

**Establishment of a European Information System on Forest Genetic Resources (EUFGIS)
(009 AGRI GEN RES 870/2004)**

EUFGIS training workshop for Eastern and South-eastern Europe

Ljubljana, Slovenia, 21-23 April 2009

Organiser:

Slovenian Forestry Institute(SFI), Ljubljana, Slovenia

Summary:

The EUFGIS training workshop for Eastern and South-eastern Europe, organized in Ljubljana, Slovenia, from 21st till 23rd April 2009, was attended by the following **participants**:

Bosnia and Herzegovina: Dalibor Ballian <balliand@bih.net.ba> (national focal point)

Bulgaria: Ivanova Denitsa Pandeva forestin@bas.bg (national focal point)

Croatia: Mladen Ivankovic mladeni@sumins.hr (national focal point)

Moldova: Dragos Postolache dragospostolache@yahoo.com (national focal point)

Romania: Gheorghe Parnuta gh_parnuta@icas.ro (national focal point)

Serbia: Andrej Pilipović andrejp@uns.ns.ac.yu (national focal point)

Slovenia: Andrej Verlič andrej.verlic@gozdis.si (national focal point substitute)

Ukraine: Roman T. Volosyanchuk volrom@uriffm.org.ua (national focal point)

Resources persons:

Milko Skofic, Bioversity International

Hojka Kraigher, SFI (organizer)

April 21st 2009

The workshop started with a welcome address by the director of the Slovenian Forestry Institute, Dr. Mirko Medved.

After opening, Prof. Dr. Hojka Kraigher, the local organizer and EUFGIS project partner, responsible for WP4, presented the EUFGIS project goals and organization, the purpose of the workshop, agenda and organizational issues, followed by the update on the EUFGIS project and its activities. The participants presented themselves and also the update on their FGR documentation status. In the afternoon session Hojka Kraigher presented the Pan-European minimum requirements for gene conservation units of forest trees and data standards for the gene conservation units. The discussion included the current problems, presentation of existing national databases and opened questions by national focal points .

April 22nd 2009

The second day, Milko Skofic from Bioversity International, presented the EUFGIS information system with intranet demonstration, web site, database design and functioning. (Note: EUFGIS INTRANET SITE works well only with firefox, not internet explorer: <http://intranet.eufgis.grinfo.net>)

Different formats, structure, quality checking, and data upload / import were presented and discussed. The data standards and criteria were discussed using the examples from the data submitted by the Slovenian and some other SEE national focal points. For addition of the author name of the latin species name in the database the GBIF database (as used in the database developed at the Slovenian Forestry Institute: *Boletus Informaticus*) was briefly discussed by Dr. Nikica Ogris from the Slovenian Forestry Institute. In the afternoon participants started (or continued) with their national data sets upload in to the EUFGIS database. Different modes of upload, presentation of data and checking were tested. The adaptation of national databases and documentation system as well as regional problems and needs were discussed .

April 23rd 2009

Milko Skofic presented other relevant information systems (EURISCO, SINGER, Crop Wild Relative Portals, the GBIF-site) and GIS softwares (Google Earth, DIVA-GIS), after which data processing and importing to the EUFGIS information system by NFCs continued. The future efforts within the regional group and EUFGIS were discussed.

The following problems and questions were addressed:

MINIMUM REQUIREMENTS:

- **How to address exotics:** gene banks (black locust, poplar hybrids), Douglas fir stands etc.;
- **native spp but introduced provenances:** include the information on the distance & isolation of DCU from these introduced (non-native) populations
- **minimum size for a few spp should be 5 non-related individuals:** special *Ulmus* spp in BiH, *Q. ilex* in Slovenia, *P. omorika* in BiH, *P. heldreichii* in BiH; *Corylus colurna* in northern parts of BiH, Montenegro & west Serbia; *Acer heldreichii* ssp *heldreichii* and ssp *visiani* in BiH; elms in Serbia; elms in Slavonic part of Croatia; autochthonous black poplars in Serbia and other regions in the Sava-Drava-Tisa-Donava basins; *Populus nigra caudina* in BiH;
- **if there is less than 50 trees then we should conserve all trees that grow on a certain place;** 50 based on avoidance of inbreeding (depending on biology of spp), the number should be orientative, not fixed; in case of less trees we simply conserve all of them: IPGRI 2005 training in Moscow – 50 is the min number to avoid inbreeding from genetic studies; if fewer, these should be part of general conservation efforts; although, if only a few trees exist, then we should choose or combine *ex situ* efforts (expensive approaches)
- **Would it be politically important to combine efforts in EUFGIS/EUFORGEN with other nature conservation efforts for such rare spp**
- *Acer pseudoplatanus* and other **scattered blv:** if every country proposes 1-3 DCU, **should these be distributed according to countries or according to the distribution area of this species** – maybe more at the center and less at the margins of its distribution
- **no limitation per country, since the proposal and choice only makes a burden to the proposing country, it does not provide any financial or other support from EU;** in the contrary, **it can help each country at national level** to gain its own national grants and efforts for the conservation of the species
- **horizontal patches** for scattered blv – even for insect pollinated 8 km (or even 50) no problem
- **vertical distribution:** 200 m or more – should it be differentiated into two if phenology is different at the lower & upper border of the forest stand; In Romania they make a differentiation in vertical distribution only in extreme site conditions, such as at upper forest border or otherwise at conditions not suitable for forest growth; in BiH: diff. between 100 & 200 m/sl is big, the diff between 400 & 900 m/sl is small

