



**NIBIO**

NORSK INSTITUTT FOR  
BIOØKONOMI

# GPS data from sheep – a new field of knowledge

Lise Grøva and Michael Angeloff, NIBIO

**Oddbjørn Kaasa**, sheep farmer and leader of Meråker farmer grazing group  
EAAP2024 Mountains livestock farming in Clermont-Ferrant, 5th- 7th June 2024



Sm@ll Ruminant Technologies



# Radiocollars in Norway

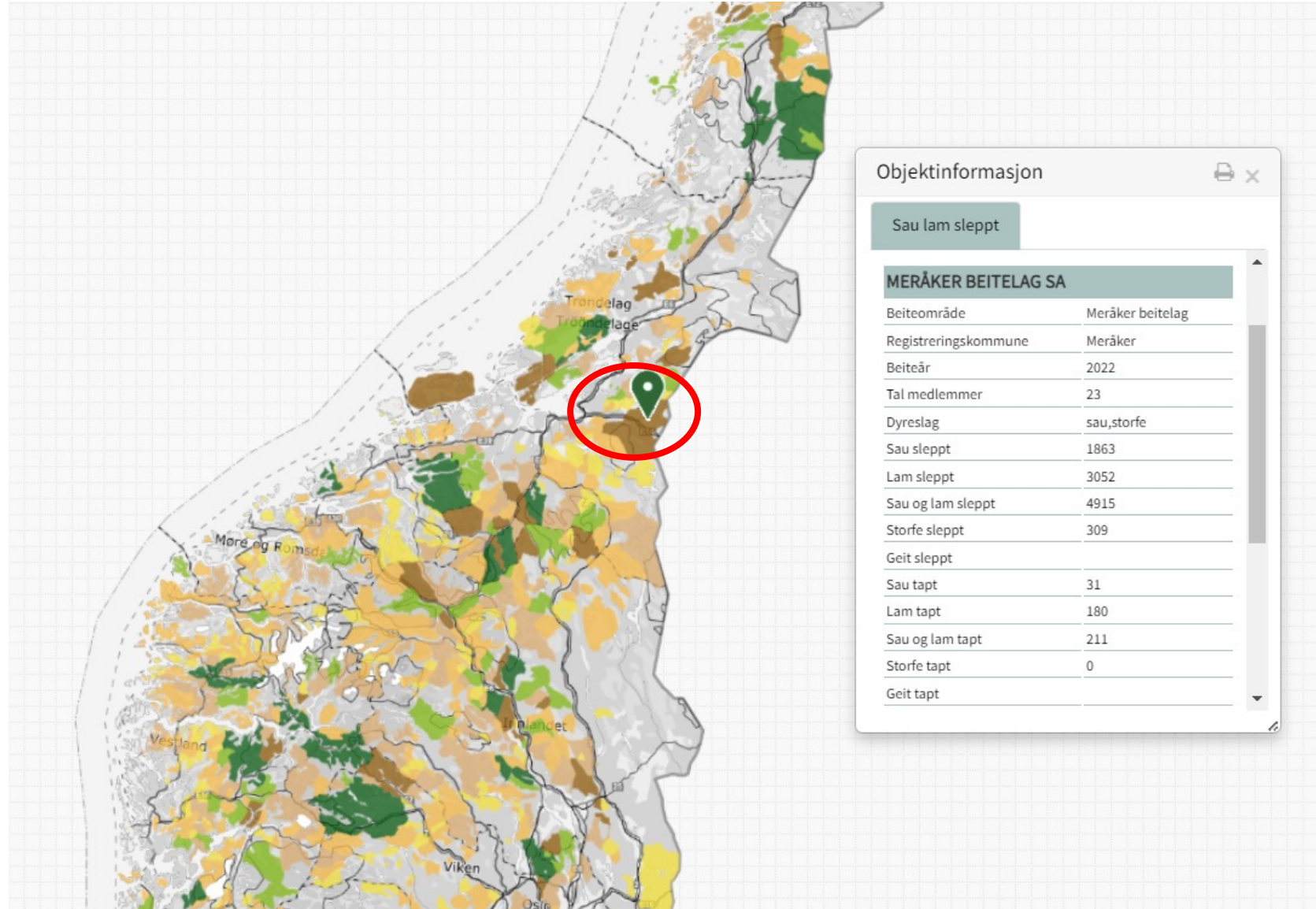


- total nr collars on sheep ca 100 – 150 000
