GEORGIA – IORI RIVER VALLEY

Climate Change Mitigation in the Endangered Landscapes Programme

Why Restore Landscapes?

Landscape restoration is increasingly being recognised 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

The Iori River Valley project encompasses gallery forest, grasslands and shrublands within the Chachuna Managed Reserve, in South East Georgia's steppe ecosystem. This area is home to diverse wildlife, including lynx, wolf, brown bear, Persian gazelle, Egyptian vulture and Eastern imperial eagle.

Despite its protected status, the area has become increasingly degraded through high-intensity livestock grazing and logging for firewood which resulted in the transition from woodland to pasture in some areas. These practices have increasd biodiversity loss and unsustainable use of the grassland for grazing.

The Iori River Valley ELP project aims to introduce a rotational grazing system in partnership with local shepherds which will reduce grassland degradation and improve conditions in the biodiversity-rich steppes.

Project Size: **42,069 ha** within the Chachuna Managed Reserve

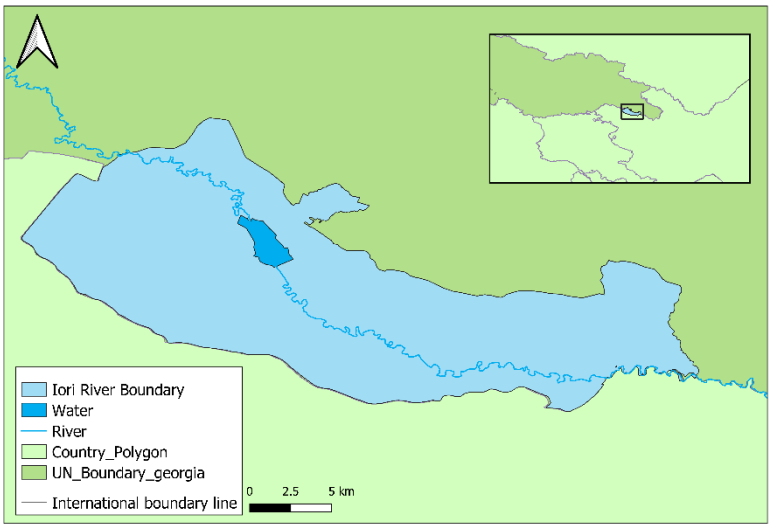
Assessment timeframe: **2020-2040**

Project Outcomes

- Implement a **rotational grazing scheme** to **improve grasslands and reduce further degradation**
- **Improving the condition of gallery forest**
- Produce a **long-term management plan for the Chachuna Managed Reserve**