DATA STANDARDS:

- **UnitMunicipality:** it would be useful to have the possibility to add here information from forestry information system
- **UnitPolygon:** whether it would be possible to add a link to a map or a shape file
- **UnitType:** several NFCs would require also the possibility to include *ex situ* units into the database; if the decision would be taken that also clonal archives or conservation seed orchards are included, would these belong to type 2: biodiversity conservation of species
- **UnitSpecies:** it is necessary add the author of the latin name of species (see GBIF database) to recognize synonyms
- **PopulationSystem:** some silvicultural systems might be missing: coppice with standards, mixed coppice + planting? The practices should include multipurpous forestry!

- PopulationManagement (or PopulationJustification): it would be useful to add information on the level of intervention required
- PopulationReproducingTrees: the regional NFCs stressed that also less trees than the minimum number would be needed
- PopulationRegeneration: 3rd option is already an active tactic, therefore here there should be three or four possibilities: continuous, sporadic, none, or no data --- then, if none, in another field the management should be added (i.e. in line 36a or 37)
- PopulationDistribution: distribution of trees should include 'in plantation'; also, several NFCs would require the possibility to include *ex situ* – in this case the choice on the distribution of reproducing trees in the unit should be further defined
- PopulationShare: most foresters are used to % of growing stock, and not area % (although some might have also no. of trees per species)
- Slavic and other **special characters** do not show in excel files, therefore the database will end up with missing characters

Further discussions:

- if exact climate data is available we should include them
- 2 components in EUFGIS: intranet = the site for data input; internet = the public site (not existing yet); the intranet is the one we'll be working on for the next year;
- no globalized view, only each of us sees our own data
- It would be useful to include the report & tables available as download from the project (run at Romunija, Bolgarija, Ukrajina, Moldova), financed by the Government of Luxembourg, which ended in 2008, and already collected all data: "Genetic resources of broadleaf forest tree species in SE Europe".

Each of the participants also prepared a brief overview for the minutes on the status of the documentation efforts in their countries. A regional synthesis of these will form part of a regional case study prepared for the last meeting.

WRAP UP of problems and proposals from discussions:

- GLOSSARY is needed for each data!
- Include even-aged forest & clearcutting with seed trees or strips & shelterwood system & selective thinning (individual or in groups)
- A problem: how to deal with scattered small populations, such as 4 trees of *Ulmus* in Tikveš, 10 in Vinkovci, etc – how to register them as units or as the basis for a future *ex situ* unit; or include them as different units in order to store info for future activities for establishment of *ex situ* DCU
- If the DCU would include different spp in each unit the means would be to conserve the whole ecosystem, if the ownership is no problem, therefore it would be useful to include also a link to natural conservation categories
- *Ex situ* DCU should also need attention; therefore it would be useful to include data on different small populations of different species and to specify these in data standards
- Check for corrections needed after upload
- Printing possibilities – to check for errors at national level – download as excel files
- Presentation of SINGER database – some views as prepared for it would be interesting for EUFGIS
- Combine species distribution maps of species (by Michele) with DCU & with Google Earth (if possible) as overlays
- Change the shape of DCU signs on map to small circles & make available that searches can be done after countries, species, as well as, possibly, after everything else

- How shall the database be maintained 10 years after the project ends? EURISCO still works well; whenever any country sends new data, they always send whole database and everything is replaced automatically
- The public site of EURISCO: it was launched in 2003 and then it started becoming a dead page, so the updating of the public site should be taken into account and maybe access of the static pages be offered to all participating countries (or a section of these pages); also prepare links to national databases; the public site is being prepared by Michele
- Slavic characters in excel are a problem and get lost – we do use them since in the database they will be correct; if imported from excel Milko will do some experiments and let us know

Future work:

