



The purpose of the survey is to obtain information on *in situ* gene conservation efforts, how countries have organized their documentation of these efforts, what kind of IT tools are used for this purpose and what kind of national information systems exist at the moment.

The results will be used for developing the EUFGIS information system.

1. Countries which have nominated Focal Points and responded to the survey as of 17 October 2007

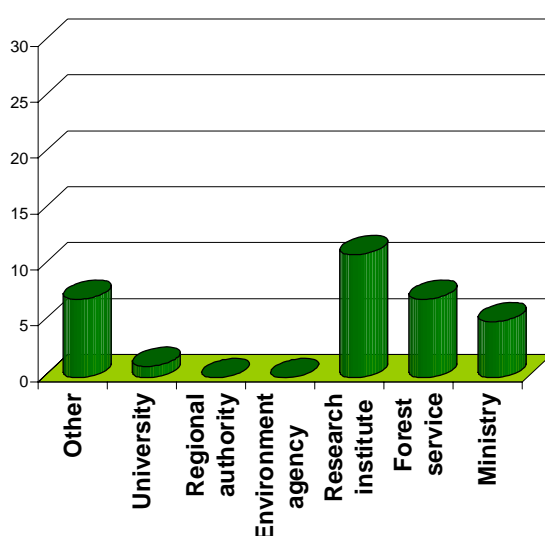


2. Which institute is responsible, at national level, for collection and maintaining information on *in situ* gene conservation of forest trees in your country?

Austria	Federal Research and Training Centre for Forests, Natural Hazards and Landscape
Belgium	Research Institute for Nature and Forest (INBO)
Bosnia and Herzegovina	University of Sarajevo, Faculty of Forestry
Croatia	Forest Research Institute, Jastrebarsko
Czech Republic	Forestry and Game Management Research Institute (FGMRI) at Jiloviste in cooperation with Forest Management Institute Brandys nad Labem and forest owners
Denmark	The Danish forest and Nature Agency, The State Forest Tree Improvement Station
Estonia	Centre of Forest Protection and Silviculture
Finland	Metla, Finnish Forest Research Institute
France	Commission of Forest Genetic Ressources (Commission Ressources Génétiques Forestières)
Georgia	Vasil Gulisahvili Forest Institute (VGFI)
Germany	Information and Coordination Centre for Biological Diversity (IBV)
Greece	Ministry of rural development and food
Hungary	Central Agricultural Office, Department of Forest Reproductive Material
Iceland	Iceland Forest Service
Ireland	Forest Service, Department of Agriculture, Fisheries & Food
Italy	Istituto Sperimentale per la Selvicoltura of CRA (Council of Research in Agriculture) and CFS (Italian Forest Service)
Lithuania	Forest Genetic Resources, Seed and Plant Service
Macedonia (FYR)	Forestry Institute
Moldova	Botanical Garden (Institute) Academy of Sciences of Moldova
Netherlands (The)	Centre for Genetic Resources Netherlands
Norway	The Norwegian Forest and Landscape Institute
Poland	Ministerstwo Srodowiska
Romania	Forest Research and Management Institute
Serbia	Directorate of Forests-Ministry of Agriculture, Forestry and Water Management
Slovakia	National Forest Centre Zvolen, Centre of the Control of Forest Reproductive Material Liptovský Hrádok
Slovenia	Slovenian Forestry Institute
Spain	Direccion General para la Biodiversidad
Sweden	Swedish Forest Agency
Turkey	Forest Tree Seeds and Tree Breeding Research Institute
Ukraine	State Forest Seed Control Inspection, Ukrainian Research Institute of Forestry and Forest Melioration, Ukrainian Research Institute of Mountain Forestry
United Kingdom	Forestry Commission

3. This institute is:

	Response Percent	Response Count
Ministry	16,1%	5
National forest service	22,6%	7
Forest research institute	35,5%	11
National environment agency	0,0%	0
Regional institute/authority	0,0%	0
University	3,2%	1
Other	22,6%	7
answered question		31
skipped question		0



Other
National Agricultural Agency
Scientific Institute of the Flemish Community (Regional institute)
Public Research Institute
Division of the Federal Agency for Agriculture and Food (BLE)
State Forest Seed Control Inspection maintains the State Register, Research Institutes keep "mirror" Registers
A foundation supporting the Government with implementing legislation and regulations through a Statutory task
It is both the national Forest Service and the Ministry

4. If there is no single institute or agency responsible for this task at the national/federal level, are the regional institutes/authorities in your country requested to do this:

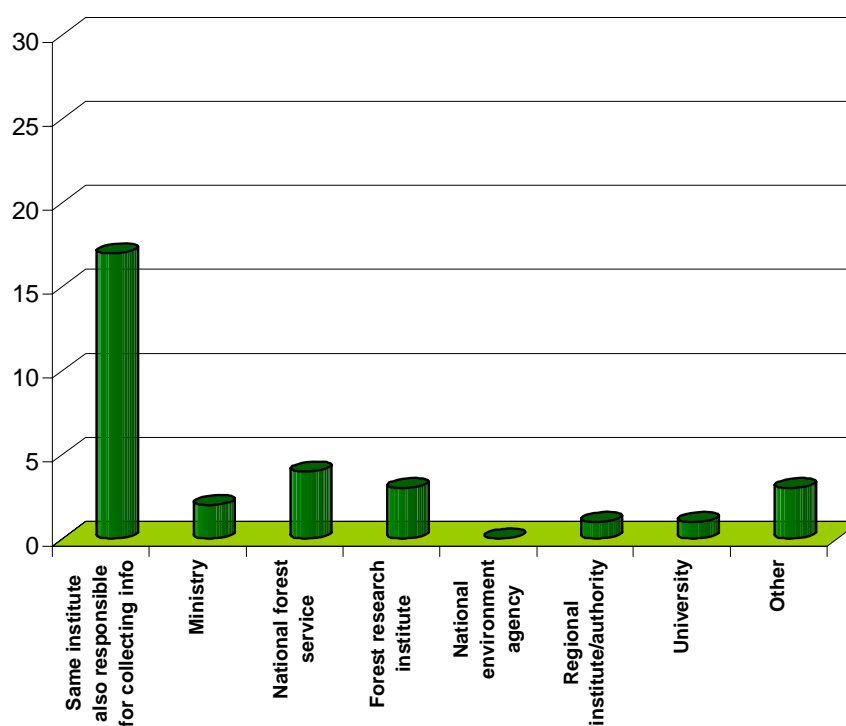
	Response Percent	Response Count
yes	35,0%	7
no	65,0%	13
<i>answered question</i>		20
<i>skipped question</i>		11

5. If yes, please indicate how many regional institutes/authorities are involved in the documentation efforts in your country

9 replies, average 7,8

6. Which institute is responsible for *in situ* gene conservation of forest trees and designating/establishing the gene conservation units in your country?

