Grassland restoration on ex-arable fields in the Netherlands

Identification of the factors driving grassland restoration success

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Project description

The UN Decade of Restoration and the newly adopted EU Nature Restoration law offer a fantastic opportunity for the restoration of grasslands, which are biodiverse ecosystems of great ecological importance. However, the success of restoration efforts, particularly of species-rich, multifunctional grasslands on land that has been intensively managed for crop and hay production, is not guaranteed. If we are to maximize our chances of successfully restoring grasslands, we need to learn from what has already been done and exploit the information gained from long-term restoration efforts across the Netherlands to identify the factors that make grassland restoration successful.

This project aims to identify the biotic and abiotic factors that determine the long-term success or failure of grassland restoration efforts in the Netherlands. To do so, we will collect soil, vegetation and hydrological data on ex-arable sites that have undergone different management practices (e.g. topsoil removal, mowing, hay transfer) to restore semi-natural grasslands. Although vegetation surveys on restored and reference sites will be carried out in spring/summer, from September 2024 you will take part in a field campaign to collect soil samples on all restored and reference sites, and carry out measurements to determine the depth of the groundwater table at each site. Additionally, you will also be helping to create a large database containing detailed data on the vegetation, soil and hydrology of all the sites included in our project. This database will include not only data collected by geoscience researchers from Utrecht University, but also data provided by stakeholders and research partners (B-WARE, Staatsbosbeheer, Natuurmonumenten). Depending of your interests, you will also be encouraged to use GIS software tools to extract relevant spatial information from each site, extract biodiversity data from national databases, as well as explore and analyze data collected for the project. You will work in close collaboration with Inês Isabel Guerra Paulo Pereira Vicente, who is the doctoral researcher working on this project at the Copernicus institute of sustainable development, as well as her two supervisors (Prof. Merel Soons and Dr Benjamin Delory). By working on this project, you will have the opportunity to make important contributions that will enable us to better understand the success factors of grassland restoration in the Netherlands and provide relevant recommendations to practitioners, which is of great interest in bending the curve of biodiversity loss.

Job requirements

- Interested in ecological fieldwork with plants and soil, with excellent communication and teamwork skills
- Interested in data management and GIS analyses, with basic R knowledge
- Basic knowledge of Dutch and a driving license are an advantage (but not mandatory)