Tool: **EX-ACT**

Mitigation potential: **-366,081 tCO_2e**



Assessing the climate change mitigation potential of restoration projects

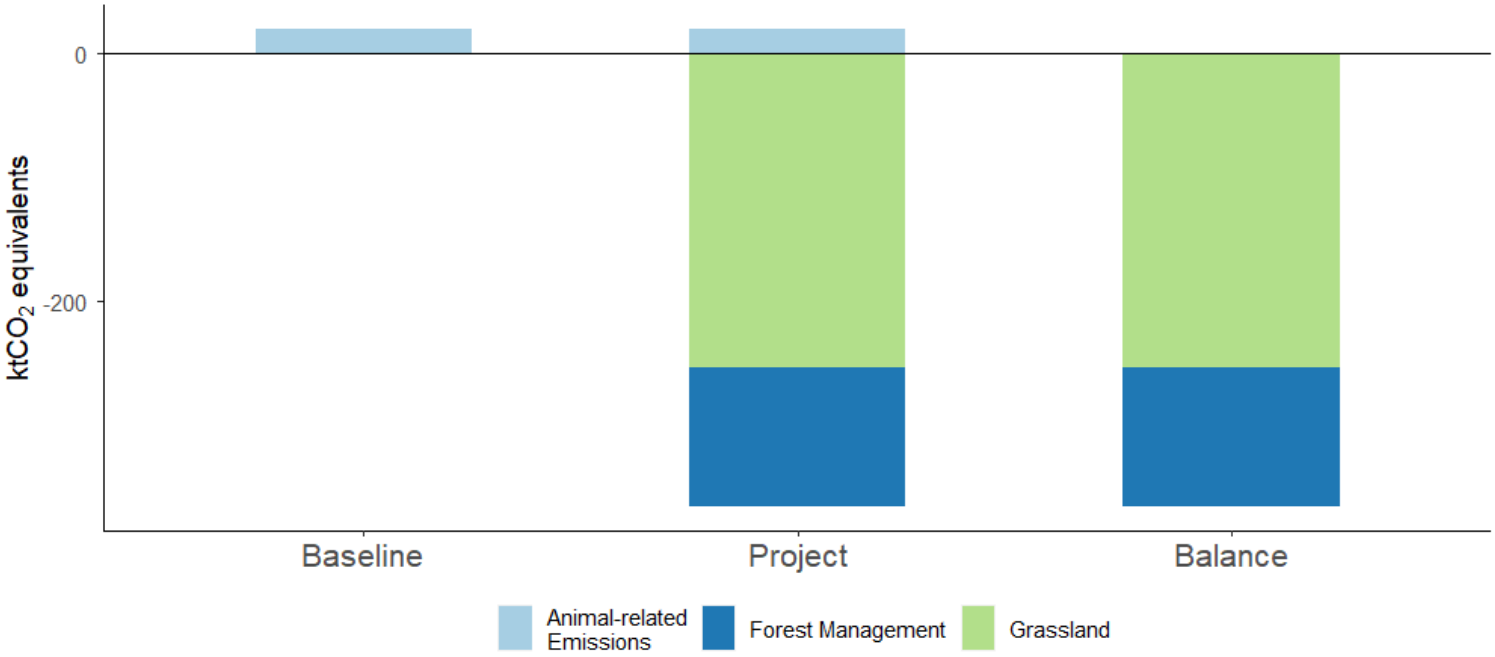
There are several tools and methodologies available for assessing the climate change mitigation potential of restoration projects. The choice of an appropriate tool depends on the data available and detail required. This project utilises the EX-ACT carbon assessment tool developed by FAO.

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 assumed no change in grazing intensity on grasslands or to the degradation of gallery forest.

The Project scenario included the main outcomes of the project and assumed that severely degraded grassland would become moderately degraded, and moderately degraded grassland would become non-degraded grassland. Any grassland which was classed as non-degraded would remain so in the Project scenario.



Project Outcomes

According to the carbon assessment tool EX-ACT, the project could reduce and sequester emissions over the 20-year period by **net emissions of -378,488 tCO_2e**.

The reduction in grazing intensity and subsequent improvement of grassland condition was estimated to sequester **-252,968 tCO_2e** – a significant contribution. The improvement of grasslands could sequester an estimated **-12.2 tCO_2e/ha** where condition is transitioning from severely degraded to non-degraded and **-6.1 tCO_2e/ha** where moderately degraded grassland becomes non-degraded.

Furthermore, the reduced degradation of gallery forest (and increase in vegetation biomass) contributed was estimated to sequester approximately **-113,113 tCO_2e**. This restoration represents a greater per area effort than grasslands with approximately **-43.71tCO_2e/ha** being sequestered into forest biomass and soils.

Livestock (sheep and cattle) densities are not expected to change under the Project scenario, and their emissions therefore don't contribute to the GHG balance.

Limitations

The results presented here are estimates and could be further improved with carbon data collected from the site. Furthermore, the extent of the gallery forest restoration was unknown and therefore a conservative estimate was made.

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.

Further Benefits

- **Improve and connect habitat** for wildlife.
- **Other ecosystem service benefits** including improved water quality and storage, and reduced soil erosion.
- Improving **cooperation for conservation and restoration amongst local stakeholders**.

More information and partners

ELP Iori River Valley

BirdLife Europe and Central Asia

Sabuko

EX-ACT Tool

ELP Natural Climate Solutions

rspb giving nature a home
UN environment programme
WCMC BirdLife INTERNATIONAL
ENDANGERED LANDSCAPES PROGRAMME
ARCADIA A CHARITABLE FUND OF LISBET RAUSING & PETER BALDWIN