	Response Percent	Response Count
The same institute which is also responsible for collecting the information	54,8%	17
Ministry	6,5%	2
National forest service	12,9%	4
Forest research institute	9,7%	3
National environment agency	0,0%	0
Regional institute/authority	3,2%	1
University	3,2%	1
Other	9,7%	3
answered question		31
skipped question		0



Other
The same institute coordinate all the activities
nr's 1,2 and 3
Forestry and Game Management Research Institute in cooperation with Forest Management Institute and forest owners

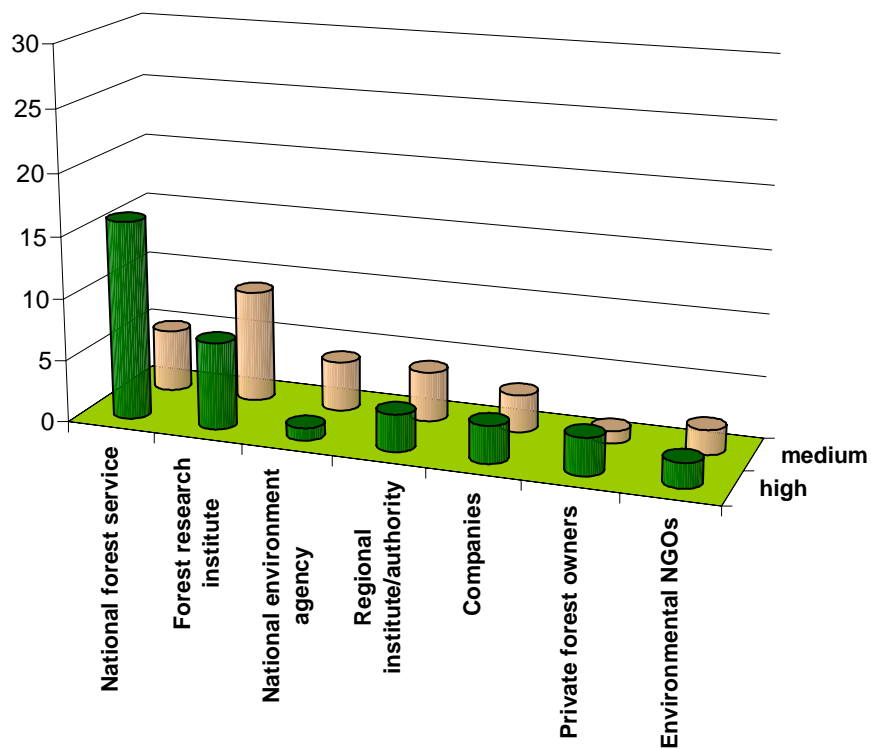
7. If regional institutes/authorities are responsible for this, please indicate how many of them there are in your country

9 replies average: 5,7

8. Which institutes, authorities and other stakeholders are taking care of practical day-to-day management of the gene conservation units in your country?

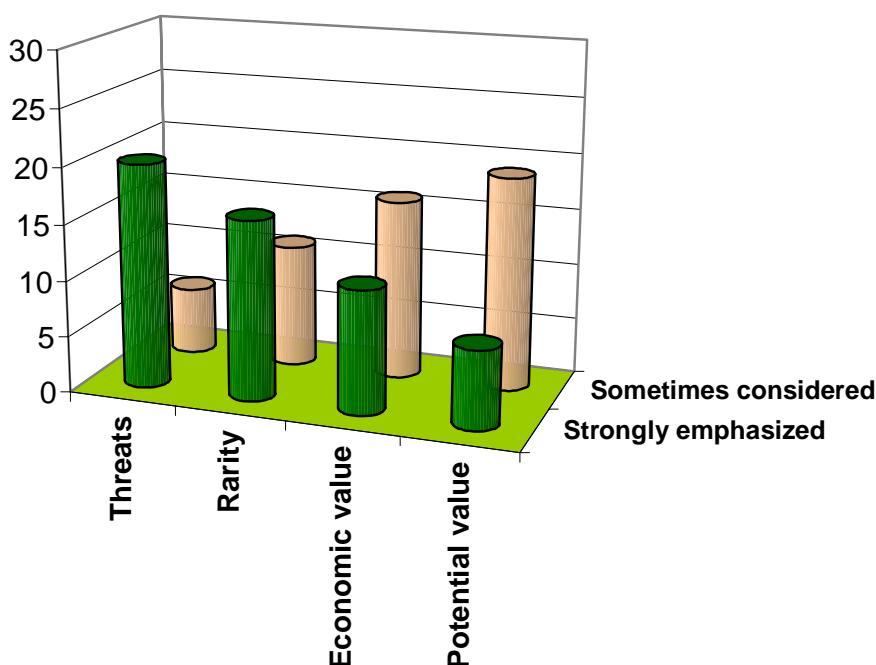
please indicate the level of involvement

	high	medium	low	none	Response Count
National forest service	16	5	6	2	29
Forest research institute	7	9	9	1	26
National environment agency	1	4	9	3	17
Regional institute/authority	3	4	4	8	19
Companies	3	3	3	12	21
Private forest owners	3	1	7	8	19
Environmental NGOs	2	2	4	9	17
answered question					31
skipped question					0



9. What kinds of considerations are emphasized while selecting target tree species for *in situ* gene conservation units in your country?

