

# Current challenges for reindeer herding

## Large carnivores – Climate change

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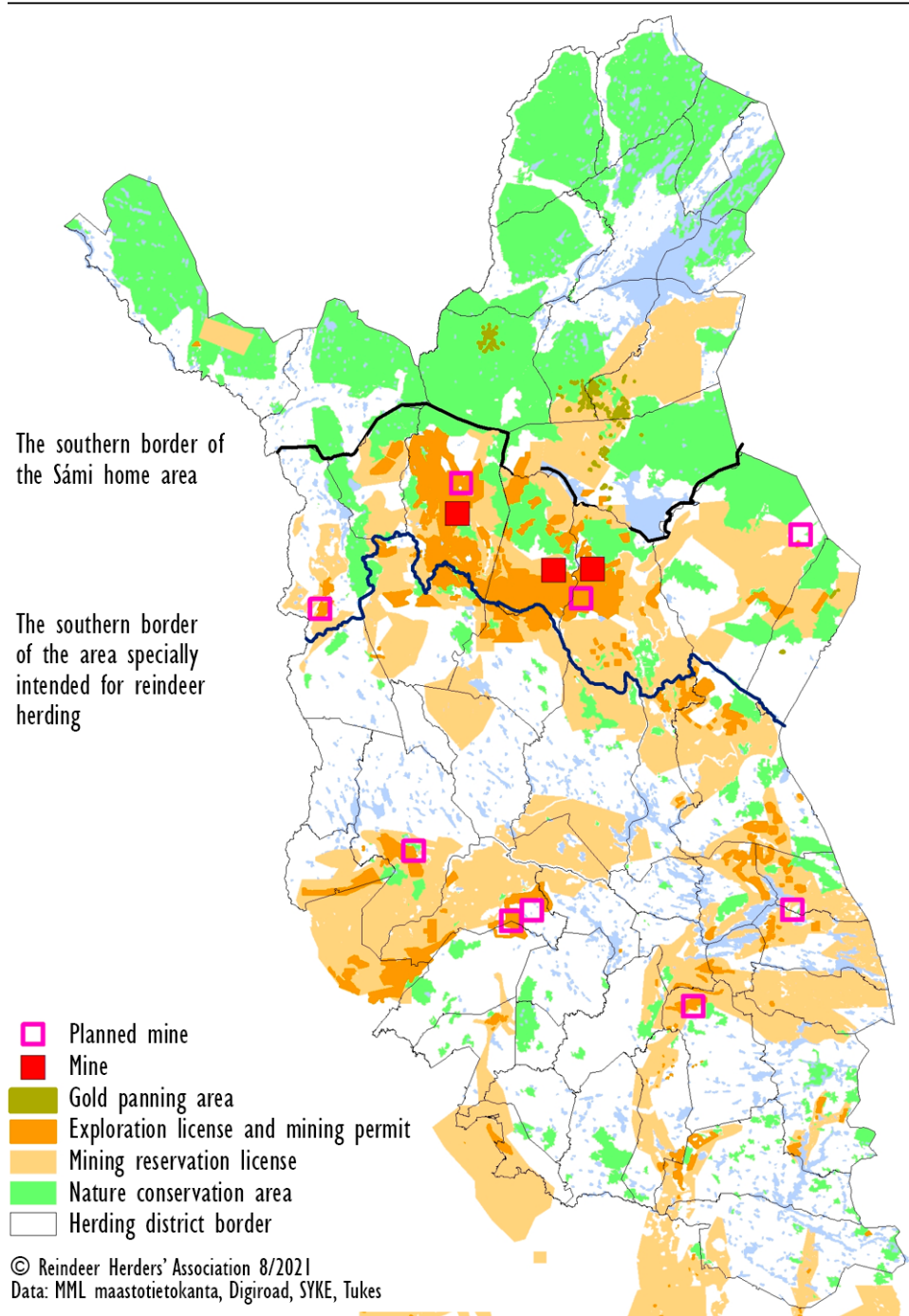


