

ASES ON-CHAIN PROTOCOL

PROPOSED PROJECT ACTIVITY ALIGNMENT ASSESSMENT

Ecological restoration in La Junquera, Murcia

LT-011-SPA-041023 MURCIA, SPAIN

Stichting Life Terra

Type B Project



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ALIGNMENT ASSESSMENT FOR THE PROJECT SUBMITTED BY LIFE TERRA FOUNDATION, ECOLOGICAL RESTORATION IN LA JUNQUERA, WITH AOCPC IDENTIFIER LT-011-SPA- 041023 MURCIA, SPAIN

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 “Life Terra Foundation” submitted the project “Ecological Restoration in La Junquera”, in Murcia, Spain. This Project activity is in the onboarding stage with the aOCP identification code LT-011-SPA-041023.

The project involves the plantation of 20,000 trees between 2022-2023. Since Project activities have been implemented before the start of the onboarding process, it participates as a project of Modality B. According to the aOCP rules and procedures, Modality B projects shall go through the following process to be registered:

1. Application via the Project Submission Form (PSF), done by the 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 is done by aOCP Operations Team.
5. On-site validation of the implemented Project activities, done by aOCP Operations Team.
6. Elaboration of Baseline report, Monitoring plan, and 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 ARR
 - b. Regenerative agriculture
 - c. Silvopastoral management
 - d. Urban forests / individual tree climate action
 - e. Biochar
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 24 months 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;

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 Project activity belongs to the aOCP category of *Forest management*. Project activities consist of the planting of 20,000 trees, from 21 species, in a series of events involving local citizens, volunteers, and students. This restoration aims to enhance biodiversity, have a positive effect on soils, help water infiltration, and provide the means for environmental education. The land was prepared accordingly by manual and mechanical means, and the plantation was done manually. Additionally, the following soil works were implemented: water retention through swales and ponds, tillage avoidance, and previous mechanical loosening of the soil. Project areas and sampling points used for the present analysis are shown in Figure 1.



Figure 1. Project area consisting of 7 polygons.

METHOD OF ANALYSIS

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

Alignment criteria	Yes	No
Does the project belong to one of the following types: <ul style="list-style-type: none"> • Forest management, including ARR • Regenerative agriculture • Silvopastoral management • Urban forests / individual climate action • Biochar 	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	
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

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, researchers can 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 presence of artificial surfaces.

In Google Earth Engine, the maximum monthly NDVI from January 2019 to October 2023 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.

RESULTS

The land cover in the Project area is crops, shrubs and scrub. Satellite images (figures 2 and 3) show that no trees have been removed between August 2019 and November 2023.