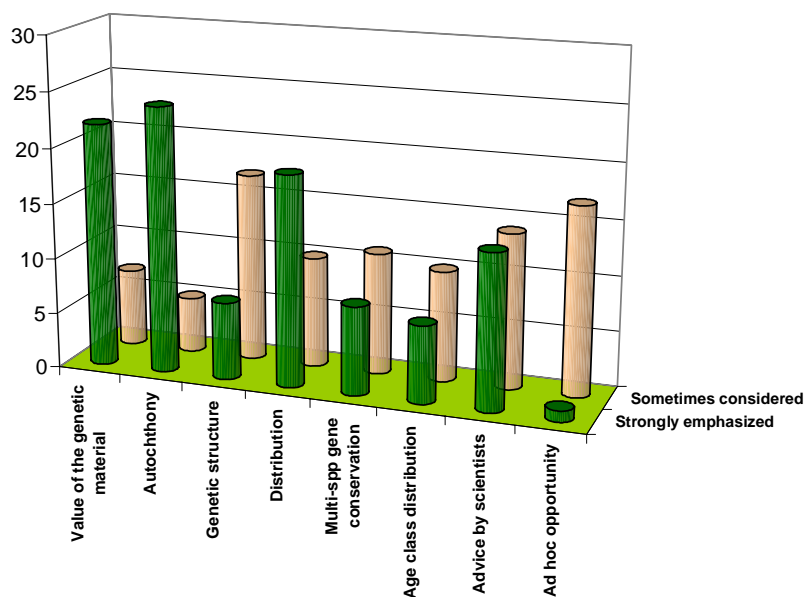
	Strongly emphasized	sometimes considered	not considered	Response Count
Present or future threats	20	6	3	29
Rarity	16	11	2	29
Current economic value of a species	11	16	1	28
Potential value of a species	7	19	2	28
Other				7
<i>answered question</i>				29
<i>skipped question</i>				2



Other
Endangered populations and species receive high priority
spp or populations at the border of their area of distribution, special populations (resistant to pollution,...)
use in restoration programs, use in breeding programs
autochthony is rare and therefore considered highly important
Species "in use" are conserved.
Formal policy of genetic conservation has not yet commenced in the country. Gene conservation tends to be as a consequence of designations for species conservation.
biological traits which make the species a good 'model species' to deal with

10 What kinds of considerations are emphasized while establishing *in situ* gene conservation units in your country?

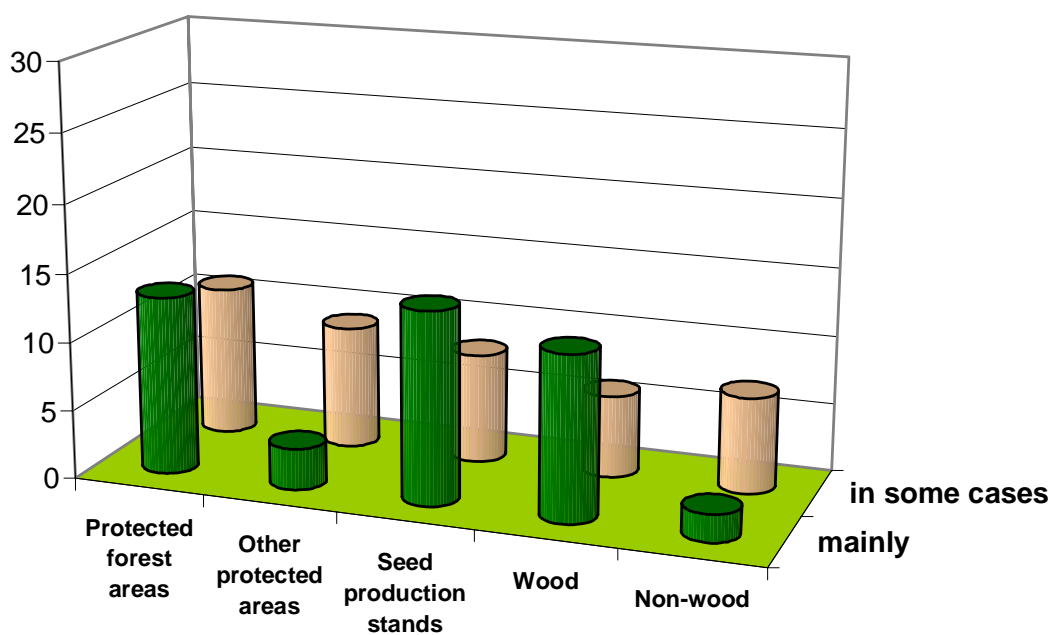
	Strongly emphasized	sometimes considered	not considered	Response Count
Value and/or uniqueness of the genetic material within a unit	22	7	1	30
Autochthony of a tree population(s) or a stand(s)	24	5	1	30
Genetic structure of a tree species	7	17	6	30
Eco-geographic distribution of a tree species	19	10	1	30
Possibility for multi-species gene conservation	8	11	11	30
Age class distribution of target tree species with a unit	7	10	12	29
Advice by scientists/experts	14	14	1	29
Ad hoc opportunity (e.g. a potential forest area/stand becomes available for gene conservation)	1	17	11	29
Other				5
<i>answered question</i>				30
<i>skipped question</i>				1



Other
The definition of criteria for defining conservation units is now under discussion
GCU's are not exactly established; they are appointed as such within existing forest areas
National ownership
The answers above are for few cases, where a formal conservation strategy based on genetically different populations exists.
NB: autochthony is strongly emphasized but not mandatory

11. In which kind of area the gene conservation units are located in your country?

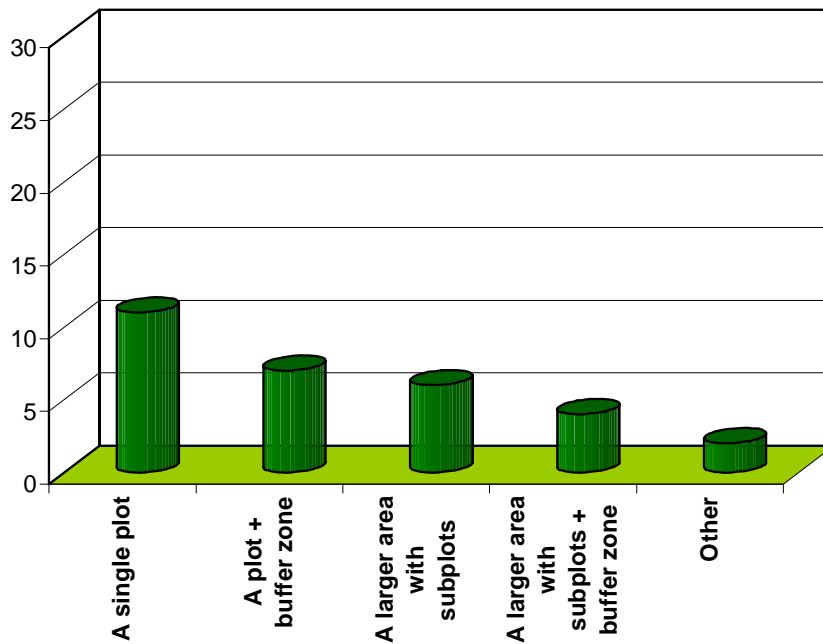
	mainly	in some cases	rarely	never	Response Count
Protected forest areas (established for habitat/species conservation)	13	11	3	1	28
Other protected areas (e.g. watershed areas)	3	9	8	6	26
Seed production stands	14	8	6	1	29
Production forests (for wood)	12	6	4	5	27
Production forests (for non-wood products/services)	2	7	9	7	25
Other					4
answered question					29
skipped question					2



