth Menjure Barrera |
| Project holder | Cataruben Foundation |
| Project holder's contact information | co2bio@cataruben.org |
| Project participants | Private property owners |
| Version | 2 |
| Date | March 2, 2023 |
| Project Type | REDD+ |
| Grouped Project | Not Applicable |
| Applied methodology | Methodological Document AFOLU Sector / BCR0004 Quantification of the Reduction of Emissions and Removals of GHG - Activities that prevent the change of land use in continental wetlands. Version 2.0 23 June 2022. |

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| | METHODOLOGICAL DOCUMENT AFOLU / BCR0002 Quantification of GHG Emission Reductions of REDD+ Projects. Version 3.1. September 15, 2022. |
| Project location (City, Region, Country) | Colombia |
| Starting Date | 06/05/2016 |
| Quantification Period of GHG emissions reductions | 01/01/2021-31/12/2022 Wetlands 01/01/2021-31/12/2021 Forest |
| Estimated total and average annual GHG emission reduction amount | Reduced total: 445,449 tCO ₂ e Estimated annual average: 219,947 tCO ₂ e/year |
| Sustainable Development Goals | SDG 5, 6, 13 & 15 |
| Special category, related to co-benefits | Orchid (Orquídea) Category |

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1. SUMMARY

CO₂Bio Project 2 is a climate change mitigation initiative that reduces CO₂ emissions by implementing activities that reduce deforestation and forest degradation, as well as the transformation of natural inland wetlands on private land in the eastern plains region of Colombia.

This initiative aims to conserve biodiversity in a total of 167,518 hectares, distributed in 143 private lands in the Orinoquia, its eligible areas correspond to 83,534.5 hectares, distributed 20,206 hectares of Forest and 63,328.5 hectares of Wetlands, avoiding deforestation, degradation and transformation of these natural ecosystems from the implementation of conservation and mitigation activities of climate change, which ensure the provision of environmental services and reduce the factors and threats on these ecosystems.

The monitoring report for the period 2021 - 2022 is listed below. In this document, the following tools were applied and updated according to the BCR standard, 2023:

- **SDGs:** Tool for determining contributions to the fulfillment of the Sustainable Development Goals (SDGs) of Greenhouse Gas (GHG) mitigation projects.
- Biodiversity Toolbox for Inland Wetlands, version 1.0 of October 27, 2021.
- **Safeguards:** Tool to demonstrate compliance with REDD+ safeguards.
- BCR Tool avoided damage and environmental and social Safeguards, Version 1.0 of March 7, 2023.

2. INTRODUCTION

Co₂Bio project 2 is developed in areas of forest and wetlands that are located in private rural land in the departments of Arauca, Casanare, Meta and Vichada and seeks to mitigate the threat of habitat loss associated with ecosystems with different degrees of intervention through the implementation of economic incentives for carbon capture.

The project was structured under the Voluntary Carbon Market Standard, version 2.1 (BioCarbon Registry, 2022), however this report was updated according to the most recent guidelines of the BCR Standard version 3.0 of March 07, 2023 and the following methodologies:

- Methodological Document AFOLU Sector / Quantification of GHG Emission Reductions of REDD+ Projects BCR0002. Version 3.1 of September 15, 2022.
- Methodological Document AFOLU Sector / BCR0004 Quantification of the Reduction of Emissions and Removals of GHG - Activities that prevent the change of land use in continental wetlands. Version 2.0 of 23 June 2022.

The following is a list of the monitoring report for the Wetland and Forest ecosystems, based on established methodological guidelines, in order to generate reliable and quality information in the verification process:

Wetlands: In this section, the monitoring results for the period 01/01/2021 - 31/12/2022 are presented, in terms of changes in project boundaries, project activities, socio-environmental effects, project permanence and project emissions, based on established methodological guidelines.

Forests: In this section, the monitoring results for the period 01/01/2021 - 31/12/2021 are presented, regarding the changes of the project boundaries, REDD+ activities, REDD+ safeguards, Co-benefits, Risk of permanence and emissions of the project; based on the established methodological guidelines.

3. GENERAL

3.1. Project Name

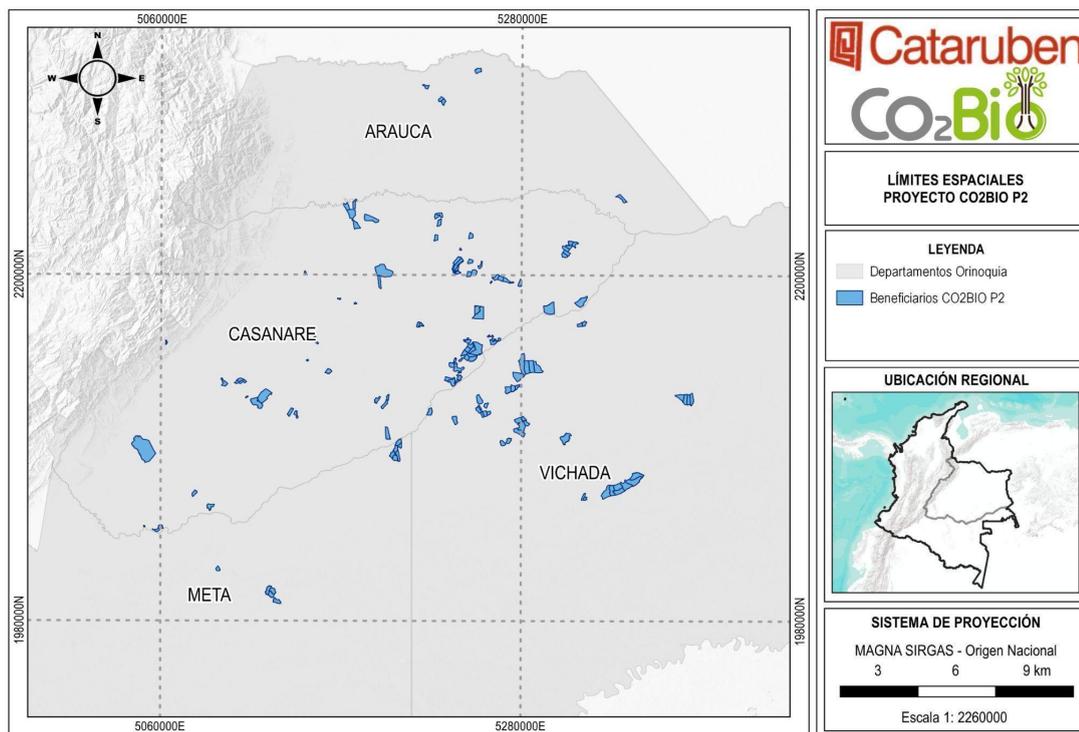
CO2Bio Project 2 is a climate change mitigation project that leverages the implementation of economic incentives for carbon capture to mitigate the threat of habitat loss associated with forests and wetlands on private land in the departments of Casanare, Arauca, Meta and Vichada.

3.2. Project Location

The project CO2BIO Project 2, is located in the landscape of flooded savanna of the Orinoquia region, being this a strategic ecosystem of great economic, biological and ecological importance. The floodplain savannas of the Orinoquia cover the largest area of the departments of Arauca and Casanare, which are characterized by the domination of tropical savannas, a discontinuous canopy where a herbaceous matrix predominates composed of grasses and herbs, low-bearing woody plants and scattered palms. Where there are also forests associated with riverbanks and river valleys.

The project areas are located in the departments of Arauca, Casanare, Meta and Vichada, which are closely related due to the location in the great biome of the Orinoco.

Image 1. Project location map.



Source: Cataruben Foundation.

3.3. Compliance with the Applicable Law

During the planning, formalization and execution of projects for climate change mitigation, the Cataruben Foundation carries out a comprehensive analysis of the national and international regulations that apply to the project. The analysis provides legal certainty during all processes involved in each stage of the Co2Bio project 2. This allows guarantees in the projects, both for compliance with environmental aspects of Co2Bio P2 and for the benefit of the parties that are involved.

Table 1. Legislation applicable to the CO₂Bio P2 project.

| Compliance with Applicable Law | | | |
|------------------------------------|---|--|---|
| Project activities | Enforcement | Compatibility with national policies, programs, strategies and plans | Compatibility with international conventions |
| Strengthening from training cycles | Within the framework of the operation of the project, the aim is to strengthen the knowledge, skills and competences of the participants of the project through various virtual and face-to-face training in topics related to: the conservation of biodiversity, wetlands, forests, forest legality, agricultural production, livestock and sustainable tourism; mitigation and adaptation to climate change, carbon market, legal aspects (land | <ol style="list-style-type: none"> 1. Forest Policy. 2. National Biodiversity Policy. 3. National Plan for the Prevention and Control of Forest Fires and Restoration of Affected Areas. National Policy for Inland Wetlands of Colombia. | <ol style="list-style-type: none"> 1. Convention on Wetlands of International Importance, Especially as Waterfowl Habitat (RAMSAR). United Nations Framework Convention on Climate Change |

| | | | |
|---|--|---|---|
| | <p>tenure), financial aspects, taxation, among others. It has been shown that the development of new skills and abilities of owners through training strengthens the governance of their areas. All of the foregoing is consistent with national policies, programs, strategies and plans, as well as international conventions on climate change and combating deforestation, as listed in the following columns.</p> | <p>4. National Policy on Environmental Education.</p> <p>5. National Action Plan of 7. Combating Desertification and Drought in Colombia.</p> <p>6. General Forestry Law.</p> <p>7. National Policy for the Comprehensive Management of Water Resources.</p> | <p>(UNFCCC).</p> <p>Convention to Combat Desertification and Drought (UNCCD)</p> <p>Convention on Biological Diversity.</p> |
| <p>Strengthening of governance structures</p> | <p>The conservation actions of the forest and wetland ecosystems of the Orinoquia chart a common horizon towards the Social Appropriation of Local Conservation through the convergence and participation of the owners of the land, as managers of the ecosystems, the strategic ally, and the Cataruben Foundation as owner of the CO2Bio initiative. To achieve this, this participatory, dialogic and inclusive governance strategy is designed and implemented, promoting respect for stakeholders and a focus on ecosystem conservation. Governance is represented by people, policies and processes that provide the framework for making decisions and adopting measures to optimize the management of the project, therefore the actions carried out around the strengthening of governance structures are related and compatible with national legislation, policies, programs, strategies and plans as well as international conventions applicable to the implementation of the project.</p> | <p>8. National Forest Prevention, Control, Monitoring and Surveillance Strategy.</p> <p>9. National Policy on Sustainable Production and Consumption.</p> <p>10. Institutional Strategy for the Coordination of Policies and Actions on Climate Change in Colombia.</p> <p>11. National Policy for the Comprehensive Management of Biodiversity and its Ecosystem Services.</p> <p>12. Policy for Sustainable Soil Management.</p> <p>13. National Policy for Integral Solid Waste Management.</p> <p>14. National Climate Change Policy.</p> <p>15. Strategy for the Implementation of the Sustainable Development Goals (SDGs) in Colombia.</p> | |
| <p>Implementation of conservation actions and participatory property planning</p> | <p>Accompaniment in the implementation of conservation actions is key in the environmental terms for the project. In this sense, and based on land planning, the beneficiaries are accompanied in the processes of declaration of private conservation figures (Natural Reserve of the Civil Society); identification, delimitation and signaling of strategic ecosystems, and participatory monitoring of biodiversity, which implies a strengthening and vision of sustainable management of natural resources. This is consistent with and complies with national policies, programs, strategies and plans, as well as international conventions on climate change and combating deforestation, as listed in the following columns.</p> | <p>16. Green Growth Policy.</p> <p>17. National Policy for Deforestation Control and Sustainable Forest Management.</p> <p>18. Public policy to reduce disaster risk conditions and adapt to climate variability phenomena.</p> <p>19. Environmental Policy for the Comprehensive Management of Hazardous Waste.</p> <p>20. Policy to Boost Agricultural Competitiveness.</p> <p>21. Law 2169 of 2021 - Climate action.</p> | |
| <p>Monitoring and Mitigating Disturbance Loss Events</p> | <p>Monitoring during the dry and the flooding season in the project area is carried out for to disturbance events in order to mitigate risks of deforestation, degradation and / or transformation in land use. This in order to avoid leaks and reversals that compromise</p> | <p>22. Decree 446 of 2020 - GHG verifying bodies.</p> <p>23. Law 1931 of 2018 - Climate change management.</p> | |

| | | | |
|--------------------|--|---|--|
| for Eligible Areas | the loss of areas. In this regard, it is compatible with national policies, programs, strategies and plans, as well as international conventions on climate change and combating deforestation, as described in the following columns. | <p>24. Resolution 1447 of 2018 - Regulates the system for monitoring, reporting and verification of mitigation actions at the national level.</p> <p>25. Law 1844 of 2017 - Approves the Paris Agreement.</p> <p>26. Decree 926 of 2017 - Regulates the national carbon tax.</p> <p>27. Law 1819 of 1819 of 2016 - Tax reform, carbon tax.</p> <p>28. Conpes 3700 of 2011 - Coordination of Climate Change Policies and Actions in Colombia.</p> <p>29. Act No. 629 of 2000 - the Kyoto Protocol is adopted.</p> <p>30. Strategic Plan for Ecological Restoration and Forestry Establishment in Colombia - (Plan Verde, 1998).</p> <p>31. Decree No. 2811 of 1974 - National Code on Renewable Natural Resources and Environmental Protection.</p> <p>32. Act No. 2 of 1959. - Forestry Reserves.</p> | |
|--------------------|--|---|--|

Source: Cataruben Foundation.

3.4. Carbon Ownership And Rights

During the period 2021-2022, legal analysis were done in order to ensure that the participants of the CO2Bio P2 project continue to be the legitimate owners of the land and therefore possess the rights to carbon. These analysis involve the confirmation of location, size and geographical limits of the properties, as well as the identification of domain holder to validate that the ownership, possession or tenure of the property corresponds to those enrolled to the project. Records of encumbrances, such as lawsuits, registered liens, mortgages, antichresis, leases, resolutive condition and any other limitation on ownership were also reviewed to ensure that there were no legal restrictions that prevented the obligors from continuing as beneficiaries in the project and owning the carbon rights.

In this context, a total of 143 properties enrolled in the CO2Bio P2 project were found, of which it was possible to verify the existence of ownership and rights over carbon. Of the 143 properties, 87 are located in the department of Casanare, 40 in the department of Vichada, 11 in the department of Meta and 5 in the department of Arauca.

It is important to mention that, during the analysis conducted for the monitoring, sales of (4) properties were evidenced, for which it was possible to socialize the

scope of the contract and sign the assignment of the same with the new owners, thus maintaining the number of properties initially enrolled in the project.

In addition to the above, the modification, correction or addition of information related to 17 properties was made by means of a document called "otrosí" (an addendum), due to typing errors in the content of the initial contract.

Next the 17 properties to which an "otrosí" was drafted and signed, which can be consulted in the folder [OTROSI CO2BIO P2](#).

Table 2. Price relationship with "Otrosí".

| ITEM | PREMISES | No. CONTRACT | No. OTHER YES |
|------|-----------------------------|--------------------------------|---|
| 1 | AIPE | CONTRACT No BHP-P1-170 of 2020 | OTROSÍ No. 001 del CONTRATO N° BHP-P1-170 de 2020 |
| 2 | CUATRO VIENTOS | CONTRACT No BHP-P1-123 of 2022 | OTROSÍ No. 001 del CONTRATO N° BHP-P1-123 de 2022 |
| 3 | DEVA | CONTRACT # BHP-P1- 169 of 2020 | OTROSÍ No. 001 del CONTRATO N° BHP-P1- 169 de 2020 |
| 4 | EL MIRADOR | CONTRACT No BHP-P1-171 of 2020 | OTROSÍ No. 001 del CONTRATO BHP-P1-171 de 2020 |
| 5 | ENMANUEL | CONTRACT No BHP-P1-009 of 2022 | OTROSÍ No. 001 del CONTRATO N° BHP-P1-009 de 2022 |
| 6 | GALICIA | CONTRACT No BHP-P1-172 of 2020 | OTROSÍ No. 001 del CONTRATO N° BHP-P1-172 de 2020 |
| 7 | ISRAEL | CONTRACT No BHP-P1-011 of 2022 | OTROSÍ No. 001 del CONTRATO N° BHP-P1-011 de 2022 |
| 8 | LA CAMPECHANA | CONTRACT No BHP-P1-113 of 2021 | OTROSÍ No. 004 y 002 del CONTRATO N° BHP-P1-113 de 2021 |
| 9 | LA VIRTUD | CONTRACT No BHP-P1-142 of 2022 | OTROSÍ No. 001 del CONTRATO N° BHP-P1-142 de 2022 |
| 10 | LEJANÍAS | CONTRACT No BHP-P1-013 of 2022 | OTROSÍ No. 001 del CONTRATO N° BHP-P1-013 de 2022 |
| 11 | MANAV KENDRA | CONTRACT # BHP-P1- 243 of 2021 | OTROSÍ No. 008 del CONTRATO N° BHP-P1- 243 de 2021 |
| 12 | PASTORA VIEJA | CONTRACT No BHP-P1-147 of 2022 | OTROSÍ No. 001 del CONTRATO N° BHP-P1-147 de 2022 |
| 13 | PATEVACO | CONTRACT # BHP-P1- 133 of 2020 | OTROSÍ No. 007 del CONTRATO N° BHP-P1- 133 de 2020 |
| 14 | RNSC ALGARROBO DEL LAGUNAZO | CONTRACT No BHP-P1-110 of 2021 | OTROSÍ No. 006 del CONTRATO N° BHP-P1-110 de 2021 |
| 15 | VILLA RICA LOTE 8 | CONTRACT No BHP-P1-156 of 2021 | OTROSÍ No. 003 del CONTRATO N° BHP-P1-156 de 2021 |
| 16 | TURPIAL | CONTRACT No BHP-P1-137 of 2021 | OTROSÍ No. 001 del CONTRATO N° BHP-P1-137 de 2021f3 |
| 17 | TURPIAL 2 | CONTRACT No BHP-P1-138 of 2021 | OTROSÍ No. 001 del CONTRATO N° BHP-P1-138 de 2021 |

Source: Cataruben Foundation.

The following is a list of the 4 properties to which contracts were assigned for the sale of real estate, which can be consulted in the [CONTRACT ASSIGNMENTS](#) folder.

