



# Unlocking multifunctional agroecosystems: innovations for sustainable agriculture

This project works on multifunctional landscapes by simultaneously promoting agricultural productivity and environmental restoration. We will use satellite information, modelling and communication strategies for a sustainable transition



Argentina/Uruguay

A pathway to sustainable production models through biodiversity integration and conservation

## The implemented initiative

In recent decades, the Pampas biome has experienced significant changes in land use, leading to the displacement of natural environments and emphasizing the need for biodiversity conservation. This project focuses on Uruguay and Argentina, both of which have similar production systems and face common rural and socio-cultural challenges. Our goal is to convert uniform systems into multifunctional landscapes that yield long-

term benefits. With the support of FONTAGRO, we aim to establish a multidisciplinary platform involving experts from Argentina (UNRN) and Uruguay (SARAS, CEUTA) to analyze and apply knowledge to the production systems of the Pampas biome. We will collaborate with producer groups, national research institutions, and family production promoters.

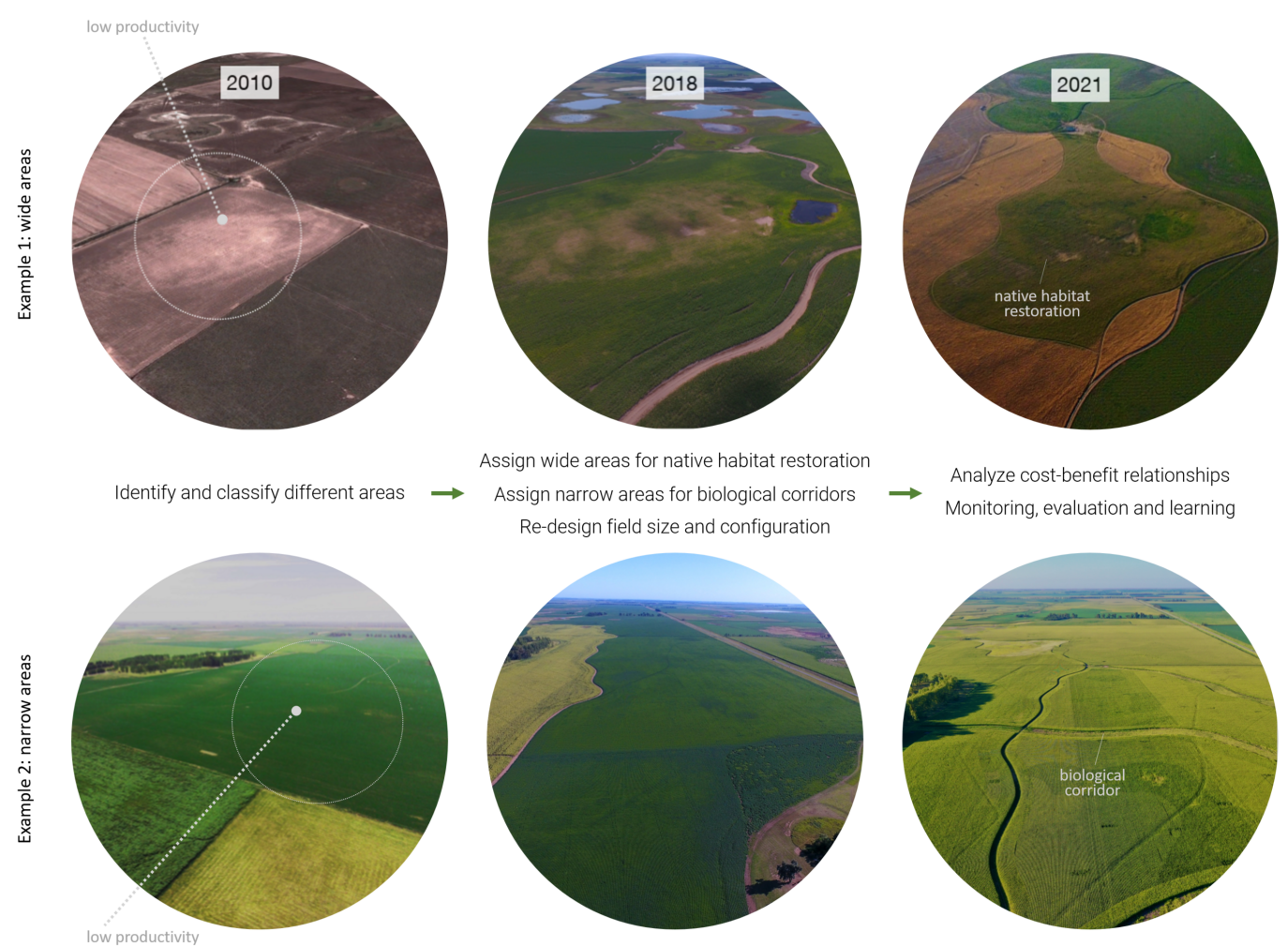
Innovative strategies and tools in Uruguay and Argentina

## The technological solution

The project will strengthen the capacity to harness big data and improve the governance system through participatory mechanisms for the generation of public policies and private agreements. Sustainable transition issues will be addressed through strategies such as the circulation of existing environmental and socio-economic information and its agile analysis. Collaboration between academia and the productive sector will help identify the main needs of producers and broaden the scope of transitions. Edge effects will

be studied through precision agriculture, models for the design of multifunctional landscapes will be developed, and aspects studied in the field will be implemented and evaluated. Beneficiaries will include the public and private sector, educational institutions and civil associations of producers. The project is expected to have positive economic, environmental and social impacts, contributing to national development and improving production, added value of products and producers' incomes.

### Transition to multifunctional landscapes in large-scale agriculture



MÁS INFO



## Results

Expected outcomes include progress on a working methodology for modelling multiple natural contributions in production systems with different edge configurations (Component 1), identification and description of the most relevant variables for yield and pest frequency and intensity and development of spatially explicit predictive models (Component 2), evaluation of 3 elements of agricultural redesign in production facilities and redesign of 4 facilities

(Component 3), review of the state of the art and analysis of the interactions between multifunctional landscape design, scientific, technical and production trends and policies (Component 4). In addition, the creation of a stakeholder map and the co-production and dissemination of key messages to the set of public-private stakeholders involved, including a tool launch event (Component 4).

-  **2** Performance and stakeholder maps
-  **2** Spatially explicit predictive models
-  **1** Arthropod biodiversity database
-  **+4** Redesigned productive establishments
-  **1** Knowledge management and communication platform
-  **+4** Communicable information-educational elements
-  **6** Training workshops for farmers and technicians
-  **+2** Articles published in popular science journals

Main donors

Participating Organizations