Other
Gene conservation forests are forests that are selected and managed only for gene conservation
Areas which are part of strict nature reserves (forest reserves) are considered as background areas, not core parts of gene reserves
The gene conservation network is going to be developed in the next future (after the approval of the National Strategy of FGR Conservation)
National Parks, Nature Reserves

12. What is a typical design of a gene conservation unit?

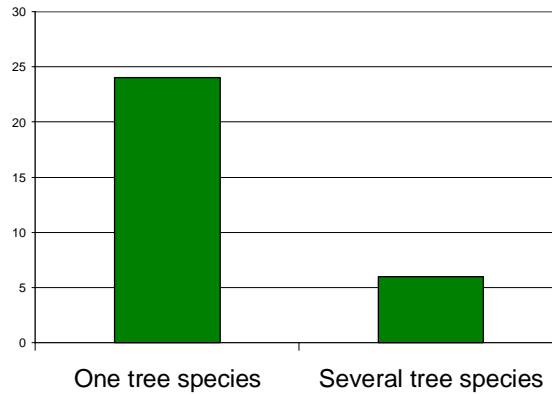
	Response Percent	Response Count
A single plot	36,7%	11
A plot (core area) surrounded by a buffer zone	23,3%	7
A larger area with subplots or compartments per species/age class	20,0%	6
A larger area with subplots surrounded by a buffer zone	13,3%	4
Other	6,7%	2
<i>answered question</i>		30
<i>skipped question</i>		1



Other
depends on the species biology and distribution; if possible as a single area in which (for minority spp) several subplots are identified
the size of an area that is available for that species

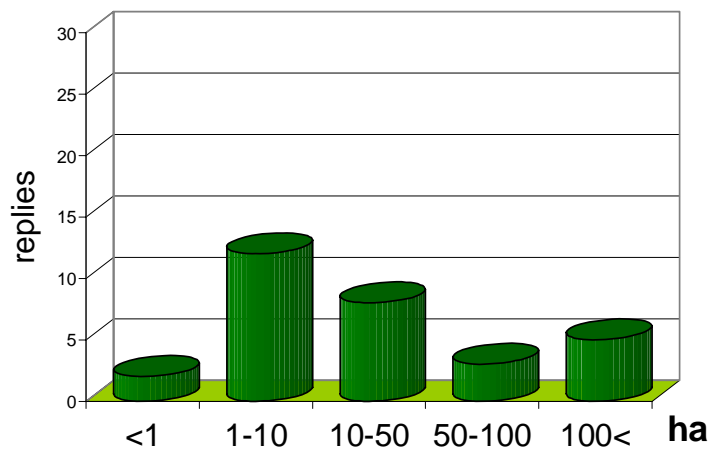
13. Gene conservation units are typically established for:

	Response Percent	Response Count
One tree species	80,0%	24
Several tree species	20,0%	6
<i>answered question</i>		30
<i>skipped question</i>		1



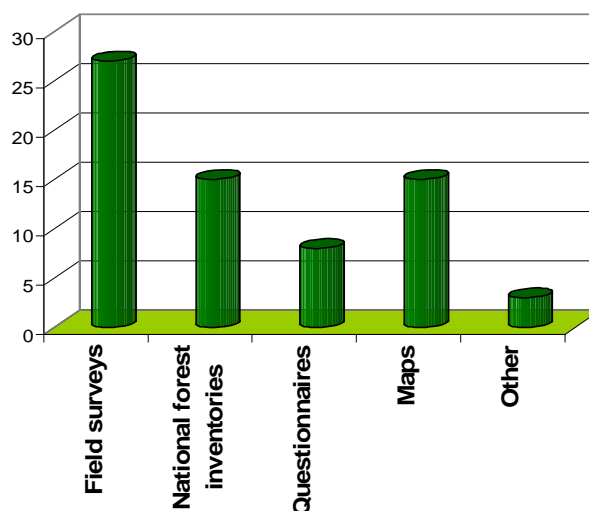
14. What is a typical size of a gene conservation unit (or a core unit) in your country?

	Response Percent	Response Count
Less than 1 ha	6,7%	2
1-10 ha	40,0%	12
10-50 ha	26,7%	8
50-100 ha	10,0%	3
More than 100 ha	16,7%	5
<i>answered question</i>		30
<i>skipped question</i>		1



15. What is the main source of the currently available information on the gene conservation units in your country?

	Percent of Respondents	Response Count
Field surveys by the institute responsible for maintaining the information	90,0%	27
National forest inventories	50,0%	15
Questionnaires sent to owners/managers of the units	26,7%	8
Maps	50,0%	15
Other	10,0%	3
<i>answered question</i>		30
<i>skipped question</i>		1



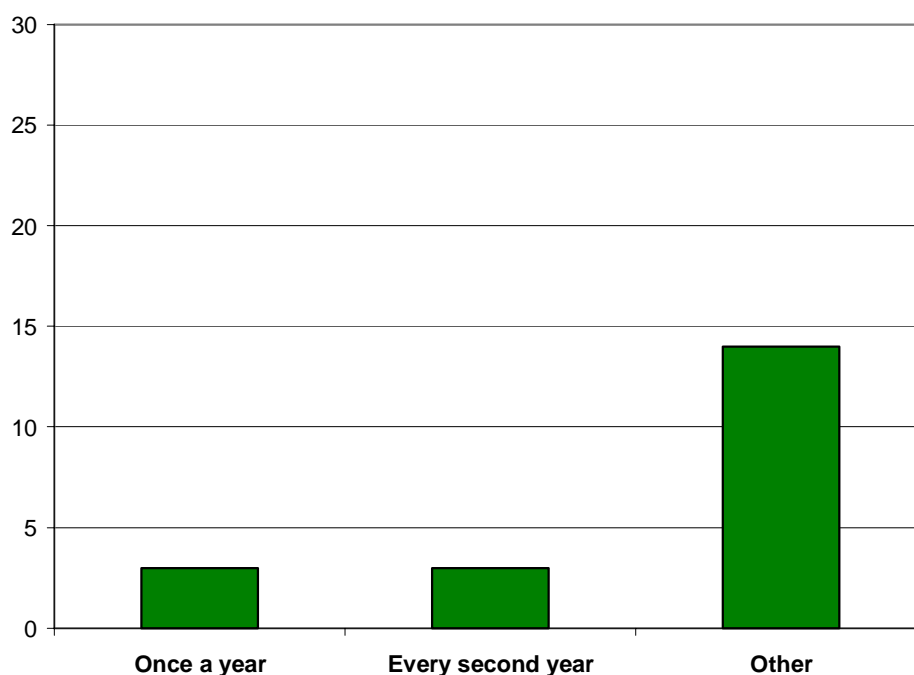
Other
Inventories initiated by the national environment agency prior to protection
Scientific publications, conferences, surveys, institutes reports, etc
field survey done when GCU are identical to seed production stands

16. Is the information on the units (e.g. number of reproducing trees, regeneration, age class distribution, damages etc) systematically validated and updated by field surveys?

