

# **Polar wildlife – connecting ecology, health and disease issues in a changing world**

**Full day side meeting held during Polar 2018, Davos, June 15<sup>th</sup>**

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A Workshop was held on Polar Wildlife Health at Polar 2018, Davos, on June 15<sup>th</sup>, organized on behalf of the Terrestrial Working Group of the International Arctic Science Committee (IASC) and the Expert Group on Birds and Marine mammals (EG-BAMM) health monitoring group of the Scientific Committee on Antarctic Research (SCAR). Wildlife species are of critical ecological and socio-economic importance in Polar Regions, yet in the current context of global change they are experiencing increasing health challenges and the persistence of many species is uncertain. A better understanding of wildlife health status, including the diversity of pathogens and ecology of infectious and non-infectious diseases (e.g. toxins, immunity, and stress), is critical in order to anticipate, manage, and mitigate wildlife health issues at the poles. The aim of this workshop was to identify key scientific knowledge gaps in wildlife health and disease and to foster new research initiatives and collaborations at the interface between ecology and diseases in Polar Regions (Arctic, Antarctic and sub-Antarctic).

The main outcomes of the workshop were:

- Identification of key topics of broad interest in the current context of global change, notably the importance of considering host and parasite ecology and the role of interactions with human activities
- Contributions to protocols and methodologies to address monitoring of polar wildlife health issues
- Strengthening of the relationships between the Arctic and Antarctic/sub-Antarctic wildlife disease research communities to work on polar wildlife health questions

The workshop was attended by eighteen people (see picture), allowing several early career scientists to contribute talks and participate to the discussions. The importance of setting up carefully designed monitoring programs and of studies focusing on wild animal systems of particular relevance in the context of global change was identified. In this context, some particularities of polar host-parasite systems were outlined, such as the relatively simple species composition of their communities, their strong spatial structure and seasonality, and the fact that they are the subject of dramatic climate change effects. Issues linked to human health and human activities at the interface with wildlife were also identified as a future priority. It was decided to pursue interactions on these topics by the future organisation of a workshop in 2020 and the writing up of a synthesis paper on the topic. With regards to the possibility to develop a cross-cutting activity with other Working Groups of IASC, it was identified that the issue of sewage pollution and parasite/disease occurrences could be of interest for interactions with the SHWG. A high potential to contribute and interact with T-MOSAIC was also identified.



Attendees to the Polar Wildlife Health workshop, Davos, 2018 (Picture Fabien Mavrot).



Black-legged kittiwakes breeding in the Arctic. Such wild species host parasites and infectious agents which can affect their health. In the context of global change, a better understanding of processes underlying polar wildlife health issues and their interactions with human activities is needed (Picture Thierry Boulinier/IPEV).