News and Views

from Nordic Forest Research SNS

8 2017

Björt Ólafsdóttir, the Icelandic Minister for the Environment and Natural Resources, cut the rope fencing off the arboretum entrance, and thereby formally opened the arboretum at Mógilsá. Photo: Pétur Halldórsson and Pixabay (flag)

Celebrating 50 years of Icelandic Forest Research

Icelandic Forest Research at Mógilsá celebrated its 50-year anniversary on August 20th 2017. The jubilee included an open house at the station and the formal opening of a new arboretum.

Nearly five hundred people attended the ceremonies, where emphasis was placed on introducing guests to the many ongoing research activities at Mógilsá. Posters presented information about research projects and services, including forest inventory, tree breeding, pathogens and pests, forest management and harvesting and forestry economics.

The station's scientists explained techniques for measuring trees, use of root cameras and methods of preparing cuttings. Guests also had the opportunity to use a stereomicroscope to see tree rings and wood fibers and identify pests and diseases.

One of the the highlights was the formal opening of the Mógilsá Arboretum (picture above). Aðalsteinn Sigurgeirsson, forest geneticist and deputy director of the Icelandic Forest Service, then led a guided tour of the Arboretum. The walk ended at a newly clearcut pine plot where guests were invited to take part in the planting of 50 oak trees of German origin commemorating fifty years of forest research in Iceland.

Among the guests were representatives from the Norwegian Embassy in Reykjavík, appropriate as the construction of the research station at Mógilsá was funded by a national gift from the people of Norway. The station, which was formally opened on August 15th 1967 by Prince Harald of Norway (now King Harald V), is therefore a symbol of cooperation and friendship between Norway and Iceland.

Text: Pétur Halldórsson

2017 - a year of celebration
Iceland is only one of the countries celebrating its anniversary of forest research. Metla and Luke celebrate the 100-year birthday of Finnish forest research. So does Norway, where forest research also started in 1917. News & Views will pay attention in coming issues.

Arnór Snorrason shows a device to measure trees. Photo: Pétur Halldórsson

More about Mógilsá ⟶

Mógilsá, cont.

Research at Mógilsá

Icelandic Forest Research, located at Mógilsá, near Reykjavík, is the research division of the Icelandic Forest Service.

The main emphasis of the division has, since its establishment in 1967, been applied forest research in silviculture, growth and yield as well as choice of forest reproductive material. These areas of research are still important.

However, forest ecology and management have become increasingly important fields of study, covering a wide range of topics, including carbon and nutrient cycles, solving establishment problems associated with afforestation of derelict land, insect pests and pathogens and the effects of afforestation on plant and animal communities.

Forest inventory has also increased in importance in recent years, not the least due to the need for knowledge about carbon stocks and sequestration. Other recent research topics include climate mapping, vegetation history and social aspects of forestry.

Breeding and ecology

Within the field of forest genetic resources and breeding, researchers at Icelandic Forest Research are working on breeding and seed production of Sitka spruce and larch, breeding and seed production of subalpine fir for Christmas tree production and seed production of lodgepole pine. The breeding programme for black cottonwood aims at finding clones with rust resistance. Selection and breeding of native birch and rowan is going on, as well as provenance and clonal trials for a large number of other tree species.

There are projects touching on the establishment of forests and shelter belts, forests and climate change, silviculture and forest products. In the field of forest ecology you will find research on the effects of soil warming on forest ecosystems, dendrochronological work on environmental changes and projects looking at the effect of climate change on native birch cover.

Finally, worth mentioning is the work on monitoring forest health in relation to new insects and pests, including studies on *Ceramica pisi*, green spruce aphid and *Pineus pini* to name a few.

Climate change challenge

For the last 50 years, Icelandic Forest Research has played an important role in afforestation in Iceland. Future challenges will most probably be in the field of climate change, which species or genetic material to use, new threats from pests and diseases, carbon sequestration matters etc. As the forests grow, there will be an increasing need for research into forest management methods, products and marketing.

