

Conservation of forest genetic resources – one component of sustainable forest management by European countries

Conservation of forest genetic resources (FGR) is recognized as one component of sustainable forest management by European countries. There are mentioned results of the first assessment of the conservation efforts at a continental scale involving 33 countries, in this information. Forestry and Game Management Research Institute actively participated on the solution of this international project, too.

Dynamic conservation of FGR consists of a network of conservation units, i.e. forest areas managed for this purpose, where designated target tree species evolve in their environment. Based on the information available in the European Information System on FGR (EUFGIS Portal), on species distribution maps, and ecological stratification of the continent, we developed eco-geographic indicators, marginality index and demographic indicators to assess and monitor the conservation efforts. In the year 2013, the pan-European network consisted of 1967 conservation units, harbouring 2737 populations and 86 target tree species. We detected a poor coincidence between FGR conservation and other biodiversity conservation objectives within this network.

Two complementary strategies have been identified: the species-oriented strategy, where national conservation networks are specifically designed for key target species, and the site-oriented strategy, which consists in a network of multiple-target units that also include "secondary" species conserved in a reduced number of sites. The network is highly unbalanced in terms of species representation and seven key target species are conserved in 60% of the conservation units. Specific gap analyses were performed for 11 tree species, including assessment of eco-geographic, demographic and genetic criteria. For each species, gaps were identified, particularly in the marginal parts of their distribution range, and multiple redundant conservation units were found in other areas. The Mediterranean region and to a lesser extent the Boreal region were under-represented in the network. Monitoring the conservation efficiency of each unit remains challenging; however, less than 2% of the conserved populations seem to be at demographic risk.

Based on this case study, there have been made recommendations for FGR conservation programmes at a continental scale.

Source: LEFEVRE F., KOSKELA J., HUBERT J., KRAIGHER H., LONGAUER R., ORLIK D.C., SCHÜLER S., BOZZANO M., ALIZOTI P., BAKYS R., BALDWIN C., BALLIAN D., BLACK-SAMUELSSON S., BEDNAROVA D., BORDÁCS S., COLLIN E., DE CUYPER B., DE VRIES S.M.G., EYSTEINSSON T., FRÝDL J., HAVERKAMP M., IVANKOVIC M., KONRAD H., KOZIOL C., MAATEN T., NOTIVOL PAINO E., ÖZTÜRK H., PANDEVA I.D., PARNUTA G., PILIPOVIĆ A., POSTOLACHE D., RYAN C., STEFFENREM A., VARELA M.C., VESSELLA F., VOLOSANCHUK R.T., WESTERGREN M., WOLTER F., YRJÄNÄ L., ZARIŇA I. 2013. **Dynamic conservation of forest genetic resources in 33 European countries.** *Conservation Biology*, 27 (2): 373–384.