CARPATHIAN MOUNTAINS

Climate Change Mitigation in the Endangered Landscapes Programme

Why Restore Landscapes?

Landscape restoration is increasingly 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

The Făgăraș Mountains within the South-Central Carpathian Mountain range are of high ecological value. The area is largely forested and of high importance for climate regulation, flood management and biodiversity. The forests are home species, such as bears, wolves, lynx and endemic species.

The area has been subjected to increasingly unsustainable levels of logging, livestock grazing and hunting. Significant areas of forests have been clear cut and large areas of alpine grassland have become degraded.

The Carpathia project has purchased large areas of land with the aim of restoring and conserving forests to create a future Făgăraș National Park.

Project Size: **16,728 ha** with more land being purchased and brought under protection.

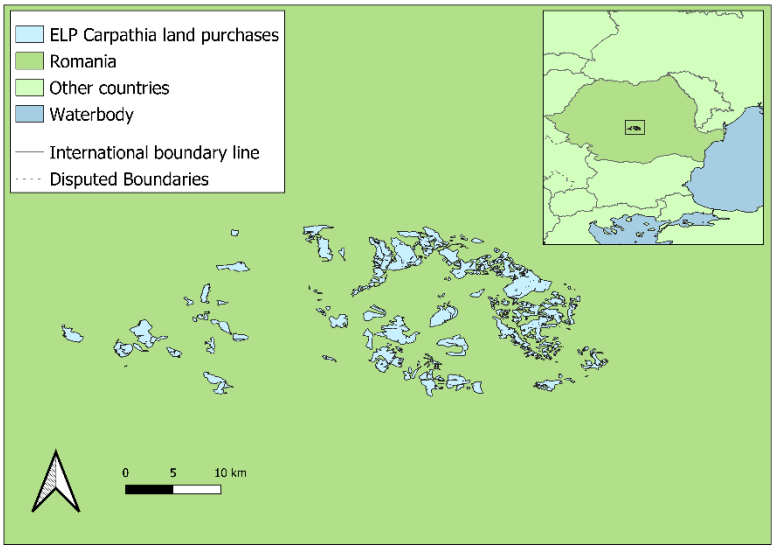
Assessment timeframe: **2012-2020** and **2020-2040**

Project Outcomes

- **Reduction in grassland degradation** on 423ha through livestock management
- **Reforesting 2,141 ha of clear-cut forest**
- **Preventing timber harvesting and deforestation** in 12,585 ha of native forest

Tool: **Carbon Benefits Project**

Mitigation potential: **-15,776 tCO_2e** and avoided emissions from timber harvesting and illegal deforestation between **3,101,260 tCO_2e** and **3,805,875 tCO_2e** (2012-2020). Then **-51,814 tCO_2e** (2020-2040).