Table 3. List of properties with contract assignment.

| ITEM | PREMISES | No. OF CONTRACT |
|------|------------------|--------------------------------|
| 1 | EL CRISTAL | CONTRACT No BHP-P1-002 of 2022 |
| 2 | NOME NOME | CONTRACT No BHP-P1-028 of 2022 |
| 3 | RNSC EL LAGUNAZO | CONTRACT No BHP-P1-022 of 2021 |
| 4 | SINALOA | CONTRACT No BHP-P1-010 of 2022 |

Source: Cataruben Foundation.

Based on the above, it is concluded that the execution of carbon rights and ownership of 143 properties enrolled in CO2Bio P2 project remains.

3.4.1. Project holder

The Cataruben Foundation is the organization that implements conservation and mitigation activities according to validated monitoring plans.

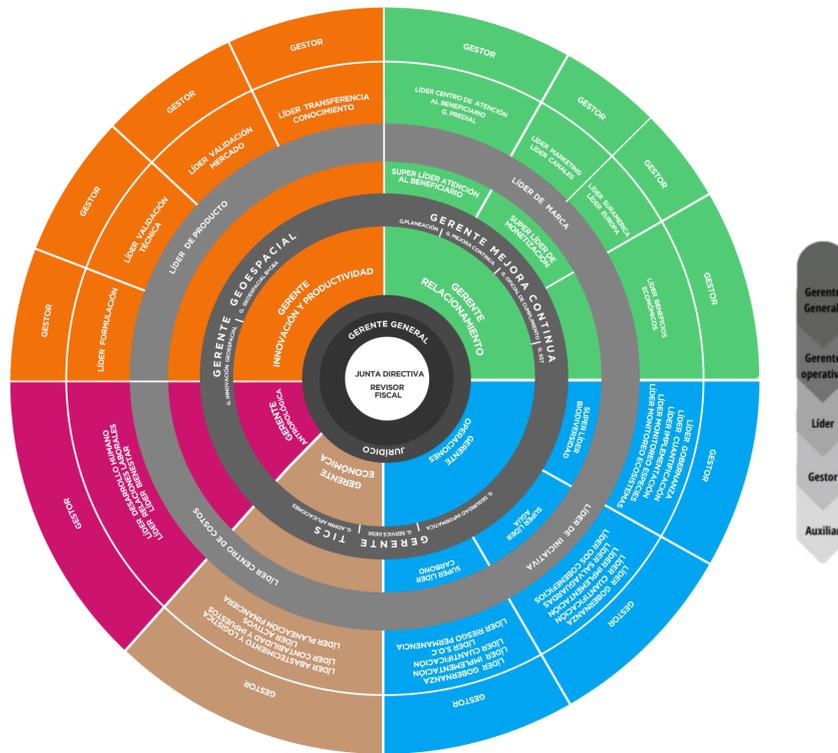
Table 4. Contact information for the Cataruben Foundation.

| ORGANIZATION | CATARUBEN FOUNDATION |
|-------------------|---|
| TIN | 900634522-9 |
| LEGAL REPRESENTER | Maria Fernanda Wilches Fonseca |
| RESPONSIBLE | Sandra Duarte Chaparro Lisbeth Menjure Barrera |
| CONTACT | Cra 20 # 36 -04 Yopal - Casanare Tel: 3204998729 - 3213728612 |
| EMAIL | co2bio@cataruben.org operativa@cataruben.org |

Source: Cataruben Foundation.

During 2022 an organizational restructuring was planned. It will support the operation of the project, and provide legal, financial, administrative and technical support that will meet the project needs.

Figure 1: Organizational Structure Cataruben Foundation.



Source: Cataruben Foundation.

3.4.2. Other project participants

- **Property-Owners**

The responsibility of complying with the conservation commitments and the execution of the activities of the initiative falls mainly to the beneficiaries, according to the commitment acquired within the contractual formalization made. They will also be the main beneficiaries from the sale of the verified carbon certificates.

In the monitoring of the period 2021-2022, it was verified that a total of 143 properties remain enrolled in the project, distributed in the departments of Casanare, Vichada, Meta and Arauca respectively.

It is important to note that all contractual sessions and modifications have been carried out, as well as legal succession processes to ensure that the new owners can continue to participate in the project and obtain the corresponding benefits.

The beneficiaries of the CO2Bio P2 project are listed in the following table:

Table 5. Beneficiaries of Project CO2Bio P2.

| ITEM | DPTO | MUNICIPALITY | LOCALTY | PROPERTY | RECIPIENT |
|------|----------|----------------------|---------------------------|-----------------|--|
| 1 | CASANARE | PAZ DE ARIPORO | VARSOVIA | AGUALUNA | Mauricio Lopez Barrera // Rigoberto Lopez Barrera |
| 2 | META | PUERTO GAITAN | SANTA CATALINA | AIPE | Ligia Gutierrez de Diaz |
| 3 | CASANARE | SAN LUIS DE PALENQUE | ALGODONAL | ALBANIA | Lina Maria Barragan Ramirez |
| 4 | ARAUCA | ARAUCA | ALTAMIRA | ALTAMIRA | Adriana Camila Caroprese Camejo |
| 5 | CASANARE | PAZ DE ARIPORO | PUERTO BRASILIA | BARAKI | Daniel Cifuentes Soto |
| 6 | CASANARE | TAURAMENA | EL GUIRA | BARLEY 1 | Jose Luis Felipe Carreño Calixto |
| 7 | CASANARE | TAURAMENA | EL GUIRA | BARLEY 2 | Eliana del Carmen Carreño |
| 8 | CASANARE | TAURAMENA | CHITAMENA | BARLEY 3 | Maria Ignacia Carreño Roldan |
| 9 | VICHADA | CUMARIBO | MALACIA | BERLIN | Sabadel SAS |
| 10 | VICHADA | LA PRIMAVERA | CAÑO LOBO | BONANZA | Bonanza Muriva SAS |
| 11 | CASANARE | MANÍ | POYATA | BRAMADEROS | Agrobrasilias SAS |
| 12 | CASANARE | TRINIDAD | EL PORVENIR DEL GUACHIRIA | BUENAVENTURA | Maria Tomasa Garcia Mantilla |
| 13 | CASANARE | PAZ DE ARIPORO | CENTRO GAITÁN | CANAGUAY | Clemente Delgado Abril |
| 14 | CASANARE | PAZ DE ARIPORO | LA HERMOSA | CANARIAS | José Antonio Cantor |
| 15 | CASANARE | HATO COROZAL | SAN NICOLAS | CANTACLARO | Julio Enrique Fernandez Delgado |
| 16 | CASANARE | SAN LUIS DE PALENQUE | MAPORAL | CAÑABRAVAS | Ivan Santiago Barragan Florez // Fabio Esteban Barragan Florez // David Ricardo Barragan Florez // Carlos Felipe Barragan Florez |
| 17 | VICHADA | LA PRIMAVERA | LA PRIMAVERA | CHAPARRAL | Chaparral Muriva SAS |
| 18 | CASANARE | PAZ DE ARIPORO | SAN ESTEBAN | CHAVIRIPA | Ana Mercedes Pelayo de Hernandez |
| 19 | CASANARE | PAZ DE ARIPORO | EL VECIA | COROCORA LOTE 3 | Yolanda Moya de Varon |
| 20 | CASANARE | PAZ DE ARIPORO | EL DESIERTO | COROCORO | Jose Rubio Pirateque Chaparro |
| 21 | CASANARE | HATO COROZAL | EL CAFE | CUATRO VIENTOS | Libardo Sogamoso Parales |
| 22 | CASANARE | PAZ DE ARIPORO | MORICHALES | CURIMAGUA | Aida Lorenza Hidalgo Florez // Virgilio Abril Perez |
| 23 | META | PUERTO GAITAN | SANTA CATALINA | DEVA | Carlos Alberto Diaz Gutierrez |
| 24 | CASANARE | PAZ DE ARIPORO | VARSOVIA | EL ALCORNOCO | Mauricio Lopez Barrera // Rigoberto Lopez Barrera |
| 25 | CASANARE | TRINIDAD | ALTAMIRA | EL BORAL LOTES | Luis Basilio Arismendy // Libia Martinez |
| 26 | VICHADA | SANTA ROSALIA | PAVANAY | EL BORINQUEN | Villa Lorena Vichada SAS |
| 27 | CASANARE | TRINIDAD | ALTAGRACIA | EL CAMPIN 2 | Luis Eduardo Arenas Rojas |
| 28 | CASANARE | PAZ DE ARIPORO | VARSOVIA | EL CANARIO | Walter Rincon |
| 29 | VICHADA | SANTA ROSALIA | LA LADERO | EL CARIBE | El Caribe y los Azulejos SAS |

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|----|----------|----------------------|-----------------------|-----------------|---|
| 30 | VICHADA | SANTA ROSALIA | GUACACIAS | EL CONDOR | El Condor Vichada SAS |
| 31 | CASANARE | HATO COROZAL | SUNI | EL CRISTAL | Norberto Tocaria Sarmiento |
| 32 | CASANARE | SAN LUIS DE PALENQUE | EL TIGRE | EL DIAMANTE | Rodrigo Leal Cuevas // Carmen Sobeida Bohorquez Mendivelso |
| 33 | CASANARE | PAZ DE ARIPORO | VARSOVIA | EL EDEN | Mauricio Lopez Barrera // Rigoberto Lopez Barrera |
| 34 | META | PUERTO GAITAN | SANTA CATALINA | EL MIRADOR | Jose Esteban Diaz Gutierrez |
| 35 | META | PUERTO GAITAN | PORVENIR | EL MORROCOY | El Morrocoy Meta SAS |
| 36 | CASANARE | TRINIDAD | SANTA MARIA DEL LORO | EL PELIGRO | Angelica Maria Arenas Castro |
| 37 | CASANARE | TRINIDAD | EL LORO | EL RETIRO | Luz Marina Gonzalez Valcarcel // Mario Enrique Gonzalez Valcarcel // Oscar Gonzalez Valcarcel |
| 38 | CASANARE | PAZ DE ARIPORO | SAN ESTEBAN | EL RUBI | Carlos Alexi Hernández Pelayo |
| 39 | VICHADA | SANTA ROSALIA | LA LADERA | EL RUBI | Uriel Cordoba Perdomo |
| 40 | CASANARE | PAZ DE ARIPORO | LOS CAMORUCOS | EL SALVADOR | Justa Rubiela Montealegre Giron // Oliverio Baron |
| 41 | META | PUERTO GAITAN | MANACACIAS | EL SIARE 2 | Marta Cristina Anzola Nuñez |
| 42 | VICHADA | LA PRIMAVERA | CAÑO LOBO | EL SILENCIO | Maria Helena Barrera |
| 43 | CASANARE | SAN LUIS DE PALENQUE | PALMARITO | EL TAUTACO | Ludy Bonilla Alvarez // Leidy Yuliana Plata Bonilla // Luis Alberto Plata Bonilla |
| 44 | META | PUERTO GAITAN | PORVENIR | EL TOLIMA | El Tolima Meta S.A.S |
| 45 | VICHADA | LA PRIMAVERA | EL GAVILAN | EL TURPIAL | El Turpial de la Sabana SAS |
| 46 | VICHADA | LA PRIMAVERA | EL GAVILAN | EL TURPIAL 2 | El Arriscado de la Sabana |
| 47 | VICHADA | LA PRIMAVERA | LA LADERA | EL VAIVÉN | Jaime Achagua Teatin |
| 48 | CASANARE | PAZ DE ARIPORO | EL DESIERTO | ENMANUEL | Maria del Carmen Gonzalez Lizcano |
| 49 | META | PUERTO GAITAN | PORVENIR | FINCA PALMARITO | Palmarito Meta SAS |
| 50 | VICHADA | SANTA ROSALIA | GUACACIAS | FLOR AMARILLO | Flor Amarillo Vichada SAS |
| 51 | CASANARE | HATO COROZAL | EL CAFE | FLOR AMARILLO | Francisco Sandobal Rodriuez |
| 52 | META | PUERTO GAITAN | SANTA CATALINA | GALICIA | Pedro Diaz Gutierrez |
| 53 | CASANARE | OROCUE | ALGARROBO | GUADALUPE | Servicios Inmobiliarios Integrados SAS |
| 54 | CASANARE | OROCUE | EL ALGARROBO | GUADALUPE 2 | Sociedad Quinta Generación SAS |
| 55 | CASANARE | OROCUE | MARIARA | GUAFITAS 1 | Agroindustrial de Palma Aceitera SA Sucursal de Colombia |
| 56 | META | PUERTO GAITAN | PORVENIR | GUARATARO | Guarataro Meta SAS |
| 57 | CASANARE | PAZ DE ARIPORO | EL DESIERTO | GUAYANAS | Julian Eduardo Baron Castro |
| 58 | CASANARE | PAZ DE ARIPORO | LA VEREMOS | HATO SINAI | Oswaldo Omaña Garcia |
| 59 | CASANARE | PAZ DE ARIPORO | EL DESIERTO | ISRAEL | Soledad Berroteran |
| 60 | VICHADA | CUMARIBO | MALACIA | LA AMISTAD | Malin SAS |
| 61 | VICHADA | SANTA ROSALIA | TRIUNFO | LA BENDICIÓN | Jose Enaldo Forero Barreto |
| 62 | CASANARE | TRINIDAD | PORVENIR DE GUACHIRIA | LA CAMPECHANA | Huber Efren Garcia Parada // Karina Garcia Parada |
| 63 | VICHADA | SANTA ROSALIA | NAZARETH | LA CASCADA | Dafne Kamila SAS |

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|----|----------|----------------|-----------------|------------------------|--|
| 64 | VICHADA | CUMARIBO | MALACIA | LA CHIGUAGUA | Luparo SAS |
| 65 | CASANARE | TRINIDAD | EL LORO | LA CIEGA LOS CARACOLES | Luz Marina Gonzalez Valcarcel // Mario Enrique Gonzalez Balcarel // Oscar Gonzalez Valcarcel |
| 66 | VICHADA | SANTA ROSALIA | LA LADERA | LA COMARCA | El Triunfo Vichada SAS |
| 67 | VICHADA | SANTA ROSALIA | GUACACIAS | LA ENVIDIA LA ESPAÑOLA | Alcaraván Vichada SAS |
| 68 | VICHADA | LA PRIMAVERA | MATA REDONDA | LA ESPERANZA | Valleorient SAS |
| 69 | CASANARE | PAZ DE ARIPORO | LOS MORICHALES | LA ESPERANZA | Luis Alfonso Abril Hidalgo |
| 70 | VICHADA | LA PRIMAVERA | SAN TEODORO | LA ESPERANZA | La Esperanza Flor Amarillo SAS |
| 71 | VICHADA | CUMARIBO | MALACIA | LA ESPERANZA | LFAB SAS |
| 72 | CASANARE | PAZ DE ARIPORO | MORICHALES | LA ESTACIÓN | Gustavo Ernesto Ayala |
| 73 | CASANARE | PAZ DE ARIPORO | CAMORUCOS | LA GAITANA DOS | German Gustavo Gaitan Gomez |
| 74 | CASANARE | PAZ DE ARIPORO | CAMORUCOS | LA GAITANA TRES | Rafael Alberto Gaitan Gomez |
| 75 | CASANARE | PAZ DE ARIPORO | CAMORUCOS | LA GAITANA UNO | German Gustavo Gaitan Gomez |
| 76 | VICHADA | LA PRIMAVERA | LA PRIMAVERA | LA HERMOSA | La Hermosa Vichada SAS |
| 77 | CASANARE | PAZ DE ARIPORO | CAÑO CHIQUITO | LA ILUSIÓN | Elias Harvey Benavides Ruiz |
| 78 | CASANARE | TRINIDAD | BOCAS DEL PAUTO | LA MONTAÑA | Alberto Arenas Riaño |
| 79 | VICHADA | LA PRIMAVERA | LA PRIMAVERA | LA NIÑA | La Niña Vichada SAS |
| 80 | CASANARE | TRINIDAD | LA CAÑADA | LA PALMITA | Flavio Cesar Mora Fernandez // Carolina Mora Fernández // Catalina Mora Fernandez |
| 81 | CASANARE | TAURAMENA | CARUPANA | LA PERLA EL TRÉBOL | Alberto Hoyos Mejia |
| 82 | VICHADA | LA PRIMAVERA | LA PRIMAVERA | LA PISCINA | Alvaro Jose Cabal Navia |
| 83 | VICHADA | CUMARIBO | CUMARIBO | LA REFORMA | Sanan SAS |
| 84 | CASANARE | PAZ DE ARIPORO | LA HERMOSA | TORAIBA | Gustavo Adolfo Rueda Garcia |
| 85 | CASANARE | PAZ DE ARIPORO | EL DESIERTO | LA VICTORIA | Jose Demetrio Hernandez Agudelo |
| 86 | CASANARE | PAZ DE ARIPORO | VARSOVIA | LA VIGIA | Mauricio Lopez Barrera // Rigoberto Lopez Barrera |
| 87 | VICHADA | SANTA ROSALIA | LA LADERA | LA VIRTUD | Januario Ortiz Gamez |
| 88 | CASANARE | PAZ DE ARIPORO | CAMORUCOS | LAS BRISAS | Jose Antonio Betancourt Barrera |
| 89 | VICHADA | PUERTO CARREÑO | PUERTO CARREÑO | LAS CARMELITAS | Agrorinoco SAS |
| 90 | VICHADA | LA PRIMAVERA | MATA REDONDA | LAS COROCORAS | Agroprimavera SAS |
| 91 | ARAUCA | ARAUCA | EL JOVITO | LAS MERCEDES | Ines Amelia Quenza de Rodriguez |
| 92 | VICHADA | CUMARIBO | CUMARIBO | LAS PALMERAS | Cumagro SAS |
| 93 | VICHADA | LA PRIMAVERA | LA PRIMAVERA | LECHE MIEL | Aceites y Granos Acegran SA // Edgar Becerra Martinez |
| 94 | CASANARE | PAZ DE ARIPORO | EL DESIERTO | LEJANÍAS | Rosa Helena Castro Berroteran // Carlos Eduardo Baron Castro |
| 95 | CASANARE | HATO COROZAL | EL CAFE | LLANO LINDO | Juan Carlos Sogamoso Paraes |
| 96 | VICHADA | LA PRIMAVERA | MATA REDONDA | LOS ALCARAVANES | Narvagro SAS |

