ASES ON-CHAIN PROTOCOL

PROPOSED PROJECT ACTIVITY ALIGNMENT ASSESSMENT

Fundación Kioto Altagracia Lomitas-Biótacora

FKA-001-COL-04072024 LA CALERA, CUNDINAMARCA, COLOMBIA

FUNDACIÓN KIOTO ALTAGRACIA LOMITAS-BIÓTACORA

Modality A

July 9, 2024

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ases

On-Chain Protocol

ALIGNMENT ASSESSMENT FOR THE PROJECT SUBMITTED BY FUNDACIÓN KIOTO ALTAGRACIA LOMITAS-BIÓTACORA: "ALTAGRACIA" WITH AOCP IDENTIFIER FKA-001-COL-04072024 LA CALERA, CUNDINAMARCA, COLOMBIA.

CONTEXT

As part of the process for the certification of nature-positive projects and the consequent issuance of Verified Nature-Positive Credits (VNPCs) under the ASES on-chain protocol, the Project developer "Fundación Kioto Altagracia Lomitas-Biótacora" submitted the project "Altagracia". This Project activity is in the onboarding stage with the aOCP identification code **FKA-001-COL-04072024 LA CALERA, CUNDINAMARCA, COLOMBIA**. It is a Forest management project near Bogotá, Colombia and project activities will be implemented on August 13th, 2024. Compliance with the principles, values, standards, and requirements of the aOCP is a fundamental requirement to participate in the program. This evaluation takes place during the onboarding phase, before the registration of the project activities, as stipulated in the aOCP Procedures document, which describes all the stages that a Project goes through from its inception to the issuance, sale, and purchase.

Since Project activities have not yet been implemented before the start of the onboarding process, it participates as a project of Modality A. According to the *aOCP Procedures* document, Modality A projects shall go through the following process be registered:

1. Application via the Project Submission Form (PSF), done by Project proponent.
2. Documentation review and alignment assessment, done by aOCP Operations Team.
3. Payment of onboarding fee by the project proponent.
4. Project pre-registration, done by aOCP Operations Team.
5. On- site Validate of the implemented Project activities, done by aOCP Operations Team.
6. Elaboration of Baseline report, Monitoring plan, Contingent table of credits issuance, done by aOCP Operations Team.
7. Project proponent agreement.
8. Project Verification by an external, independent, 3rd-party Verifier, delivering a Project Verification Report.
9. Project registration letter and first credits issuance, done by aOCP Operations Team.

This report corresponds to step 2, alignment assessment. The methodology and data gathered on-site are presented here.

ALIGNMENT ASSESSMENT

The aOCP is founded on robust principles aimed at ensuring that Project activities seeking registration and accreditation with Verified Nature Positive Credits (VNPCs) demonstrably and positively impact ecosystems in a real, measurable, permanent, and additional manner while avoiding any harm to ecosystems and/or society.

Conformity with the aOCP's principles, values, rules, and requirements is a fundamental prerequisite for participation in the program. This evaluation occurs during the onboarding phase,

prior to the registration of Project activities. This mandate is stipulated in the *aOCP Procedures* document, which outlines all the stages a Project undergoes from its inception to the issuance, trading, and retirement of VNPCs.

A positive result of the alignment assessment with aOCP's principles, values, rules, and requirements confirms that the proposed Project activity:

1. Falls into one of the following project types:
    a. Forest management, including Afforestation, Reforestation, and Revegetation (ARR)
    b. Regenerative agriculture
    c. Silvopastoral management
    d. Urban forests / individual tree climate action
    e. Biochar
    f. Water Saving in Agriculture
2. Adheres to the environmental and social no-harm prerequisites,
3. Is anticipated to yield positive impacts on biodiversity,
4. The Project was developed less than 5 years ago;
5. Conforms to the additionality criteria for the requested VNPCs,
6. Possesses documentation substantiating land ownership or an agreement for the project's duration,
7. The Project area has not been degraded, deforested, or burned in the last 24 months;
8. For Projects requesting *Biodiversity Credits for Species Conservation,* a positive alignment assessment also confirms that the proposed Project area has a high conservation value due to its commendable state of preservation.
9. Areas where the Mean Species Abundance indicator (also reported as Biodiversity intactness) is lower than 0.80, indicating that biodiversity is at risk and requires restoration action are eligible for Biodiversity restoration credits.
10. The Key species for biodiversity conservation reported by the Project proponent, are recognized as Key species according to the criteria established in the *aOCP Methodology for biodiversity assessment for species conservation V2.0.*

