

Output 5.2

Database on planting material for riparian forests

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Summary of the activity

- Harmonised database has been established on the basis of the national registers of the partner countries;
- including forest reproductive material sources of 7 keystone riparian species and 9 additional native species specified by the Output O3.1.
- Technical documentation of the database has been compiled and
- suitability of each FRM source to MDD BR afforestation activities has been evaluated and gap analysis has been carried out to discover possible bottlenecks in FRM supply.

Background

Transnational flow of planting material (Forest reproductive material, FRM) across national borders is hindered by multiple factors in the region. National FRM transfer regulations – even among EU countries that all should follow the Council Directive 1999/105/EC – differ in the interpretation of limitations on foreign seed sources and planting material. Although countries of the region maintain national registers of FRM, these registers do not include information on the environmental conditions of the FRM sources, nor on the actual availability of seed and/or planting material originating from these FRM sources. Additionally, the international access to the information is often limited by the language barrier.

Data and methods

The database has been established on the basis of the national registers and provides standardized information on the seed sources. For obtaining quality-controlled bulk data and draft data structure, the EU-level Forest Reproductive Material Information System (FOREMATIS <https://ec.europa.eu/forematis/>, last access on 01. 09. 2021) was queried for the partner countries. In addition to the planned 7 tree species, queries included all the native riparian species listed in the Output O3.1 as recommended species for afforestation purposes in the MDD BR.

The FOREMATIS data set was checked against the national FRM registers of Austria, Croatia, Hungary and Slovenia in order to include the most recent data. Having no FOREMATIS entries from Serbia, the latest version of the Serbian FRM register was added to the database.

Outdated, contradictory or unambiguous data have been overviewed and inconsistent geographical data have been checked and corrected if it was possible. However, suspected

typos in the FRM sources ID have been left untouched to avoid tracing difficulties. Double-species entries have been split in order to include only one species in the 'Species' field, derived entries share the same ID. Species names have been harmonized according to O3.1.

If possible, missing geographical coordinates and altitude data have been completed based on the locality information. Although these 'technical' coordinates do not match the exact locations, are believed to be proper enough to assess the suitability of the FRM sources and assist database users in locating them. Entries with 'non-forestry use' specified have been removed.

Suitability score based on 12 environmental and topological factors (altitude, yearly, seasonal and vegetation period thermal and precipitation parameters, water availability, continentality, etc) has been assigned to each individual FRM source in order to support the selection of appropriate plant material to be used for afforestation in the MDD BR.

Results

The total number of the database entries is 1631 (Austria: 236, Croatia: 166, Hungary 1041, Serbia 138 and Slovenia 49). Less than 1% of the records is data deficient in critical parameters like geographical coordinates.

Obviously, the key riparian species identified by the REFOCuS as 'target species' for this activity are well represented (*Alnus glutinosa* with 128, *Fraxinus angustifolia* with 119, *F. excelsior* with 268, *Populus nigra* with 42, *Quercus robur* with 665 and *Salix alba* with 2 records). Unfortunately, *Ulmus minor* and *U. laevis* lack registered seed sources in the partner countries. 'Additional' (O3.1) species contributed limited number of records (*Acer campestre* 1, *Alnus incana* 8, *Carpinus betulus* 153, *Malus sylvestris* 6, *Populus alba* 19, *P. x canescens* 89, *Pyrus pyraeaster* 8, *Tilia cordata* 114 and *Ulmus glabra* 9).