

Memorandum 2/11/2018

AS1: Effects of POPs and Hg on Arctic wildlife: AMAP assessment

This memo provides a summary of reports submitted on the session AS1 organized at the Arctic Biodiversity Session in Rovaniemi, Finland, October 9-12 organized by the Environment and Climate Change Canada and Aarhus University.

Attendance: 30

Arctic Biodiversity Assessment recommendation themes most prominently addressed in the session:

- Addressing stressors
- Improving knowledge and public awareness

Key points raised in the session that were important to note:

- The background for this work is OneHealth initiative in the Arctic.
- Animals are often unique monitoring organisms as bio-accumulators, susceptible to climate change, have some diseases that could be transmitted to humans, and they are crucial to human survival in the Arctic.
- Vitamin reg, enzyme activity, hormone levels, immune system function are the main types of effects reported in the last 10 years.
- Effects are largely correlative rather than causative
- Climate change can change exposure pathways! New sources of contaminants, new food sources, new ranges, and even self-toxification (e.g. warm weather stresses food, means burning fat, means re-exposing self to Hg).
- Policy document associated with the assessment will be released in early 2019

Recommendations/actions identified for how to deal with the issues raised in the session:

- Need to harmonize data collection strategies to be able to make comparisons across the Arctic
- Individual chemical effects vs. cocktail effects

Take home message from the session:

- Legacy chemicals remain of high concern
- Polar bears, orcas, and seabird at highest risk
- Exposure levels can exceed putative risk threshold levels
- Calculated risk quotients, which summarize cumulative effects of different pollutants
- A lot of work remains to be done on understanding chemical effects across the Arctic and what we need to do about them