Certain circumstances may result in an unfavorable assessment and, if not rectified or clarified satisfactorily, could lead to the rejection of the Project activity's registration within the aOCP.

These circumstances include:

- Non-compliance with aOCP's principles, values, rules, and requirements,
- Issuance of contradictory and/or false declarations by the Project proponent or Project developer,
- Diminished confidence in the Project activity's ability to yield anticipated ecosystem and/or social benefits due to an inadequate risk management plan, which encompasses a comprehensive assessment of internal, external, and natural risks, as well as risk mitigation and contingency planning.

According to the information provided by the project proponent in the Project Submission Form (PSF), the proposed activity falls under the aOCP category of Forest Management. The project, named "Altagracia," is proposed by the Fundación Kioto Altagracia Lomitas-Biótacora. This

forestry management project is set to begin on August 13th, 2024, focusing on habitat management, ecosystem restoration, and water resource management. Located on an 88-hectare private property within a state natural reserve near Bogotá, Colombia, the project aims to reforest 30 hectares with 10 different species of native trees while eliminating invasive eucalyptus and pine species.

Key activities include reforesting 10,000 trees, maintaining a nursery for the wax palm (Colombia's national tree), creating a seed bank, and constructing soil restoration terraces. The project also addresses ecological and social challenges by preventing illegal mining, relocating families involved in illegal activities in the project area, and supporting the local community through ecotourism and composting initiatives. The project seeks carbon removal, biodiversity, and water credits.

The Project area and sampling points used for the present analysis are shown in Figure 1.

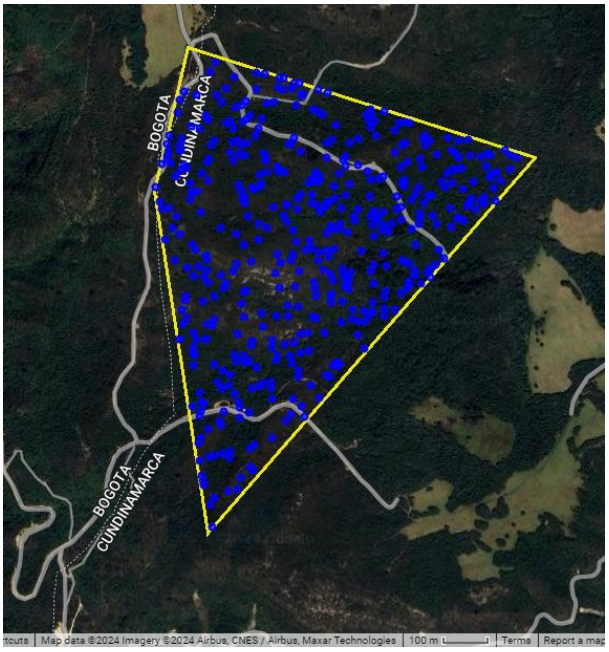


Figure 1. Project area and sampling points used for the NDVI analysis

METHOD OF ANALYSIS

The proposed Project activity was assessed for its alignment with the aOCP rules and requirements, using the following checklist.