Cooperation

The researchers at Icelandic Forest Research work closely with colleagues at the Icelandic Forest Service and other institutions such as the Agricultural University of Iceland and the Soil Conservation Service of Iceland. Icelandic and foreign forestry students alike come to Mógilsá every year for practical work and the station is involved in fruitful international cooperation on many research projects.

Icelandic Forest Research

- Research division of Icelandic Forest Research
- Established 1967
- Headquarter at Mógilsá
- Director Dr. Edda S. Oddsdóttir
- webpage http://www.skogur.is/english/iceland-forest-reserach/

Growing staff

In the beginning, half a century ago, only two scientists worked at Icelandic Forest Research at Mógilsá. With state funding gradually increasing, as well as domestic and international funding, the number of staff has grown to eleven. Ten of them are scientists in the fields of forestry, forest economy, biology, ecology, dendrochronology, geography and more.

Text: Pétur Halldórsson

Mógilsá celebrating 50 years.
Photos: Pétur Halldórsson

Mógilsá, cont.

The Arboretum

Right from the founding of the station, afforestation has been going on within the boundaries of the former farmland site at Mógilsá. Various tree species, from different continents, have been planted, making the forest an ideal spot for an arboretum. In the collection, therefore, there are both young and older trees up to 50 years of age. The area closest to the station has recently undergone some restructuring, with work on forest paths, some forest thinning and relabeling of selected trees. With the establishment of the NGO *Trjárœktarklúbburinn*, a tree growers' club, in 2004 the idea emerged for extending the Arboretum up into the hills above the research station at Mógilsá. About 20 hectares of the forest will be dedicated to the Arboretum. With a warming climate there will be more and more opportunities for testing new exotic tree species in this northerly Arboretum, even angiosperms such as hardier types of bamboo and palms.

Text: Pétur Halldórsson

50 oak seedlings were planted in the arboretum. Photo: Pétur Halldórson

Time for a Fennoscandian Red List?

National red-lists are, by definition, restricted to countries, but there are arguments for looking at a larger geographical scale.

A team of researchers led from Norway has compared data for all forest-dwelling species in the national Red Lists from Norway, Sweden and Finland. One of their aims was to select candidates for a combined regional Fennoscandian Red List. They also analysed the pattern of distribution of the red-listed species.

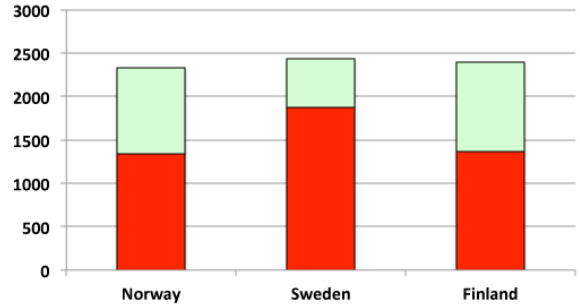
National Red Lists

Red-listing species follows a system developed by the International Union for Conservation of Nature (IUCN). Besides the global Red List, more than one hundred national Red Lists have been produced. These are often used when prioritising conservation in a country.

National lists concern the status of a species within the nation, but the status may be different when looked at over a larger scale. On a supra-national level, a species with a small population in one country may have a viable population in other countries. In contrast, a species with a status of "least concern" (not threatened) in one country may be endangered in neighbouring countries.

One common region

Among the 4 830 nationally red-listed forest-associated species in Norway, Finland and Sweden, 58% were included in the suggested Fennoscandian Red List.



Number of red-listed species from each of the three countries. The red area represents species included as candidates for the Fennoscandian Red List. The green area represents the species which are excluded, since they have a viable population in at least one other country.

Those excluded were classified as being of "least concern" in at least one other country. Least concern means that they still have a viable population.

The finding is in agreement with other studies, showing that a smaller area leads to a higher threat status for many species. The authors underline, however, that a species with a least concern status in one country may still be a "national responsibility species" in another country.