- 50 – 100 mill positions/season



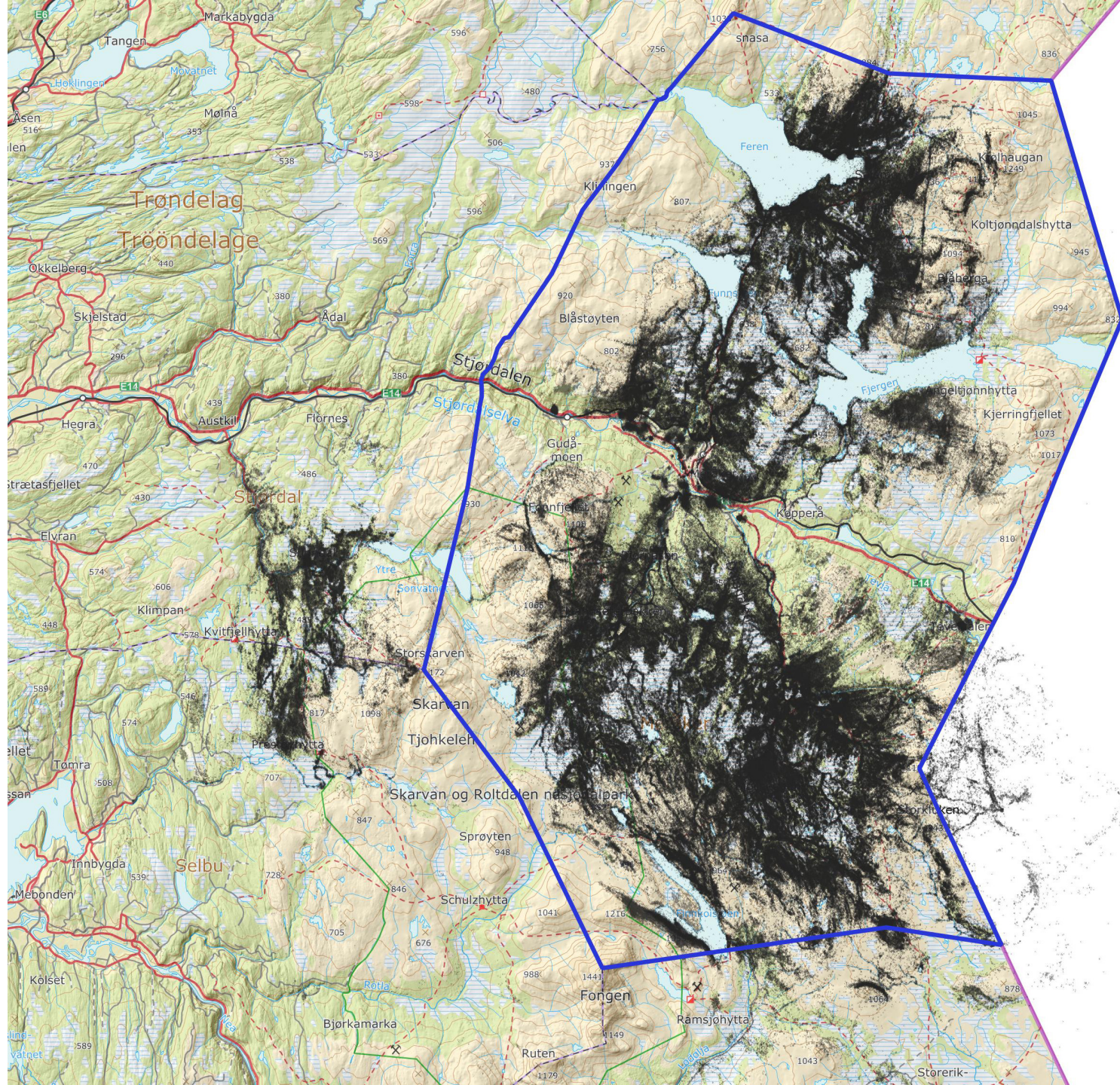
# Meråker farmer grazing group

<https://kilden.nibio.no>

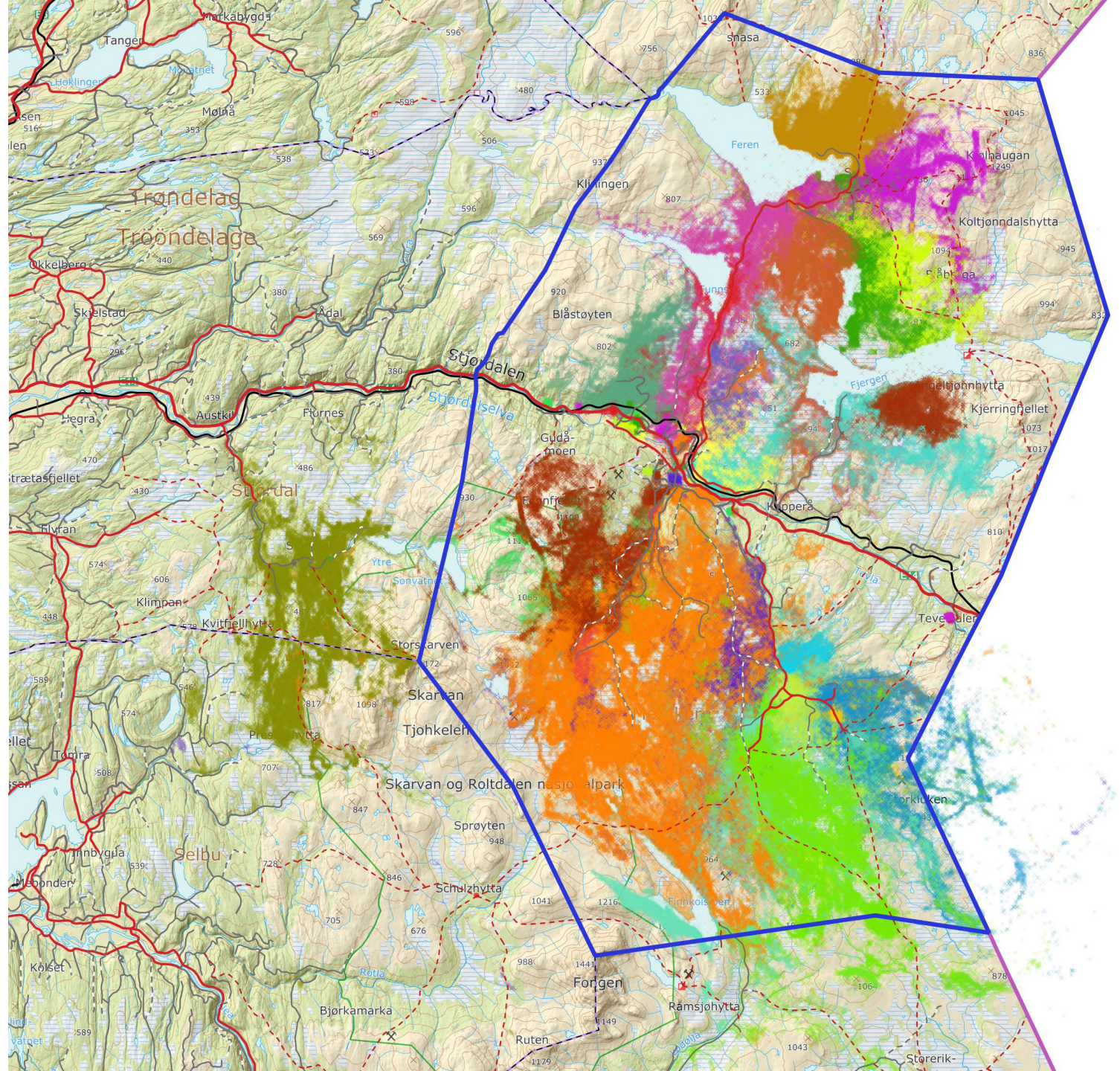