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|-----|----------|----------------------|------------------------|-----------------------------|---|
| 97 | VICHADA | SANTA ROSALIA | LA LADERA | LOS AZULEJOS | El Caribe y los Azulejos SAS |
| 98 | CASANARE | PAZ DE ARIPORO | EL DESIERTO | LOS CAÑOFISTOL | Jaime Maias Guio |
| 99 | VICHADA | SANTA ROSALIA | LA LADERA | LOS MEREURES | Hernan Cisneros Marrero |
| 100 | CASANARE | OROCUE | ESMERALDA | LOTE 5 HATO LA PALMITA | Martha Beatriz Zambrano Tovar // German Arturo Tovar Zambrano |
| 101 | CASANARE | TRINIDAD | ALTAGRACIA | MACARENA | Sonia Arismendy Mrtinez |
| 102 | VICHADA | LA PRIMAVERA | SAN TEODORO | MANAV KENDRA | Alvaro Enrique Becerra Vergara |
| 103 | CASANARE | MANI | EL SOCORRO | MIRALINDO | Claudia Maria Gomez Gomez |
| 104 | VICHADA | LA PRIMAVERA | CAÑO LOBO | MURIVA | Muriva Vichada SAS |
| 105 | CASANARE | HATO COROZAL | SUNI | NOME NOME | Nestor Alexis Tocaria Sierra // Angela Patricia Tocaria Sierra // Yarisma Emeris Tocaria Sierra |
| 106 | CASANARE | TRINIDAD | SANTA MARIA DEL LORO | PADROTE 4 | Gisela Arenas Oropeza |
| 107 | CASANARE | HATO COROZAL | SUNI | PALMA RALAS | Flor Angela Sierra |
| 108 | CASANARE | OROCUE | QUIRIPA | PALMARITO 1 | Fernando Wilches Gonzalez |
| 109 | CASANARE | SAN LUIS DE PALENQUE | ALGODONAL | PALMITAS | Lina Maria Barragan Ramirez |
| 110 | CASANARE | YOPAL | LA VEGA | PARATEBUENO | German Chaparro Vaca |
| 111 | ARAUCA | ARAUCA | COROCORO | PASTORA VIEJA | Gerlin Antonio Caroprese Colmenares // Lucy Galvis de Caroprese |
| 112 | ARAUCA | ARAUCA | LA BENDICIÓN | PATEVACO | Hugo Alberto Caroprese Galvis |
| 113 | CASANARE | PAZ DE ARIPORO | VARSOVIA | PÉNJAMO I | Mauricio Lopez Barrer // Rigoberto Lopez Barrera |
| 114 | CASANARE | PAZ DE ARIPORO | LAS GUAMAS | PLANETA RICA | Ivonne Castro Berroteran |
| 115 | CASANARE | PAZ DE ARIPORO | VARSOVIA | PLAYA BLANCA | Mauricio Lopez Barrera // Rigoberto Lopez Barrera |
| 116 | ARAUCA | CRAVO NORTE | JURIEPE | POTOSÍ | Alba Lucia Gaitan Gomez // Ramon del Carmen Gaitan Gomez |
| 117 | META | PUERTO GAITAN | PORVENIR | PUERTA COLORADA | Puerta Colorada Meta SAS |
| 118 | META | PUERTO GAITAN | PORVENIR | RANCHO ARECUA | Arecua SAS |
| 119 | CASANARE | TRINIDAD | PORVENIR DE GUACHIRIA | RNSC ALGARROBO DEL LAGUNAZO | Yady Paola Arismedy Martinez |
| 120 | CASANARE | TRINIDAD | PORVENIR DE GUACHIRIA | RNSC BETANIA EL LAGUNAZO | Yanire Arismendy Martinez |
| 121 | CASANARE | TRINIDAD | PORVENIR DE GUACHIRIA | RNSC EL LAGUNAZO | Cointsecol SAS |
| 122 | CASANARE | YOPAL | PUNTO NUEVO | RNSC EL MADROÑO | Helena Sofia Chaparro Soler |
| 123 | CASANARE | TRINIDAD | PORVENIR DEL GUACHIRIA | RNSC LOS MATAPALO | Libia Arismendy Martinez |

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| 124 | CASANARE | SAN LUIS DE PALENQUE | SANTA TERESA | RNSC MATURI | Edgar Yecid Angel Avila // Alexy Doris Brito |
| 125 | CASANARE | TRINIDAD | PORVENIR DE GUACHIRIA | RNSC QUINTO PATIO DEL LAGUNAZO | Luis Basilio Arismendy |
| 126 | CASANARE | SAN LUIS DE PALENQUE | SAN FRANCISCO | RNSC RANCHO NUEVO | Omaira Torres de Duarte |
| 127 | CASANARE | TRINIDAD | PORVENIR DE GUACHIRIA | RNSC VALLEDUPAR 1 Y 2 | Olga Lucia Parada Vargas |
| 128 | CASANARE | PAZ DE ARIPORO | CAÑO CHIQUITO | SAN ANDRÉS | Martha Cecilia Rincon Silva |
| 129 | CASANARE | OROCUE | MARIARA | SAN FELIPE 1 | Agroindustrial de Palma Aceitera SA |
| 130 | CASANARE | TAURAMENA | CARUPANA | SAN FELIX | Agrobrasilias SAS |
| 131 | CASANARE | PAZ DE ARIPORO | LA HERMOSA | SAN PABLO | Sonia Rivera Garcia |
| 132 | CASANARE | HATO COROZAL | SINU | SANTA TRINIDAD | Sandra Maria Delgado Rodriguez |
| 133 | CASANARE | PAZ DE ARIPORO | EL DESIERTO | SINALOA | Ernesto Chaparro Montañez |
| 134 | VICHADA | SANTA ROSALIA | NAZARETH | TOMO GRANDE | Sergio Estrada Villegas |
| 135 | VICHADA | CUMARIBO | CUMARIBO | VILLA CASTIN | Cumagro SAS |
| 136 | CASANARE | PAZ DE ARIPORO | CENTRO GAITÁN | VILLA ESPERANZA | Hermelinda Delgado Abril |
| 137 | CASANARE | SAN LUIS DE PALENQUE | SANTA TERESA | VILLA HERMOSA | Julio Yovany Angel Riaño // Marisol Duarte Moreno |
| 138 | CASANARE | TRINIDAD | SANTA MARIA DEL LORO | VILLA RICA LOTE 13 | Fernando Arenas Riaño |
| 139 | CASANARE | TRINIDAD | SANTA MARIA DEL LORO | VILLA RICA LOTE 8 | Huber Eñren Garcia Parada |
| 140 | CASANARE | TAURAMENA | TUNUPE | VILLANUEVA | Diogenes Martinez Romero |
| 141 | VICHADA | CUMARIBO | CUMARIBO | YARITAGUA | Ropalu SAS |
| 142 | VICHADA | PUERTO CARREÑO | SAN TEODORO | YOPITOS | Beatriz Ortega Ponare // Santos Javier Cisneros Ponare |
| 143 | VICHADA | LA PRIMAVERA | LA PRIMAVERA | YOVEREÑA | Yovereña Muriva SAS |

Source: Cataruben Foundation.

3.4.3. Land tenure

During the 2021-2022 period, a legal analysis of documentation provided by the owners during the monitoring period was carried out in order to corroborate the information reported in legal documents and ensure compliance with the initial contract. To this end, "certificados de tradición libertad" (Certificates of title),

property tax clearance, certificates of sound possession were requested; and the Land Restitution Unit of Colombia was consulted to confirm the legal possession of the properties, and to verify if there was any record of processes for the adjudication of vacant land. In addition, the VITAL platform was consulted to corroborate the absence of environmental sanctions or infractions and to verify disciplinary, judicial and criminal records. Finally, the ANT (National Land Agency), formerly known as Incora or Incoder, was consulted to confirm that the properties in good possession were not in vacant land adjudication processes.

Once the current legal status of the properties was established, corrections and modifications were made, including contract assignments for those properties that were sold but whose new owners wanted to continue participating in the initiative. These contract assignments ensure that the new owners have legal ownership of the land, and thus of the profits from the sale of the carbon certificates.

From this legal analysis, it can be identified that some of the properties have legal situations that are in the process of being remedied. One of the current situations is the case of the ALBANIA and CAÑA BRAVAS farms, since the owner of the land has died, therefore, we are waiting to receive the legal documents necessary to succeed the corresponding rights and make the corresponding adjustments with the new carbon owner.

On the other hand, the comprehensive review was able to determine that three of the 143 properties have been sold to new owners who have decided to continue with the project, and thus have assigned the contract acquired to assume the obligations necessary for its implementation.

3.5. RENARE Registry

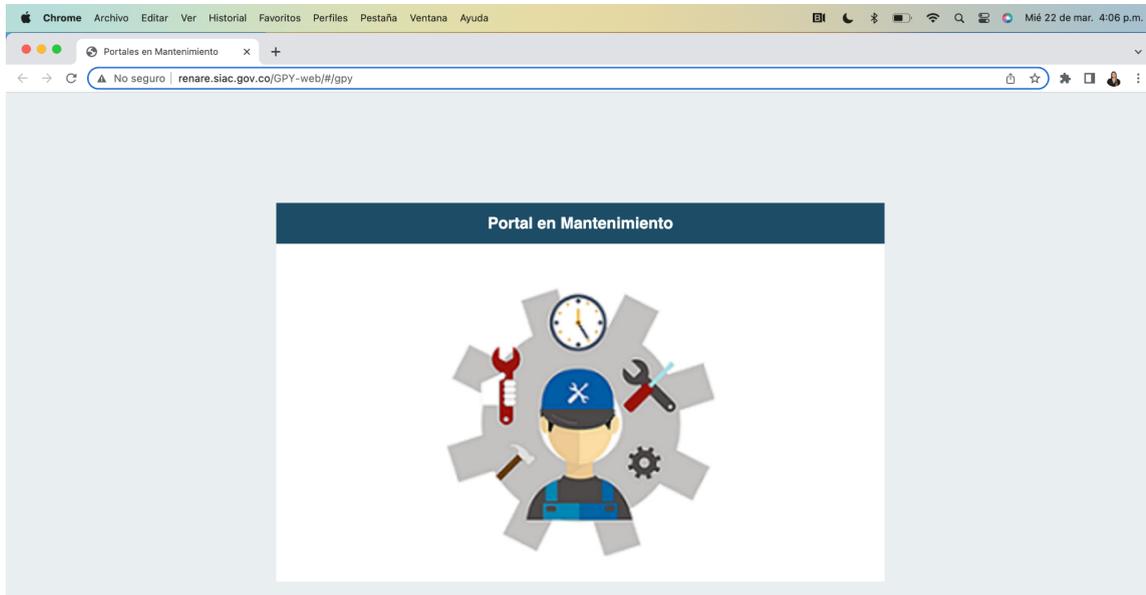
The CO₂Bio P2 initiative is currently registered in the National Greenhouse Gas Emission Reduction Register (RENARE), a platform created by Resolution 1447 of 2018, for the management of GHG mitigation initiatives at the national level, which aim to qualify for payments for results or compensations, that contribute to the fulfillment of national climate change goals established under the United Nations Framework Convention on Climate Change (UNFCCC).

It is currently in the formulation phase, where last July 2022 the basic data, emission sources and project activities were reported in the RENARE platform; however, the process of updating and reporting information must continue. ([See record RENARE](#)).

Considering that since last August 9, 2022 and until today, the platform has been temporarily closed as evidenced in [Support maintenance platform RENARE](#). it has not been possible to continue with the periodic reports. The Ministry of Environment is expected to complete the maintenance of the application, and as soon as there is

feasibility, Cataruben will proceed with the report of the relevant information of the project, which is organized for proper reporting.

Image 2. RENARE Platform - Portal in maintenance.



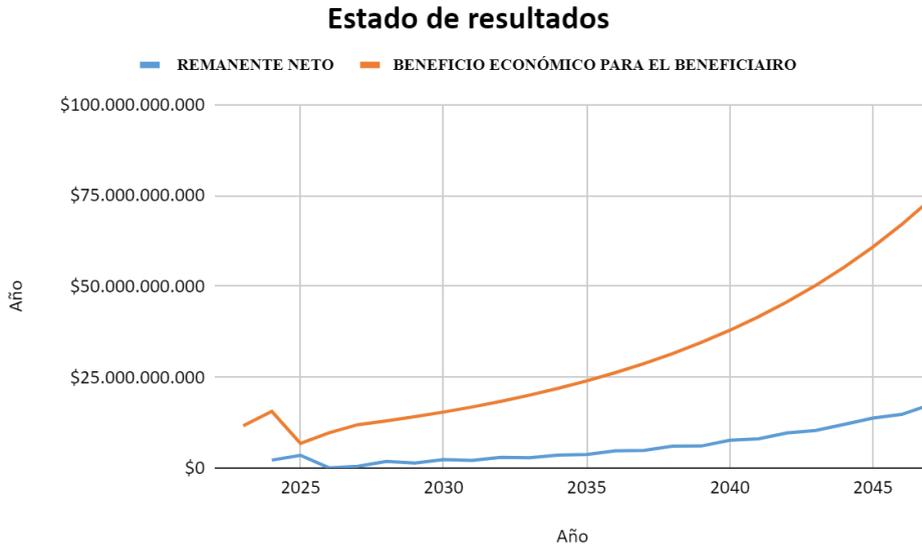
Source: <http://renare.siac.gov.co>, 22 March 2023.

Additionally, sixteen (16) projects of different certification standards (Colcx, Verra, Cercarbon and BioCarbon Registry) were reviewed, taking as reference the projects located in the departments of the Orinoco, finding that there is no overlap with the areas of intervention of the initiative CO2Bio P2. [Review of standards and projects.](#)

3.6. Financial Update Of The Project

Given the results of the 2021 to 2022 monitoring, which resulted in movements in the inventory of greenhouse gas equivalent reductions and/or removals in tons of CO₂, as well as changes in macroeconomic indicators such as inflation, representative market rate, value of the national carbon tax in Colombia, and other indicators intrinsic to the financial modeling of the climate change mitigation initiative, the "financial model" tool was updated. ([see MF CO2Bio P2](#)). This tool shows that the project remains financially viable in the traceability of the period 2016-2022 and Positive projections during the crediting period of the project, therefore, liquidity is demonstrated given the revenues generated by the commercialization of carbon credits in the first verification, the projections of the second monitoring and what is expected in the baseline scenario. See graph of the result status indicator below:

Figure 2. Status of results.



Source:

Cataruben Foundation.

The income statement shown in the graph above shows the profit or loss of the GHG project, indicating the economic status of CO2Bio P2 during its implementation period, which is extended for two more years to cover commercial and administrative issues at the end of the project. Thus, it is concluded according to the calculation made and what is shown in the image, that this project does not generate losses in its operations as shown in the orange line, which reflects amounts of money that go directly to the conservation of the property managed by the beneficiary and in the blue line income that goes directly to the technical, commercial, administrative and economic sustainability of the project safeguarded by the project holder.

3.7. Risk Management

For proper risk management, a rigorous analysis of the factors related to the execution of project activities was carried out in order to address their causes and consequence of possible risks. After studying both the external and internal context of the initiative from financial, environmental and social aspects, in the analysis, risks were classified according to their level of criticality, probability of impact occurrence, and direct or indirect effect on the project; the changes generated by natural and anthropic actions were also identified. Compliance with these reports is monitored and evaluated quantitatively according to the established schedule and the aspects mentioned, evidencing the actions taken to mitigate such risks, including the implementation of improvements, the establishment of control measures and adaptability to the macroeconomic changes of the Colombian context, [see risk management plan and monitoring](#); below is a brief description of each risk mentioned:

Environmental: Once the properties *with flooding* have been determined, a total of 99 maps are related through graphic outputs, which visualize the flooded areas over the total area of the property for the years 2020, 2021 and 2022. The result for the year 2021 is a total of 99 properties with flooding, which corresponds to 57,107 ha, and for the year 2022, 99 properties with 18,810 ha.

Once flood areas are identified on the enrolled sites, the owners are monitored at times of increased precipitation by telephone calls to verify and confirm the anomalies identified by satellite. For this, a digital survey is carried out that allows the traceability of the collected information.

In order to minimize the possible effects caused by floods, non-structural measures will be taken aimed at regulating the use, occupation and use of the land through the determination of urban regulations, projects for the implementation of early warning systems in the cases that apply, as well as the socialization and cultural appropriation of the principles of responsibility and precaution. (Juan Manuel Santos, 2014) ([See CO2Bio P2 Flood](#))

For the monitoring of *heat points - thermal variations*, the tool used was the one implemented by the Institute of Hydrology, Meteorology and Environmental Studies - IDEAM. it allows the monitoring of heat points of the national territory in real time indicating the probability of occurrence of an affectation that can generate alteration in the dynamics of the ecosystems. It is necessary to clarify that the heat points are an approximation to the occurrence of fires and represent the center of a pixel where a thermal anomaly has been detected (IDEAM).

Thus, within the period 2021, 4.1% of the points identified correspond to thermal anomalies in eligible areas and 95.9% to thermal anomalies in non-eligible areas corresponding to grasslands in the farms that are not within the areas eligible for REDD+ or Wetland. ([See fire CO2Bio P2](#))

Financial: The financial risks within the scope of direct impact on the operations of the project were classified, with average levels of criticality and compliance with the target reports for the project crediting period of 9%, equivalent to 100% of what was proposed for the years 2021-2022, [see financial risk management](#) . Three components were analyzed:

-*No profitability:* Project CO2Bio P2 in the year 2022 generated revenue of \$12,300,753,470.00 COP, equivalent to the marketing of 80.19% of certified VCC in the first monitoring period. Although a variation of income is evident month by month ascending to the first quarter and variable with decreasing trends during the rest of the year, it is concluded according to the financial indicators such as income

statement and cash flow that the income obtained allowed the sustainability of the project and the fulfillment of commitments with stakeholders.

-Low market demand: CO2Bio P2 Project in the year 2022 met the demand of its customers and complied with the main commercial agreements generated, thus 81.69% of certified CCVs were withdrawn from carbon tax market in Colombia in the first monitoring period. However, there is evidence of a percentage variation of the demand month by month with downward trends and even reaching negative scenarios, the above in part due to changes in tax regulations in Colombia for this type of market. To mitigate these percentage figures the project holder carried out two measures: 1) Hiring a foreign supplier to analyze the European market and expand its niche and 2) Managing long-term commercial agreements with price improvements for carbon credits and the inclusion of the voluntary market. Additionally, as part of the constant communication with the beneficiaries, a discussion was held with them about how the commercialization process is carried out and what is the status of the VCC sales platform.

