

## UEAA NEWSLETTER

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### LATEST NEWS

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#### Slovenian Forest Genetic Resources Programme

Slovenia is renowned for its exceptional biodiversity, shaped by a heterogeneous landscape, diverse climate zones, and its biogeographical position. Forests cover nearly 60% of the country (1.18 million hectares), placing Slovenia among Europe's most forested nations. These forests safeguard biodiversity, store carbon, and provide renewable raw materials. Out of about 3,300 plant species, 350 are woody plants, 75 are forest tree species, and 22 are endemic to Slovenia, making the country part of Europe's "biodiversity hotbelt."

##### Tradition of Sustainable Forestry

Slovenia has a centuries-long tradition of sustainable forest management. Historical documents dating back to the 15th century and reforms by Maria Theresa in 1774 laid the foundation for what is now known as the *Slovenian Forestry School*. This approach emphasizes:

- Flexible, small-scale management adapted to site conditions
- Active conservation of natural forest tree populations
- Promotion of biodiversity and natural regeneration
- Preference for seedlings from local, appropriate provenances
- Tending across all developmental stages to ensure resilience and multifunctionality

These principles were formalized in the Forestry Act (1993) and the National Forest Programme (2007). They remain the basis for modern management, though they are constantly updated in response to climate change.

##### Forest Genetic Resources and Conservation Measures

Forest trees are long-lived, genetically diverse, and only recently domesticated. Most genetic variability exists *within* populations rather than *between* them, which is essential for adaptation to changing environments. Conserving this diversity—often referred to as "genetic forest protection"—is therefore central to forest governance.

Key measures include:

- Silvicultural practices that safeguard genetic diversity in natural stands and plantations.
- Support for minority species and populations at the edge of their natural ranges.
- Reforestation strategies prioritizing natural regeneration when possible, but also planting or sowing when disturbances (fire, windthrow, pests) or site conditions reduce diversity.
- Enrichment planting to increase species and genetic diversity, or to introduce provenances better adapted to expected climate shifts (assisted migration).

### **Slovenia and EUFORGEN**

Slovenia has been an active member of EUFORGEN (European Forest Genetic Resources Programme) since the first Steering Committee in 1995. EUFORGEN coordinates the activities for conserving forest genetic resources, including the Strategy for conservation of forest genetic resources for Europe. In parallel with EUFORGEN activities, Slovenia launched its own initiative, SIFORGEN, which follows the principles of the Slovenian Forestry School (Photo 1).



Photo 1: Forest genetic diversity monitoring plot for silver fir (*Abies alba* Mill.) in a selectively thinned forest stand with its uneven structure; all adult trees were numbered, geopositioned and neutral genetic diversity (SSRs) was analyzed for tracing the geneflow to the future generation of forest trees in existing natural regeneration centers within the stand (photo Domen Finžgar)

Slovenia has contributed to major European projects, including EUFGIS (establishing an information system on Dynamic Gene Conservation Units), Forgenius, and OptForests. It also coordinated the regional LIFE GENMON project, which produced the first-ever *Manual for Forest Genetic Monitoring* (Photo 2).

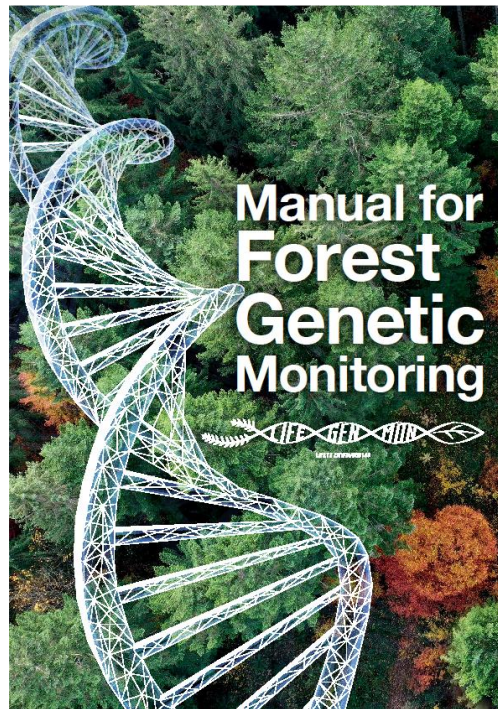


Photo 2: The Manual for Forest Genetic Monitoring can be downloaded at [www.lifegenmon.si](http://www.lifegenmon.si)

### **Legal Framework**

Conservation of forest genetic resources is embedded in Slovenian legislation:

- Nature Conservation Act (1999)
- Forest Act (1993)
- Biodiversity Conservation Strategy (2001)
- National Forest Programme (2007)
- Act on Forest Reproductive Material (2002)

The latter is unique in Europe, as it explicitly requires the conservation of genetic diversity in all forests, including permanent plantations outside forest land.

### **Looking Ahead**

Today, Slovenian forestry integrates traditional principles with modern challenges, testing species and provenances from Southeastern Europe to assess their suitability for future climates, and develops further the Slovenian Forest Gene Bank and its Seed bank within the newly built Center for forest seed and seedlings research and forest protection (Photo 3). Through SIFORGEN and EUFORGEN, Slovenia plays an essential role in ensuring that Europe's forests remain diverse, resilient, and capable of supporting ecosystems, biodiversity and societies under changing climate conditions.





Photo 3: The new Center for forest seed and seedling research and forest protection will be finalized early in 2026, financed through the Mechanism for recovery and resilience EU and two Slovenian ministries: the Ministry for agriculture, forestry and food and the Ministry for environment, climate and energy, due to its primarily wooden structure (Photos dr. Nike Krajnc)

Prepared by acad. Hojka Kraigher, head of the Department for Forest Physiology and Genetics at the Slovenian Forestry Institute and Secretary of the 4<sup>th</sup> section for natural sciences of the Slovenian Academy of Sciences and Arts.

Editors in chief: Ioan Jelev, President of UEAA, President of AAFS, Nazim Gruda, Vice-president of UEAA