CÔA VALLEY - FAIA BRAVA

Climate Change Mitigation in the Endangered Landscapes Programme

Why Restore Landscapes?

Landscape restoration is increasingly being recognised as a vital tool in limiting the consequences of climate change whilst meeting global biodiversity goals.

The Endangered Landscapes Programme aims to restore natural ecological processes and conserve biodiversity across Europe.

The Project

'Montados' are common silvopastural habitats found in Portugal. These are characterised by pastureland with cork and holm oak trees planted at a low density. These habitats are used by species including the Iberian lynx, Egyptian and black vultures.

This habitat has undergone significant loss and fragmentation over recent centuries and has experienced intense management, including coppicing and debushing.

The Greater Côa Valley project in Northern Portugal aims to restore wildlife and natural processes to these montado landscapes, improving habitats for wildlife, ecosystem functioning and encouraging wildlife tourism in the area. The research area is the Faia Brava Reserve, which has been managed for more than 20 years by the nature organization ATNatureza.

Project Size: **918 ha** Faia Brava reserve within Greater Côa Valley project

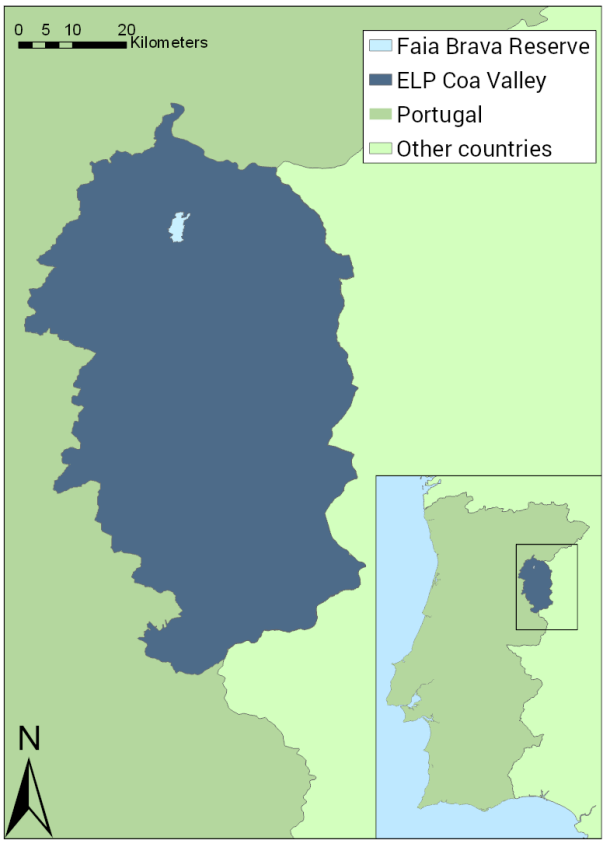
Assessment timeframe: **2000-2020**

Project Outcomes

- **Grasslands improved** from reduced grazing intensity and **introduction of native grazers** (cattle and horses)
- **Increasing biomass and extent of montado habitats**
- **Reduced degradation of holm and cork oak forests** through improved management