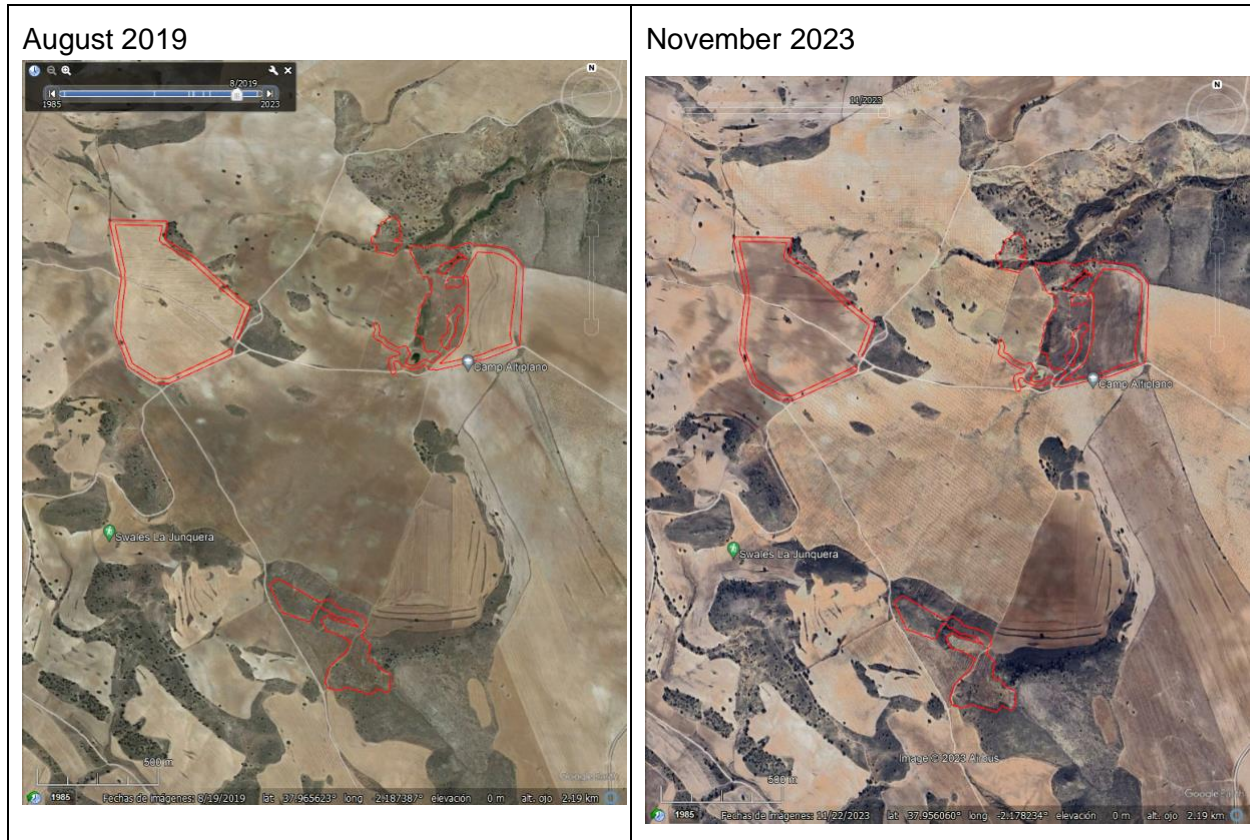


Figure 2. Google Earth images from different dates from 2019 and 2023 in the northern polygons.

