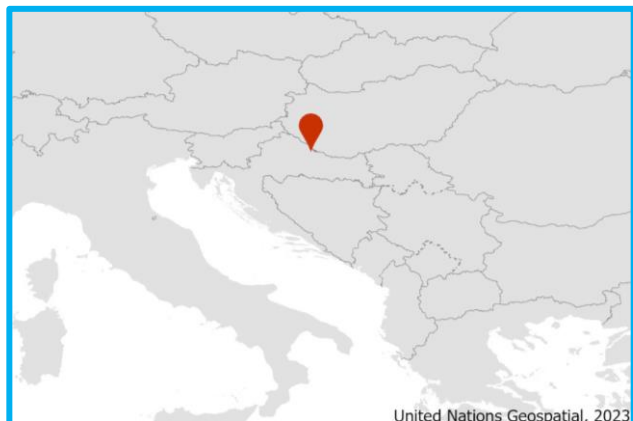


AUSTRIA, SLOVENIA, CROATIA, HUNGARY & SERBIA

MURA-DRAVA-DANUBE

Climate Change Mitigation in the Endangered Landscapes and Seascapes Programme



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations

The Endangered Landscapes and Seascapes Programme supports nature restoration across European land- and seascapes.

Why restore nature?

As well as providing benefits for biodiversity and ecosystem services, restoring nature also has the potential to contribute to climate change mitigation.

About the project:

The Mura-Drava-Danube, also known as the Amazon of Europe, is a riparian landscape of wet meadows, rivers, lakes and floodplain forests spanning five countries.

The area is a designated Biosphere reserve hosting a variety of protected species, including the white-tailed eagle. However, this unique diversity is being threatened by unsustainable development and water management practices.

The project will improve the landscape's biodiversity and water retention abilities by restoring riverine habitats and water flows. This will be achieved through restoration interventions like habitat creation, planting native species and introducing native cows.

Project size: 322,171 ha assessed, within 930,000 ha total site

Assessment timeframe: 2022-2042

Project lead: WWF Adria

Key activities:

- Restore wet meadows
- Restore and recreate riverine habitats
- Restore floodplain processes

Total mitigation potential: --1,328,597 tCO₂-e

Assessing the climate change mitigation potential of this project:

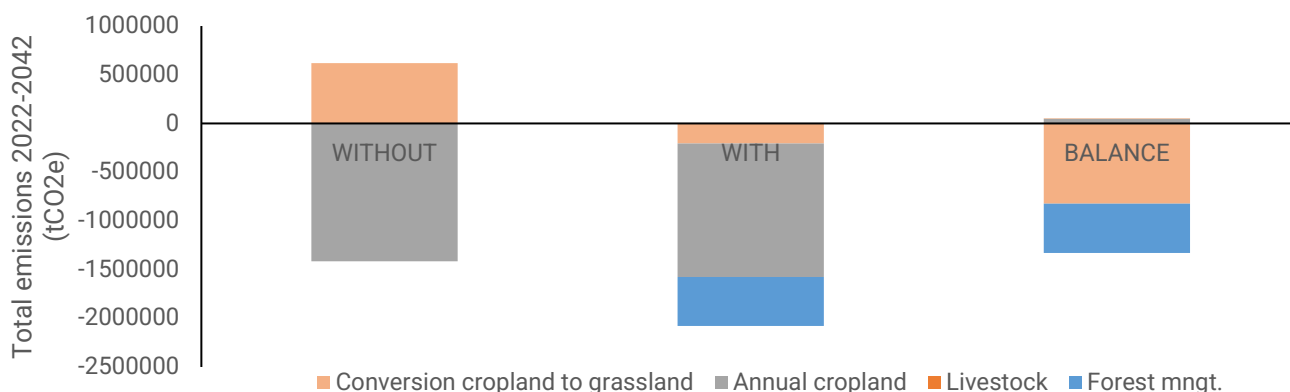
To determine the contribution of these actions towards climate change mitigation, their impacts on carbon stocks and GHG emissions need to be calculated. The most applicable tool for doing this is the EX-ACT carbon assessment tool, developed by FAO.

This tool uses the default 'Tier 1' emission factors, for the carbon sequestration of broad habitats and regions. Accuracy can be increased by more specific 'Tier 2' emission factors from the literature.

EX-ACT compares the 'project scenario' (the impacts of the restoration interventions) with a 'baseline scenario'. This determines the changes in greenhouse gas sequestration that are due to the project.

The interventions included in this assessment are the removal of non-native forest and cropland, the creation of native forest and grassland and the introduction of native cows.

Climate change mitigation results



Assessed total emissions (tCO₂-e) over 20 years in the baseline scenario (without), project scenario (with), and the resulting emissions difference due to the project (balance)

Project outcomes

Over the 20 years of this assessment (2022-2042), the EX-ACT tool predicts there will be a total net emissions reduction of around --- **1,328,597 tCO₂-e**.

These reductions, which are relatively small considering the project's area, are mostly due to the restoration of 5,524 ha of non-native forests to native forest, which is predicted to achieve - **504,490 tCO₂-e**. However, this does not account for the loss of carbon from the removal of non-native tree species.

The conversion of 1,720 ha of cropland to grasslands and the avoided conversion of 5,160 ha of grassland to cropland are estimated to achieve an additional **-824,466 tCO₂-e**.

Limitations

Due to the uncertainties associated with Tier 1 and Tier 2 emission factors, the results shown here are estimates. To increase accuracy, on-site carbon flux measurements can be used for future assessments. The EX-ACT tool simplifies ecological processes and this adds further uncertainty.

The carbon lost from non-native tree removal could not be modelled due to insufficient data on the project's tree removal strategy. The results may therefore be an overestimate.

Emission factors for wet meadows and riparian forests were not found. Due to their wet conditions, these habitats have relatively high carbon stocks and sequestration rates. Tier 2 factors used may underestimate carbon benefits.

The assessment timeframe of 20 years is also relatively short in relation to ecological processes. Over timescales longer than this assessment (beyond 2042) the mitigation potential is expected to be much higher.

Associated benefits

- Improved habitats for endemic and endangered species
- Flood and drought protection through enhanced water retention
- Engagement and nature-based business opportunities for local communities

More information:

[ELSP – Mura-Drava-Danube](#)

[WWF Adria](#)

[EX-ACT Tool](#)

[ELSP– Natural Climate Solutions](#)