-Contractual non-compliance: The control carried out by the project team to ensure the correct delivery of economic benefits was evidenced. Moreover, the traceability of the requirements made to the legal team and the beneficiaries was compiled in order to ensure that the properties enrolled in the CO2Bio P2 initiative are up to date in documentation, legal and technical corrections. With this documentation the team was able to proceed with the respective delivery of economic benefits derived from the project.

Social: The CO2Bio P2 Project has faced some legal challenges with respect to carbon ownership in (2) of the (143) plots, Albania and Cañas Bravas. Despite this, the stakeholders are working to resolve the legal situation to ensure the permanence of these properties in the project.

In addition, (3) plots that were sold to new owners, but decided to continue with the project and have assigned the contract to assume the necessary obligations contributing to the conservation of the eligible ecosystem. It should be noted that, the legal analysis confirms that the initial participants continued to be the legal owners of the land enrolled to the project and, therefore, have the rights over the carbon. Overall, the Project Holder together with the Beneficiary have managed to ensure the integrity of the project and has demonstrated the commitment of the old and new owners in the execution of the contractual obligations. ([See Social Risk](#))

3.7.1. Reversal Risk

The establishment of mechanisms such as clear contractual agreements with landowners and specific guidelines for the conservation processes of eligible areas linked to CO2Bio P2 projects are important measures to manage the risks associated with the project and ensure its long-term success.

In the event of a loss or decrease event of the verified carbon credits issued and registered in the platform, a 20% reserve will be automatically discounted and maintained on the total emission reductions and emission reductions for each period, this as stipulated in the BCR Standard.

Taking into account the guidelines of the conservation processes of the eligible areas, which allow the establishment of actions and measures necessary to ensure their conservation during the duration of the project, it should be noted that these properties were subject to rigorous monitoring to ensure their permanence during the crediting period.

In summary, it can be concluded that during the monitoring period no contract has been unilaterally terminated and no property has been withdrawn from the project, maintaining the 143 properties that were initially enrolled in the CO₂Bio P2 project. Therefore, it is important to note that the implementation of effective risk mitigation measures has been a constant priority for Cataruben since the beginning of the project.

3.8. Environmental and Socio-Economic Assessment

Taking into account the BCR Avoided Damage, Environmental and Social Safeguards Tool, the project holder must demonstrate that the project activities do not cause any harm to the environment or to communities in general, the following is a detailed presentation of the results of the Socio-Environmental Assessment carried out for the environmental components related to the activities carried out within the project boundaries.

3.8.1. Environmental Aspects

All organizations, regardless of their nature, private or public, as a result of their activities have an impact on the environment, generating an environmental impact to varying degrees.

The implementation of an Integrated Management System (IMS) allows the organization to identify those aspects derived from its activity that may have an impact on the environment and, consequently, establish the pertinent actions to act on them and minimize their impact, in the event that they generate negative impacts. Fundación Cataruben has an IMS, which, in compliance with regulations (ISO 9001;14001;45001), develops the Matrix of Environmental Aspects and Impacts of the general activities that are developed within the organization for the execution of the projects. (See [Matrix of Environmental Aspects and Impacts Cataruben Foundation](#))

Environmental impacts can be considered as results after executing an activity, product or service, which may have repercussions on the natural conditions of the environment, leaving as a consequence specific alterations or modifications on the environment in which the activities were executed. The Environmental Impact has a clear connotation of human origin, since it is the activities, projects and plans developed by man that induce the mentioned alterations, which can be either positive, when they imply improvement of the environmental quality, or negative when the opposite situation occurs. (Pelaez, 2019)

The EIA (Environmental Impact Assessment) can also be considered as a preventive instrument or tool aimed at identifying the environmental consequences of the implementation and functioning of a human activity, in order to establish preventive and control measures that make possible the development of the activity without harm or harming the environment as little as possible. (Arboleda, 2008)

The main objective of the Environmental Assessment for the CO₂Bio P2 Project is to identify the environmental impacts that may arise between the interaction of the project activities and the elements of the environment in the area of influence, which will allow establishing the environmental management measures to be developed in the construction and operation phases of the project.

3.8.1.1 Evaluation Results

To perform the Environmental Assessment of the components that are part of the ecosystems in the area of influence of the CO₂Bio P2 project, a literature review was conducted in relation to the biodiversity present in the area of influence to determine whether there are species that are related to the list of endangered species. Within these documents is the book of the Humboldt Institute called Biodiversity in its latest edition of 2021, which refers that Colombia is the second most biodiverse country in the world with 54. 870 species among vertebrate animals, invertebrates, plants and vegetables, this figure is 1,203 species: 173 Critically Endangered, 390 Endangered and 640 Vulnerable. Also, under this review it can be identified that on average, 75% of the wetlands are made up of natural cover (forests, grasslands, shrublands and water bodies) indicating a good state of conservation; however, approximately 88% of the country's wetlands are not under protection figures (Alexander von Humboldt, 2021).

Attached is the Environmental Assessment Matrix for the CO₂Bio P2 project, with the results obtained after an exhaustive verification of the information on the possible impacts that could be generated by the implementation of project activities on the environmental, social and economic context in the area of influence. See [Environmental Assessment Matrix CO₂Bio P2](#).

According to the evaluation matrix, it can be determined that the activities of the CO₂Bio P2 project do not represent negative impacts within the project's area of

influence. All activities are aimed at protecting the environment and reducing greenhouse gases (GHG) within the areas established and enrolled in the CO₂Bio P2 project.

The following is a list of the four (4) activities with the highest (Positive) Importance of the evaluated impact.

Environmental Assessment Component 4. Safeguards

From the impact assessment carried out for component 4, which refers to the activities of safeguard 5 *"The compatibility of the measures with the conservation of natural forests and biological diversity, ensuring that those indicated in paragraph 70 of this decision are not used for the conversion of natural forests, but instead serve to encourage the protection and conservation of these forests and the services derived from their ecosystems and to enhance other social and environmental benefits"*. It is concluded that the impact on the environmental elements is positive, since the implementation of the project will improve the conservation conditions of the forests and biological diversity present in the properties enrolled in the project, promote the recovery of ecosystems, and for the areas that are already carrying out conservation measures, it will help to continue promoting conservation.

Environmental Assessment Component 4. SDG

Referring to the activities of component 4, a significant consideration was obtained in activity 4, which refers to "SDG 13. Climate Action - Take urgent action to combat climate change and its impacts". It is concluded that the impact generated on the environment is positive. Within the implementation of the CO₂Bio project activities, the negative impacts generated by the activities that are currently being carried out in the enrolled properties, and with which we want to combat climate change, are mitigated. This is possible through the proposed activities such as the quantification of reduced emissions of CO₂e annually. This is also intended to be achieved through the implementation of conservation activities on the properties involved, carrying out an initial evaluation, follow-up and monitoring of these proposed activities, and thus being able to be certain that activities are being implemented to help combat climate change within the framework of the CO₂Bio P2 project.

Environmental Assessment Component 5. Project Activities

Component 5 refers to the activities related to the implementation area, specifically to the execution of project activities related to the *"Training cycle to strengthen knowledge on wetland conservation and sustainability to prevent the expansion of the agricultural frontier"*. In relation to this component, it can be concluded that the impact generated on the environment is positive since, with the strengthening of capacities and environmental education, it is intended to transfer knowledge focused on the importance of environmental conservation, as well as encourage landowners to change their productive practices for alternative and sustainable activities.

3.8.2. Socio-Economic Aspects

As in the analysis of environmental impacts, socioeconomic impacts can be considered as those resulting after the execution of an activity, product or service, which may have repercussions on the conditions of the components. Leaving as a consequence specific alterations or modifications on the aspects in which the different activities to be evaluated were carried out.

The Socio-Economic Impact Assessment (SEIA) is a preventive tool that strengthens decision-making at the project level. It is aimed at identifying the socio-economic consequences of the implementation and operation of greenhouse gas projects, in order to establish preventive and control measures that make possible the development of the components to be assessed without prejudice to the implementation of the climate change mitigation initiative, or even as a taxonomy to assess the social and economic benefits. Olsen and Fenhann attempted to standardize it in 2008 with a view to defining criteria for the evaluation of CDM projects in terms of their contribution to sustainability, managing to generate important contributions that highlight the social aspects and economic growth at a priority level above 55% in the global valuation of GHG¹ projects.

The main objective of the Socioeconomic Assessment for the CO₂Bio P2 Project is to identify the socioeconomic impacts that may arise between the interaction of project activities, the assurance of safeguards and SDGs, as well as compliance with co-benefits, allowing the establishment of management measures to mitigate negative impacts if any.

In accordance with the above and the Annex. [Matrix of evaluation of socioeconomic aspects](#), it is concluded that since there are no negative effects there is no need to generate socioeconomic management plans to prevent, mitigate and eliminate these impacts.

For the implementation of the CO₂Bio P2 initiative, the economic impact assessment was conducted taking into account the project activities, safeguards, SDGs and co-benefits proposed for the project, and the impact that these could cause within the social elements of study such as: gender equity, education and training, communication with stakeholders, forest governance in the territories, and the economic elements of study such as: access to goods and financial services, economic benefits of the project, formalization of environmental services as an economic activity and implementation of sustainable production practices. The above, taking into account that although the impacts can be positive or negative, in the case of the valuation of this project it is evident that the impacts are positive.

¹ Evaluation of clean development mechanism projects submitted to UNFCCC: The 2044 and 2008 sustainability criteria.
http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=Soi21-68052010000100014

3.8.2.1. Socio-economic assessment results

The [socio-economic assessment matrix](#) was designed and adapted based on the Leopold matrix in alignment with the assessment of environmental aspects considered above, applying a rating scale, and the magnitude and importance of the impact. Understanding that “the tools currently available for this type of analysis are diverse, are based on different assumptions, offer different functionality, concentrate on different types of impact and fulfill varied purposes” (World Business Council for Sustainable Development, 2013).

According to the matrix of the evaluation carried out, it can be determined that the activities of the CO₂Bio project do not represent negative impacts within the area of influence of the project. This is because all activities are aimed at generating social and economic benefits regarding climate change mitigation actions, in order to reduce and remove greenhouse gases (GHG) within the areas established and enrolled in the CO₂Bio P2 project.

Co-benefit: Benefits for communities

The benefits for communities is one of the most important factors after the socioeconomic impact assessment, the CO₂Bio P2 initiative covers various types of benefits (social and economic) understanding the realities of their territories.

To this end, instruments of understanding, organization, participation and assurance are used to enable the recognition of forest governance structures. Likewise, mechanisms are used for socialization, dissemination and transparency of information aligned with communication objectives that involve the use of various tools (radio, video calls, brochures, billboards, illustrative documents, guides, face-to-face workshops, e-mails and website) to achieve the desired goals.

On the other hand, the economic benefits of the project stand out for their high impact. It's understood that the economic resources provided in the short and long term to the beneficiaries (for the commercialization of carbon certificates for the development of conservation actions in their properties; This resources are reinvested in activities for environmental sustainability), improves their quality of life and produce an average net increase in their income.

Project activities: Benefits to communities

The actions that were evaluated under the project component “Project activities” were the following:

- Training cycle to strengthen knowledge in wetland conservation and sustainability to avoid the expansion of the agricultural frontier.
- Characterization and implementation of sustainable productive practices.

- Participatory monitoring for the conservation of biodiversity and VCAs in the project area.
- Strengthening governance structures in the territory.
- Recognition of areas and figures of conservation and environmental management for the conservation of biodiversity.

From the previous ones it was determined that regarding the socioeconomic evaluation those that had the best positive impact, prevailing over the rest of the project activities were:

- Training cycle to strengthen knowledge on wetland conservation and sustainability to avoid the expansion of the agricultural frontier (27 points).
- Characterization and implementation of sustainable productive practices (27 points).

The trainings generated positive social impacts through the transfer of knowledge on issues such as biodiversity conservation and sustainable management of forests and wetlands. This translated into informed and strengthened land owners. In addition, the implementation of sustainable productive practices has brought advantages for the correct management of land and the improvement of life quality in the impacted areas.

3.9. Sustainable Development Goals

In 2015, the heads of state and government of 193 countries at the United Nations General Assembly adopted a global development compact called “Transforming Our World: The 2013 Agenda for Sustainable² Development.” The pact was a universal call to end various social and environmental problems, such as poverty, protect the planet and ensure that by 2030 all people enjoy peace and prosperity. From this perspective, the activities of the CO2Bio P2 project are aligned with Sustainable Development Goals 5 (Gender Equality), 6 (Water and Sanitation), 13 (Climate Action), and 15 (Life of terrestrial ecosystems).

To demonstrate the approach and compliance with the SDGs, the BCR standard, version 3.0, states that the project owner should carry out an assessment of the contribution of the GHG project to the Sustainable Development Goals (SDGs). Indeed, the Cataruben Foundation takes this into account, and uses the “Tool for the determination of contributions to the fulfillment of the SDGs”, better known as TOOL SDGs. Furthermore, following the update of the standard from version 2.1 (21/09/2022) to version 3.0 (07/03/2023), the tool “No Net Harm” was proposed. The tool states in the section “Monitoring Plan” that the project owner will design and

² "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet theirs." - Our common future: Report of the World Commission on Environment and Development (Brundtland Report, 1987).

explain a monitoring plan that, as required by the BCR STANDARD and the methodology applied, presents in detail the appropriate information to monitor project activities and mitigation results, and in turn, according to the item “h” of this same section, demonstrates the application of procedures with the assessment of the contribution of the project to the Sustainable Development Goals (SDGs).

With regard to this requirement of the BCR 3.0 standard and the “No Net Harm” tool, the project management ensures proper follow-up and compliance with the [ODS Monitoring Plan](#) of the initiative (See sheet: Plan and Adjusted Monitoring Report). Also, taking into account that the CO2Bio P2 project is of the REDD+ type and Wetlands, the results of the [application of the TOOL ODS](#) are listed below:

Image 3. ODS applicable to the REDD+ component project.

Identificación de ODS aplicables al proyecto

| | | | | | |
|-----------------------------|--------------------|------------------------------|---------------------|--------------|-------|
| Nombre del Proyecto: | CO2Bio P2 | Sector: | AFOLU | Tipo: | REDD+ |
| ID del Proyecto: | PCR-CO-635-141-002 | Titular del Proyecto: | Fundación Cataruben | | |

| ODS Aplicables de acuerdo al Tipo de Proyecto | | | | | | | | | | |
|---|-----------------|-----------|-----------------------|--------|--------|--------|--------|--------|--------|----------|
| ODS | ODS por defecto | Otros ODS | Indicadores Sugeridos | | | | | | | |
| | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | NA | NA | NA | NA | NA | NA | NA | | | |
| | NA | NA | NA | NA | | | | | | |
| | NA | NA | NA | NA | NA | | | | | |
| | NA | APLICA | 5.1.1 | 5.5.2 | | | | | | |
| | APLICA | NA | 6.3.2 | 6.4.1 | 6.4.2 | 6.5.1 | | | | |
| | NA | NA | NA | NA | NA | NA | | | | |
| | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | NA | NA | NA | NA | NA | | | | | |
| | NA | NA | NA | NA | NA | | | | | |
| | NA | NA | NA | NA | | | | | | |
| | NA | NA | NA | NA | NA | | | | | |
| | APLICA | NA | 13.1.1 | 13.1.2 | 13.1.3 | 13.2.2 | | | | |
| | NA | NA | NA | NA | NA | | | | | |
| | APLICA | NA | 15.1.1 | 15.1.2 | 15.2.1 | 15.3.1 | 15.4.1 | 15.4.2 | 15.7.1 | 15.a.1.b |
| | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| | NA | NA | NA | NA | NA | NA | NA | NA | NA | |

Source: Cataruben Foundation.

Image 4. SDGs applicable to the Wetlands component project.

Identificación de ODS aplicables al proyecto

Nombre del Proyecto: CO2Bio P2

ID del Proyecto: PCR-CO-6351.4-002

Sector: AFOLU

Titular del Proyecto: Fundación Cataruben

Tipo: Humedales continentales

| ODS Aplicables de acuerdo al Tipo de Proyecto | | | | | | | | | | |
|---|-----------------|-----------|-----------------------|--------|--------|--------|--------|--------|--------|---------|
| ODS | ODS por defecto | Otros ODS | Indicadores Sugeridos | | | | | | | |
| | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| | NA | NA | NA | NA | NA | NA | NA | | | |
| | NA | NA | NA | NA | | | | | | |
| | NA | NA | NA | NA | NA | | | | | |
| | NA | APLICA | 5.1.1 | 5.5.2 | | | | | | |
| | APLICA | NA | 6.3.2 | 6.4.1 | 6.4.2 | 6.5.1 | | | | |
| | NA | NA | NA | NA | NA | NA | | | | |
| | NA | NA | NA | NA | NA | NA | NA | NA | | |
| | NA | NA | NA | NA | NA | | | | | |
| | NA | NA | NA | NA | NA | | | | | |
| | NA | NA | NA | NA | | | | | | |
| | NA | NA | NA | NA | NA | | | | | |
| | APLICA | NA | 13.1.1 | 13.1.2 | 13.1.3 | 13.2.2 | | | | |
| | NA | NA | NA | NA | NA | | | | | |
| | APLICA | NA | 15.1.1 | 15.1.2 | 15.2.1 | 15.3.1 | 15.4.1 | 15.4.2 | 15.7.1 | 15.a, b |
| | NA | NA | NA | NA | NA | NA | NA | NA | NA | |
| | NA | NA | NA | NA | NA | NA | NA | NA | NA | |

Source: Cataruben Foundation.

In this regard, it is important to emphasize that project activities contribute to actions such as:

- Ensure the sustainability of food production systems and implement resilient agricultural practices that increase productivity and production, contribute to the maintenance of ecosystems, and strengthen adaptive capacity.
- Ensure the full and effective participation of women and equal opportunities for leadership at all decision-making levels in political, economic and public life.

- Give women equal rights to economic resources, as well as access to ownership and control of land and other property, financial services, inheritance and natural resources.
- Support the efficient use of water resources and ensure the sustainability of freshwater extraction and supply to address water scarcity.