Assessing the climate change mitigation potential of restoration projects

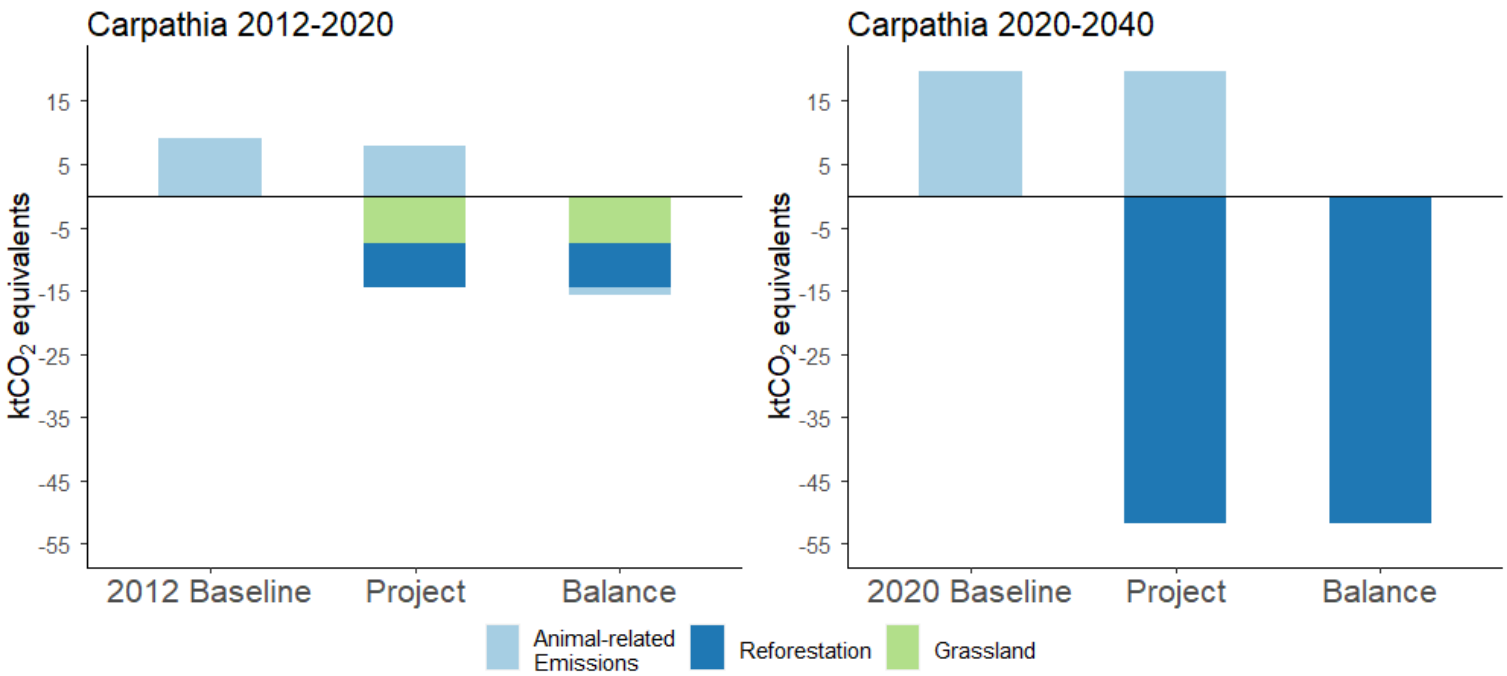
There are several tools and methodologies available for assessing the climate change mitigation potential of restoration projects. The choice of an appropriate tool depends on the data available and detail required. This assessment uses the Carbon Benefits Project (CBP) tool.

By default, CBP 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.

Two Baseline scenarios were used in the first assessment, one assumes timber harvesting at the legal rate took place, and the other assumed illegal deforestation of all remaining native forests occurred. During the second assessment period, the Baseline assumed no further restoration efforts were achieved after 2020.

The Project scenario for both assessments included the main outcomes of the project, reforesting clear-cuts and improving grassland condition in 423 ha.



Project Outcomes

According to the carbon assessment tool CBP, the project could reduce and sequester emissions over the first assessment period (2012-2020) by **-15,776 tCO_2e** and by **-51,814 tCO_2e** between 2020 and 2040 if project aims are achieved this increases significantly when conservation actions to avoid deforestation and degradation in existing forests is included.

Reforestation on clear-cut forests contribute **-6,956 tCO_2e** during the first assessment and could contribute **-51,814 tCO_2e** during the second assessment. Furthermore, under the first assessment, preventing legal timber harvesting or illegal deforestation could prevent emissions of between **3,101,260 tCO_2e** and **2,805,875 tCO_2e.**

The reduction in grazing intensity and subsequent improvement of grassland condition was estimated to sequester **-7,543 tCO_2e**.

The livestock population were reduced slightly during the first assessment due to restricted grazing being put in place. This reduced their direct emissions by **-1,278 tCO_2e** between 2012-2020.

Limitations

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

The tool has some limitations, which include the exclusion of litter and deadwood pools from forest calculations and the immediate change in grassland condition and livestock populations assumed.

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, up to 2040. 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.
- **Economic benefits for local communities** through ecotourism and food production.

More information and partners

ELP Carpathian Mountains

Carpathia

PROPARK

Carbon Benefits Project Tool

ELP Natural Climate Solutions

rspb giving nature a home · UN environment programme · WCMC · BirdLife INTERNATIONAL

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