	Response Percent	Response Count
yes	60,0%	18
no	40,0%	12
<i>answered question</i>		30
<i>skipped question</i>		1

17. If yes, how frequently is the information on the units updated?

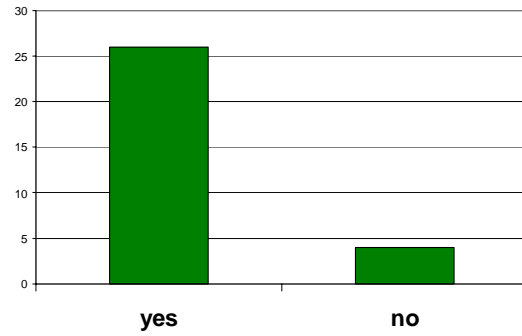
	Response Percent	Response Count
Once a year	15,0%	3
Every second year	15,0%	3
Other	70,0%	14
<i>answered question</i>		20
<i>skipped question</i>		11



Other
ten years interval
at the time of approval; then the National Forest Service is obliged to check once per year
Evaluation is scheduled to be done every 5-10 years, however, often is postponed due to time constraints of staff.
it's different from institute to institute
every tenth year
The strategy define a period of 10 years
Inventory of Broadleaves <i>in situ</i> gene conservation units was done in 1983-85 and 2001-2005
5 years
Every 15th year
it depends on the unit (usually every 10 years)
Every fifth year
5 years period
At least every 10 years, in frame of renewal of respective forest units forest management plans
every 3rd year or when damages or regeneration occur

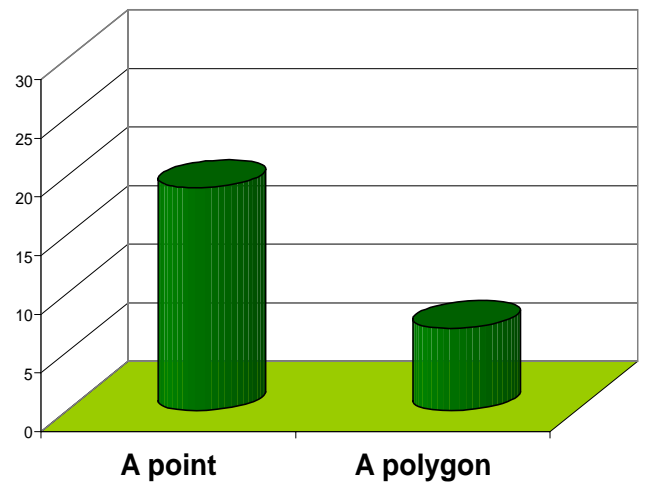
18. Does the information include geographical coordinates of the units?

	Response Percent	Response Count
Yes	86,7%	26
No	13,3%	4
answered question		30
skipped question		1



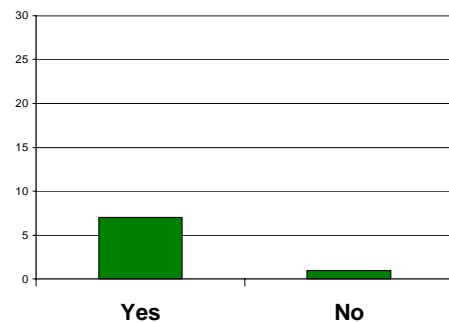
19. If yes, the coordinates refer to

	Response Percent	Response Count
A point	73,1%	19
A polygon	26,9%	7
answered question		26
skipped question		5



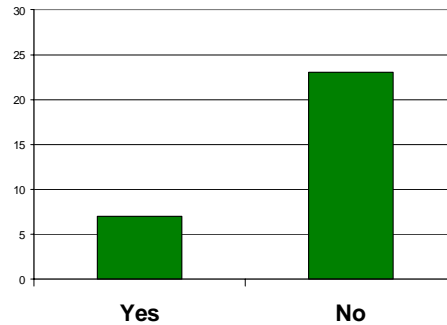
20. If no, please indicate if there are there maps of the units available to obtain the coordinates

	Response Percent	Response Count
yes	87,5%	7
no	12,5%	1
answered question		8
skipped question		23



21. Are there any legal or other restrictions for making the data on geographical location of the units publicly available?

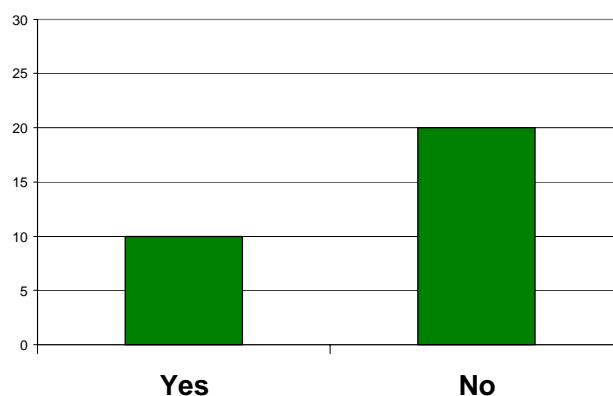
	Response Percent	Response Count
Yes	23,3%	7
No	76,7%	23
If yes, please specify		8
answered question		30
skipped question		1



If yes, please specify
Separate form needs to be produced for such management forest units (stands).
data privacy
The owner of data is the National Forest Service. Use and distribution of shape files, maps produced using shape files of conservation units, or any other derivate of those files must be negotiated and approved in writing
Scale 1:10000 (topographic maps) are not publicly available. Forestry maps (schemes) of this scale are not georeferenced.
I don't think so
It might be good policy to get an approval from the owners of the units before publicizing.
The owner's permission would be required.

