

Project information

Project title

Reproductive health in passerine birds

Year

2013/2014

Project leader

Oddmund Kleven, NINA

Participants

Project leaders:

- Oddmund Kleven, Norwegian Institute for Nature Research (NINA)
- Geir Rudolfsen, Norwegian Radiation Protection Authority (NRPA)

Project participants:

- Ivar Folstad, University of Tromsø (UiT)
- Henning Jensen, Geological Survey of Norway (NGU)

Flagship

Hazardous substances, Theme: The impact of climate change on transport and fate of contaminants in the Arctic

Funding Source

Fram Centre

Summary of Results

One of the main aims of this pilot study was to examine the effect of trans-boundary air pollution from the nickel-smelters in Nickel (Russia) on male reproductive health in passerine birds. Male willow warblers were captured and ejaculates sampled at three different localities with increasing distances to Nickel and with different levels of contamination. Preliminary results indicate significant between-male variation in sperm velocity, but no significant variation between the three sites with increasing distance from the nickel-smelters. Hence, air pollution from Nickel does not seem to have any adverse effects on sperm swimming behaviour in male willow warblers. Air pollution from the nickel-smelters may, however, have negative effects on other aspects of male reproductive health and we are currently performing additional analyses on sperm morphology in collaboration with colleagues at the University of Bielefeld (Germany).

For the Management

Preliminary findings indicate that air pollution from the nickel-smelters in Nickel does not have negative effects on sperm quality in a passerine bird breeding in Pasvik.

Published Results/Planned Publications

No results have currently been published from the project

Communicated Results

No, as the data-analyses have not been finalized yet

Interdisciplinary Cooperation

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Budget in accordance to results

Funding from the Fram Centre was essential for this study. The project only received funding from the Fram Centre.

Could results from the project be subject for any commercial utilization

No

Conclusions

Further research on potentially negative effects of air pollution from the nickel-smelters in Nickel on male reproductive health in birds should be performed on sedentary species (in contrast to the willow warbler that is a migrant) that are more heavily exposed to the pollutants