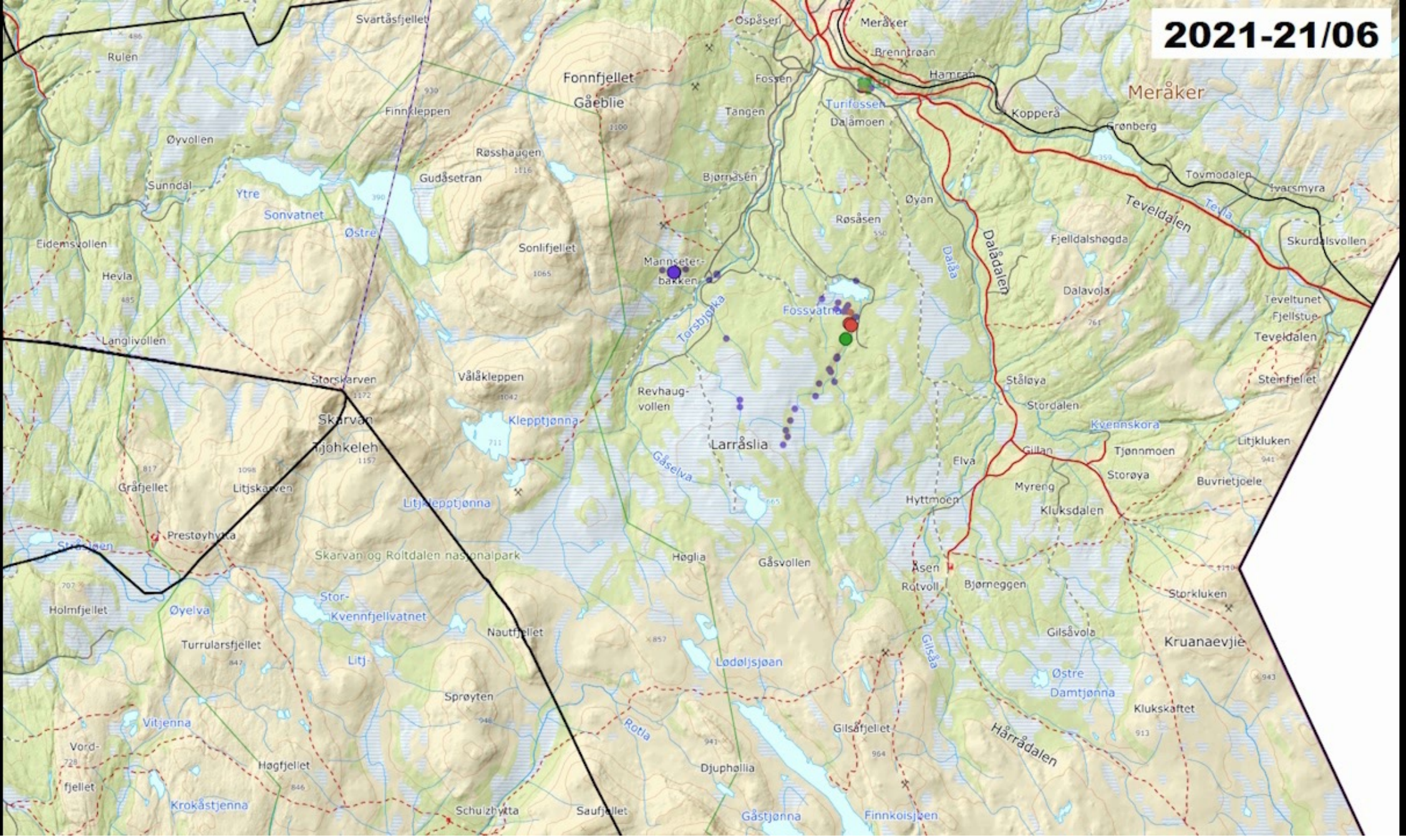




Each farm with its own colour



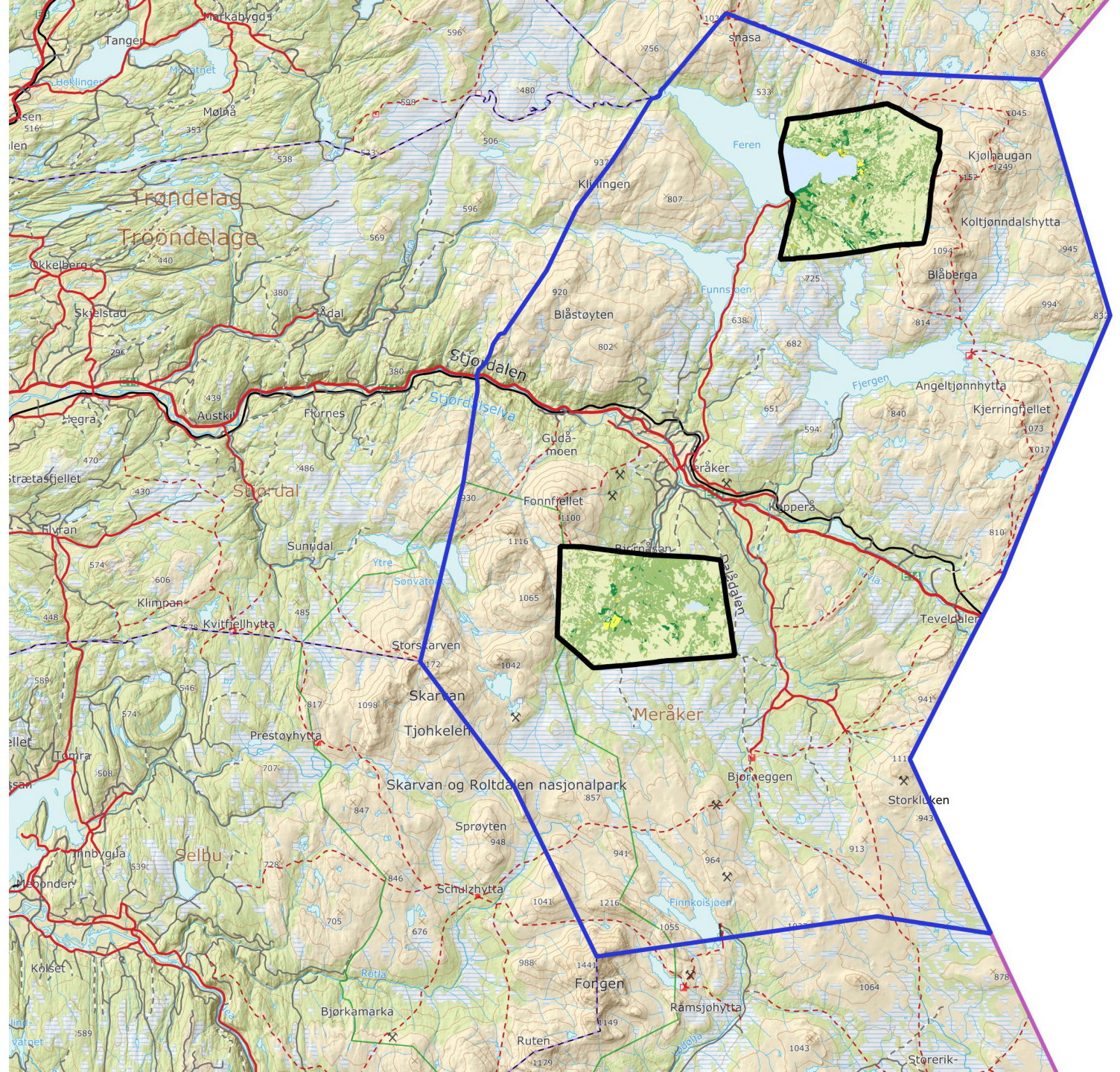
2021-21/06



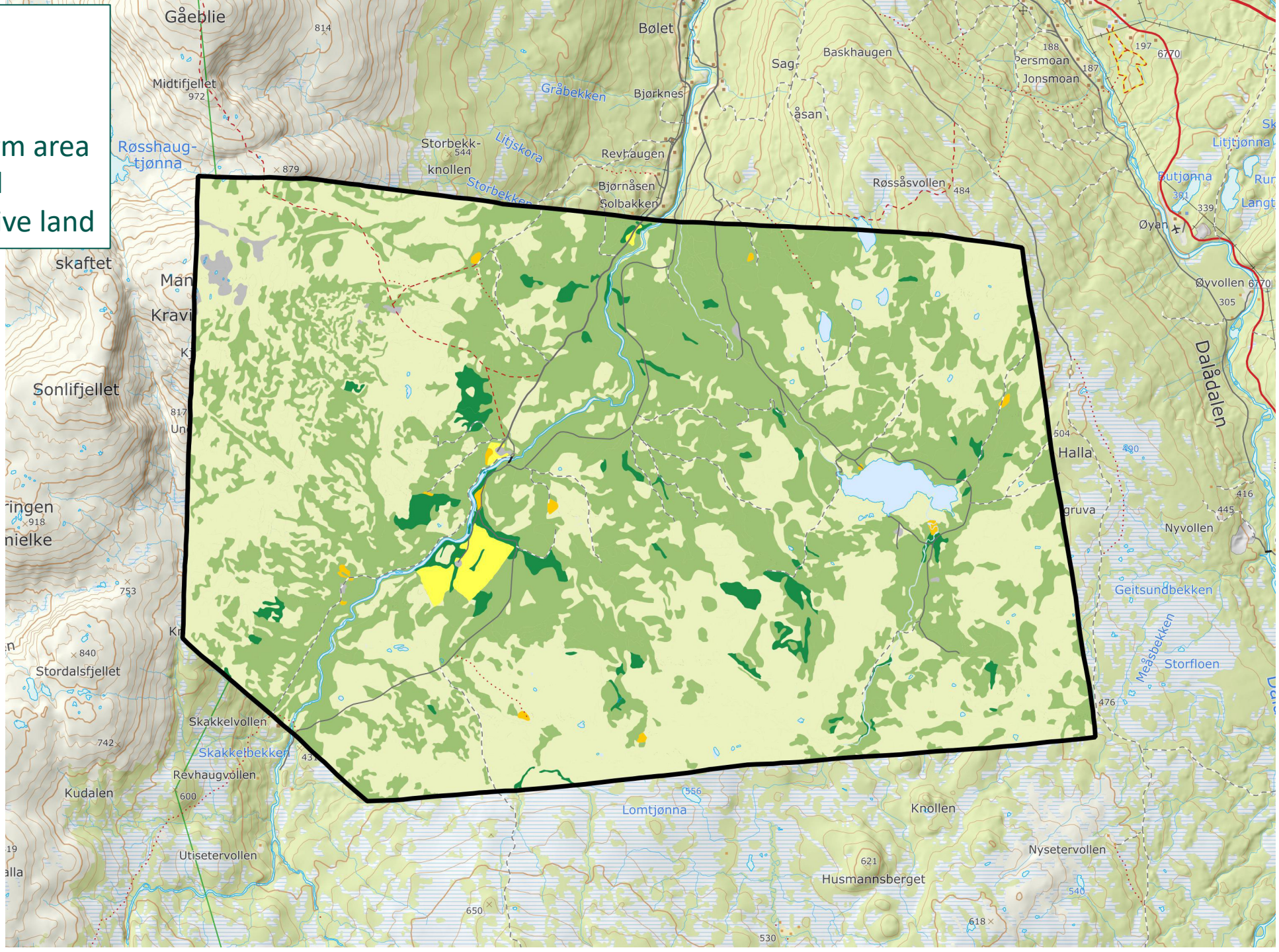


# Feed quality of rangeland grazing land from vegetation