

## Multiple pressures on Arctic landscapes

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### KEY MESSAGES

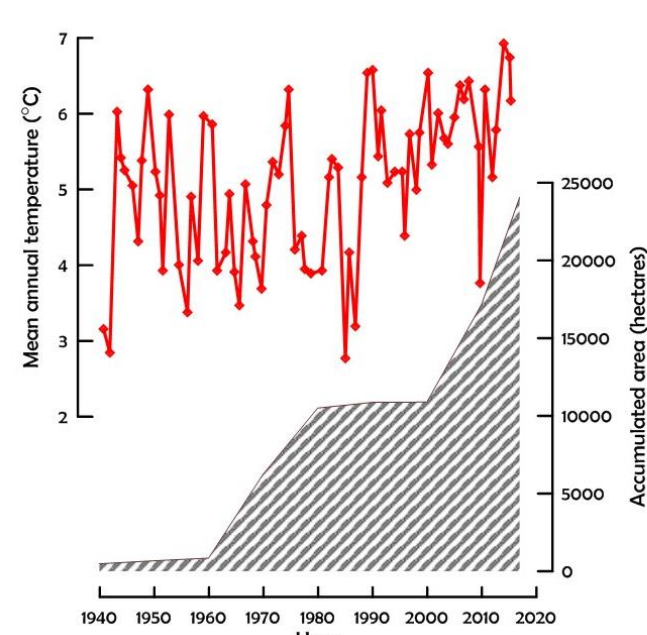
- Many different actors use Arctic landscapes and natural resources, often with spatial overlaps and competing interests
- Impacts of all potential land uses should be assessed in a holistic and integrated manner, together with the effects of climate change



Photo: Carl Österlin

### PRESSURE ON LAND IS GROWING

- Climate change increases the need for flexible use of the landscape
- Demand for mineral resources
- Renewable energy requires space
- Tourism



Mean annual temperature 1940-2016 for 35 Swedish stations (SMHI, 2017). Accumulated land area designated for mining within Swedish reindeer herding communities per decade (Österlin, 2017).

### JOINT PRODUCTION OF KNOWLEDGE

Collaboration between scientists and Saami communities creates a better understanding of landscape changes. It also ensures that weather patterns and vegetation are monitored at core locations.

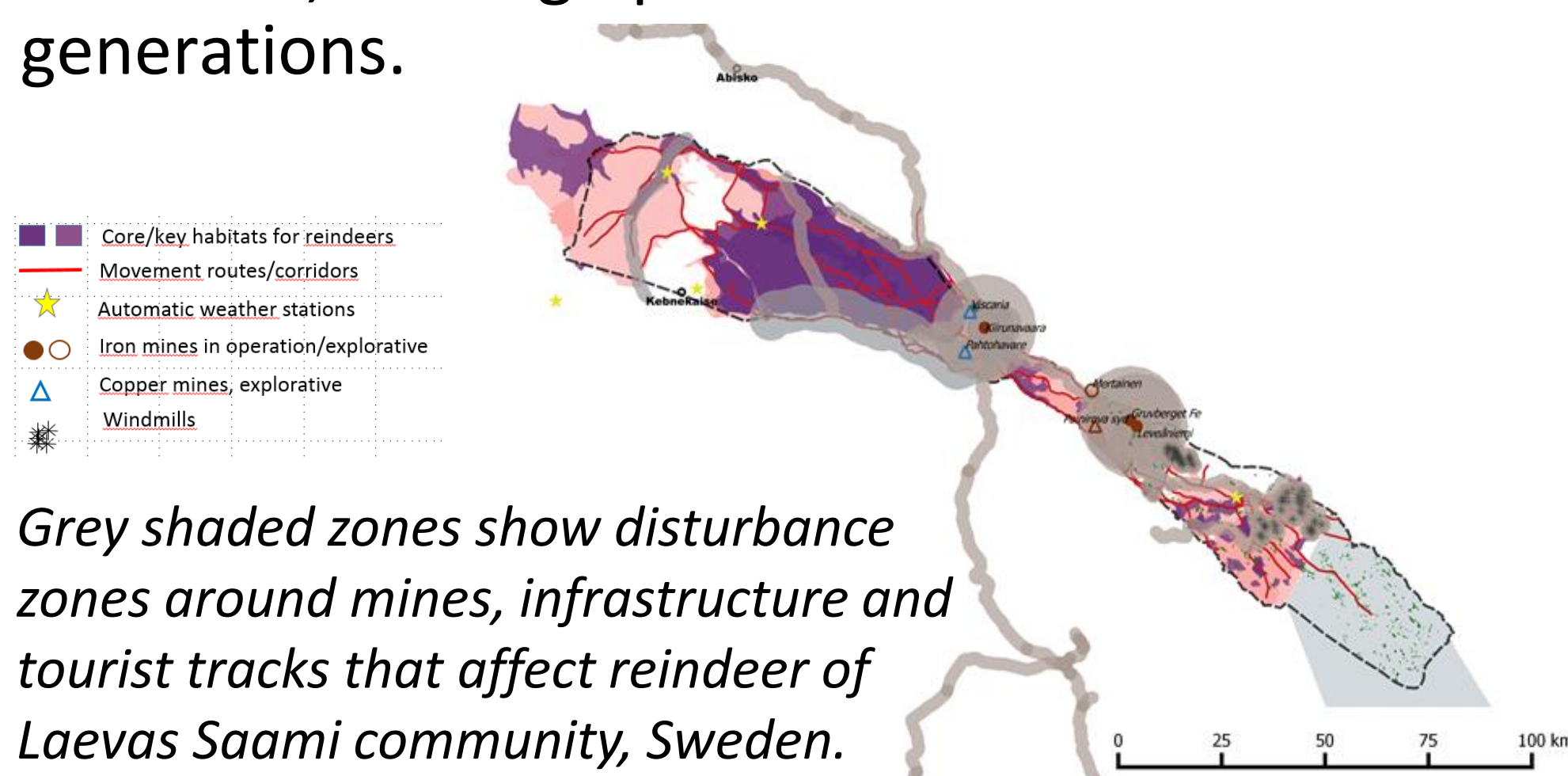


Ellen Sarri at an automatic weather station at Lihti, northern Sweden

Photo: Ninis Rosqvist

### OVERLAPPING AND COMPETING INTERESTS

Some land use destroys resources for others by disturbing ecosystems, spreading pollution, and fragmenting the landscape. Impacts can last for centuries, limiting options for future generations.



Grey shaded zones show disturbance zones around mines, infrastructure and tourist tracks that affect reindeer of Laevas Saami community, Sweden.

### TOWARDS BEST PRACTICES

To ensure long-term sustainability, impact assessments must include:

- Effects of both short-term climate variability and long-term climate change
- Century-long perspectives in judging the impacts of pollution
- Attention to the cumulative effects of multiple land uses and climate change
- Use of all relevant local and scientific knowledge and perspectives