The approach and fulfillment of each SDG is described below, as well as the results obtained in relation to the goals and indicators set out in the Monitoring Plan:

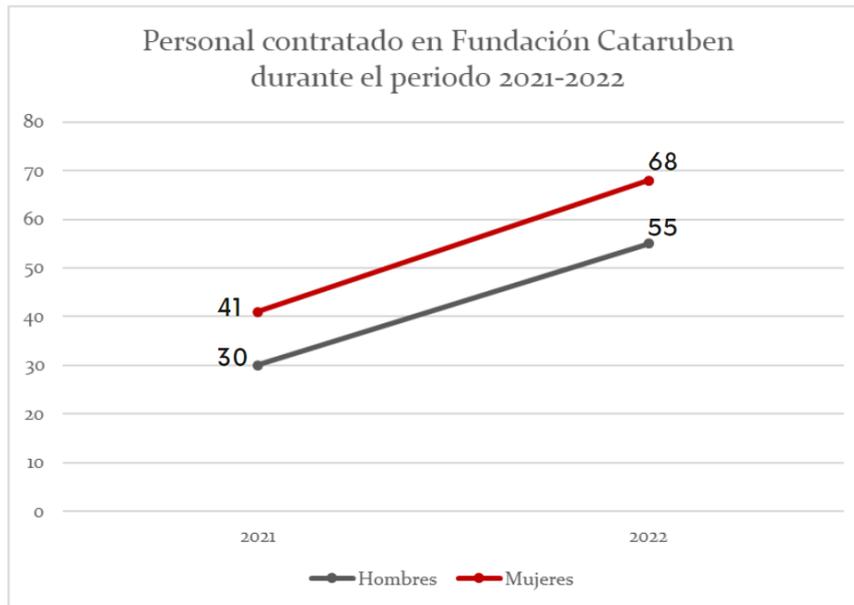
3.9.1. SDG 5: Gender Equality

According to the United Nations, gender equality is not only a fundamental human right, but is one of the essential foundations for building a peaceful, prosperous and sustainable world. This Sustainable Development Goal aims to achieve gender equality and empower all women and girls. The CO₂Bio P2 initiative is aware of this. In this regard, the participation of women in leadership and/or decision-making positions is promoted in order to meet the needs and requirements of the organization and the project in question. The following is an analysis of how compliance with this SDG is approached in the CO₂Bio P2 project.

Ensuring women's full and effective participation and equal leadership opportunities at all decision-making levels in political, economic and public life is one of the goals of SDG 5 (Gender Equality). After using the ODS TOOL applied to the CO₂Bio P2 initiative, it was determined that in the framework of the implementation of the project for the period 2021-2022, the impact to the goal was demonstrated by enrolling women in leadership and/or decision-making positions during the operation of the project.

For the year 2021, 71 new hires were generated and this represented an increase in enrollments equivalent to 129% compared to the previous year (31). Under this scenario, it was possible to identify that the trend of female hiring (57.7%) continued to rise compared to male hiring (42.3%). Finally, for the year 2022, the trend continued to increase, since of the 123 new hires generated, 44.7% corresponded to male hires, while the remaining 55.3% corresponded to female hires.

Figure 3. Comparison of personnel hired by Cataruben Foundation 2021-2022.



Source: Cataruben Foundation.

SDG 5 aims to meet an indicator that aims to increase the percentage of women's participation in management positions (SDG 5 > Goal 5.5 > Indicator 5.5.2). Under this premise and taking into account that: (i) the monitoring report of the CO2Bio P2 initiative corresponds to the years 2021 and 2022, and (ii) the ODS TOOL tool has been implemented since 2021. Consequently, it was possible to determine a baseline and/or reference value for the previous year (2020) equivalent to 3 women enrolled and/or hired in management positions.

Figure 4. Proportion of women employed in managerial positions at Fundación Cataruben 2021-2022.



Source: Cataruben Foundation.

During year 1 (2021) the result was 7 women hired in management positions and for year 2 (2022) it was 14 women. From this perspective, it is evident that SDG 5 target is met, since for the period in question there is evidence of a trend to increase the percentage (%) of women's participation in management and/or decision-making positions related to the development of the CO2Bio P2 initiative and showing in the ODS TOOL its compliance with respect to the average.

Image 5. Scrutiny of indicator 5.5.2 of ODS 5 in the TOOL ODS tool of the BioCarbon Registry for the period 2021-2022 under the CO2Bio P2 initiative.

| Indicador | Unidad | Meta | Valor de referencia | Año1 | | Año2 | |
|--|--------|----------|---------------------|-----------|-----------|-----------|-----------|
| | | | | Resultado | Tendencia | Resultado | Tendencia |
| 5.5.2 Proporción de mujeres en cargos directivos | % | Aumentar | 3 | 7 | Aumentar | 14 | Aumentar |

| Resultado o Promedio | Tendencia (promedio vs referencia) | Cumple (respecto al promedio) |
|----------------------|------------------------------------|-------------------------------|
| 10,5 | Aumentar | Si |

Source: Cataruben Foundation.

Finally, it can be concluded that SDG 5 has been met, since the average result is 10.5, which is above the reference value (3), and evidently shows an increase in the proportion of women in management positions. Likewise, the overall compliance percentage of the reports for this SDG is equivalent to 8% of the total target, i.e., 2 reports have been completed (2021 and 2022) out of a total of 25 projected.

3.9.2 SDG 6: Access To Clean Water and Basic Sanitation

Taking into account the tool for the contribution to the Sustainable Development Goals, 2 specific objectives were selected to which the CO2Bio project 2 initiative intends to contribute, the following is a description of the specific objectives selected for this initiative.

(6.3) Improve water quality by reducing pollution, eliminating dumping and minimizing the emission of chemicals and hazardous materials, halving the proportion of untreated wastewater and significantly increasing safe recycling and reuse worldwide. [See SDG 6 Clean water and basic sanitation](#)

(6.4) Significantly increase the efficient use of water resources in all sectors and ensure the sustainability of freshwater extraction and supply to address water scarcity and significantly reduce the number of people suffering from water scarcity. In order to contribute to Sustainable Development Objective 6, water saving and efficient use plans are formulated and implemented to improve the use of water for

human consumption and wastewater management in the initiative's properties. Therefore, there is evidence for the 64 properties that were characterized out of the 143 and that have the formulation of the water saving and efficient use plan. For the formulation of the plans, surveys were conducted with the beneficiaries where they were asked about the use and management of water in the homes of the properties enrolled to diagnose their status in terms of access to drinking water and the management of wastewater of domestic origin.

Once the status of the surveyed properties was diagnosed, water saving and efficient water use plans were formulated to generate water resource management sheets to be implemented in the properties to improve water conditions for human consumption and wastewater disposal. 64 Water Saving and Efficiency Plans were carried out for the 143 farms of the initiative, which can be found in the annex folder of the monitoring report of SDG 6.

3.9.2.1 Proportion Of Wastewater Treated Safely

SDG 6 aims to meet an indicator that increases the percentage of the proportion of wastewater safely treated (SDG 6 > Target 6.3 > Indicator 6.3.1). Under this premise and taking into account that: (i) the monitoring report of the CO2Bio P2 initiative corresponds to the years 2021 and 2022, and (ii) the ODS TOOL tool has been implemented since 2021. it was possible to determine a baseline and/or reference value of the previous year (2020) equivalent to zero because there were no previous actions implemented to contribute to the fulfillment of SDG 6.

Image 6. Scrutiny of indicator 6.3.1 of ODS 6 in the TOOL ODS tool of the BioCarbon Registry for the period 2021-2022 under the CO2Bio P2 initiative.

| Indicador | Unidad | Meta | Valor de referencia | Año1 | | Año2 | |
|--|--------|----------|---------------------|-----------|-----------|-----------|-----------|
| | | | | Resultado | Tendencia | Resultado | Tendencia |
| 6.3.1 Proporción de aguas residuales tratadas de manera segura | % | Aumentar | 0 | 5,5 | Aumentar | 5,5 | IGUAL |

| Resultado o Promedio | Tendencia (promedio vs referencia) | Cumple (respecto al promedio) |
|----------------------|------------------------------------|-------------------------------|
| 5,5 | Aumentar | Si |

Source: Cataruben Foundation.

By 2021, 5.5% of the water saving and efficient use plan management was advanced, equivalent to the characterization, diagnosis and formulation of the plans for 32 properties. By 2022, 5.5% of the water saving and efficient use plan

management was advanced, equivalent to the characterization, diagnosis and formulation of the plans for 32 properties. For a total of 11% of the activity in the monitoring period (2021-2022), it is expected in 2023 to complete the 143 water saving and efficient use plans and thus begin with the implementation of the management sheets in the properties and demonstrate additionality in SDG 6.

3.9.2.2 Change In Water Use Efficiency Over Time

SDG 6 also targets compliance with another indicator that aims to increase the percentage change in water use efficiency over time (SDG 6 > Target 6.4 > Indicator 6.4.1). This point takes into account the same considerations related to the previous indicator regarding the monitoring report and initial use of the tool. In this sense, a baseline and/or reference value of the previous year (2020) could also be determined, also equivalent to zero because there were no previous actions implemented to contribute to the fulfillment of SDG 6.

Image 7. Scrutiny of indicator 6.4.1 of ODS 6 in the TOOL ODS tool of the BioCarbon Registry for the period 2021-2022 under the CO2Bio P2 initiative.

| Indicador | Unidad | Meta | Valor de referencia | Año1 | | Año2 | |
|--|--------|----------|---------------------|-----------|-----------|-----------|-----------|
| | | | | Resultado | Tendencia | Resultado | Tendencia |
| 6.4.1 Cambio en la eficiencia del uso del agua con el tiempo | % | Aumentar | 0 | 5,5 | Aumentar | 5,5 | IGUAL |

| Resultado o Promedio | Tendencia (promedio vs referencia) | Cumple (respecto al promedio) |
|----------------------|------------------------------------|-------------------------------|
| 5,5 | Aumentar | Si |

Source: Cataruben Foundation.

By 2021, 5.5% of the water saving and efficient use plan management was advanced, equivalent to the characterization, diagnosis and formulation of the plans for 32 properties. by 2022, 5.5% of the water saving and efficient use plan management was advanced, equivalent to the characterization, diagnosis and formulation of the plans for 32 properties. For a total of 11% of the activity in the monitoring period (2021-2022), it is expected in 2023 to complete the 143 water saving and efficient use plans and thus begin with the implementation of the management sheets in the properties and demonstrate additionality in SDG 6.

3.9.3. SDG 13: Climate Action

In relation to SDG 13, the CO2Bio Project 2 initiative seeks to reduce GHG emissions year by year (SDG 13 > Objective 13.2 > Indicator 13.2.2). In this way, it seeks to demonstrate the impact of the development of project activities on forest

and wetland areas, through the monitoring of greenhouse gas emissions that have been removed or reduced as a result of the conservation of natural cover.

3.9.3.1 Total greenhouse gas emissions per year

Under this premise and taking into account that: (i) the monitoring report of the CO2Bio P2 initiative corresponds to the years 2021-2022 for the CONTINENTAL WETLANDS component and 2022 for REDD+, and (ii) the ODS TOOL tool began to be implemented in 2021. A reference value of 350,461 tCO2e was established, according to the average value of emissions calculated in the baseline for the project area.

Image 8. Completion of indicator 13.2.2 of ODS 13 in the TOOL ODS tool of the BioCarbon Registry for the period 2021-2022 under the CO2Bio P2 initiative.

| Indicador | Unidad | Meta | Valor de referencia | Año1 | | Año2 | |
|---|----------|---------|---------------------|-----------|-----------|-----------|-----------|
| | | | | Resultado | Tendencia | Resultado | Tendencia |
| 13.2.2 Emisiones totales de gases de efecto invernadero por año | Ton CO2e | Reducir | 350.461 | 50.261 | Reducir | 21.816 | Reducir |

| Resultado o Promedio | Tendencia (promedio vs referencia) | Cumple (respecto al promedio) |
|----------------------|------------------------------------|-------------------------------|
| 36038,86 | Reducir | Si |

Source: Cataruben Foundation.

Thus, during the monitoring period a total emissions of 50,261 tCO2e and 21,816 tCO2e were recorded for the year 2021 and 2022 respectively, which shows compliance with the proposed GHG emission reduction target.

In addition, the reduction of 7,257,996 tCO2e is expected during the crediting period of the project. Thus, for the period 2021 - 2022, a total of 445,449 tCO2e have not been emitted into the atmosphere, which represents 6% against the overall target ([13.2.2 GHG emissions per year](#)).

Meanwhile, compared to the cumulative scenario, the total reduced emissions during the project implementation period (2016-2022) has shown a total of 1,539,630 tCO2e reduced and/or removed, corresponding to 21% compliance with the overall objective.

3.9.4 SDG 15: Life Of Terrestrial Ecosystems

According to the United Nations, the main purpose of Sustainable Development Goal 15 (Life of terrestrial ecosystems) is to promote the sustainable use of terrestrial ecosystems, combat desertification, halt and reverse land degradation and halt the loss of biodiversity.

3.9.4.1 Forest Area As A Proportion Of The Total Area

To perform this analysis it is necessary to take the maps of forest non-forest for the years 2019, 2020 and 2021 generated by the Forest and Carbon Monitoring System-SMByC. The results indicate that in the period 2019 - 2020 there were no events of forest loss and the forest mass remained at 20,500.5 ha, while in the period 2020 - 2021 this decreased by 4.6 ha.

Image 9. Completion of indicator 15.1.1 of ODS 15 in the TOOL ODS tool of the BioCarbon Registry for the period 2021-2022 under the CO2Bio P2 initiative.

| Indicador | Unidad | Meta | Valor de referencia | Año1 | | Año2 | |
|---|--------|----------|---------------------|-----------|-----------|-----------|-----------|
| | | | | Resultado | Tendencia | Resultado | Tendencia |
| 15.1.1 Superficie forestal como proporción de la superficie total | % | Aumentar | 0,15 | 0,16 | Aumentar | 0,16 | IGUAL |

| Resultado o Promedio | Tendencia (promedio vs referencia) | Cumple (respecto al promedio) |
|----------------------|------------------------------------|-------------------------------|
| 0,16 | Aumentar | Si |

Source: Cataruben Foundation.

3.9.4.2 Proportion Of Degraded Land Compared To The Total Area

To estimate the proportion of degradation, a fragmentation analysis was carried out in the REDD+ project areas, using non-forest forest cover provided by IDEAM, for the years 2020-2021, taking 2019 as the baseline, making a combination of fragmentation classes (core, perforated, edge, patch). For the period 2019 - 2020 in the project areas degradation of 0.46 and secondary degradation was null. While in the period 2020 to 2021 this increased by 0.6, registering a total of 0.52.

Image 10. Completion of indicator 15.3.1 of ODS 15 in the TOOL ODS tool of the BioCarbon Registry for the period 2021-2022 under the CO2Bio P2 initiative.

| Indicador | Unidad | Meta | Valor de referencia | Año1 | | Año2 | |
|--|--------|---------|---------------------|-----------|-----------|-----------|-----------|
| | | | | Resultado | Tendencia | Resultado | Tendencia |
| 15.3.1 Proporción de tierras degradadas en comparación con la superficie total | % | Reducir | 1,01 | 0,98 | Reducir | 0,98 | IGUAL |

| Resultado o Promedio | Tendencia (promedio vs referencia) | Cumple (respecto al promedio) |
|----------------------|------------------------------------|-------------------------------|
| 0,98 | Reducir | Si |

Source: Cataruben Foundation.

3.10. Special Categories Related To Co-Benefits

To demonstrate the approach and compliance with the Co-Benefits (Orchid Category), the BCR standard, version 3.0, states that: “The project holder who intends to achieve one of these categories, must meet the conditions defined for each of the three components that constitute the additional benefits (conservation of biodiversity, benefits on communities, gender equity and adaptation to climate change).” In this regard, the Cataruben Foundation takes into account the considerations set out therein.

On the other hand, following the update of the standard (version 3.0), the "No Net Harm" tool states in the "Monitoring Plan" section that the project owner shall design and implement a monitoring plan that, as required by the BCR STANDARD and the methodology applied, presents in detail the appropriate information to monitor project activities and mitigation results, and in turn, according to item "k" of this same section, relates the application of the criteria and indicators defined to demonstrate the additional benefits and the measurement of co-benefits and special category, where appropriate.

The results of the social and environmental co-benefits of the CO2Bio P2 project for the period 2021-2022 are listed below:

3.10.1. Conservation Of Biodiversity

For the development of the co-benefits related to biodiversity conservation, we have been encouraging the properties to be declared under some form of conservation that will improve the processes carried out with the CO2Bio P2 project. In addition to

this activity, an evaluation of the Areas of Biodiversity Importance (KBA) associated with the properties was carried out, with the objective of elucidating the contribution of each property to conservation and thus prioritizing its importance in this process.