mapping

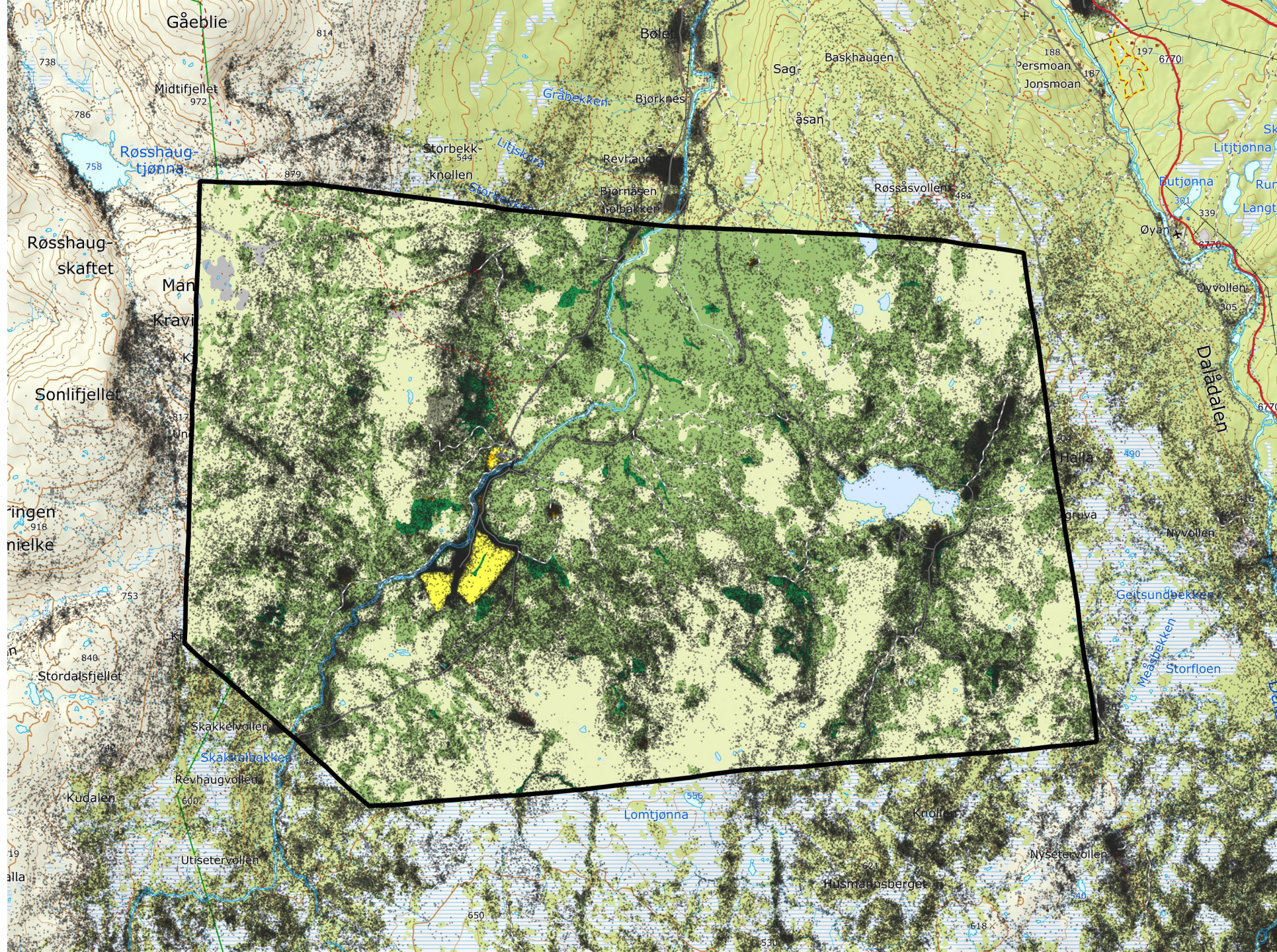
<https://kilden.nibio.no>



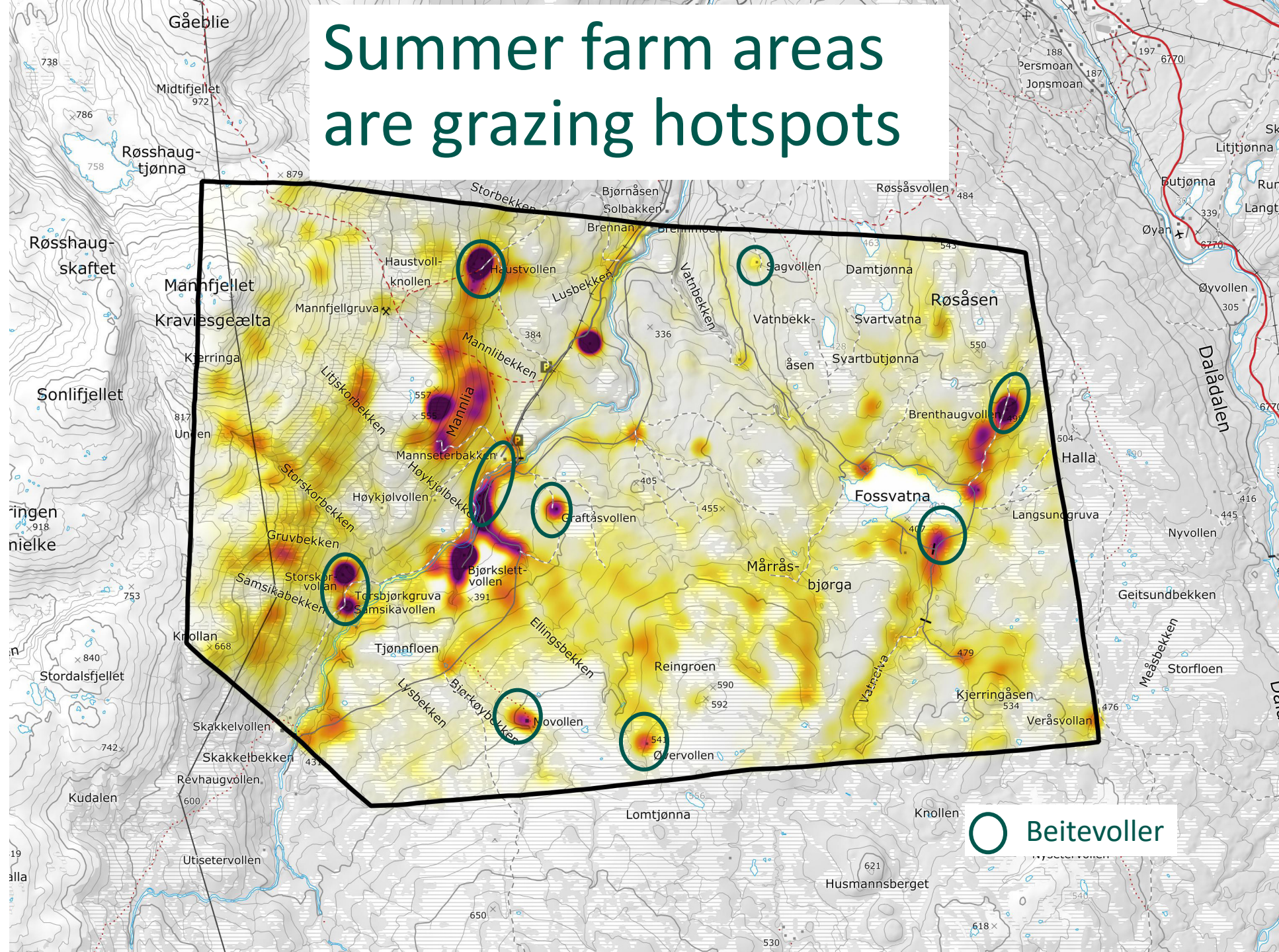
- Less good
- Good
- Very good
- Summerfarm area
- Arable land
- Unproductive land