Overweight of edge populations

Many rare and red-listed species are living on the edges of their distribution range. The researchers found that the proportion exhibiting an eastern, southern or western distribution pattern in Europe was significantly higher than among non-red-listed species. In Norway, there is a dominance of red-listed species with a western distribution, while Sweden is home to many species with a southern distribution. The Finnish red-list has a high proportion of eastern species, with their main home range in Russia or Asia.

Source: Tingstad, L., Gjerde, I., Dahlberg, A. & Grytnes, J.A. 2017. The influence of spatial scales on Red List composition: Forest species in Fennoscandia. Global Ecology and Conservation 11, 247-297.

Common rosefinch, *Carpodacus erythrinus*, is a species in the suggested Fennoscandian Red List. It is classified as Vulnerable in Norway and Sweden, and Near Threatened in Finland. On the European and global IUCN list, it is classified as being of Least Concern. The species has a strong eastern distribution all over central Asia across to the Bering Sea. Photo: Piotr Matyga, Wikipedia commons

Record classes in the Euroforester programme

Almost 50 students from 19 nations joined the Euroforester programme at SLU in Alnarp for the 2017 autumn semester. When they have completed their 2-year Master's programme, over 500 international students will have passed the international forest programme over the years.

The Euroforester programme has been running since 2000, and became a formal 2-year Master's programme in 2006. The focus is on sustainable forestry in the Baltic Sea region. Many of the students originate from countries in eastern and central Europe, but students from all over the world are participating.

Vilis Brukas is one of the programme teachers. In a newsletter from SLU, he says:

– There are of course many more programmes in English welcoming foreign students, but we are unique in having established forest education with an international profile from the beginning.

He is responsible for the classes in National and International Forest Policy in Euroforester. The students pay particular attention to comparative analyses of their home countries.

– Initially, most students are convinced that their home country's forest policy is the best. But the discussions open their eyes, and it becomes clear that they can learn a lot from the others, he says.

The Euroforester students will be exposed to close cooperation with the forest industry sector during their study period. Many of the students continue as trainees or employees at companies where international experience is a merit.

Vilis Brukas, teacher at Euroforester. Photo: Pär Fornling

Euroforester - a 2-year Master's programme

- Located in Alnarp in southern Sweden, at the Swedish University of Agricultural Sciences (SLU).
- Education in English. Study tours abroad.
- Cooperation with 13 other forest faculties.
- Swedish forestry students can take separate classes or the whole programme as part of their Forestry MSc
- The programme starts in September, applications for 2018 are open October 2017–January 2018.
- More information: www.slu.se/euroforester

See also an article in News & Views No. 3, 2012.

Closer ties between Skogforsk and Luke

An agreement of understanding has been signed by the Natural Resources Institute Finland (Luke) and the Forestry Research Institute of Sweden (Skogforsk). The aim of the agreement is to strengthen scientific collaboration through: 1/ creating a joint strategic project portfolio; 2/ increasing joint visibility in the global research community; and 3/ increasing external funding for the joint project portfolio.

Charlotte Bengtsson, managing director of Skogforsk, gives concrete examples of ongoing cooperation:

– Working groups are already established with representatives from the two institutes, and their collaboration will now be increased. The themes for the working groups are enhanced tree breeding, precision silviculture and sustainability. Further, a working group is looking at how Nordic forestry can have an impact on the decision makers in Brussels.

Johanna Buchert, Luke, and Charlotte Bengtsson, Skogforsk, sign the agreement of cooperation. Photo: Erik Viklund

Contact News & Views

Write to the editor:
Mats Hannerz,
Silvinformation AB
mats.hannerz@silvinformation.se

More info about SNS:

www.nordicforestresearch.org

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Nordic Forest Research (SNS)

News & Views is edited and produced by Mats Hannerz, Silvinformation AB
mats.hannerz@silvinformation.se