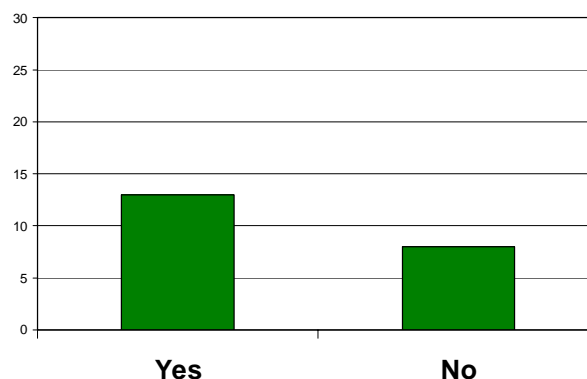
22. Does the information on the units include site-specific climatic data (temperature and rainfall)?

	Response Percent	Response Count
yes	33,3%	10
no	66,7%	20
<i>answered question</i>		30
<i>skipped question</i>		1



23. If no, do you consider adding of this information feasible in the next 12 months?

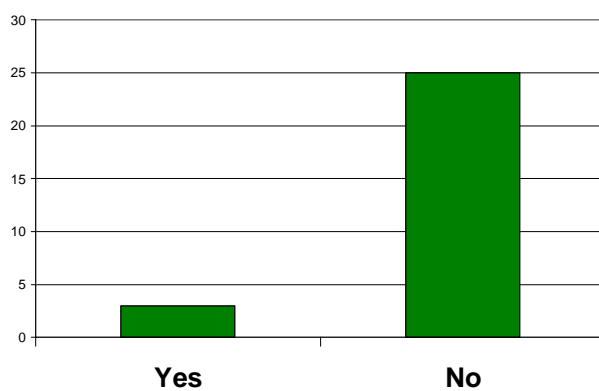
	Response Percent	Response Count
Yes	61,9%	13
No	38,1%	8
comment		10
<i>answered question</i>		21
<i>skipped question</i>		10



comment
for the nearest weather station
these data are available for the provenance region & altitudinal zone
All these information are considered by the law but, at the moment, the implementation of it is still incomplete
at least from climatic map of Slovakia
The information is based in a climatic model
Additional funding will be needed to process the data
This data can be obtained from the meteorological institute if needed
Climatic data of the meteo-stations closely located might be possible
These information would be possible to obtain from individual forest management plans of forest owners. Limit of next 12 months can be problematic to ensure, because of big number (more then 300 units) of gene conservation units. It should be necessary to calculate with longer term, then next 12 months.
This info is already partly available

24. Are there any legal of other restrictions for making the site-specific climatic data publicly available?

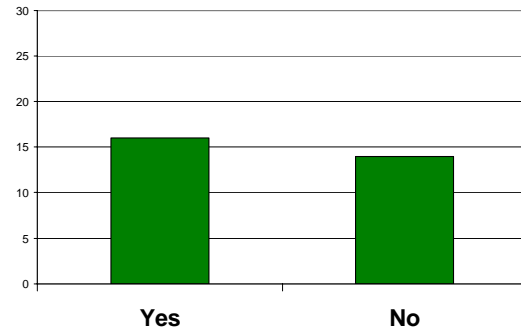
	Response Percent	Response Count
yes	10,7%	3
no	89,3%	25
If yes, please specify		4
answered question		28
skipped question		3



If yes, please specify
The site-specific climatic data are not available for all gene conservation units
The data on climate is owned by the meteorological institute an can only be published by that institute
Unsure, would need to check.

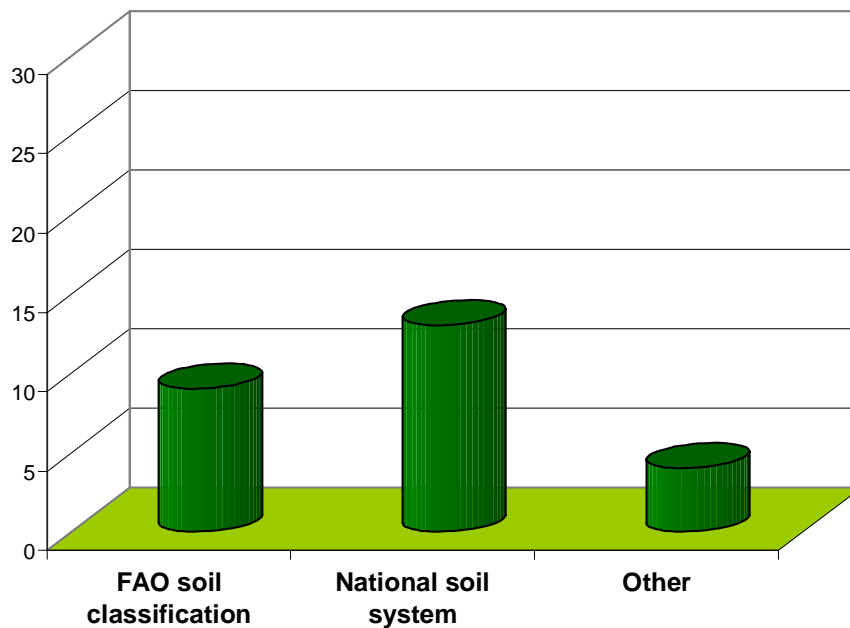
25. Does the information on the units include site-specific soil data?

	Response Percent	Response Count
yes	53,3%	16
no	46,7%	14
answered question		30
skipped question		1



26. If yes, what is the system the soil classification is based on?

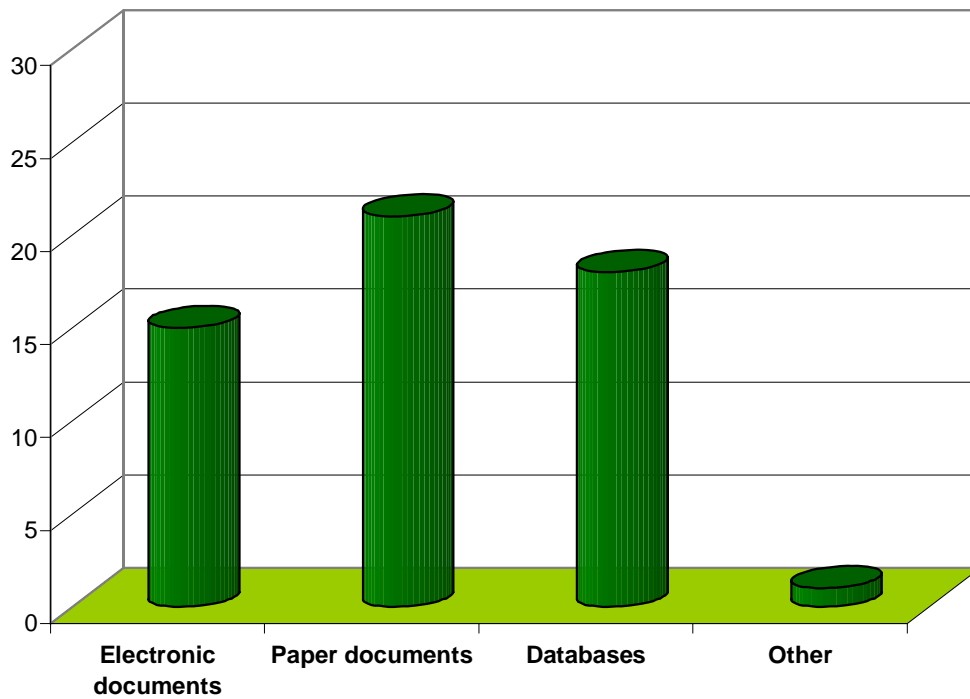
	Response Count
FAO soil classification (World Reference Base for Soil Resources)	9
National soil system	13
Other	4
answered question	19
skipped question	12



