

Project information

Project title

Reproductive health in a heavily polluted subarctic environment

Year

2012/2013

Project leader

Oddmund Kleven, NINA

Participants

- Oddmund Kleven, Norwegian Institute for Nature Research (NINA)
- Geir Rudolfson, Norwegian Radiation Protection Agency (NRPA)
- Paul E. Aspholm, Bioforsk, Norway
- Ivar Folstad, University of Tromsø, Norway

Flagship

Hazardous substances, Theme: Animal health and ecosystem

Funding Source

Fram Centre

Summary of Results

The main aim of this pilot study was to examine the effect of trans-boundary air pollution from the nickel-smelters in Nickel on male reproductive health in birds. We planned to use the pied flycatcher (*Ficedula hypoleuca*) as a model species in our study, but due to the low number of individuals breeding in the area in 2012 and challenges obtaining pure ejaculates of that species, we switched to another passerine, the willow warbler (*Phylloscopus trochilus*). Male willow warblers were captured at three localities with increasing distances to Nickel and with different levels of contamination. We found significant variation among males in sperm quality, but no significant variation between the three sites. Hence, air pollution from Nickel does not seem to have any adverse effects on sperm quality in male willow warblers. However, we do stress that our sample size is low, and more data are required to make a firm conclusion.

Published Results/Planned Publications

This pilot study have provided preliminary results only and more data are required for a publication

Communicated Results

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Interdisciplinary Cooperation

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Budget in accordance to results

This study was funded by the Fram Centre only, and the project would not have been possible to conduct without this support.

Could results from the project be subject for any commercial utilization

No

Conclusions

A follow up study adding more data are required to be able to make a robust conclusion whether air-pollution from the Nickel smelters have a detrimental effect on the reproductive health of birds breeding in the Pasvik area.