Alignment criteria	Y: yes N: no P: partially N.A.: not applicable	Comments
Does the project belong to one of the following types: • Forest management, including ARR • Regenerative agriculture • Silvopastoral management • Urban forests / individual climate action • Biochar • Water Saving in Agriculture	**Y**	
Does the project comply with the environmental and social no-harm requirement?	**Y**	
Is the project expected to have positive impacts on biodiversity?	**Y**	
If the project has already started, is it less than 5 years old?	**Y**	**The project will begin in August 2024.**
Do the requested VNPCs comply with the additionality criteria?	**Y**	
Has documentation establishing land ownership or an agreement for the project's duration been provided?	**Y**	
Have any trees or shrubs been cleared in the project area in the last 2 years?	**N**	
For biodiversity conservation credits, the Biodiversity intactness indicator is > 80%	**N.A.**	
For biodiversity restoration credits, the Biodiversity intactness indicator is < 80%	**Y**	**The project area has a biodiversity intactness of 66.51%.**
Are the proposed key species aligned with the aOCP criteria for key species?	**Y**	

Historical land cover dynamics was analyzed using Google Earth high-resolution images as well as NDVI (Normalized Difference Vegetation Index) analysis. The NDVI is a widely used remote sensing metric that provides information about the density and health of vegetation in a specific area. It is calculated from the difference between near-infrared and red light reflectance from the Earth's surface.

When analyzing historic land cover, NDVI can be used to track changes in vegetation over time. By examining archived NDVI data, it is possible to observe trends in vegetation density, identify shifts in land use patterns, and monitor the effects of factors like urbanization, deforestation, or natural disasters.

NDVI provides information on the quantity and quality of vegetation in a given area. It varies from -1 to +1, where values closer to +1 indicate dense and healthy vegetation, while values close to -1 suggest a lack of vegetation or the presence of artificial surfaces.

In Google Earth Engine, the maximum monthly NDVI from January 2019 to June 2024 was calculated using Sentinel-2 satellite imagery. Random control points were then plotted in each property (Figure 1) and the monthly NDVI value at each point was extracted.

Google Colab was used to generate a box plot showing the distribution of NDVI values at the control points. A box plot is a standardized way of displaying the distribution of a data set based on its summary of five numbers of data points: the "minimum", the first quartile [Q1], the median, the third quartile [Q3], and the "maximum". Box plots provide information on outliers, symmetry of the data, degree of clustering, and whether and how the data are skewed[1].

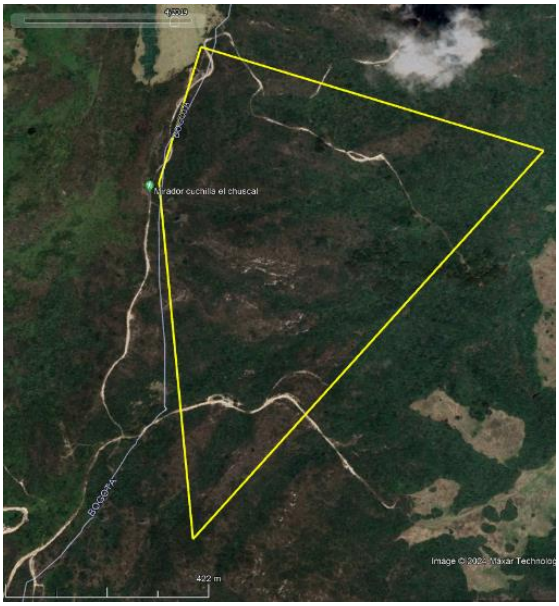
Biodiversity intactness quantifies the impact humans have had on the intactness of species communities. Anthropogenic pressures such as land use conversion cause dramatic changes to the composition of species communities and this layer illustrates these changes by focusing on the impact of forest change on biodiversity intactness[2]. This information was assessed via the Orbify platform.