Other
national system translated into FAO soil classification upon request
Only a crude classification of forest soil type is done on-site.
The information is based on maps no in a detailed analysis of the unit
These information would be possible to obtain from individual forest management plans of forest owners.

27. How is the information on the units stored?

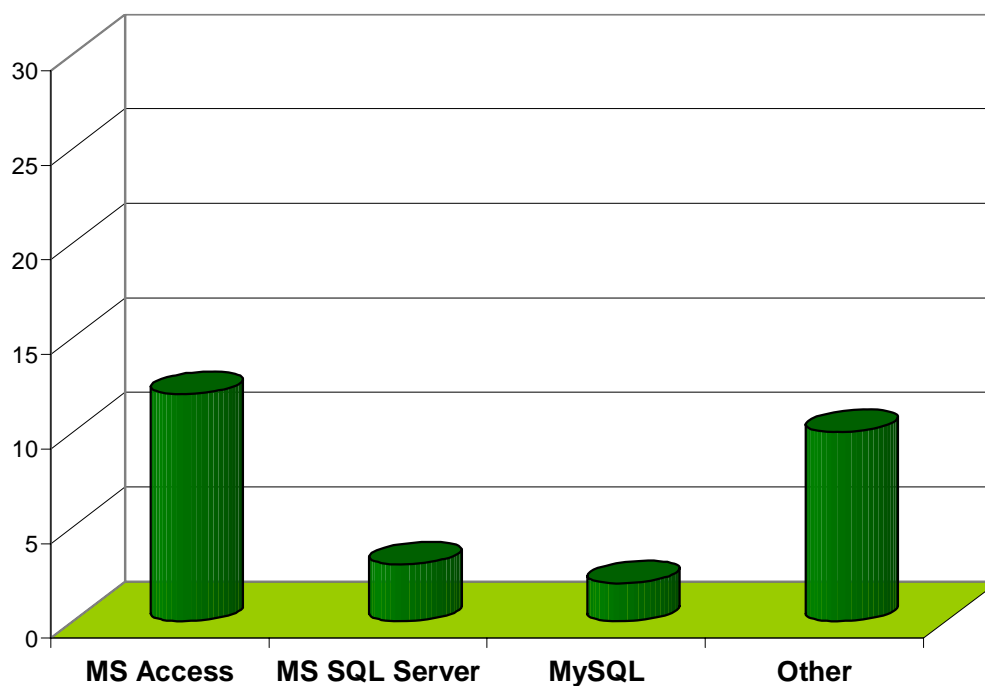
	Percent of Respondents	Response Count
Electronic documents (e.g. Excel files)	50,0%	15
Paper documents	70,0%	21
Database(s)	60,0%	18
Other	3,3%	1
answered question		30
skipped question		1



Other	
maps	

28. If the information is stored in databases, please indicate the software used

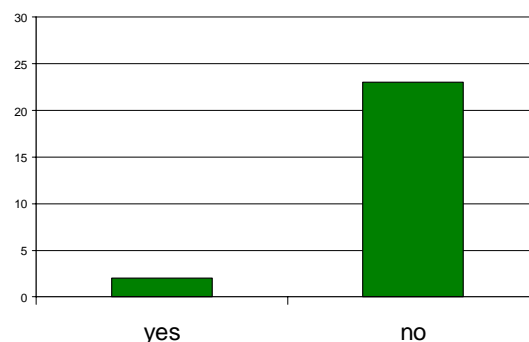
	Response Count
MS Access	12
MS SQL Server	3
MySQL	2
inmagic	0
Other	10
answered question	21
skipped question	10



Other
Specific software developed for the national database of FRM and GR units
Unknown
book, written document, in Microsoft word
excel updated regularly, access for the old files only, the new under development
ORACLE
Oracle (on the level of the internet-based national inventory for forest genetic resources)
ArcGIS
Paradox
Oracle
Specific software is now in state of preparation developed just for this purpose.

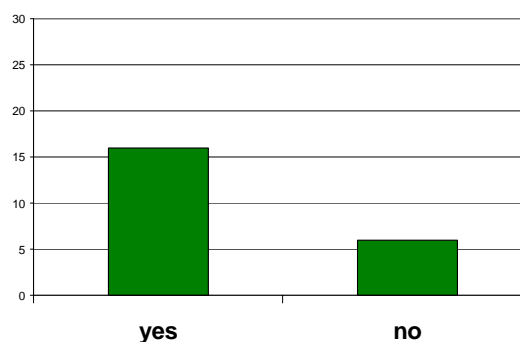
29. Are the database(s) publicly accessible online?

