

Minutes CAR-ES business meeting and workshop 16-18 March 2010, in Jaunmoku Palace, Latvia

Participants in meeting:

Lars Högbom and Eva Ring, Sweden; Nicholas Clarke, Norway; Ari Laurén, Finland; Bjarni Sigurdsson, Iceland; Dagnija Lazdina, Andis Lazdins, Arta Bārdule and Andis Bārdulis, Latvia; Jurate Aleinikoviene and Kestutis Armolaitis, Lithuania; Per Gundersen, Karin Hansen, Inge Stupak and Morten Ingerslev, Denmark.



Participants at field trip in Latvia 2010.

Welcome and introduction by the chairman Per Gundersen.

News

- SNS has given our CAR-ES another year in 2010.
- The call for new CAR applications for phase 2 has been published with a deadline of 31 May 2010.
- A side project called FSC Sink coordinated by Per Gundersen has been granted from NordForsk. It is a network on climate and carbon and members of this CAR are taking part.
- COST FORMAN meeting in Finland/Helsinki/Hyytiälä, 6-8 September 2010. The first two days are in Helsinki. In the evening of the second day, transportation is arranged to Hyytiälä. The topic will be "Forest and abundance of water" pointing to the questions of peatland forestry and problems when there is too much water in the forest.
- European strategy concerning the Baltic Sea could be connected to the coming CAR-ES project proposal.
- A conference on the Forest and Water for young scientists in Joensuu, 24-27 May 2010. No participation fee. http://www.efi.int/portal/news_events/events/extra/2010/JFNW2010/
- Workshop in Iceland on "Disturbance, land-use change and GHG exchange in the Nordic region" on 7-10 September 2010.
- Workshop in Norway on the topic of Long-term effects of the increased intensive use of biomass – what can we learn from long term experiments? 10-12 August 2010. Financed by SNS.

- Summer school in Denmark on the theme "Management of vulnerable ecosystems in a changing climate", 5-16 July 2010. Link:
http://en.sl.life.ku.dk/Forskning/ForskerskolenREFOLANA/Activities_courses.aspx#vulnerable_ecosystems

Water N and P project

Lars Högbom presented the current status of the project. The aim of this project is: 1) to describe previous and current background load of N and P to surface waters in the Nordic countries, 2) to compile the effect of various forestry operations in relation to the WFD. The work will be based on Nordic/Baltic literature including grey and unpublished data on the impact of forest management on water.

Currently, there are a lot of entries in the database. Lars made a site map presenting where we have metadata from in the database. Lars suggests a future CAR-ES workshop in southern Sweden with emphasis on N and P leaching in order to continue this work, but other aspects relevant for the CAR-ES project will be addressed.

Questions arising from Lars work:

- Methodology - how to go from details to the broad picture?
- Responsible person/s
- More metadata?
- How to go from meta data to hard data, future work
- Research application: The next phase could be to apply for a project to SNS in Sept 2010.

Paper for Ambio

Per described the process of writing the FbW paper which has now been accepted and only needs minor revision (while writing this, an updated revised manuscript has been submitted to Ambio). The reviewers did not like the term Forest by Water – we now call it "riparian forests" and define what we mean. The title will then be "Environmental services provided from riparian forests in the Nordic countries".

Silva Fennica special issue

The status is that all submitted papers (in total 10 papers) are in a review process. Within a month the manuscripts will be reviewed.

National Research Agendas

Sweden

Not much happening but the large national project Future Forests coordinated by Annika Nordin – 300 mill sek. Skogforsk will continue the Balsjö experiment. Also, Skogforsk should give 130 full day courses on how to drive forest machines near water for optimal water protection based on money from the EU rural development programme. Half of the course is about harvesting planning and half is focused on water protection.

Iceland

ForStreams (which was started in the off winds from CAR-ES) is coming to an end – two students are graduating in April 2010. A new chronosequence study (CarbBirch) on C and N dynamics and biodiversity on 55 sites has started. One question in this project is the effect on C and N dynamics when land is reclaimed and afforested? Two PhD students and two master students are currently working on this project. Albedo changes is compared between broadleaves and conifers on different land uses (eroded land, afforested land, revegetated land). In the future, Iceland will take part in the FSC sink project coordinated by Per Gundersen. Also, ICE-CLIME modelling application on climate and land use change is taking part.

Norway

Many projects deal with increased use of biomass for bioenergy – the effects on increased biomass in western Norway with steep slopes and a wet climate. New technology makes it possible to harvest on the slopes leading to big risks for erosion. Experiments are performed on the ecological effects of the increased intensive use of forest biomass. Another hot topic deals with carbon. At the moment, focus is on getting money for a climate centre.

Finland

No news on new projects. The mentioned workshops above in the News section have been initiated.

Denmark

The current Danish research projects focus on C and N dynamics where we work in the SINKS project to quantify the C sinks and storage in forest soils throughout the country. Another national project running at the moment is the C-For-Soil project where we study the effect of extra N on C storage at Klosterhede and look at the C and N dynamics in forest edges where the natural N gradient is large. Recently, the project "Forest Soil C sink Nordic Network" (FSC Sink) was granted from NordForsk, and the project is a Nordic network concentrating on quantifying the potentials for long term C sequestration in Nordic forest soils as well as in understanding their sensitivity to climatic and environmental change. A proposal on the use of willow for bioenergy (Willow WinWin) was refused but will be revised and sent again. In the summer of 2010 we will host a summer school in climate change (see the News).

