

Mercury in the Arctic terrestrial Ecosystem

Effects of Hg on Barnacle goslings

Nico van den Brink¹, Isabella Scheiber², Margje de Jong³ Jan Komdeur², Maarten Loonen³. 1) Wageningen University, 2) Groningen University, 3) Arctic Centre



Rationale

The Arctic is contaminated by mercury from different sources: Long range and local human activities. Research on mercury in the Arctic has mainly focussed on marine ecosystems less on terrestrial ecosystems. Here we present a pilot-study in which we herded goslings in a site impacted by historic mining activities, and a control site, both near Ny-Ålesund, Spitsbergen.

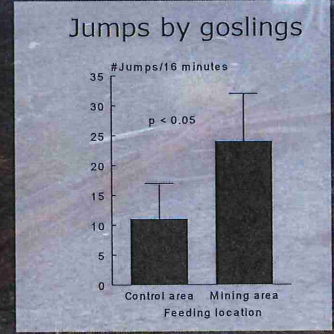
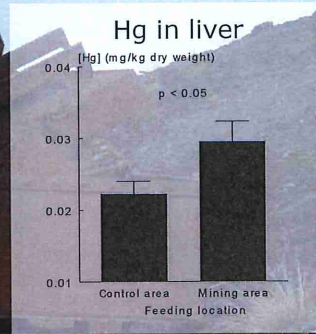
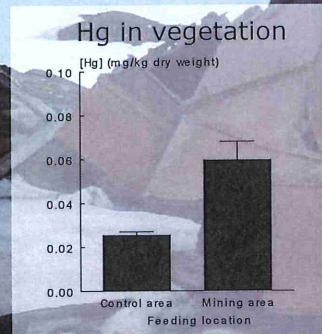
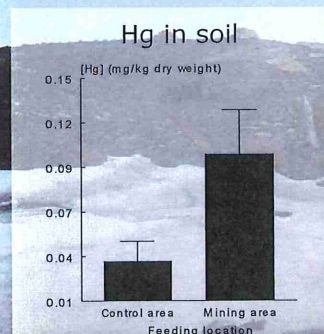
Methods

2 groups of goslings (n=8/group) were herded daily for 3-5 hours (weather depending) in two locations. Behaviours, indicative for stress, were quantified by controlled, video-taped experiments. Additional analyses of effect-markers for neurotoxicity are forthcoming.



Results

Hg in samples for mining are significantly elevated
Behaviour different between groups
No effects on immune system at group level (data de Jong)
Neurotoxicity parameters pending



Publications

van den Brink, NW, Scheiber, I, de Jong, M, Braun, A, Komdeur, J, Loonen, M 2015. Mercury in Arctic Barnacle goslings (*Branta leucopsis*) in contaminated terrestrial habitats. SETAC Europe meeting 2015. Abstract book.

van den Brink, NW, Scheiber, I, de Jong, M, Nil Basu, A, Komdeur, J, Loonen, M. in prep. Effects of mercury in Arctic Barnacle goslings (*Branta leucopsis*) in contaminated terrestrial habitats.

More information: nico.vandenbrink@wur.nl