Cumulative impacts of  
other land use in the  
reindeer herding area --

# Mining industry

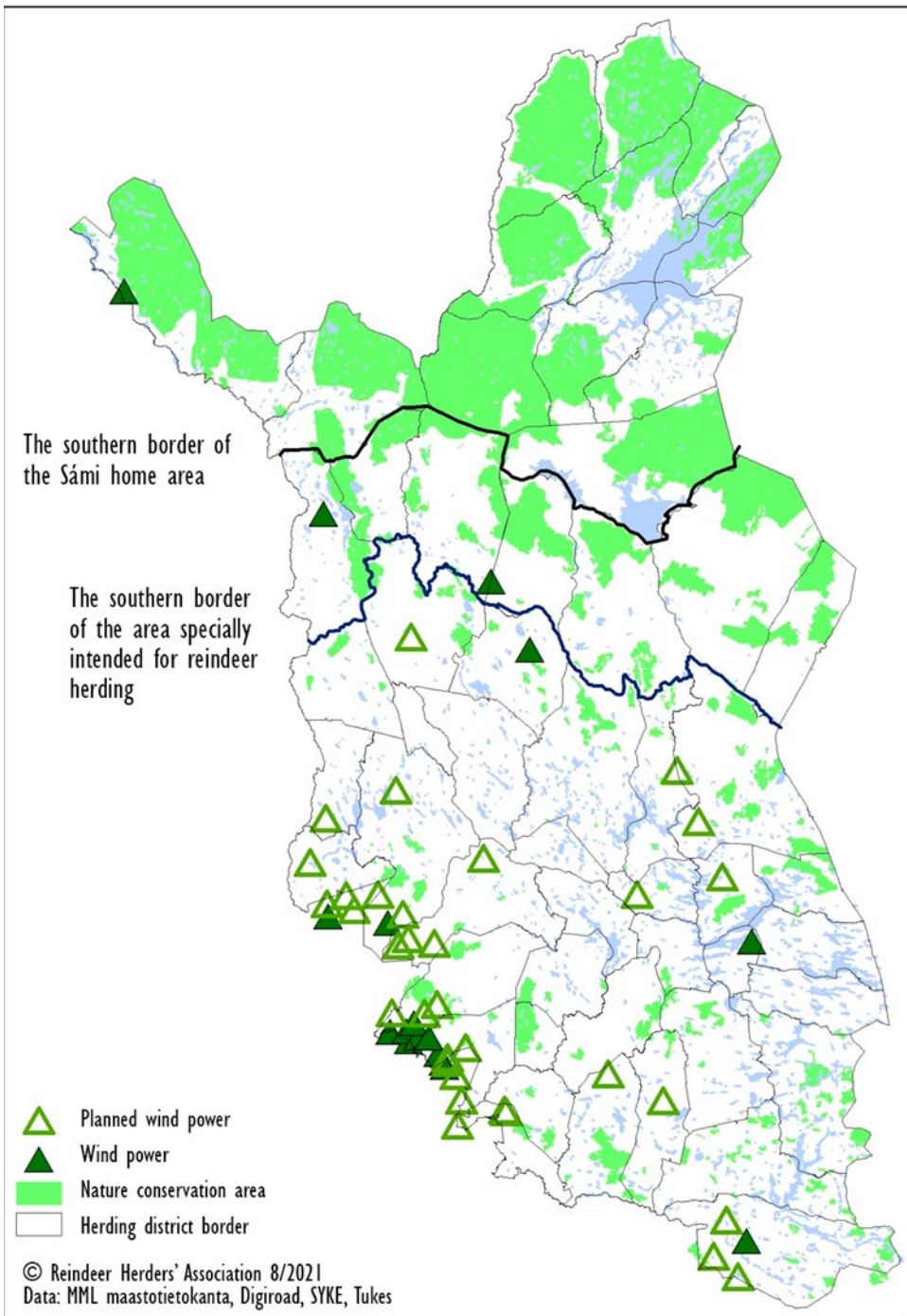
- Operating mines, ongoing projects, operating gold panning areas
- Areas for exploration licenses and mining permits
- Mining reservation licenses

➤ Mining and potential mining is everywhere.