Latvia

Latvia is mostly working on international projects. These are: "The Baltic Sea Region Bioenergy Promotion Project" (*Baltic sea region programme 2007-2013*), "FUTUREforest – Woodlands for Climate Change" (*Interreg CIV*), and "FUTMON – Further Development and Implementation of an EU level Forest Monitoring System" (*LIFE+*). Latvia takes part in several COST actions. Of relevance to this CAR-ES Latvia furthermore works on national projects financed by the National Research Council which are "Dynamics of cycling of nutrients and accumulation of carbon in above and underground biomass in naturally and artificially afforested areas", "Effect of climate changes on distribution of forest pests", "Forest ecosystems and water resources", and "Rational prerequisites for sustainable management of coniferous tree species". In the future, Latvia plan to work on a project concerning "Development of methodology for evaluation of effect of different forest management actions on GHG emissions and CO2 removals.

Lithuania

The main effort is placed on soil organic carbon storage and accumulation as well as microbiological build up of C. Lithuania is cooperating with agricultural specialists on the question of: How does soil respiration differ between forest and agricultural soils? Another topic is C stabilisation. The institute is also taking part in the SNS project "Ash recycling – long-term effects on tree growth" with Ulf Sikström, Skogforsk as coordinator. This year they celebrate 60 years anniversary of their institute.

Phase 2 CAR-ES proposal for 2011-2015

- We decided not to change the concept (or the name) and continue with the main concept focusing on the environmental services C, H₂O and biodiversity. We even talked about including soil quality as a fourth service. Focus will further be on the co-existence of the services and the effect of forest management (including bioenergy) on the services. As such, we will include the use of biomass and WTH for bioenergy purposes.
- The call text includes: "CAR for carbon and water". We need to define the system boundaries.
- We considered splitting chairmanship, having one overall coordinator, and more "Leaders of the year" to show real integration. Alternatively, it was discussed to split the chairmanship and

the secretary to different countries. We did not decide on who will be the chairman as of yet – we will await and see who and from which countries the chairman's for the other CARs will be.

- Each group/country delivers 10 lines max with 3 main achievements/findings/publications and the state of the art – even here stress how important the last 5 years discussions in smaller forum has been a large benefit. Deadline 26/3-2010. This is point 5 in the application.
- Each group/country delivers 10 lines on the aim, background, outcome. Deadline 26/3-2010. This is point 7 in the application.

FP7

The possible relevant calls for FP7 Environment for 2011 were mentioned. Even though the EU process is hard and it will be difficult with regional proposals, we should help each other to become participants in proposals if possible. We know each others competences, and just need to have this in mind in case of an opening.

Seminar and talks

A workshop entitled "Environmental impacts of increased Bioenergy use" took place and the following talks were given:

- Dr., Senior Scientist N. Clarke: Ecological effects of increased biomass removal for bioenergy: a summary of Norwegian research
- Dr. M. Palviainen: Carbon and nutrient fluxes related to soil coarse woody debris
- B.Stivriņa, K. Kenigšvalde, Dr. K.Korhonen, N.Arhipova, Dr. T. Gaitnieks: The importance of decayed stumps and logs in spreading of Heterobasidion spp. in spruce forests.
- Dr. J. Aleinikoviene, Dr. K. Armolaitis, Dr. I. Stupak, prof. R. Ozolincius, Dr. M. Kukkola, Dr. I. Varnagiryte-Kabasinskiene: Compensation of nutrient removed through extraction of forest fuel in Lithuania
- Dr., Senior Scientist M. Ingerslev and Dr., Scientist I. Stupak: Nutrient budgets of sustainable forest biomass production for energy
- Dr. L. Högbom: Long-term effects on wood-ash amendment and soil-solution chemistry
- Dr. E. Ring: Long-term effects of nitrogen fertilization on soil and soil-solution chemistry in Scots pine stands in Sweden
- PhD., researcher Andis Lazdiņš: OSCAR and interaction between our CARs

The seminar allowed for good discussions. After the seminar we attended a field excursion to Latvia JSC "Latvia State forest". An introduction to the main activities (forestry and timber supply, green energy wood production, sustainable forest management and best practices) of the JSC as well as activities of forest bio-energy and on environmental activities and policies were given by Laila Šica and Agris Meilerts.

Next meetings

- A scype conference to prepare the new CAR-ES application
- A final meeting in southern Sweden, September 28-30, 2010. SkogForsk and Lasse will be the host

Agenda for next meeting

- Seminar on 'N and P leaching from forests in the Nordic region'
- Silva Fennica special issue
- Application for a 2011-15 CAR – how did it go
- National Research Agendas, what is hot in forest research, short report from each country
- After 6 years of work in CAR-ES we evaluate the project, the process and the results

Karin Hansen and Per Gundersen
March 24, 2010