	Response Percent	Response Count
yes	8,0%	2
no	92, 0%	23
answered question		25
skipped question		6



30. If not, do you have direct access to the databases?

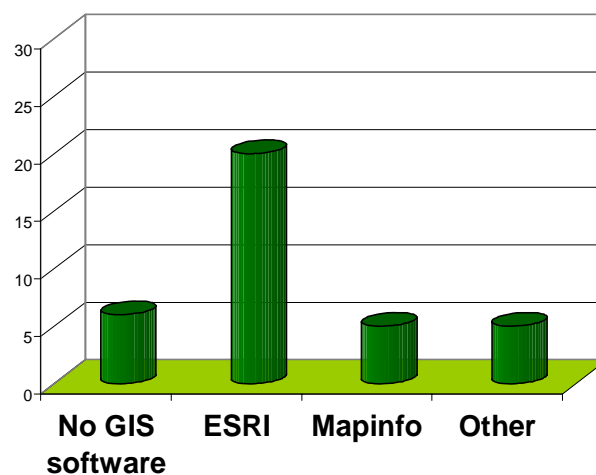
	Response Percent	Response Count
yes	72,7%	16
no	27,3%	6
answered question		22
skipped question		9



31 What GIS software is used by your institute?

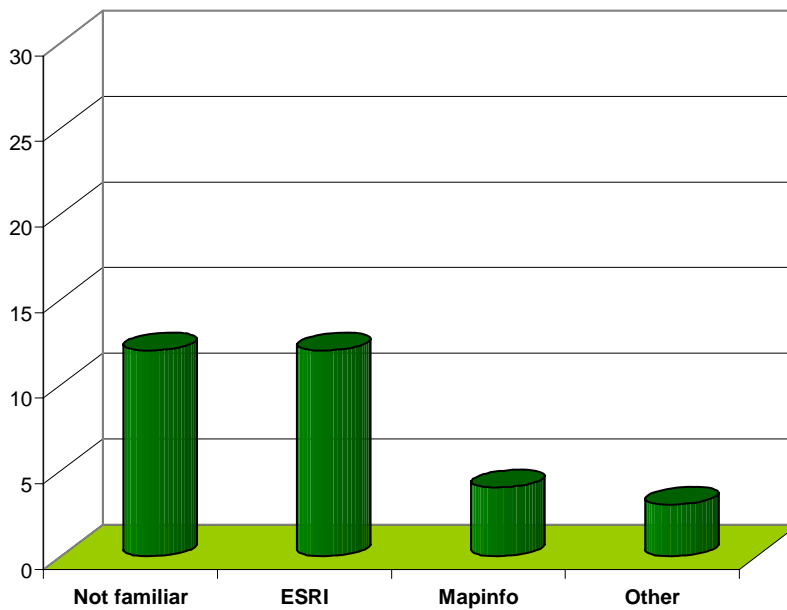
	Response Count
My institute is not using any GIS software	6
ArcView or other ESRI products	20
Mapinfo	5
GRASS	0
Other	5
answered question	30
skipped question	1

Other
for forest inventory
Progis software WinGIS
Other programs are expensive and on experiment only
My institute is using specific GIS software
ArcView and ESRI software are not currently used for gene conservation work



32 What GIS software you are familiar with and currently using in your work?

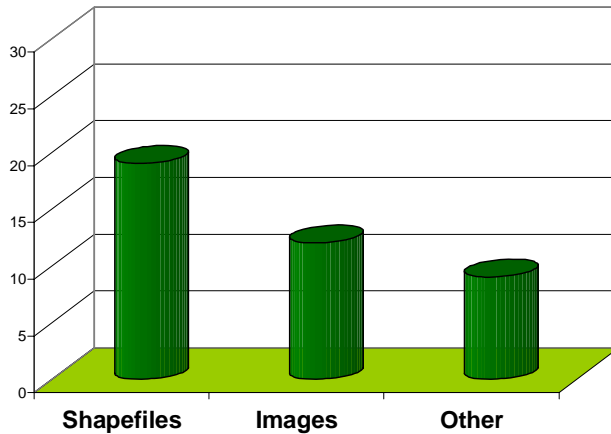
	Response Count
I am not familiar with any GIS software	12
ArcView or other ESRI products	12
Mapinfo	4
GRASS	0
Other	3
<i>answered question</i>	30
<i>skipped question</i>	1



Other
reviving of the knowledge necessary
Progis software WinGIS
My institute is using specific GIS software

33. What kind of GIS documents you or your institute can make available?

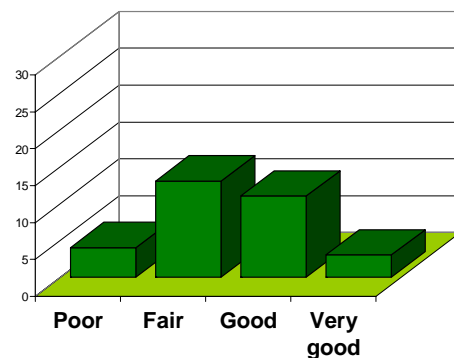
	Response Count
Shapefiles	19
Images	12
Other	9
<i>answered question</i>	28
<i>skipped question</i>	3



Other
I am afraid we can not make any documents available.
Our institute can give access file, which GIS software can utilize.
Aerial photo, orthophoto
maps
Forest Research Institute is allowed to use Shapefiles of conservation unit, however special permission must be obtain for further data distribution.
*.amp and *.ssp files
Map-info
We are on an implementation stage.

34 How would you rate your computer skills related to information systems?

	Response Percent	Response Count
Poor	12,90%	4
Fair	41,94%	13
Good	35,48%	11
Very good	9,68%	3
<i>answered question</i>		31
<i>skipped question</i>		0



Summary of the survey questions 35 and 36

The following list summarizes main issues from the feedback received (not in a order of priority):

Question 35:

The EUFGIS information system should contribute to harmonization of data collection and minimum requirements for gene conservation units to make FGR conservation more efficient. This could then increase public interest and awareness on FGR conservation and hopefully lead to increased funding at national level for the work.

The system should provide access to harmonized data on FGR conservation at pan-European level, including maps.

The system should provide access to information on gene conservation efforts in other countries and make it easy to share national FGR data with other countries. This would also help to improve FGR management and coordination of related activities at national level.

The system could provide a feasible model to re-organize a national database on FGR conservation.

The system should be simple enough with easy upload of national data to ensure its usefulness and long-term sustainability.

The system can facilitate development of a more formal national FGR policy and establishment of a more systematic network of gene conservation units for forest trees.

The EUFGIS project could provide useful software and technical advice for data management and support development of national information system as well as improve GIS skills.

The project can provide information on criteria and approaches used by other countries in designating gene conservation units.

The system could standardize methods used for data management in different countries and strengthen national efforts on FGR documentation.

The project could define a minimum pan-European network for gene conservation units from which a minimum national network of the gene conservation units could be developed.

Question 36:

The project or Bioversity could provide training on FGR documentation, specific guidelines and examples for FGR documentation.

The project should create an information system that is not too complex to maintain from the national data gathering point of view and that provide easy upload of national data.

The project or Bioversity could help to design a national database so that it is compatible with the pan-European database.

The project or Bioversity should provide manuals, good practices from other countries and clear guidelines and timeframes for collecting the relevant national data.

The project or Bioversity could help establishing or improving a national database by sharing the EUFGIS software for FGR data management.