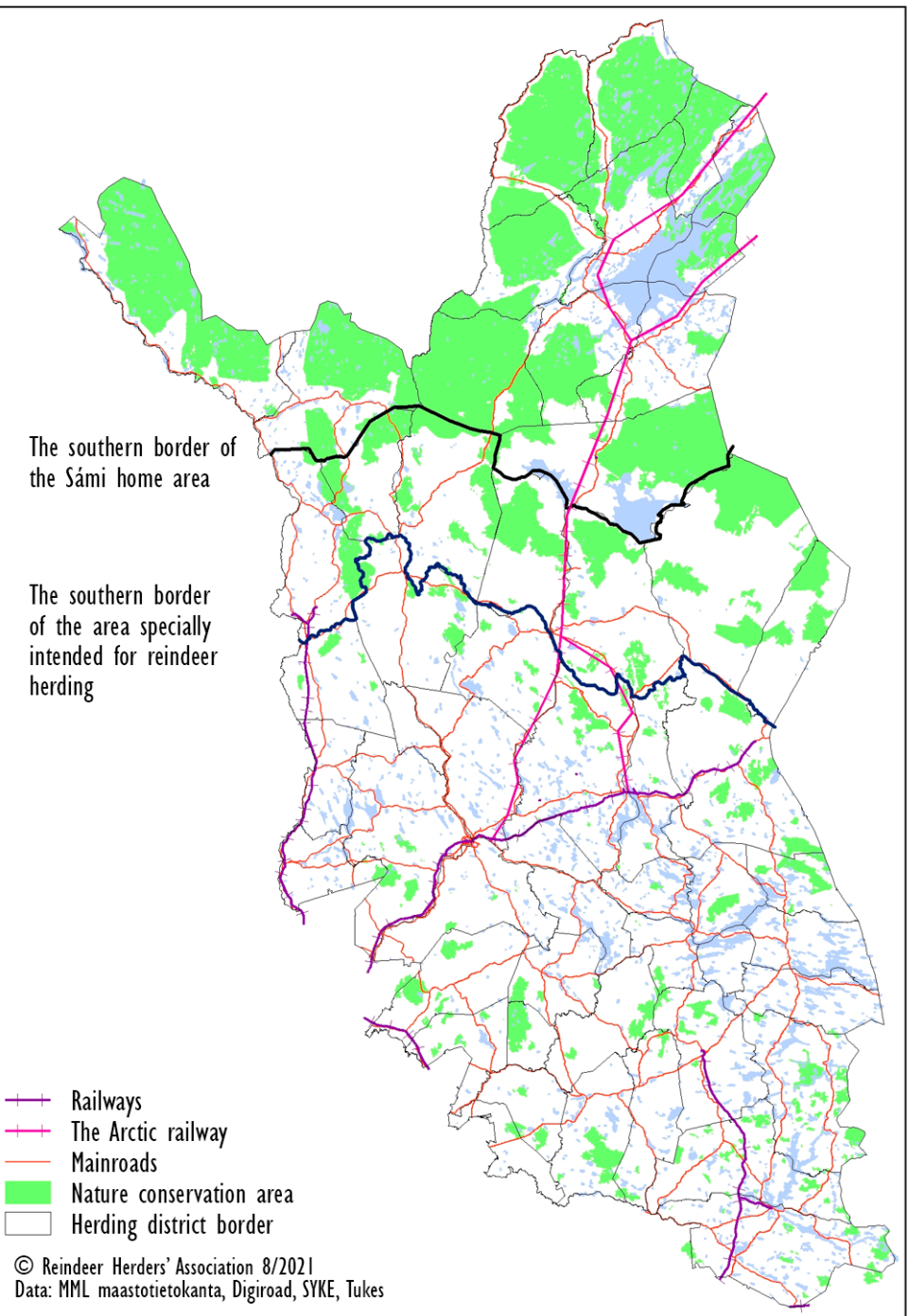


# Wind power areas

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- Existing wind power areas and ongoing projects
- In addition, early plans are widespread
- National visions in Finland: wind power production volumes will be multiplied.

