

Pillars of Biodiversity Monitoring

Main Research Questions

Biodiversity monitoring, the mechanism to audit the effectiveness of conservation actions



> **A Habitat Bank is the materialization of the commitment** of Public, Private and/or Voluntary actors to manage a territory around a Biodiversity Conservation Project.

> Biodiversity management is a challenge, a constant question:

¿How does a project demonstrate that it is being efficient or is meeting the established goals?

> These actions should translate into changes or impacts in aspects such as:



Flora



Fauna



Landscape

> Part of the commitment is to **quantify the positive impact.**

¿What are the metrics that arise from demonstrating that biodiversity management has been effective?

> To address this, **Terrasos and Yale University have formed a partnership to investigate the best techniques** and tools to describe changes in a territory and thus evaluate to effectiveness of biodiversity actions.

> This alliance materializes Terrasos' knowledge of the territories and Yale University's academics and track record.



FLORA

How much are vegetation covers changing as a function of the management strategies implemented?

- ▶ **Increase** in vegetation density over time
- ▶ **Change** in the biomass/carbon of land covers over time

- ▶ **Variation** in recruitment rates over time in human-modified land cover types
- ▶ **Increase** in the dissimilarity of each land cover with respect to the baseline

Methodology



Permanent plots



Systematic drone tours



LiDAR overflights



FAUNA

To what extent does the composition and structure of faunal species change in the impacted vegetation cover?

- ▶ **Increase** in the frequency of records found in photo-trappings

- ▶ **Increase** in the dissimilarity in each land cover with respect to the baseline

- ▶ **Increase** in the diversity of trophic guilds in each of the natural land covers

Methodology



Camera traps



Transects and trace tracking



Installation of mist nets



eDNA



Random drone tours



LANDSCAPE

How do the actions affect the landscape, in visual and bioacoustic terms of the Habitat Banks?

- ▶ **Rate** of change of vegetation cover

- ▶ **Increase** in the diversity of the bioacoustic landscape in terms of biophony

- ▶ **Decrease** in the diversity of the bioacoustic landscape in terms of anthropophony

Methodology



Remote sensing



Recorders

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TERRASOS