RESULTS

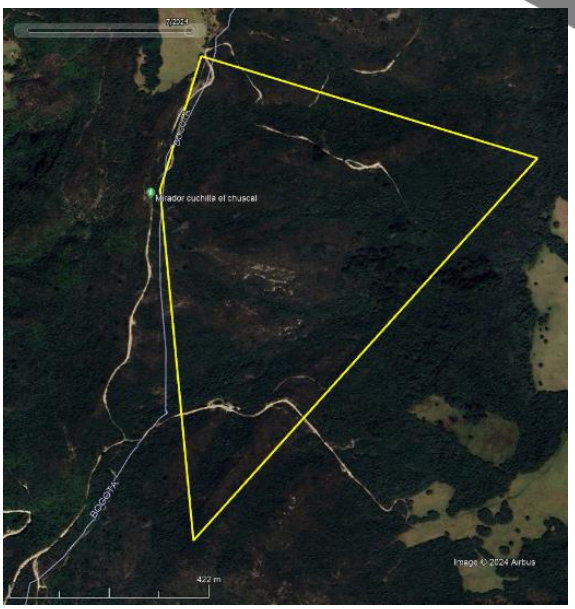
The assessment of Google Earth images (Figure 2) reveals minimal visible land cover changes between 2019 and 2024. Any changes in green cover in the area can likely be attributed to seasonal differences and light exposure between the two images.

[1] Galarnyk, M. Understanding Boxplots. https://builtin.com/data-science/boxplot

[2] Hill, S. L., Arnell, A., Maney, C., Butchart, S. H., Hilton-Taylor, C., Ciciarelli, C., ... & Burgess, N. D. (2019). Measuring forest biodiversity status and changes globally. Frontiers in Forests and Global Change, 2, 70.



April 2019



July 2024

Figure 2. Google Earth images of the project area from 2019 and 2024

Figure 2 illustrates a project area of 47.7 hectares, however, the original PSF submitted by the project proponent indicates a total area of 88 hectares and an intervention area of 30 hectares, indicating that further clarification is necessary.

Figure 3 provides a monthly analysis of NDVI and rainfall from January 2019 to June 2024. The analysis indicates the average monthly NDVI is between 0.45 and 0.58. Seasonal fluctuations are evident, with lower NDVI values often appearing around mid-year and higher values towards the year's end and beginning. Overall, the results of this analysis demonstrate that the levels of NDVI in the project area are moderate. Following the reforestation of the project area, NDVI levels can be expected to increase with time.

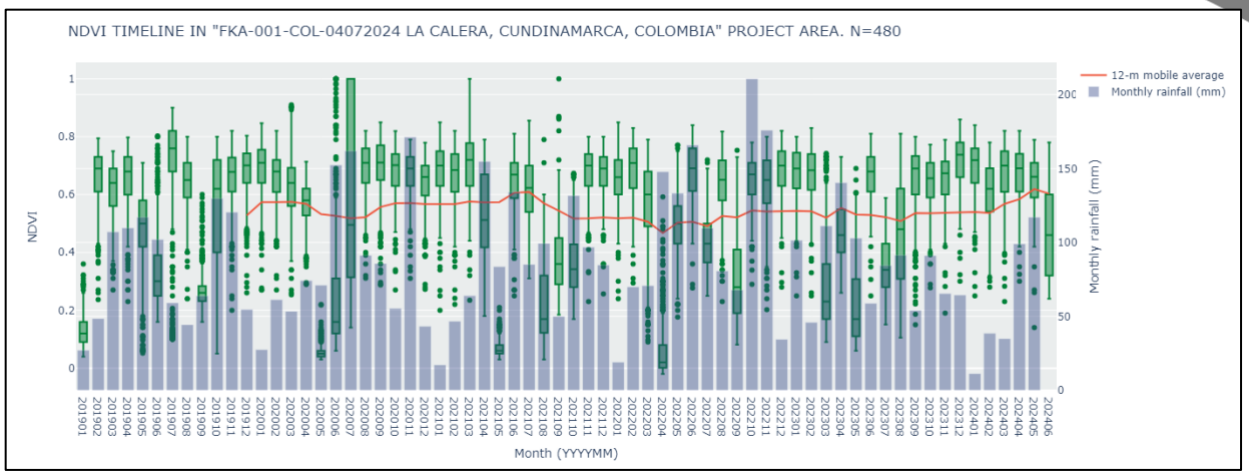


Figure 3. NDVI and monthly rainfall since January 2019

Biodiversity intactness, seen in Figure 4, decreased from 68.48% in 2017 to 66.51% in 2020. The biodiversity intactness value in the project area is eligible for biodiversity restoration credits. More detailed information on the ecological status of the project area and its risks can be consulted in the *Preliminary assessment* document.