Tool: **EX-ACT**

Mitigation potential: **-4,627 tCO_2e**



Assessing the climate change mitigation potential of restoration projects

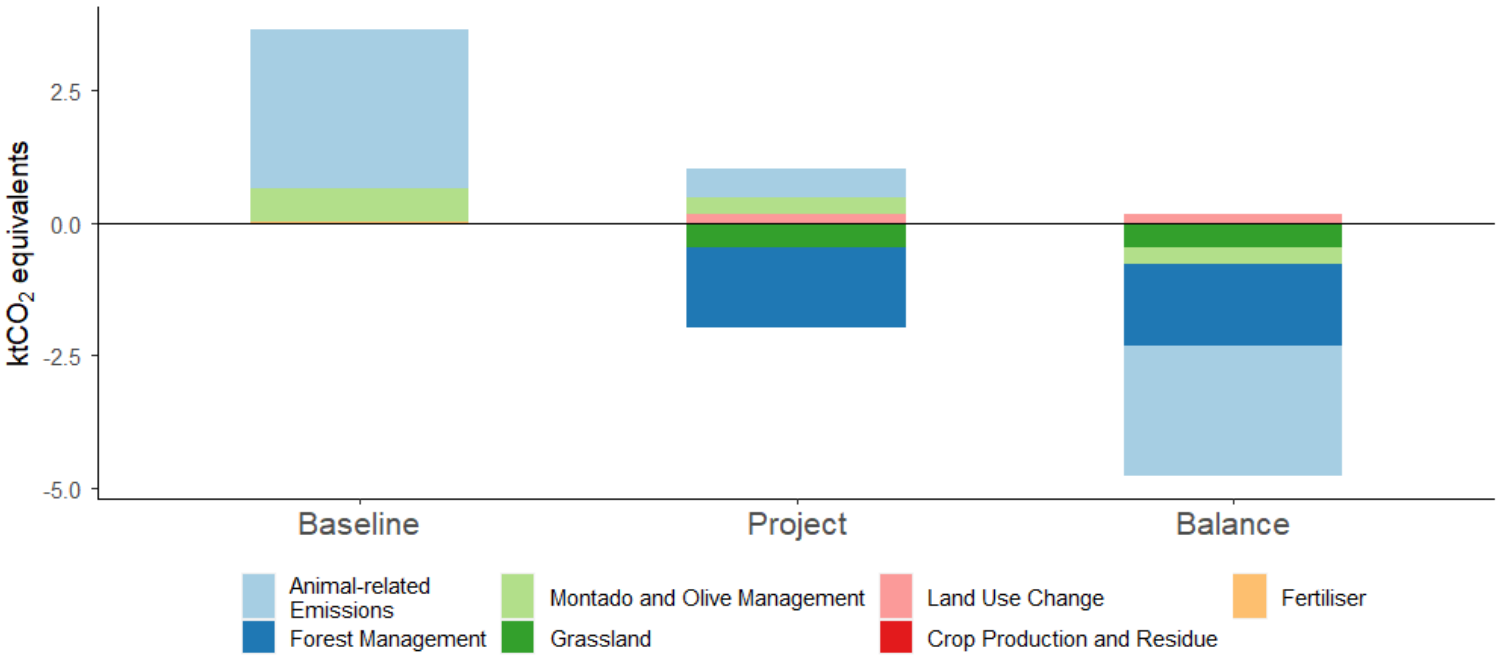
There are several tools and methodologies available for assessing the climate mitigation potential of restoration projects. The choice of an appropriate tool depends on the data available and detail required. This project utilises the EX-ACT carbon assessment tool developed by FAO.

By default, EX-ACT makes use of 'Tier 1' emissions factors: globally agreed means for broad habitat and climate regions. However, 'Tier 2' inputs can be added: emissions factors specific to local areas or adjusted with site-specific information. Updating these values to 'Tier 2' can provide projects with more tailored results and reduce associated uncertainty.

By comparing the outcomes of the project to a baseline, or "business-as-usual" scenario the Greenhouse Gas benefits can be assessed.

The Baseline scenario continued to manage forests intensively and introduced cattle alongside the existing sheep population.

The Project scenario included the main outcomes of the project.



Project Outcomes

According to EX-ACT, the project reduced and sequestered emissions over the 20-year period by **-4,627 tCO_2e**. The significant reduction in the sheep population and replacement with native grazers reduced their direct emissions by **-2,474 tCO_2e**.

Furthermore, the reduction in grazing intensity had further indirect results. The improvement in grassland condition was estimated to sequester a further **-456 tCO_2e**.

The improved management of holm and cork oak forests, including reduced wood extraction, contributed a reduction in emissions of **-1,533 tCO_2e**. Furthermore, increasing the area covered by montado and improving its management sequestered **-317 tCO_2e**.

Reduction in crop residues and fertiliser use also reduced emissions by **-13 tCO_2e** over the project period.

Finally, some land-use change resulted in emissions (disturbances to the soil and vegetation). However, these were minimal, at just **168 tCO_2e**.

Limitations

The results presented here are estimates and could be further improved with carbon data collected from the site.

The equations used within the tool simplify complex ecological processes and there is uncertainty associated with both the Tier 1 and 2 estimates used.

The analysis presented here looks at a relatively short timescale of 20 years. Over the course of time, the potential climate change migration benefits will be substantially higher, particularly for the wider Côa Valley project area.

Further Benefits

- **Improved habitat** for wildlife.
- Continued restoration of the holm and cork oak forests and montado will provide even **greater climate change mitigation benefits**
- **Other ecosystem service benefits** including improved water quality and storage, and reduced soil erosion.
- Improving **nature-based tourism**.

More information

ELP Greater Côa Valley

ATNatureza – Associação Transumância e Natureza

Rewilding Portugal

EX-ACT Tool

ELP Natural Climate Solutions

rspb giving nature a home

UN environment programme

WCMC BirdLife INTERNATIONAL

ENDANGERED LANDSCAPES PROGRAMME

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