- The minutes, conclusions and all other documents will be sent to all participants
- Everyone shall provide uploads for 20-50 DCU (or more) within one month
- Milko shall make all uploads visible to everyone in the group
- Send all problems to Jarkko & partners
- The EUFORGEN priority species to be checked: *Pyrus pyraeaster*, *Sorbus torminalis*, *Fraxinus excelsior*, *Populus nigra*, *Malus sylvestris*, *Ulmus laevis*; *Picea abies*, *Pinus nigra*, *Taxus baccatta*, *Larix decidua*, *Pseudotsuga mensiesii*; *Fagus spp*, *Quercus robur*, *petraea*, *cerris*, *frainetto*, *pubescens*, rare oaks, *Castanea sativa*, *Betula pendula*, *Populus tremula*
- Consider upload of whole databases: all data from all countries by November 2009
- Checking and corrections of uploads through downloads (dbf files may have to be filed in excel for checking – by September) – NFC responsible for correctness of data

Questions & comments regarding the future work and *ex situ* conservation efforts:

- *ex situ* specification:
- Exotics growing in plantations of a sufficient no of unrelated individuals
- **Conservation seed orchards**, aimed at conservation *ex situ*
- Conservation clonal archives,
- Provenance trials – is this a dynamic *ex situ* unit?
- Arboretums: more questionable – no. of individuals ?
- Seed banks, germplasm banks – are these static?
- Single big trees – are a **natural monument**, could be used in gen.studies but are not considered as DCU
- **Plus trees: the register** is the basis from which (i.e. from these trees) an *ex situ* conservation seed orchard or clonal archive can be established
- **A glossary (definitions)** should be prepared for the homepage

EUFGIS training workshop for Eastern and South-eastern Europe

Ljubljana, Slovenia, 21-23 April 2009

Organiser:

Slovenian Forestry Institute(SFI), Ljubljana, Slovenia

Agenda

21 April 2009		
09:00	Opening of the workshop <ul style="list-style-type: none">• Welcome address (representative of the host institute)• Introduction to the workshop (agenda, purpose, etc.) (Hojka Kraigher, SFI)• Introduction of the participants	GIS
09:30	Update on the EUFGIS project and its activities <ul style="list-style-type: none">• Hojka Kraigher, SFI• Discussion	
10:30	Coffee/tea break	
11:00	Updates on the national FGR documentation efforts <ul style="list-style-type: none">• 5-10 min by each EUFGIS Focal Point• Discussion and sharing of experiences/expectations	
12:30	Lunch	GIS
14:00	Pan-European minimum requirements for gene conservation units of forest trees <ul style="list-style-type: none">• Hojka Kraigher, SFI• Discussion	
15:30	Coffee/tea break	
16:00-17:30	Data standards for the gene conservation units <ul style="list-style-type: none">• Hojka Kraigher, SFI• Discussion	
22 April 2009		
09:00	EUFGIS information system (Milko Skofic, Bioversity International) <ul style="list-style-type: none">• Intranet demonstration• Web site demonstration• Database design• Discussion and feedback	GIS
10:30	Coffee/tea break	
11:00	Data processing for the EUFGIS information system (Milko Skofic, Bioversity International) <ul style="list-style-type: none">• Different file formats• Data structure• Data checking and quality• Data import / upload	

12:30	Lunch	GIS
14:00	Data processing and importing to the EUFGIS information system <ul style="list-style-type: none"> ● Processing of national datasets by the Focal Points ● Hands-on training on data import / upload 	
15:30	Coffee/tea break	
16:00-17:30	EUFGIS information system and national FGR documentation efforts (Milko Skofic, Bioversity International) <ul style="list-style-type: none"> ● Adapting national databases and documentation work to the EUFGIS information system ● Development of a national database: what can the EUFGIS information system offer? 	
19:00 ?	Workshop dinner	OLD TOWN
23 April 2009		
09:00	Demonstration of other relevant information system (Milko Skofic, Bioversity International) <ul style="list-style-type: none"> ● EURISCO ● SINGER ● Crop Wild Relatives Portal, others? 	GIS
10:00	Demonstration of GIS softwares (Milko Skofic, Bioversity International) <ul style="list-style-type: none"> ● Google Earth / Maps ● DIVA-GIS 	
10:30	Coffee break	
11:00	Data processing and importing to the EUFGIS information system (continued)	
12:30	Lunch	GIS
14:00	Data processing and importing to the EUFGIS information system (continued)	
15:30	Coffee break	
16:00-17:30	Wrap-up of the workshop <ul style="list-style-type: none"> ● Lessons learnt and feedback ● Instructions for further data processing work ● Closing remarks 	