

3rd Nordic Conference on Reindeer Husbandry Research – “Reindeer husbandry in a Globalizing North - resilience, adaptations and pathways for actions”

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The Nordic Conference on Reindeer Husbandry Research 2017 was held from 29 to 31 May in Jukkasjärvi, Kriuna, Sweden, hosted by the Reindeer section of NJF (Nordic Association of Agricultural Scientists) in collaboration with the Nordic Centre of Excellence ReiGN - Reindeer husbandry in a Globalizing North – resilience, adaptations and pathways for actions. This was the third conference on reindeer husbandry research arranged within NJF.

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The Nordic Conferences on Reindeer Husbandry Research hosted by NJF is a continuation of a series of Nordic conferences, starting in 1981 arranged by the former Nordic Council for Reindeer Husbandry Research (NOR). The conference in Jukkasjärvi brought together 62 participants, mostly from the Nordic countries (Sweden, Finland and Norway), but also from Russia, Canada, France and Italy. Key note speakers had been invited from the Nordic countries as well as from Canada and Germany.

The three-day conference included four scientific sessions:

- Reindeer health
- Sustainable land use, ecological, political, and social aspects
- Domestication and selection
- Herd dynamics and productivity

The reindeer health session was opened with a key note lecture by Morten Tryland, veterinary from the University of Tromsø, Norway, who discussed infectious diseases in reindeer and how these may be affected by a changing environment, competing land use and subsequent changes in reindeer husbandry. Other talks within this session dealt with e.g. the increased occurrence of eye infections (infectious keratoconjunctivitis) in reindeer, and CWD (chronic wasting disease), caused by pathogenic prions, that has been diagnosed in wild reindeer and moose in Norway dur-

ing recent years and may imply a severe threat to reindeer husbandry. Ongoing work including screening and identification of infectious diseases in reindeer within the Nordic Centre of Excellence CLINF was also presented.



Fig. 1. Conference participants from Sweden, Finland, Norway, Russia, Canada, France and Italy (Photo: Hans Göran Olofsson).

Sustainable land use is evidently a key issue for reindeer husbandry and the talks in this session was introduced by a key note lecture held by Roland Pape from University of Bonn, Germany. He presented results from research done together with his co-author Jörg Löffler which illustrate how seasonality and habitat selection may buffer against climate change and weather variability. This session included eight more oral presentations and three posters covering topics related to effects of climatic change, competing land use and human disturbances on the possibility for reindeer to graze and for reindeer husbandry to sustain on the available land resources. Several presentations were related social and political issues like governance, empowerment, learning processes and internal collaboration.

Session three focused on genetic aspects of reindeer, how reindeer have been genetically changed historically through domestication, and the goals and methods of selection of reindeer in present-day reindeer husbandry. In his key note lecture, Ivar Bjørklund discussed domestication from a historical perspective, emphasizing the importance of separating early reindeer husbandry and domestication of reindeer from the transition of a hunting society to the development of pastoralism with large herds of domesticated reindeer. He pointed out that for long (many centuries or even millennia) reindeer were kept by humans for domestic services (e.g. transport) parallel with wild

herds that were hunted. When large-scale pastoralism based on reindeer started to be developed there was already a domesticated variety of the species that could be handled and herded. Asko Mäki-Tanlila had the second key-note lecture within this session focusing on the genetic aspects of domestication and the effects of favouring certain traits depending on what the reindeer have been used for. He also discussed how the effects of human selection may be hampered by natural selection. Five additional oral presentations and four posters in this session covered a range of topics from historical development of reindeer herding to the use of pedigree information as well as knowledge on certain genes for breeding and modern techniques like artificial insemination.



Fig. 2. Alessia Ubani during her presentation "Major declines in food resources challenge a centuries-old pastoral system" (Photo: Alice Giorgis).

Several topics presented in the last session on herd dynamics and production were closely linked to those in session two (sustainable land use). This session started with a key note lecture held by Chris Johnson from the University of Northern British Columbia, Canada. The presentation had a broad focus on the role of predators for Rangifer population dynamics. The examples and challenges discussed referred primarily to wild reindeer (caribou) and the situation in North America, where wolf is usually the main predator, but many of the complex mechanisms involved can nevertheless be applied also on situations in the Nordic countries. The remaining presentations in



Fig. 3. A conference is a good opportunity to meet your colleagues. Here Hans Tømmervik (Norway) and Kjell Bolmgren (Sweden) are involved in a discussion at the dinner table (Photo: Hans Göran Olofsson).

this session dealt with effects of predation, identification of productivity factors, long-term population dynamics, changes in available grazing resources and collaboration and risk management in reindeer husbandry.

The conference demonstrated the broad spectrum of research linked to reindeer herding that is performed within the Nordic countries. There is hope that the Nordic Centers of Excellence now funded by Nordforsk (ReiGN, which was partly responsible for the conference and represented by a large number of presentations, and CLINF with focus on infectious diseases in both humans and animals but where reindeer has been selected as a key species, and REXSAC Resource Extraction and Sustainable Arctic Communities) will further develop the research and provide a more holistic understanding of the drivers that affect reindeer husbandry in Fennoscandia.

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A detailed conference program and abstracts for posters and presentations are available at: <https://www.slu.se/institutioner/husdjurens-utfodring-varld/nyheter-huv/nordic-reindeer-conference-2017/>.