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

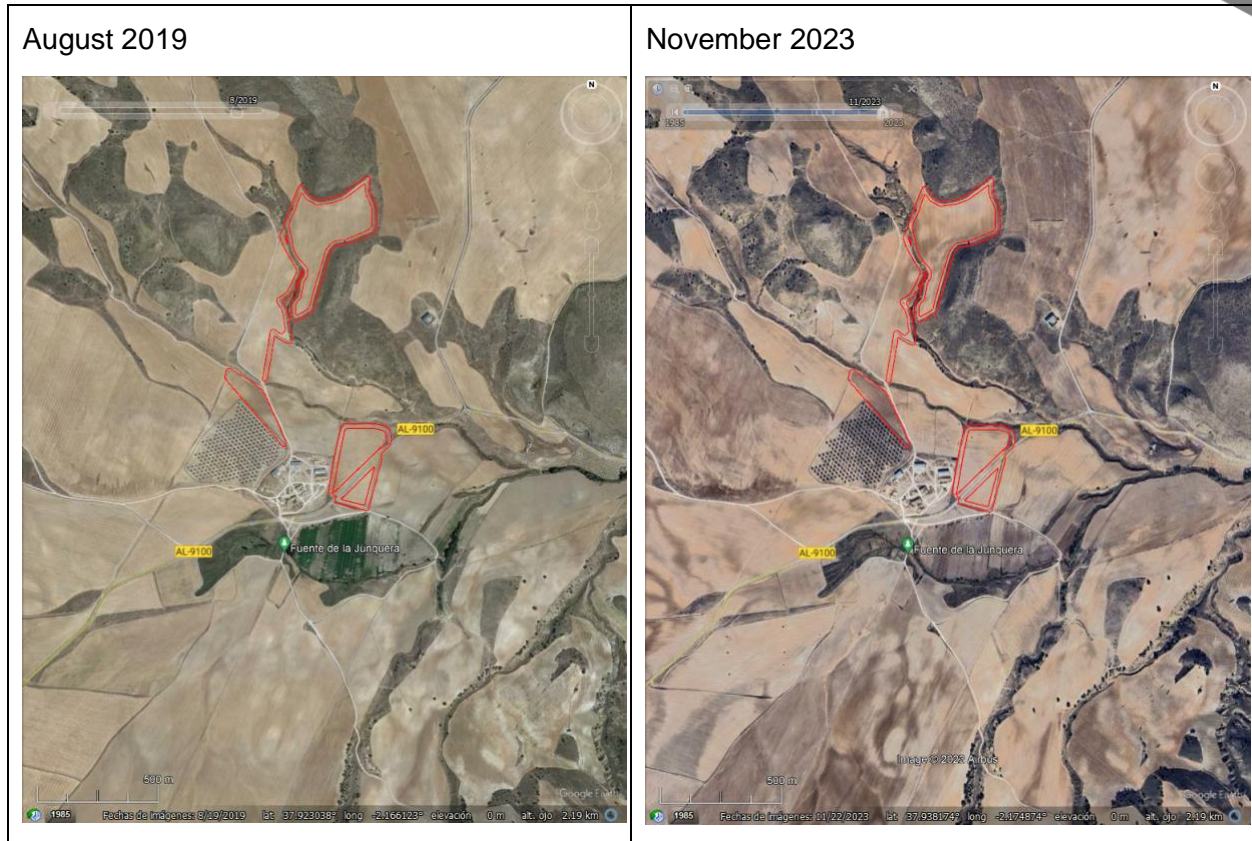


Figure 3. Google Earth images from different dates from 2019 and 2023 in the southern polygons.

NDVI analysis (figure 4) shows that the highest NDVI values are reached between the months of March and June, following the increase in rainfall volume. Since January 2019, yearly mean NDVI has remained almost stable between 0.35 (in 2019) and 0.23 (in 2023), indicating no vegetation loss but water availability dynamics. This value is expected to increase, as the planted trees, shrubs and herbs grow.

NDVI TIMELINE IN "LT-011-SPA-041023" PROJECT AREA, MURCIA, SPAIN. N=100

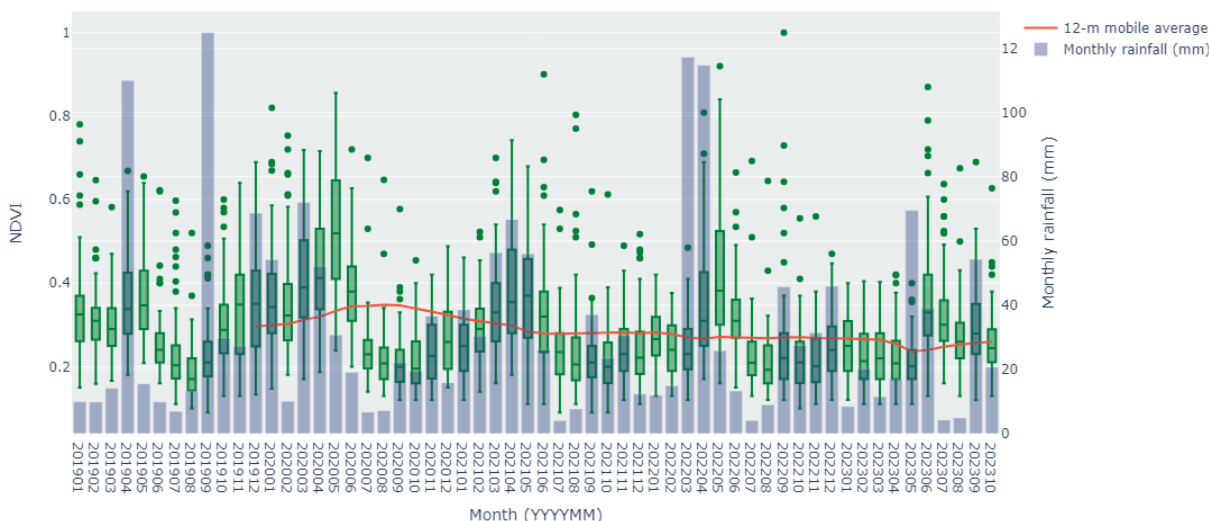


Figure 4. Monthly NDVI and rainfall since January 2019.

The plantation was settled in areas where tree cover was absent (figure 1), notably around agricultural fields. The implemented Project activities are, therefore, an important contribution to increasing forest cover in the Project area, creating biological corridors, at the same time they keep providing important economic and social benefits to the local community.

CONCLUSIONS

- The Project activities, consisting in the plantation of 21 native species, are aligned with the aOCP's principles and criteria. Furthermore, in addition to capturing carbon dioxide from the atmosphere, by increasing vegetation cover, the project is likely to positively impact biodiversity, protect the soil from erosion and sustain 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, being a driver of sustainable development. Labelling of VNPCs for their contribution to SDGs will be subject to the assessment of SDG-specific indicators.
- The Project area has not experienced deforestation and soil degradation within the 12 months preceding the commencement of Project activities.
- The proposed Project activity is in alignment with aOCP rules and requirements and is therefore eligible for registration as an aOCP Project of type *Forest management* in Modality B.