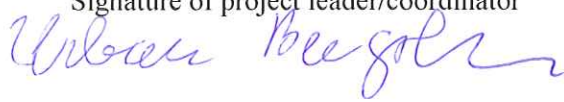


<p>8. Results (max 2 pages)</p>	<p>The workshop seminar (with about 50 participants) included the following presentations:</p> <p><i>Pathogens and pests in a harsh and changing environment: Keynote speaker – Risto Jalkanen, Metla</i></p> <ul style="list-style-type: none"> - Status of young forests in n. Finland – Ari Keskimölä, Lapland’s Forestry Centre - Actual situation in the young forests of northern Sweden: Focus on damage by moose and resin top disease – Heine Krekula, Swedish Forest Agency <p><i>Abiotic risks in forest regeneration: Keynote speaker – Aksel Granhus, Norwegian Forest and Landscape Institute</i></p> <ul style="list-style-type: none"> - Soil quality of intensively managed Norway spruce sites in Lapland – Raimo Sutinen, Geological Survey of Finland <p><i>Cost-effective forest regeneration and young stand treatment: new opportunities Keynote speaker – Urban Bergsten, SLU</i></p> <ul style="list-style-type: none"> - New project on direct seeding – Heikki Smolander/Timo Saksa, Metla - Lodgepole pine for biorefineries – Ingegerd Backlund, SLU - Boom-corridor thinning: Effects on growth and yield – Lars Karlsson, SLU <p><i>Probability, cost-effectiveness and stand establishment of pine in harsh climatic conditions: Keynote speaker – Anssi Ahtikoski, Metla</i></p> <ul style="list-style-type: none"> - The effect of ground vegetation on the regeneration of Scots pine – Ville Hallikainen, Metla - Dependence of young stand treatment on site preparation method – Mikko Hyppönen, Metla - Tree mortality in Scots pine after PCT at different stand densities and thinning heights – Kristina Ulvcröna, SLU <p>After the seminar there was a workshop in groups about cooperative research and exchange (summaries were given to workshop organizers, see below).</p> <p>The excursion during day 2 focused on:</p> <p><i>Pre-commercial thinning (PCT) with different management goals – Hans Winsa</i></p> <ul style="list-style-type: none"> - First stop (Lautakotavaara): PCT in a young stand (appr. 1m high) - Second stop (Koppelomaa): PCT at “normal” height (appr. 3-4m high) <p><i>Refined sewage sludge, a profitable fertilizer that entails large-scale carbon sequestration (Vittakero): Increased increment in a young stand, effects of fertilising on increment and green-house gases (CO₂) – Kenneth Sahlen, SLU & Hans Winsa</i></p> <p><i>Increased damage by pathogens in recent years: Törskate/tervasroso (Cronartium flaccidum and Peridermium pini), top- och grentorka/versosurma (Gremmeniella abietina), röda tallstekeln/ruskomäntypistiäinen (Neodiprion sertifer), birch leaf-roll virus – Risto Jalkanen & Hans Winsa</i></p> <p>In December 2010 the workshop activities were discussed and further NORFOR-activities were planned, see below.</p>
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<p>9. What advantages has been gained by the Nordic collaboration (i.e. by the cooperating partners, use of the project results)</p>	<p>The Nordic forest research collaboration in northern Fennoscandia and the development of the NORFOR-platform was further strengthened by the workshop. Focus should be on northern Fennoscandia and the overall objective should be continued and extended cooperation between researchers and other stake holders from the countries involved. The number of people involved in research and development is not big in the NORFOR-area. Since a lot of circumstances are almost the same, e.g. species, climate, culture and forestry, cooperation will strengthen the development and use of resources. It was considered important to establish NORFOR as a permanent group with links to and funding from SNS, in order to become a more established network.</p> <p>The presentations during the seminar and the excursion would give opportunities to start new joint projects. It was decided to continue the cooperation by arranging a workshop in Norway in autumn 2011. A. Granhus and K. H. Hansen (new members together with C. Erefur, SLU in the planning committee) at The Norwegian Forest and Landscape Institute will arrange the workshop integrated with an IUFRO meeting (Silviculture group) with the preliminary title "Forest management and silviculture in the north - balancing future needs". Further planning of joint research will take place in the beginning of 2011.</p>
<p>10. Publications and other communication activities</p>	<p>Workshop presentations are available at the homepage of the research school "Sustainable Management and Utilization of Forests" (http://www.phd-forestry.se/). A short report was made to summarize the outcome of the workshop and to give possible topics for next meeting and joint research projects. This report is used for the planning of the next NORFOR-meeting (see above).</p>

<p>11. Project summary (about 1/3 page) with main emphasis on results for possible use in the News & Views section of Scandinavian Journal of Forest Research</p>	<p>The main purpose of the the project was to plan and arrange a workshop on “Cost-effective forest regeneration in multiple-use forestry in a harsh climate” including the excursion: “Young stand treatment - new opportunities and threats”. The overall aim of the workshop was to continue to establish a borderless platform in northern Fennoscandia on the field of research and higher education of sustainable forest management. The objectives of the workshop were to present ongoing research in the different countries and to make further plans for cooperative research and education between organizations. Almost 20 presentations were made during the seminar and the excursion by representatives for Finland, Norway and Sweden (about 50 participants). The presentations during the seminar and the excursion would give opportunities to start new joint projects. Further planning of joint research will take place in the beginning of 2011. The number of people involved in research and development is not big in the NORFOR-area. Since a lot of circumstances are almost the same, e.g. tree species, climate, culture and forestry, cooperation will strengthen the development and use of resources. It was decided to continue the cooperation initiatives by arranging a workshop in Norway in autumn 2011. A. Granhus and K. H. Hansen at The Norwegian Forest and Landscape Institute will arrange the workshop integrated with an IUFRO meeting (Silviculture group) with the preliminary title “Forest management and silviculture in the north - balancing future needs”.</p> <p>Projektets syfte var att planera och genomföra en workshop ang. “Cost-effective forest regeneration in multiple-use forestry in a harsh climate” inkluderande en exkursion: “Young stand treatment - new opportunities and threats”. Målet med workshopen var att fortsätta etablerandet av en gränslös plattform i norra Fennoskandia ang. forskning och utbildning inom hållbart skogsbruk. Under workshopen presenterades aktuell forskning i Finland, Norge och Sverige (ca 20 presentationer och 50 deltagare). Presentationerna ger goda möjligheter till samarbete, under början av 2011 kommer fortsatt projektplanering att ske. Eftersom det totalt sett är få inom NORFOR-regionen som är involverade i skoglig forskning och utveckling samtidigt som träarter, klimat, kultur och skogsbruk är lika mellan länderna medför ett samarbete bättre resursnyttjande och därmed goda förutsättningar för utveckling av skogsbruket. Det bestämdes att nästa mötesaktivitet inom NORFOR ska bli en workshop i Norge hösten 2011 integrerad med ett IUFRO-möte (Silviculture group) med den preliminära titeln “Forest management and silviculture in the north - balancing future needs”. A. Granhus och K. H. Hansen vid Skog & Landskap kommer att arrangerer workshopen.</p>
<p>12. Date and signature</p>	<p>Date: 2011-01-10</p> <p style="text-align: center;">Signature of project leader/coordinator</p> <p style="text-align: center;"></p> <p>Urban Bergsten</p>