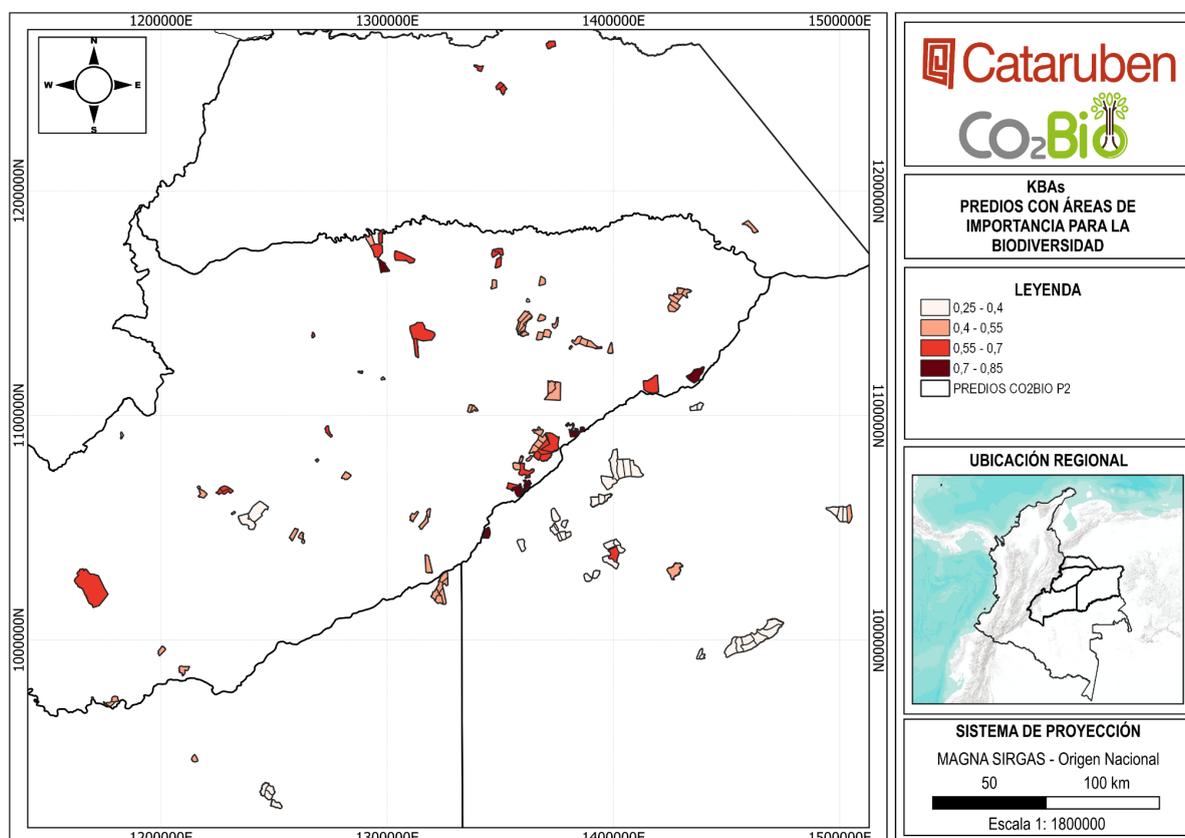
3.10.1.1. Land Declared Under A Conservation Figure

According to validated conservation figures, an increase in the declaration of (4) new protected areas is reported, resulting in 100% of the proposed target for the period 2021-2022 and 72% compliance with the overall target.

3.10.1.2. Assessment Of The Status Of KBAs

This evaluation was carried out in order to identify the most important sites for biodiversity, associated with the fauna, flora and ecosystems that are represented. This evaluation contributes to the prioritization of areas that can be declared under some civil figure for conservation. The values generated by the analysis are from 0 to 1, 1 being the most important areas for biodiversity. The figure below shows that several of the sites are of significant importance for biodiversity conservation. In addition, a total of 94 properties were identified as being above 0.5 KBA value (See annex [1.1.2 Assessment of KBA status](#)).

Image 11. Areas of importance for biodiversity of the CO2Bio P2 Project.



Source: Cataruben Foundation.

3.10.2 Benefits To Communities

The project includes the following co-benefits under the Benefits on Communities component: (i) it identifies and strengthens mechanisms for social and community participation at the local and regional levels and (ii) the activities under the GHG mitigation initiative produce an average net increase in the income of local producers.

3.10.2.1 Identification and strengthening of social and community participation mechanisms at local and regional levels

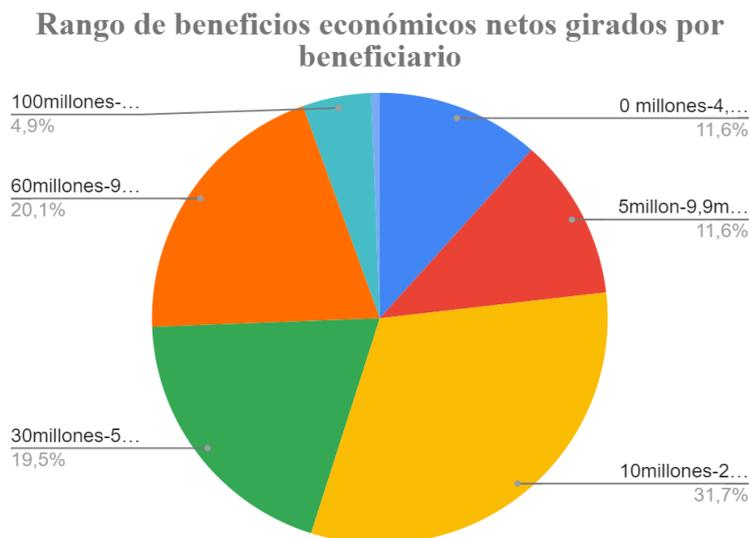
During the 2021-2022 period, the project will strengthen the municipal systems of protected areas in the project area, articulating sustainable production processes, environmental education, and effective management of strategic areas. Cataruben's participation in the Regional System of Protected Areas (SIRAP), the Metropolitan System of Protected Areas (SIMAP) and the Technical Committee for Adaptation and Mitigation of Climate Change of the Department of Casanare (COTACLIMA) during the monitoring reporting period is reported. Likewise, the organization has worked on the formulation and implementation of a [governance strategy](#) for the social appropriation of local conservation through the convergence and participation of the owners of the properties, as managers of the ecosystems, LATAM Airlines, as a strategic ally, and the Cataruben Foundation as the holder of the CO2Bio P2 initiative. Consequently, this participatory, dialogic and inclusive governance strategy has been designed and implemented, promoting respect for stakeholders and a focus on the Cataruben Foundation's ABCs of Conservation: Water, Biodiversity and Carbon.

3.10.2.2 Net increase in income of beneficiaries

The CO2Bio P2 project delivered during 2022 to 94.4% of the beneficiaries, net economic benefits of \$6,337,693. 598.65 in COP currency, fulfilling the commitments acquired by the contractual enrolment in the climate change mitigation initiative, money generated by the commercialization of carbon credits in the carbon tax exemption market (MNCIC), meaning 89.43% of the total CCV for the MNCIC. The carbon credits that were issued in the monitoring of the 2016-2020 period given the activities framed in the GHG project, leaving as a result the reduction and removal of tons CO₂e, which were certified in January 2022. Thus, there is evidence of a net increase in the income of the beneficiaries ([see income report and evidence of delivery of economic benefits](#)).

The following graph shows the range of net economic benefits drawn in COP currency per beneficiary under the CO2Bio P2 project. It is evident that the range of 10 million-29.9 million predominates covering 31.7% of beneficiaries, followed by the range of 60 million-99.9 million with 20.1%.

Figure 5. Range of net economic benefits per beneficiary.



Source: Cataruben Foundation.

3.10.3 Gender Equality

A training on leadership and appreciation of women's work was conducted. This training addressed issues such as processes of vindication, leadership and female empowerment (what is and what ought to be), equality and parity between men and women. As a result, sixteen (16) people were trained, of which eleven (11) were women (68.75%) ([See supports](#)).

3.10.3.1 Participation Of Women

Among the activities implemented, seven (7) trainings were conducted for men and women of all ages, between 2021 - 2022. As a result, a total of 732 people were trained, of whom 372 were women (50.82 per cent).

Table 6. Training for men and women between 2021 - 2022.

| Name | Topics | Stand | Trained persons | Trained women | % women trained | Component |
|--|--------------------------|-------------------------------------|-----------------|---------------|-----------------|-----------|
| II Biodiversity & Carbon Forum | Biodiversity and carbon | Attendance 22042021 | 461 | 269 | 58.35 | REDD+ |
| Strengthening technical and legal skills | Carbon Markets | Attendance 10122021 | 148 | 54 | 36.49 | REDD+ |
| Good practices in continental wetlands | Conservation of wetlands | Attendance 17022021 | 32 | 12 | 37.5 | Wetlands |
| Good practices in continental wetlands | Conservation of wetlands | Attendance 03032021 | 31 | 11 | 35.48 | Wetlands |

| | | | | | | |
|--|-----------------------------------|-------------------------------------|------------|------------|------------|----------|
| Good practices in continental wetlands | Conservation of wetlands | Attendance 29082021 | 25 | 14 | 56.0 | Wetlands |
| Importance of meliponiculture | Sustainable productive activities | Attendance 01072022 | 17 | 4 | 23.53 | Wetlands |
| Alternative water solutions | Alternative Water Solutions | Attendance 31052022 | 18 | 8 | 44.44 | Wetlands |
| | | | 732 | 372 | 50. | |

Source: Cataruben Foundation.

4. INLAND WETLANDS

The following are the results of the monitoring report for changes in project boundaries, project activities, socio-environmental effects, project permanence and project emissions, based on the established methodological guidelines, in order to generate accurate and quality information in the verification process.

Figure 6. Structure Report Monitoring Component Wetlands.



Source: Cataruben Foundation.

4.1. Monitoring Report Project Boundaries

According to BCR0004, the eligible areas correspond to those classified as natural wetland ecosystems within the project areas, and that correspond to the category of natural vegetation cover, other than forest, at the start of project activities and five years before the project start date.

After the identification of the wetlands, a monitoring process is carried out using the Corine Land Cover methodology. The monitoring consists in the identification and evaluation of the behavior of the covers belonging to wetlands between the period 2020 to 2022 corresponding to the verification 2, the cartographic information can be reviewed in the following link where the [Geodatabase of the project](#) rests.

Monitoring is associated with the uncertainty determined by the accuracy of the maps used to estimate emissions calculations. To determine the uncertainty, the accuracy of the identified land cover is validated with higher resolution satellite images and/or land cover reconnaissance visits. In this particular case, the natural vegetation cover map for the year 2022 was prepared using Landsat 9 images (Resolution 30 m/pixel) and validated with higher resolution images such as Sentinel 2 A-B (Resolution 10 m/pixel) and field visits. All the above procedure was performed with the [AcATaMa](#) complement which is designed to evaluate the accuracy of the maps. The result was 96%, the methodology indicates that the uncertainty must be above 90%.

Table 7. Dynamics of change in wetland strata.

| Stratum | Eligibility 2009 - 2015 | Monitoring 2016 - 2020 | Monitoring 2020 - 2022 |
|------------|----------------------------|---------------------------|---------------------------|
| Aquatic | 3940.9 | 3940.9 | 4050.2 |
| Scattered | 709.3 | 709.3 | 792.3 |
| Herbaceous | 58678.3 | 58061.9 | 57540.7 |

Source: Cataruben Foundation.

Monitoring results (Table 7) indicate a transition of 328.9 ha of wetlands to other natural vegetation cover.

4.2. Monitoring Report Project Activities

Of the 10 validated indicators, for this second verification, 8 indicators have been adjusted to comply with the goals set for the (5) validated activities listed below:

For activity 1. *Cycle of training to strengthen knowledge in wetland conservation and sustainability to prevent the expansion of the agricultural frontier.* According to the impact on the territory, 123 people were trained during the 2021-2022 period,

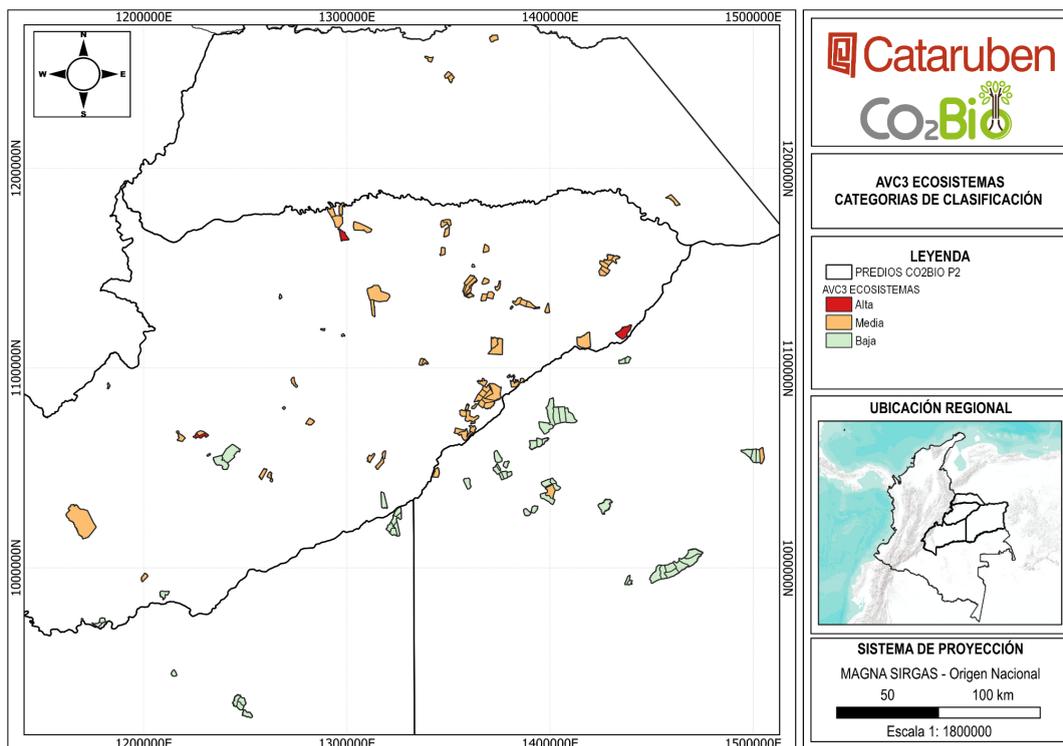
increasing capacity building in wetland ecosystem conservation and sustainable production to 39.64% compliance with the overall goal, where not only the owners are enrolled, but also the community in general at the local, regional and national level.

For activity 2. *Characterization and implementation of sustainable productive practices.* It is possible to demonstrate that (63) properties show progress in the implementation of the property plans, the monitoring of compliance with this indicator was carried out based on the supports presented by the owners of implemented productive practices and the follow-up evaluation of the battery of indicators, which is in accordance with the action plan established for each property. Among the sustainable productive practices are the establishment of corrals, electric fences, home gardens, cultural practices, etc. The analysis of these results and their reports are listed in the monitoring plan, achieving 14.29% of compliance with the general goal of the activity.

For activity 3. *Participatory monitoring for biodiversity conservation and HCVs in the project area.* Participatory biodiversity monitoring is an initiative that aims, with the help of the owners of the properties, to record the species of birds, mammals and amphibians that use song as a method of communication in order to be identified and thus obtain the species richness found on the properties. For this stage of the project, the methodology for the monitoring is presented as follows (see Annex [3.1. Participatory monitoring of biodiversity](#)). It is expected that with the development of this methodology, as many species as possible can be identified with a lower sampling effort, thus increasing the efficiency for future monitoring.

High Conservation Values provide a conceptual framework for appropriately identifying, managing and monitoring areas or ecosystems likely to contain high environmental and social values. For this installment, the analysis of HCV3: Areas within or containing rare, threatened or endangered ecosystems was conducted. The state of susceptibility of the ecosystems was evaluated with the input called Red List of Colombian Ecosystems and compared with the area of the properties that are part of the project. A total of 82 properties were obtained that have high and medium category conservation values.(see annex [3.2 AVCs by stages](#)). The following figure shows the AVC3 for the CO2Bio P2 initiative properties.

Image 12. AVC3 Ecosystems for the CO2Bio P2 Project.



Source: Cataruben Foundation.

For activity 4. Strengthening of governance structures in the territory. According to the consolidated governance structures, an articulation with the regional system of protected areas of the Orinoquia and municipal systems of Trinidad and San Luis de Palenque was achieved. The articulation directly affects the strengthening of forest governance in the project area. Thus achieving a 14.29% progress in overall compliance with the indicator of reports on strengthened governance structures.

Likewise, the document "Governance Strategy - Social Appropriation of Local Conservation" is presented, the objective of which is to guarantee sustainability, participation, capacity building and the promotion of learning about ecosystems. With this result, a progress of 7.14% of the overall goal of the implemented local governance strategy indicator is achieved.

For activity 5. Recognition of conservation and environmental management areas and figures for biodiversity conservation. According to the conservation figures identified and validated in the project area, 72.22% of the contemplated goal is met, demonstrating the consolidation of four (4) AICAS (Areas of Importance for the Conservation of Shorebirds) and a Natural Reserve of the Civil Society.

The monitoring report is listed in the following link: [See Annex 2 / Wetlands project activities](#).

4.3 Report Monitoring Socio-Environmental Effects Of The Project

In relation to the socio-environmental assessment carried out in the project area for the activities implemented, it is possible to demonstrate that:

For activity 1. *Training cycle to strengthen knowledge on wetland conservation and sustainability to avoid the expansion of the agricultural frontier.* Increased capacity has been developed in climate change mitigation through the gathering of knowledge, incorporating ancestral knowledge of ecosystem management and effective management of inland wetlands in the project area. For the 2021 - 2022 period, 123 were trained, achieving 39.64% compliance with the goal.

For activity 2. *Characterization and implementation of sustainable productive practices.* Based on the monitoring of the implementation of sustainable production practices within the Property and the evaluation of land planning, an implementation report is made showing that sixty-three (63) properties have started with land implementation activities. With this implementation report, 14.29% of the overall goal is met.

For activity 3. *Participatory monitoring for the conservation of biodiversity and VCAs in the project area.* Two training sessions were held for the development of this activity, the first one called "Biodiversity, Climate Change and Ecosystem Services", which was attended by 26 people and a second one called "Conservation Figures (RNSC)" to explain the process for the creation of a Civil Society Nature Reserve (RNSC) for owners of properties interested in this activity.

For activity 4. *Strengthening governance structures in the territory.* For this monitoring report, the document "Governance Strategy - Social Appropriation of Local Conservation" is presented, whose objective is to guarantee sustainability, participation, capacity building and the promotion of learning about ecosystems. With this result, 7.14% of the overall goal has been achieved.

For activity 5. *Recognition of areas and figures of conservation and environmental management for the conservation of biodiversity.* According to the conservation figures identified and validated in the territory, the protected areas in the project area have been increased, a process that will be accompanied by educational strengthening in order to avoid false expectations regarding the economic benefits to be received. For the 2021 - 2022 period, four (4) additional properties have been declared Important Bird and Biodiversity Conservation Areas - IBAs - thus meeting 72.22% of the overall goal of the indicator for the number of properties declared.

The monitoring report is listed in the following link [See Annex 2 / 2.2 Wetlands](#).

4.4. Monitoring Report And Project Continuity

The monitoring report allowed to evaluate the progress and performance of the project, for this second verification, adjusting to the risks related to the

implementation of project activities, identifying three (3) categories (environmental, financial and social) and standardizing a risk classification as mentioned in paragraph 13 of the BCR standard. This standard will be applied in the next verifications. See analysis of the two ecosystems described in section 3.4 Risk Management. It is important to note that the risk analysis and verification did not identify any critical areas of the project. However, it is important to continue constant monitoring and risk assessment to ensure that no new risks arise or can be identified. The result is that there were no environmental, financial or social risks of permanence, since the monitoring actions carried out did not reveal any fires, floods, land disputes, contractual noncompliance, or withdrawal of owners.