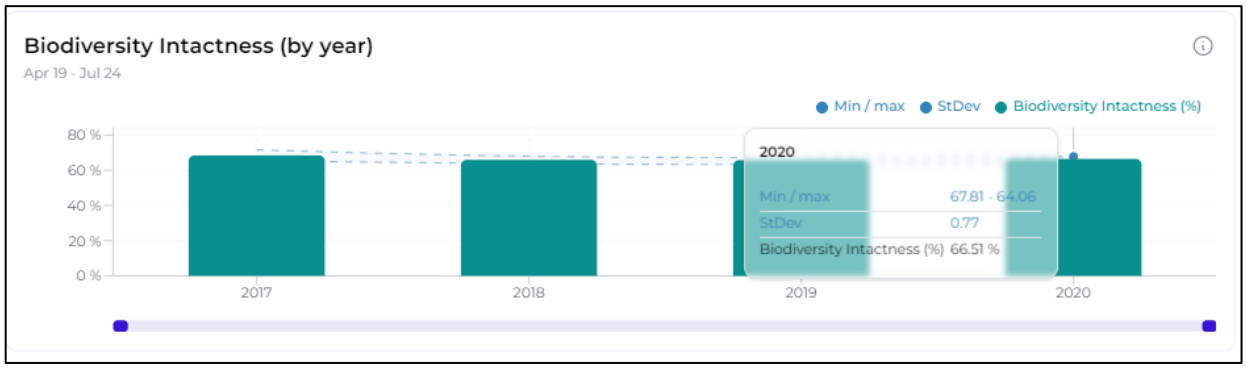


Figure 4. Biodiversity intactness of project area

The project focuses on the conservation of crucial endemic species and their habitats, giving priority to the preservation of biodiversity. This prolonged effort aims to catalog meticulously and understand ecological dynamics, providing valuable data for strategies-informed conservation policies and management practices aimed at safeguarding the delicate balance of ecosystems.

CONCLUSIONS

- The Project intervention area has a biodiversity intactness of 66.51%, which is aligned with **biodiversity restoration** objectives.
- In addition to positively impacting biodiversity, the project is expected to increase carbon dioxide removal and sequestration by enhancing vegetation cover, as well as safeguarding the soil from erosion and sustaining rainfall water infiltration.
- The Project activities have not caused net harm to ecosystems or society, on the contrary, they are expected to create ecological, social, and economic benefits, thus driving sustainable development.
- The aOCP rules and requirements establish that at least 5 plant species should be included to further enhance biodiversity. The planting of 10 different species native to the region meets this requirement**.**
    - **To be considered for onboarding and credit consideration, further information regarding the species' identities and specific project rollout is required.**
- The project implementation will begin in August 2024, which meets the requirement of projects not more than 5 years old at the time this alignment assessment is carried out.
- The project area provided by the proponent (47.7 hectares) does not match the PSF's indication of 88 hectares. Additionally, while the intervention area is noted as 30 hectares, its exact location has not been specified.
    - **Before onboarding, more information is required to elucidate the precise intervention area.**
- Having assessed all these criteria for the aOCP Modality A project alignment criteria, the project "Altagracia" with key identifier **FKA-001-COL-04072024 LA CALERA, CUNDINAMARCA, COLOMBIA** is **provisionally deemed eligible** to be registered as a Modality A, Forest Management project once the requested additional information regarding project intervention zone and species' identities are provided.
    - Upon positive assessment of the requested additional information, the project may proceed to the next steps of assessment for Biodiversity Credits for Species Conservation (BCSCs), Carbon Removal Credits (VCCs), and Water Credits (VWCs).