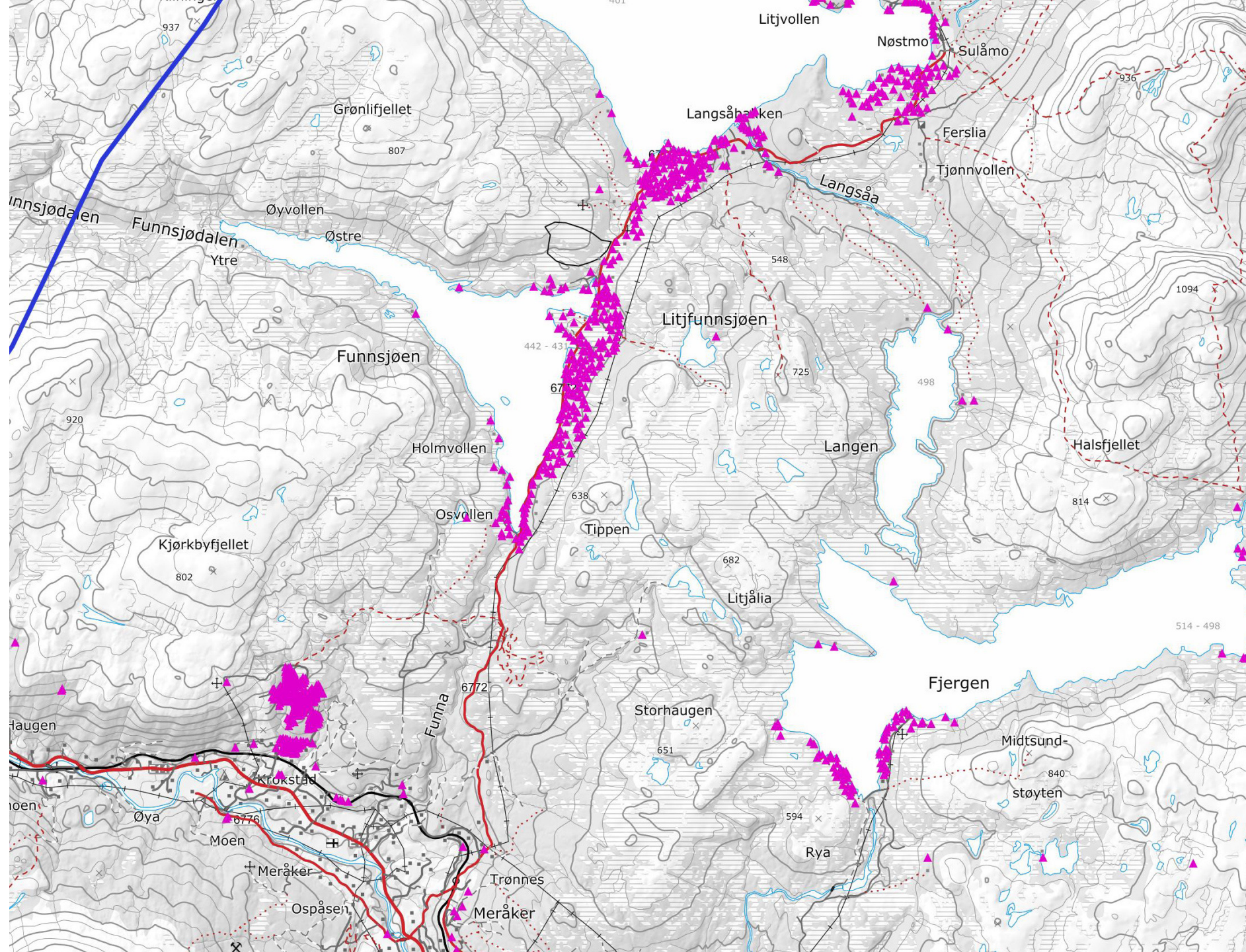


# Summer farm areas are grazing hotspots



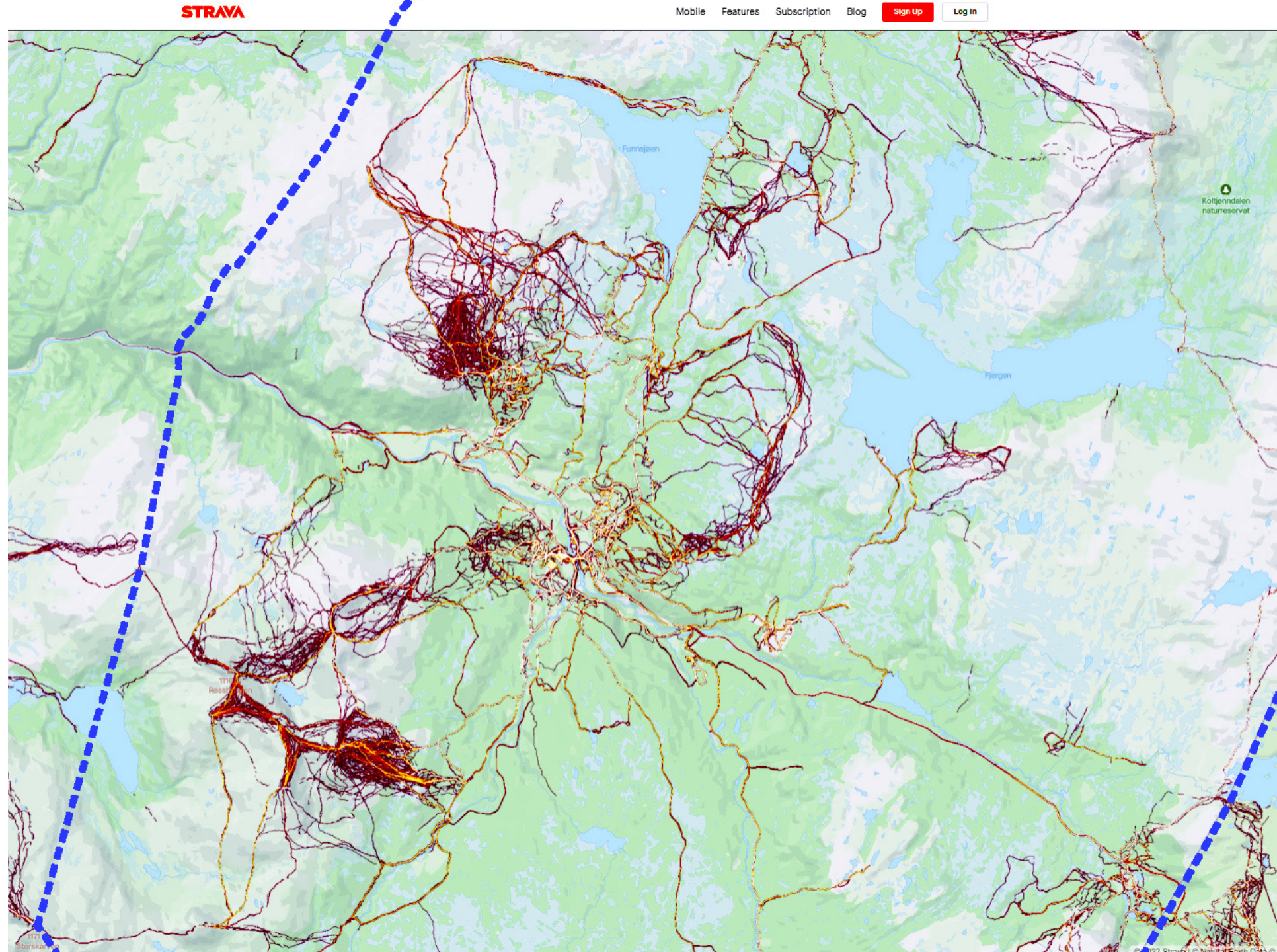
# Cabins and summer house building:

Impact / conflicts with rangeland grazing practices?