4.5. Project Emissions Monitoring Report

As stipulated in the methodological document BCR0004, section 18.5, the validated emission factors can be applied in the estimation of emissions in monitoring. Therefore, for this period the emission factors defined for Total Biomass and Soil Organic Carbon that were initially validated were taken into account. Thus, for the period 2021-2022 only the project activity data were monitored.

The emissions estimate was calculated according to the changes in the area with natural cover and is expressed in terms of tons of CO₂eq. The calculation of emissions of other GHGs, such as CH₄ and N₂O, was based on the results of fire monitoring in the tree component.

4.5.1. Annual changes in land use

The estimation of changes in wetland cover in the project area was carried out based on the guidelines described in section 19.1 of the BCR0004 methodology. In this way, the dynamics of change in the area with natural cover was evaluated for the defined strata for the period 2021-2022 (Table 8).

Table 8. Monitoring of land use change for the project area, period 2021-2022.

| Stratum | CSCNp (ha/year) | t1 | t2 | A1 (ha) | A2 (ha) |
|------------|-----------------|------|------|----------|----------|
| Herbaceous | 260.5 | 2020 | 2022 | 58,061.9 | 57,541.0 |
| Aquatic | -54.6 | 2020 | 2022 | 3,940.9 | 4,050.0 |
| Scattered | -41.3 | 2020 | 2022 | 709.3 | 792.0 |

Note: CSNCP: change in the area of natural vegetation cover in the project area; t1: year of start of the monitoring period; t2: year of end of the monitoring period; A1: area with natural vegetation cover in the project area at the start of the monitoring period; A2request: area in natural vegetation cover in the project area at the end of the monitoring period.

Source: Cataruben Foundation.

For the case of the leakage area, the monitoring was performed according to the provisions of section 19.2 of the BCR0004 methodology. In the same sense, the dynamics of change were evaluated for the period 2021-2022 (Table 9).

Table 9. Monitoring of land use change for the leakage area, period 2021-2022.

| Stratum | CSCNF (ha/year) | t1 | t2 | A1 (ha) | A2 (ha) |
|------------|-----------------|------|------|---------|---------|
| Herbaceous | 80 | 2020 | 2022 | 4,458.3 | 4,299.0 |
| Aquatic | 14 | 2020 | 2022 | 352.1 | 325.0 |
| Scattered | -25 | 2020 | 2022 | 47.7 | 97.0 |

Note: **CSCNF:** change in the area with natural vegetation cover in the leakage area; **t1:** year of start of the monitoring period; **t2:** end year of the monitoring period; **A1:** area with natural vegetation cover in the leakage area at the start of the monitoring period; **A2attended:** area in natural vegetation cover in the leakage area at the end of the monitoring period.

Source: Cataruben Foundation.

Thus, the monitoring of changes in land use in the project area shows a value of **260.5 ha/year** in the herbaceous stratum; the other two strata show no changes, as there was no decrease in the area of natural cover during the analysis period (Table 8). In the case of the leakage area, the herbaceous stratum shows an annual change of **80 ha**, while the aquatic stratum reports annual changes of **14 ha**; as in the project area, the dispersed stratum shows no decrease in the natural surface (Table 9).

4.5.2. GHG emissions in the analysis period

The monitoring of emissions due to the transformation of natural cover was carried out in accordance with section 19.3 of the BCR0004 methodology. Thus, to estimate GHG emissions, the annual change in the area with natural cover was related to the emission factor validated for the project.

Given that the estimation of the annual land use change divides the value of change that occurred in the monitoring period in equal parts year by year, when multiplied by the emission factor, similar values are presented in the annual emissions for the year 2021 and 2022 (Tables 10 and 11).

Table 10. Monitoring of GHG emissions in the project area, period 2021-2022.

| Stratum | Period | EAp (tCO2e/ha/year) | CSCNp (ha/year) | CBTeq (tCO2e /ha) | COSeq (tCO2e /ha) |
|------------|--------|---------------------|-----------------|-------------------|-------------------|
| Herbaceous | 2021 | 19,567.76 | 260.5 | 24.9 | 50.3 |
| Aquatic | | -9,070.34 | -54.6 | 25.5 | 140.8 |
| Scattered | | -8,316.01 | -41.3 | 136.9 | 64.2 |
| Herbaceous | 2022 | 19,567.76 | 260.5 | 24.9 | 50.3 |
| Aquatic | | -9,070.34 | -54.6 | 25.5 | 140.8 |
| Scattered | | -8,316.01 | -41.3 | 136.9 | 64.2 |

Note: EAp: annual emission in the project area; CSCNp: change in the area with natural vegetation cover in the project area; CBFeq: carbon dioxide equivalent contained in total biomass; COSeq: soil carbon equivalent content.

Source: Cataruben Foundation.

Table 11. Monitoring of GHG emissions in the area of leakage, period 2021-2022.

| Stratum | Period | EAp | CSCNp | CBTeq (tCO2e) | COSeq (tCO2e) | Eaf_LB |
|---------|--------|-----|-------|---------------|---------------|--------|
|---------|--------|-----|-------|---------------|---------------|--------|

| | | (tCO2e/ha/year) | (ha/year) | /ha) | /ha) | |
|------------|------|-----------------|-----------|------|------|-------|
| Herbaceous | 2021 | -3,026.72 | 80 | 25 | 50 | 9,011 |
| Aquatic | | 2,248.85 | 14 | 25 | 141 | 4.19 |
| Scattered | | -5,512.97 | -25 | 137 | 64 | 555 |
| Herbaceous | 2022 | -2,955.62 | 80 | 25 | 50 | 8,940 |
| Aquatic | | 2,248.57 | 14 | 25 | 141 | 4.47 |
| Scattered | | -5,512.97 | -25 | 137 | 64 | 555 |

Note: EAF: annual emission in the leakage area; CSCNp: change in the area with natural vegetation cover in the leakage area; CBFeq: carbon dioxide equivalent contained in total biomass; COSeq: carbon equivalent content of soil.

Source: Cataruben Foundation.

In order to estimate the emission of other GHGs due to the combustion of woody biomass in the eligible area (especially the dispersed stratum), the results of the [Monitoring of Heat Points](#) for the analysis period were used as a reference, under which no fire damage was recorded in the arboreal component, and therefore no emissions were recorded.

4.5.3. Project emission reductions

In this order of ideas, the reduction of emissions by avoiding the transformation into wetland cover was estimated taking into account the emissions reported for the project area and leakage area in the 2021-2022 period, in relation to the baseline scenario.

However, in the project area there is no decrease in the area with natural vegetation cover for the Aquatic and Dispersed strata during the monitoring period, so the emissions calculation shows negative values. Likewise, in the leakage area there was no significant increase in GHG emissions in relation to the baseline scenario, so the analysis reports negative values for this variable. So, to avoid overestimations in the quantification of the project's emissions reduction, these values were taken as zero.

The project reports emission reductions of **199,997 tCO2e** for the Wetlands component (Table 12).

Table 12. Monitoring of emission reduction (2021-2022) for the component Continental Wetlands.

Reducing Emissions

| REpmp(tCO2e) | t1 | t2 | EAlb(tCO2e/year) | EAp (tCO2e/year) | EAf (tCO2e/year) |
|------------------|---------------------------------|-------|------------------|------------------|------------------|
| 100,118.00 | 2,020 | 2,021 | 121,934.25 | 19,567.76 | 2,248.85 |
| 99,879.00 | 2,021 | 2,022 | 121,695.53 | 19,567.76 | 2,248.57 |
| 199,997.0 | TOTAL, MONITORING PERIOD | | | | |

Source: Cataruben Foundation.

Detailed calculations can be found in the spreadsheet Annex Wetlands > Emission monitoring > [1. Wetland Emissions V2.xlsx](#) > Sheet 3. Monitoring 2022.

5. REDD+ COMPONENT

The following are the results of the monitoring report for the 2021 period, regarding changes in project boundaries, REDD+ activities, REDD+ safeguards, co-benefits, permanence risk and project emissions. Based on the established methodological guidelines, in order to generate accurate and quality information in the verification process.

Figure 2. Structure Report Monitoring REDD+



Source: Cataruben Foundation.

5.1. Monitoring Report Project Boundaries

For forest identification, the national non-forest forest layers generated by the Forest and Carbon Monitoring System - SMByC, the entity in charge of monitoring forests in

the national territory, are used. As the input is an official map it is not necessary to perform the uncertainty analysis.

The monitoring consists of the evaluation of the forest from the practices of conservation activities induced by the project. The monitoring period is 2020 - 2021 corresponding to verification 2, the cartographic information can be reviewed on the following link where the [Geodatabase of the project](#) lies.

Table 13. Dynamics of forest behavior - REDD+ methodology

| Stratum | Eligibility 2010 - 2017 | Monitoring 2017 - 2020 | Monitoring 2020 - 2021 |
|-----------|----------------------------|---------------------------|---------------------------|
| NETWORK + | 20206 | 19841 | 19823.74 |

Source: Cataruben Foundation.

The monitoring is conducted using the input of the non-forest forest map for the year 2021 generated by the SMBByC. The result is the decrease of 17.26 hectares of forest with respect to the 2017 - 2020 monitoring.

5.2. Monitoring Report REDD+ Activities

Of the 9 validated indicators, for this second verification, 7 indicators have been adjusted to comply with the goals set for the (6) validated activities listed below:

For **Activity 1. Implement training and mentoring processes through training cycles that strengthen sustainable ecosystem management and biodiversity conservation.** According to the activities programmed in the territory, more than 609 people were impacted in the year 2021, being trained in conservation and sustainable management of biodiversity. Overall compliance with the indicator target is 62.33%.

For **Activity 2. Consolidate and adapt governance principles for sustainable ecosystem management.** For the 2021 period, the formulation phase of the governance strategy was completed with the main objective of guiding, articulating and promoting the efforts of the participants of the CO2Bio P2 initiative towards the implementation of climate change mitigation activities and the conservation of water, biodiversity and carbon. As a result, in 2022 this participatory, dialogic and inclusive governance strategy is implemented, promoting respect for stakeholders (Property owners as ecosystem managers, LATAM Airlines as strategic ally and The Cataruben Foundation as project developer) and the focus on the ABCs of Conservation of Cataruben: Biodiversity, Carbon and Water.

In **Activity 3. Promote forest legality.** Regarding this activity, during the 2021 monitoring period, no forest harvesting requests were identified. However, Cataruben presents a report of training on forest harvesting permits, carried out with the objective of guiding the beneficiaries on the processes to be taken into account for that type of request.

Activity 4. Promote delimitation and signaling in strategic ecosystems and natural

protection areas. A report is made on the properties with implemented signage, as well as the design of (3) billboards (satellite monitoring of conserved areas, monitoring of endangered species and monitoring of avoided CO2 emissions). With this report, 14.29% of the indicator's overall goal has been met.

Activity 5. *Promote and improve agricultural production, livestock (in existing lands) and tourism, through the implementation of good sustainable practices.* Complying with this indicator, the respective report of good sustainable practices implemented in the Properties for the period 2021 is presented, taking into account the follow-up of the activities implemented in the property plans. With this report, 14.29% of the overall compliance with the goal of the indicator number of reports of properties with sustainable productive activities implemented is met.

Activity 6. *Generate alerts of changes due to deforestation, degradation and/or transformation of ecosystems in the project area and its surroundings.* According to the indicator, the report of the satellite monitoring of hot spots is presented on a daily basis to the properties and surrounding areas that may generate negative impacts on the project. As a result, during the 2020 monitoring process, there were fires on 2 properties. However, this does not represent a problem because there is no impact on the eligible areas of the REDD+ components and wetlands. With this hot spot monitoring report, 14.29% of the overall compliance with the target for the indicator number of reports of properties with satellite analysis to identify hot spots is met.

A detailed report of REDD+ Activities is presented at the following link ([See REDD+ Activity Attachments](#)).

5.3. REDD+ Safeguards Monitoring Report

The CO2Bio P2 initiative addresses the respect and compliance with seven social and environmental safeguards during the period 2021-2022, according to the document "Tool to demonstrate compliance with REDD+ safeguards". In this regard, the indicators and targets stipulated in the Safeguards Monitoring Plan for the period in question are being monitored.

Taking into account the update of the BioCarbon Registry standard (March 7, 2023) in its version 3.0, the consideration of the "No Net Harm" tool on social and environmental safeguards was determined to be relevant. In this regard, the project management has followed up on compliance with section 3 "No harm to the environment and society", more specifically in the "REDD Safeguards" section. BioCarbon Registry (2023) states:

The implementation of REDD+ activities can generate benefits for communities and the environment and reduce GHG emissions. However, there may be some social and environmental risks associated with their implementation. In this sense, REDD+ safeguards are measures aimed at preventing the undermining of fundamental social, economic or environmental rights and the occurrence of negative impacts arising from the design and

implementation of REDD+ activities. They also include measures to improve the capture and distribution of benefits generated by REDD+ activities. (pg 6)

From this perspective, the following is a comparative table that allows to identify in a general way the approach and compliance of the tool “No Net Harm” for social and environmental safeguards of the project CO2Bio P2 (period 2021-2022):

Table 14. Approach and fulfillment of the requirements of the tool “No Net Harm” for REDD+ safeguards of the CO2Bio P2 project (Period 2021-2022).

| ID | Safeguard | Tool Requirement ‘No Net Harm’ | Approach and Compliance |
|----|--|---|--|
| 1 | The complementarity or compatibility of measures with the objectives of national forest programs and relevant international conventions and agreements | (a) Actions complement or are consistent with the objectives of national forest programs and relevant international conventions and agreements. | An analysis of the legal compatibility of the project activities with national regulations and international conventions/agreements has been carried out. |
| 2 | Transparency and effectiveness of national forest governance structures, taking into account national legislation and sovereignty | (b) Transparent and effective national forest governance structures, taking into account national legislation and sovereignty. | The recognition of forest governance structures and the identification of instruments in this process have been carried out. Likewise, the mechanisms used to guarantee transparency and access to information are related, taking into account the communication barriers in the reference region of the project |
| 3 | Respect for the knowledge and rights of indigenous peoples and members of local communities, taking into account relevant international obligations and national circumstances and legislation, and bearing in mind that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples. | (c) Respect for the knowledge and rights of indigenous peoples and members of local communities, considering international obligations, national circumstances and relevant laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples. | The local community has been identified within the project reference region. Work tables have also been developed to ensure the free, prior and informed consent of the project participants. It is important to note that agreements have also been developed with the communities and owners, and in this regard, this has been legally planned. |
| 4 | The full and effective participation of stakeholders, in particular indigenous peoples and local communities, in the actions referred to in | (d) The full and effective participation of relevant stakeholders, in particular indigenous peoples and local | A strategy has been developed to ensure the full and effective participation of stakeholders, including: (i) |

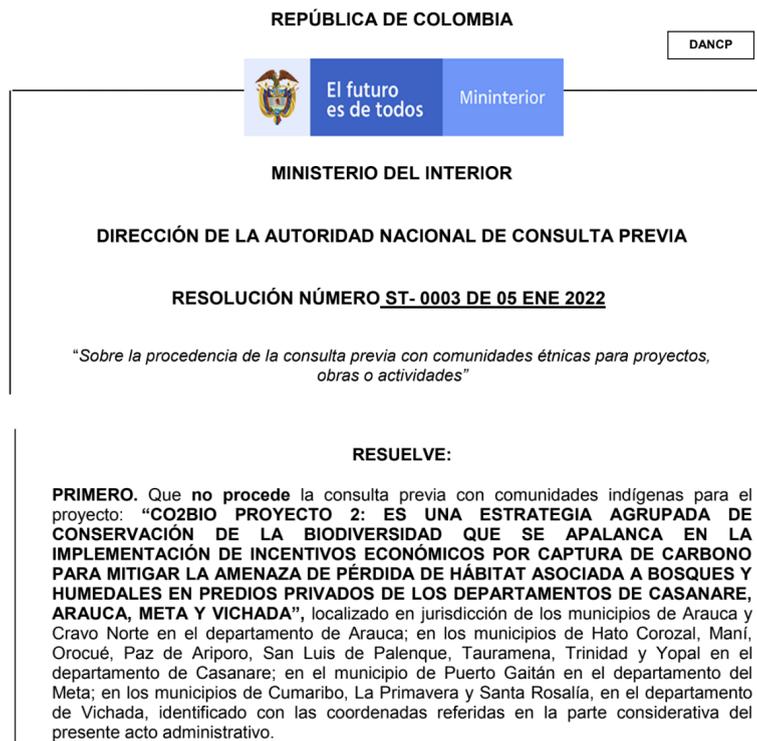
| | | | |
|---|--|---|--|
| | paragraphs 70 and 72 of the present decision. | communities, in the actions referred to in paragraphs 70 and 72 of this decision. | the identification of actors; (ii) the active dissemination of information; (iii) the promotion, awareness-raising and strengthening of decision-making capacities; and (iv) the use of appropriate mechanisms to ensure that opinions can be communicated to the project owner. |
| 5 | The compatibility of the measures with the conservation of natural forests and biodiversity, ensuring that the measures referred to in paragraph 70 of the present decision are not used for the conversion of natural forests, but serve instead to incentivize the protection and conservation of those forests and the services derived from their ecosystems and to enhance other social and environmental benefits. | (e) Actions should be consistent with the conservation of natural forests and biodiversity, ensuring that the actions referred to in paragraph 70 of this decision are not used for the conversion of natural forests, but are used to incentivise the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits. | The sustainable practices implemented (REDD+ and Wetlands) have been reported within the framework of the project and, in this sense, demonstrated their coherence with the conservation of natural forests and biological diversity. |
| 6 | The adoption of measures to address the risks of reversal. | (f) Actions to address reversal risks | A reversal risk analysis has been performed, as well as the identification of coping mechanisms. On the other hand, from the legal side and depending on the effectiveness of the initiative, the sections related to the permanencies of the communities, conservation clauses and risk management plans associated with the reversal have been linked. |
| 7 | Taking measures to reduce the displacement of emissions. | (g) Actions to reduce the displacement of emissions | A report has been made on the identification, control and surveillance to prevent leaks, as well as their respective risk assessment. |

Finally, the [Monitoring Plan and Report of SAFEGUARDS REDD+](#) for CO2Bio P2, is attached here, in order to ensure access to information, transparency in governance structures, respect for the ethnic communities present in the territory, monitoring for strategies to avoid the risk of reversal and displacement of emissions in the area of the project. Compliance with this requirements can be clearly evidenced.

