

## How plant colonization strategies drive the success of biodiversity restoration measures

An investigation of how plant traits determine which species succeed in colonizing restored areas and which species fail

Department: Copernicus institute of sustainable development (SD)

Research group: Environmental sciences (Land use and biodiversity)

Supervisor: Prof. Merel Soons

Email address: [m.b.soons@uu.nl](mailto:m.b.soons@uu.nl)

### Project description

With biodiversity currently in sharp decline worldwide, it is imperative that restoration activities are put in place to improve the quality of the environment and allow species to recover. Indeed, in areas where much biodiversity has already been lost (such as North-western Europe), restoration activities have been taking place for decades and will be scaled up under the new Nature Restoration Law. However, these activities have not always been successful, as some species succeed in recolonizing restored areas while others fail to do so. Identifying which species are successful re-colonizers and which species are not is therefore critical to correctly evaluate restoration potential and increase restoration effectiveness.

In plant species, re-colonization success is driven by suites of related plant traits, such as dispersal capacity, growth rate (fast versus slow strategy), and resource acquisition (e.g., root traits). These interrelated traits may form colonization strategies. However, how and to which extent such traits indeed form colonization strategies and what this means for re-colonization success remains poorly understood.

This project aims at a fundamental breakthrough in understanding plant re-colonization success by extracting plant trait data on dispersal capacity, growth rate, and resource acquisition to redefine plant colonization strategies. You will be extracting data on common, rare and endangered plant species from large (open-access) databases to investigate the existence of trait combinations that characterize good re-colonizers. You will work in close collaboration with Prof. Merel Soons and Dr Benjamin Delory. By working on this project, you will have also the opportunity to make important contributions that will enable us to increase restoration effectiveness, resulting in recommendations to practitioners.

### Job requirements

- Interested in analysis of ecological data
- Interested in data collection, data management and statistical analyses, with basic R knowledge
- Eye for detail and meticulousness in extracting and handling data