

REINDEER — A CENTRAL "PLAYER" IN THE ARCTIC ECOSYSTEM

Reindeer, also known as caribou in northern America (Rangifer tarandus, Linnaeus 1758), are mammals belonging to the order Artiodactyla, family Cervidae, subfamily Capreolinae. From nine original main subspecies, seven still exits (Figure 1). The total number of reindeer is difficult to assess but is estimated at five to six million. While reindeer as a species is not endangered, some subspecies and populations are now protected because of reduced population size and/or changes in natural habitats. In North America, two subspecies Peary (R. t. pearyi) and Woodland (R. t. caribou) are listed as threatened and recent, widespread, and massive declines of barren-ground caribou (R. t. groenlandicus) have raised concerns about this species globally. More than 500 000 animals are found in the northern Europe (Norway, Finland, Sweden, Iceland) comprising 4 subspecies and some protected populations as the wild reindeer in southern Norway or the Forest reindeer in southern Finland. Most of these animals are herded by the local indigenous populations representing an important cultural, economic and social asset for these Arctic populations. Additionally more than 1 500 000 animals are estimated to be within the borders of the Russian Federation.



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Reindeer mortality is often linked to predation; however, many studies carried out in the last 20-30 years have identified several different health problems affecting reindeer in all northern European countries. Viruses, bacteria, fungi and parasites have been identified as causative agents of diseases with a vast range of clinical signs and implications for reindeer survival and husbandry. At the same time, studies on reproduction, calving, and nutrition have helped to understand this important arctic species and its capability to survive in what can easily be considered as one of the most extreme habitats of the planet.

The lack of structured long term cooperation in studies related to reindeer health has meant that different countries have worked on individual health problems according to national relevance, many times on the follow -up of disease outbreaks. There is recent evidence documenting the range expansion of pathogens of domestic and free-ranging ungulates to subarctic areas. The potential impacts of global warming are predicted to include shifts in the spatial-temporal distribution of vectors, and hence altering transmission dynamics of vector-borne diseases

The lack of organized reindeer health research in the Nordic countries makes it difficult for scientific agents/ institutions to provide counseling for political/management authorities of the Arctic, for the reindeer industry or even for the protection of cultural and traditional values of arctic and sub-arctic indigenous populations.

It become clear that the only way to overcome this and other shortcomings was to establish a long term cooperative strategy where research and teaching in reindeer health could be understood as both a global Nordic need and a global Arctic achievement: RANGIFER HEALTH NETWORK.

This network launched in 2010 in Oslo gathers more than 35 researchers and graduate students from 7 Arctic countries and 11 institutions (Figure 2).

The network will fulfill four major goals:

1) establish a lasting and global Nordic network of researchers working on reindeer health topics;

2) identify emerging research needs for the Nordic area and provide information and counseling for third partners:

3) promote a global teaching system for graduate students involved in reindeer health research;

4) increase the participation of the Nordic countries in circum-arctic research, namely by increasing cooperation with CARMA



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NETWORK ORGANISATION, ACTIVITIES & NEW CHALLENGES

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Network activities 2011-2013

WP1 – Launching meeting for RANGIFER HEALTH – Oslo—January 2011

WP2 - Establish a web platform for networking and website for scientific and public information - Oc tober 2010 to October 2011

https://www.rangifer-health.com





WP3 - Make a detailed assessment of present research and future needs in reindeer health investigation in the Nordic European countries as a tool to better establish new cooperative projects - 2011 WP4 - RANGIFER HEALTH annual seminars (2012 Egilsstadir, Iceland: 2013 Tromsø, Norway)WP5 -Mobility program - 2011 to 2013

To implement and together with other funding bodies facilitate/promote the exchange of researchers and students. These exchanges are aimed at increasing the scientific potential of each group by complementing their activities in a partner research group/institution. Field work activities can also be considered as a part of this mobility program which can take place in the network institutions (full member and associated partners). WP6 - RANGIFER HEALTH and society - 2011 to 2013

To conduct meetings/seminar and other activities in the different countries where members of the network can meet with third groups (academia, funding agencies, management bodies, NGOs, business and industry partners) to discuss reindeer health topics, promote the network and enhance cooperation in science and education namely the creation of PhD in academia/industry partnership.