5.3.1. Consultation of origin

A request was made to the Ministry of the Interior regarding the appropriateness of prior consultation with ethnic communities for projects, works or activities, with the response of Resolution number ST-0003 of January 2022 issued by the Ministry of the Interior, which resolves that: "Prior consultation with indigenous communities, black communities and ROM communities is not appropriate for the project: CO2BIO PROJECT 2", document attached as an annex ([Provenance of prior consultation](#)).

Image 13. Resolution number ST-0003 of January 2022, on the appropriateness of the prior consultation.



5.4. Continuity Monitoring Report

According to the validated risks, for this second verification the risks related to the implementation of project activities are adjusted, identifying three (3) categories (environmental, financial and social), and standardizing a risk classification as mentioned in number 13 of the BCR standard, which will apply in the next verifications. See the analysis of the two ecosystems described in 3.4 Risk

Management. In conclusion, the lack of identification of critical areas in the project indicates that risk management is being carried out properly, but it is essential to continue monitoring and evaluating long-term risks and take preventive and corrective measures to mitigate the identified risks.

In relation to the environmental aspect, it is evident that for the risks of Fire, Flood and Emissions, a compliance of 6.67% has been reached for each one, with the according mitigation actions for each risk.

In the financial aspect, the risk of non-profitability has an advance of 14.29% according to the mitigation measures. The risks of low market demand and contractual non-compliance have an advance of 7.14% for each one.

The Social aspect reports a compliance of 28.57%, where the land dispute and strengthening of knowledge exchange are evaluated.

In conclusion, a significant advance in the three types of risk is reported according to the [reports of permanence monitoring](#).

5.5. Project Emissions Monitoring Report

As stipulated in the methodological document BCR0002, section 14.5, the validated emission factors can be applied in the estimation of emissions in monitoring. Therefore, for this period the emission factors defined for Total Biomass and Soil Organic Carbon that were validated were taken into account. Therefore, for the 2021 period, only the project activity data was monitored.

The emissions estimate was calculated according to the identified deforestation and forest degradation, and is expressed in terms of tons of CO₂eq. The calculation of emissions of other GHGs, such as CH₄ and N₂O, was based on the results of fire monitoring in the tree component.

5.5.1. Annual deforestation

The estimation of deforestation in the project area and leakage area was carried out based on the guidelines described in section 14.5.1 of the BCR0002 methodology. This is how the deforestation dynamics in the area covered by forest during the year 2021 was evaluated (Table 15).

Table 15. Monitoring of annual deforestation in the project area and leakage area, year 2021.

| Area | Annual change in forest area (ha/year) | t1 | t2 | A1 (ha) | A2 (ha) |
|--------------|--|------|------|-----------|-----------|
| Project Area | 17.34 | 2020 | 2021 | 19,841.08 | 19,823.74 |
| Leak Area | 7.0 | 2020 | 2021 | 3545.0 | 3538 |

Note: t_1 : monitoring period start year; t_2 : monitoring period end year; A_1 : forest area, at monitoring period start; A_2 : forest area, at monitoring period end.

Source: Cataruben Foundation.

Consequently, deforestation values of 17.34 ha/year in the project area and 7.0 ha/year in the leakage area are reported.

5.5.2. Annual degradation

Similarly, to estimate degradation in the project area and leakage area, the dynamics of change was evaluated for each type of degradation during the year 2021 (Table 16 and 17), according to the procedure established in section 14.5.1 of the BCR002 methodology.

Table 16. Monitoring the annual degradation in the project area, year 2021.

| i (Degradation type) | DFi proy, year (ha) | t_1 | t_2 | Core,lb (ha) | Core-torque,lb (ha) |
|----------------------|---------------------|-------|-------|--------------|---------------------|
| Primary | 81.520 | 2020 | 2021 | 9,899 | 9,817.480 |
| Secondary | -26.000 | 2020 | 2021 | 504.000 | 530.000 |

Note: DFi proy, year: Annual degradation in the project area; t_1 : monitoring period start year; t_2 : monitoring period end year; Core: core class project area, in the monitoring period start year; Core-patch: core-to-patch project area, in the monitoring period end year.

Source: Cataruben Foundation.

Table 17. Monitoring the annual degradation in the leakage area, year 2021.

| i (Degradation type) | DFi f,year (ha) | t_1 | t_2 | Core,f (ha) | Core-pair,f (ha) |
|----------------------|-----------------|-------|-------|-------------|------------------|
| Primary | -34.880 | 2020 | 2021 | 1,219 | 1,254 |
| Secondary | -14,000 | 2020 | 2021 | 144.000 | 158.000 |

Note: DFi f, year: Annual degradation in leak area; t_1 : monitoring period start year; t_2 : monitoring period end year; Core: core class leak area, in monitoring period start year; Core-patch: core-to-patch leak area, in the monitoring period end year.

Source: Cataruben Foundation.

During the year 2021 positive values are recorded only for the primary degradation of the project area (81.5 ha/year).

5.5.3. GHG emissions in the monitoring period

According to the procedure described in section 14.5.2 of the BCR002 methodology, Cataruben conducted annual emissions monitoring in forest areas.

For the 2021 period, there are **12,538.12 tCO₂e** emitted due to forest deforestation in the project area (Table 18); for the leakage area, no emissions above the baseline are reported, so its value is negative in this monitoring period (Table 19).

Table 18. Monitoring of annual emissions in the project area, year 2021.

| EAREDD+Proy-year (tCO2e) | DEFREED+proy,year (ha) | CTeq (tCO2e/ha) |
|--------------------------|------------------------|-----------------|
| 12,538.12 | 17.3 | 723 |

Notes: EAREDD+Proy-year: annual emission in the project area; DEFREED+proy,year: annual deforestation in the project area; CTeq: total carbon dioxide equivalent.

Source: Cataruben Foundation.

Table 19. Monitoring annual emissions in the leakage area, year 2021.

| EAf,year (tCO2e) | DEFf,year (ha) | TCO2eq (tCO2e/ha) | EAlb,f,year (tCO2e) |
|------------------|----------------|-------------------|---------------------|
| - 17,974 | 7.0 | 723 | 23,035 |

Notes: EAf,year: Annual emission in leak area; DEFf: Annual deforestation in leak area; TCO2eq Total carbon dioxide equivalent; EAlb,f: Annual emission of deforestation in leak area in baseline scenario.

Source: Cataruben Foundation.

For emissions from forest degradation, a value of **15,906.66 tCO2e** was recorded in the project area (Table 20). Similar to the previous case, emissions from degradation in the leakage area do not report positive values (Table 21).

Table 20. Monitoring of annual emissions by degradation in the project area0, year 2021.

| EAREDD+Proy-year | DFPREED+proxy,year | DFSREED+proxy,year | DBTCO2eq,1 | DBTCO2eq,2 |
|------------------|--------------------|--------------------|------------|------------|
| 15,906.66 | 81.520 | - 26,000 | 252 | 178 |

Notes: EAREDD+Proy-year: Annual emission in the project area for the monitored period; DFPREED+proy,year: Annual historical primary degradation in the project area; DFSREED+proy,year: Annual historical secondary degradation in the project area; DBTCO2eq: Carbon dioxide equivalent contained in the total biomass per hectare difference for each degradation class.

Source: Cataruben Foundation.

Table 21. Monitoring of annual emissions by degradation in the leakage area, year 2021.

| EAf,year | DFPf,year | DFSf,year |
|----------|-----------|-----------|
| - 11,275 | - 35 | - 14 |

Notes: EAf,year: Annual emission in leak area for monitoring period; DFPf,year: Annual historical primary degradation in leak area; DFSf,year: Annual historical secondary degradation in leak area.

Source: Cataruben Foundation.

In order to estimate the emission of other GHGs due to the combustion of woody biomass in eligible areas, [Hot Spot Monitoring](#) for the year 2021 recorded heat points in forest cover of two farms; however, there is no evidence of loss of eligible areas.

5.5.4. Quantification of the emission reductions of the project

The reduction of emissions from avoided deforestation and degradation in the 2021 period was estimated taking into account the emissions reported for the project area and leakage area, in relation to the baseline scenario.

Since there was no significant increase in GHG emissions from deforestation and degradation in the leakage area compared to the baseline scenario, the analysis shows negative values for this variable. Therefore, to avoid overestimations in the quantification of the project's emission reductions, these values were taken as zero.

In this regard, the project reports emissions reductions of **237,609 tCO₂e** and **7,843 tCO₂e** from avoided deforestation and degradation, respectively (Table 22 and Table 23). For a total of **245,452 tCO₂e** reduced under the REDD+ component.

Table 22. Monitoring emission reductions for avoided deforestation, by 2021.

| Reducing Emissions from Deforestation* | | | | | |
|---|--------------|--------------|---------------|-----------------------|---------|
| REDEF,REDD+proy (tCO ₂ e) | T1 | T2 | EADEF,lb,year | EADEF,REDD+proxy,year | EADEF,f |
| 237,609 | 2,020 | 2,021 | 250,147 | 12,538.12 | - |

Source: Cataruben Foundation.

Table 23. Monitoring of reduction of emissions by avoided degradation, by 2021.

| Reduction of emissions by degradation | | | | | |
|---|-------|-------|---------------|-----------------------|--------------|
| REDEG,REDD+proy (tCO ₂ e) | T1 | T2 | EADEG,lb,year | EADEG,REDD+proxy,year | EADEG,f,year |
| 7,843 | 2,020 | 2,021 | 23,749 | 15,907 | - |

Source: Cataruben Foundation.

Detailed calculations can be found in the spreadsheet Annex REDD+ > Emission monitoring > [1. Emissions REDD+ P2 v3.xlsx](#) > Sheet 4. Monitoring 2021.

6. QUALITY CONTROL AND QUALITY ASSURANCE PROCEDURES

The implementation of quality control and quality assurance procedures, manuals, procedures, guides and formats necessary to ensure that the project met the requirements and expectations indicated in the Methodological Documents: “BCR0002 Quantification of GHG Emission Reductions from REDD+ Projects” and “BCR004 Quantification of GHG Emission Reductions - Activities that avoid land use change in inland wetlands” (the requirements of ISO 9001/2015, ISO 14001/2015), as well as legal and regulatory requirements and those of the Cataruben Foundation's own Integrated Management System are listed in Table 2 and were linked to the IMS. (See [Quality Control and Assurance Procedures](#))

Table 24 Quality Control and Assurance Documents.

| SIG Code | Document Name |
|-----------------|--|
| FC-GOP-03 | General Procedure for Field Visits. |
| FC-GOP-04 | Flora and Fauna Analysis Procedure |
| FC-GOP-05 | Camera Trap Procedure |
| FC-GOP-06 | Procedure for Classification of Forest Information of Plots |
| FC-GOP-07 | Procedure for Monitoring Project Boundaries |
| FC-GOP-08 | REDD++ Activity Monitoring Procedure |
| FC-GOP-09 | Procedure for Technical Training |
| FC-GOP-10 | Procedure for sampling biodiversity associated with wetlands |
| FC-GOP-12 | Multi-temporal fire analysis procedure |
| FC-GOP-13 | Procedure in Geographic Information Systems |
| FC-GOP-14 | Procedure for quantifying GHG emission reductions and/or removals in CO2Bio projects |
| FC-GOP-15 | Procedure for the Lifting of Plots in Forests |
| FC-GOP-16 | Procedure Measurement of aquatic vegetation in continental wetlands |
| FC-GOP-21 | Procedure for Determining Degradation and Fragmentation in REDD+ Projects |
| FC-GOG-01 | Verification of viable areas guide |
| FC-GOG-02 | Reference Area Delimitation Guide |
| FC-GOG-03 | Leak Area Delimitation Guide |
| FC-GOG-04 | Property Recognition Guide |
| FC-GOG-05 | Guide Building plots |
| FC-GOG-06 | Boundary Recognition Guide |
| FC-GOG-08 | Plot Monitoring Guide |
| FC-GOG-13 | Satellite Image Processing Guide |
| FC-GOG-14 | Vegetation sampling format guide with quadrant |
| FC-GOG-17 | Format Filling Guide Social, Environmental, Economic Property Characterization |

| | |
|------------|--|
| FC-GOG-18 | Methodological guide for the identification of orinoquian wetlands and associated vegetation |
| FC-GOG-19 | Guide to quantifying annual historical deforestation |
| FC-GOG-23 | Instructive forest model on google earth engine |
| FC-GOG-24 | Instructive Interpretation of CLC- Scale 25000 |
| FC-GOG-25 | Clc Interpretation Scale 1:15,000 |
| FC-GOG-26 | AcATaMa Instructional |
| FC-GOF-04 | Format Mechanism for the full and effective participation of stakeholders in the GHG mitigation initiative |
| FC-GOF-08 | Format Identification of Natural Coverage |
| FC-GOF-10 | Format Plot Monitoring Report |
| FC-GOF-16 | Format Landmarks Monitoring Plots |
| FC-GOF-20 | Format Field Log |
| FC-GOF-029 | Format Simulator Economic Benefits |
| FC-GOF-033 | Wildlife Registration Format |
| FC-GOF-035 | Flora Registration Format |
| FC-GOF-037 | Price Management Format |
| FC-GOF-038 | Format Property Characterization |
| FC-GOF-043 | Format Vegetation recording by sampling with plot |
| FC-GOF-051 | Format Record of aquatic and herbaceous biomass |
| FC-GOF-052 | Format Calculation of Wetland Emissions |
| FC-GOF-053 | Format Calculation of REDD+ emissions |

Source: Cataruben Foundation, 2023.

7. DEVIATIONS MONITORING PLANS

With regard to the deviations made in the monitoring report, they correspond to the monitoring plans for project activities, socio-environmental effects, project permanence, changes in biodiversity, REDD+ activities; aspects that were not formulated for the crediting period of the project (30 years) in the validation process; and the deviations are listed in table 25.

Also, new updates are adopted: Monitoring Report to version 3.0 of the BCR standard, the implementation of the Tool to demonstrate compliance with REDD+ safeguards, the Tool for

determining contributions to the fulfillment of the Sustainable Development Goals (SDGs) of Greenhouse Gas (GHG) mitigation projects and the Tool BCR Damage Avoided and environmental and social safeguards.

Table 25. Ratio Deviations Made to Version 1.0 of the PDD.

| Component | PDD Version 1.0 | Monitoring Report V 1.0 |
|--|---|---|
| <p style="text-align: center;">Continental Wetlands</p> | <p>With regard to the validated <i>Project Activities</i> monitoring plan, it stipulated (5) activities, together with 10 indicators, with measurable targets at a monitoring frequency level (annual, biannual or quinquennial).</p> | <p>According to the monitoring report, it was adjusted in terms of indicators (8), goals and monitoring frequencies, in addition to this, the crediting period (30 years) of the project is added along with the goals to report.</p> |
| | <p>With regard to the validated <i>Socio-Environmental Effects</i> monitoring plan, it was carried out in the (5) project activities mentioned above, in order to evaluate the possible negative or positive effect that they could represent with their implementation; in that sense, indicators were raised, monitoring frequency (annual, biannual or quinquennial) and an analysis of results column, which can be evidenced in table 39 of PDD version 3.0.</p> | <p>The monitoring plan was adjusted in terms of adding goals, adjusting monitoring frequencies, as well as adding the project's crediting period.</p> |
| | <p>Regarding the monitoring plan for validated <i>permanence risk</i>, three types of risks (physical, social and economic) were considered, along with indicators, risk classification and mitigation actions.</p> | <p>The monitoring plan was adjusted with respect to the classification of risks (Environmental, Financial and Social), goals, frequency of monitoring and incorporation of the crediting period of the project.</p> |
| | <p>Regarding the report of <i>changes in the Biodiversity associated with Wetlands</i>, the baseline was generated and a monitoring plan was established in which were contemplated (3) stages of implementation, along with indicators, methodology and monitoring frequency.</p> | <p>The monitoring plan was adjusted in terms of the scope of the stages, methodology, monitoring frequencies, relating the crediting period of the project..</p> |
| | <p>With regard to the <i>REDD+</i> validated monitoring plan, it stipulated (6) activities, together with (9) indicators, with measurable targets at a monitoring frequency level (annual,</p> | <p>The monitoring plan was adjusted in terms of indicators (7), goals and monitoring frequencies, in addition to this, the crediting period (30 years) of the project is added along</p> |

| | | |
|--------------|---|---|
| REDD+ | biannual or quinquennial). | with the goals to report. |
| | Regarding the validated <i>REDD+ Safeguards</i> monitoring plan, it stipulated the interpretation of the 15 safeguards, with targets subject to project activities, with monitoring frequencies (annual, biannual or five-year). | The monitoring plan was adjusted to the interpretation of the (7) safeguards of Cancun, related in the BCR tool, 2022; in that sense, the indicators, goals and monitoring frequencies are adjusted; in addition to this, the crediting period (30 years) of the project is added along with the goals to report. |
| | Regarding the monitoring plan to demonstrate impact regarding the <i>co-benefits under the special category Orchid</i> validated, it included (11) indicators, with goals associated with project activities and often monitoring (annual, biannual or quinquennial). | The monitoring plan was adjusted in terms of indicators, frequency and goals, in addition to this the crediting period of the project (30 years). |
| | Regarding the monitoring plan to demonstrate compliance with the <i>Sustainable Development Goals</i> prioritized in the validation, it was contemplated with goals subject to project activities, with monitoring frequencies (annual, biannual or quinquennial) and indicators. | The monitoring plan was adjusted, taking into account the tool to demonstrate compliance with the SDGs of BCR, 2022; in that sense, the SDGs, indicators, targets and monitoring frequencies are adjusted; in addition to this, the crediting period (30 years) of the project is added. |
| | Regarding the monitoring plan for validated <i>permanence risk</i> , three types of risks (physical, social and economic) were considered, along with indicators, risk classification and mitigation actions. | The monitoring plan was adjusted with respect to the classification of risks (Environmental, Financial and Social), goals, frequency of monitoring and incorporation of the crediting period of the project. |