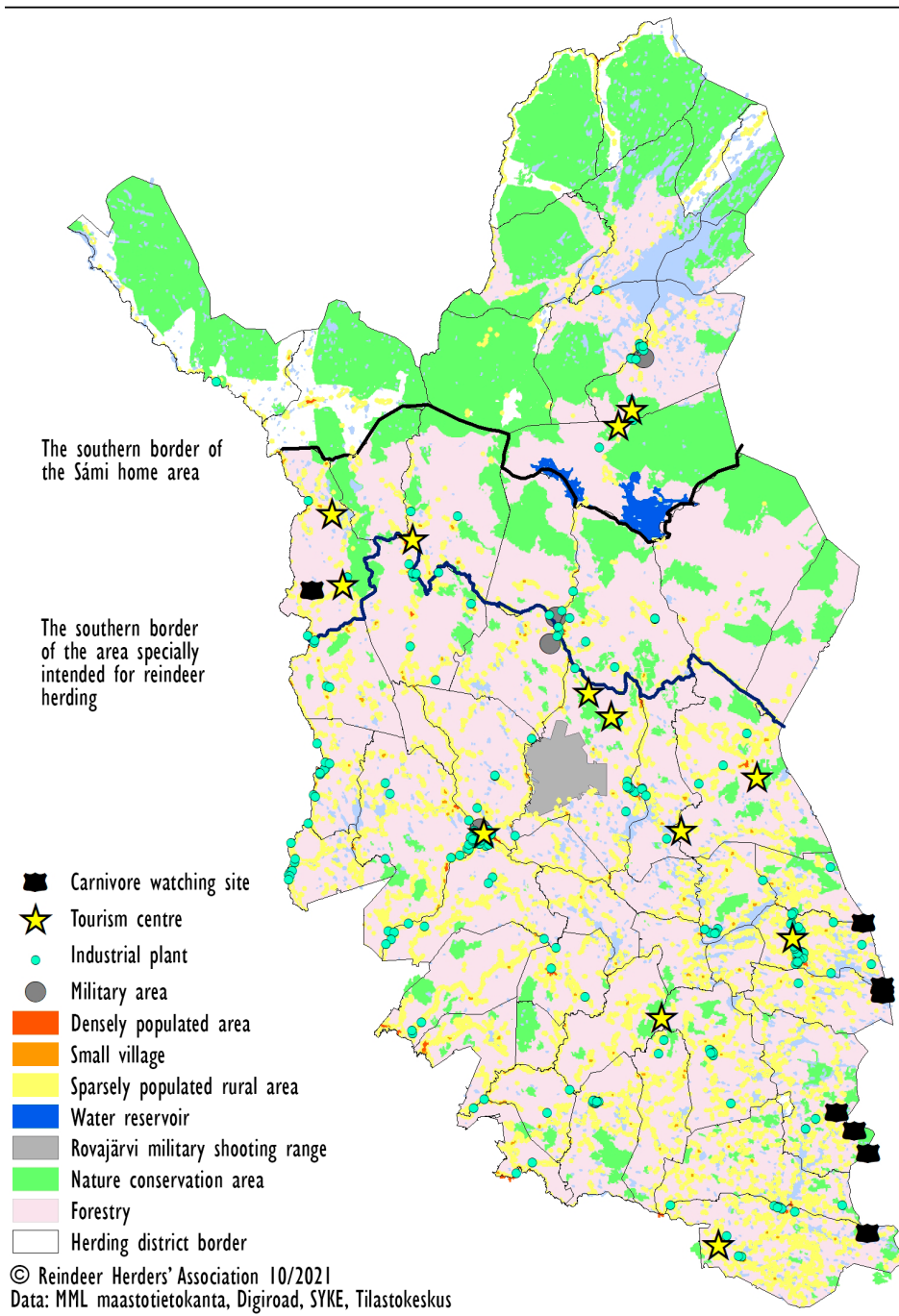


# Main roads and rails

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- Yearly 3000–6000 traffic and railroad accidents
- Smaller roads everywhere due to forestry
  - poaching
  - dogs chasing and killing reindeer
- Similar consequences as with predators:
  - Killed reindeer are partly compensated, but always a loss to the reindeer owner -> money does not give birth to new reindeer calves.
  - Damage accumulation distorts the opportunities for reindeer breeding -> yields decline in reproduction

# Other forms of land use



- Forestry
- Agriculture
- Peat production
- Other big industries
- Hunting
- Tourism
- Predator tourism: watching sites
- National defense
- Habitation
- Leisure habitation
- Etc.

➤ Serious added burden: Climate Change and Large carnivores



# Climate change

- The impacts of climate change are amplified in the northern region or the arctic region.
- Winters have become more erratic.
- Fluctuation of temperatures above and below zero during winter can cause a thick layer of ice on the reindeer pasturelands -> reindeer are not able to dig through this for food.
- Heavy snow and rainfall due to increase in precipitation causes also such a thick snowcover or a crust layer of icy snow on top of the snowpack -> reindeer are unable to dig through.

## Winter 2019-2020\* and 2020-2021

- 2019–2020: All over the Nordic countries, due to the extremely difficult and deep snow conditions, large numbers of reindeer were lost, despite efforts and hard work from herders trying to keep the herds together and supplementary feeding them.
- 2020–2021: very similar issues in large areas
- Difficult conditions are becoming a norm: herds and herders don't have time to recover from the bad winters

\*Reindeer herder Nils-Johan Labba got off his snowmobile and took a selfie

# Reindeer herding is vulnerable to climate change due to several factors:

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Accumulation of factors and cumulating impacts is what poses a significant threat to the livelihood and culture currently and in the coming decades.

- ❖ Changes in weather conditions e.g. difficult winters or heat waves in the summer.
- ❖ Extreme weather events
- ❖ Changes in grazing environment i.e. pasturelands.
- ❖ Timing of the blood sucking pests in the summer?
- ❖ New parasites?

----- Politics



# Transition to renewable energy production

National politics aiming at a carbon neutral society – Transition from dependency on fossil fuels is a necessity, but currently means:

- Boom of new wind power projects
- Political justification of new mining projects (increasing demand in rare earth minerals globally) in the reindeer herding area
- Loss of pasturelands to other land users, particularly industrial extraction of natural resources, such as energy, minerals or forests, is a continuous issue all around the reindeer herding area

# Future?

Climate is changing, the living and working environment is changing → Climate change adaptation plan

- Reindeer herding practices need to change and adapt
- Means for preparing for the changing conditions
- Safeguarding sufficient pasturelands and sufficient diversity of pasturelands against other land users
- Restoring pasturelands