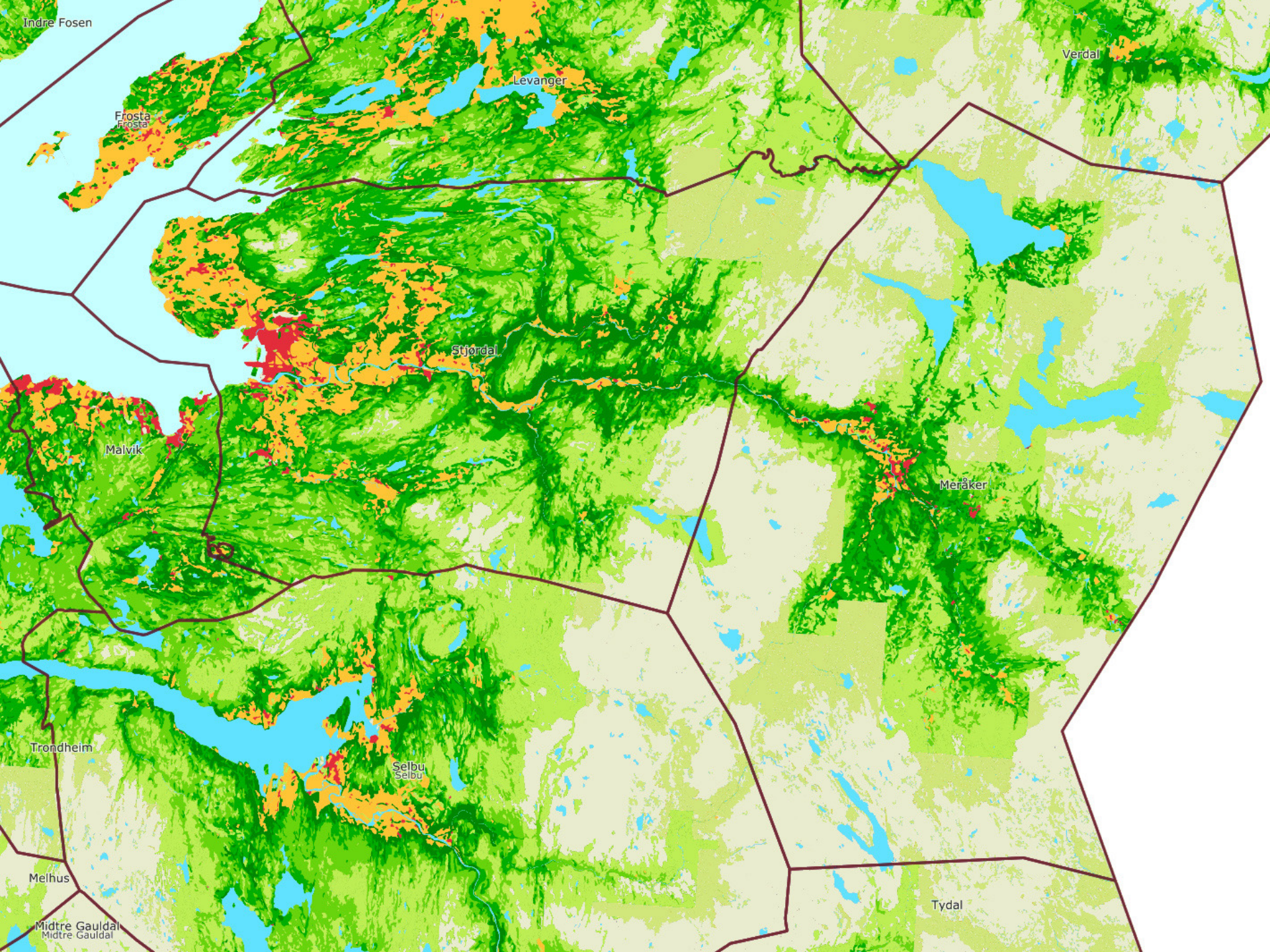


**Recreation  
activity:**

**Impact on  
grazing  
livestock?**

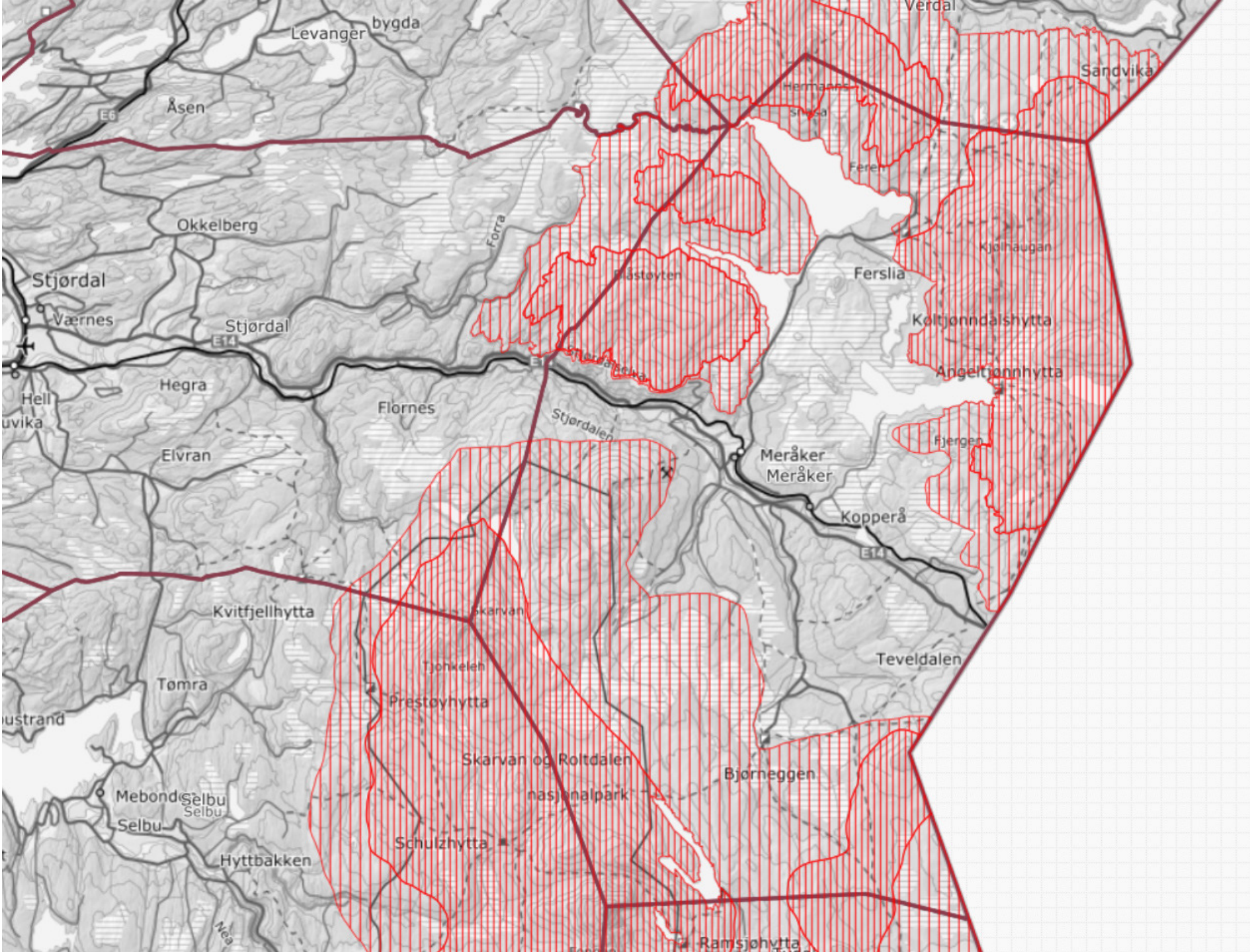


# Forestry

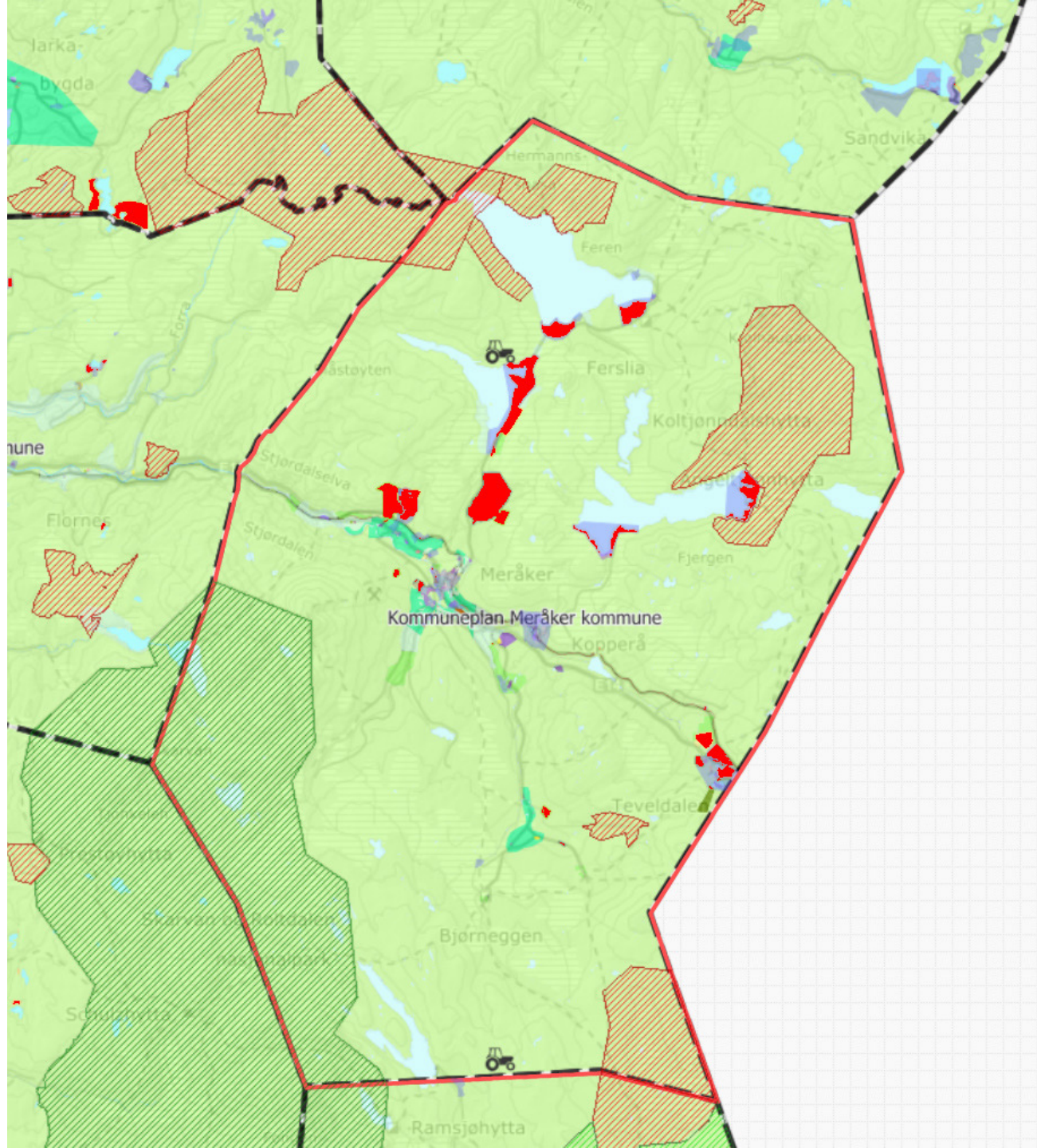




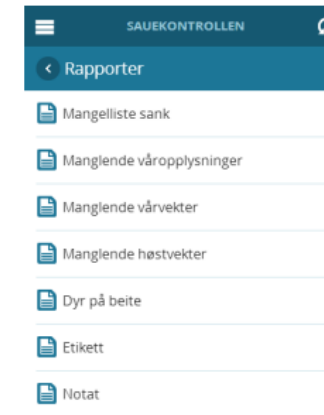
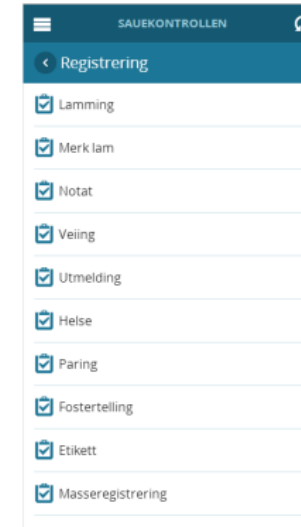
# Reindeer farming



# Area planning municipality



# The Norwegian Sheep Recording System (NSRS)



ANIMALIA Besetning

Via 100 av totalt 254 rader.

Indefiler	Østmark	Fæder	Indeks	FørstLam	Foster	ParVår	Navn	Mofæl	Fædel	Mofædel	Økde	Økde
<input type="checkbox"/>	33111	2013	121	19/04/14	3	201221545	Far Landness	118	124	112		
<input type="checkbox"/>	89185	2010	116	27/04/14	3	20120886		118	187	129		
<input type="checkbox"/>	80280	2010	104	27/04/14	1	201201110		206	187	101		
<input type="checkbox"/>	89036	2010	121	27/04/14	3	201201110	Spanak 10-0000	112	122	121		
<input type="checkbox"/>	89034	2010	106	27/04/14	3	201201110		309	113			
<input type="checkbox"/>	19022	2011	110	27/04/14	1	20120388		110	131	107		
<input type="checkbox"/>	20050	2012	122	27/04/14	2	201221545		113	120	106		



## New knowledge when merging GPS + NSRS:

Which grazing behaviour gives highest weight gain?

Detect mastitis from behaviour?

Breed differences in grazing behaviour?

Scann QR code on sheep meat in the store and see where sheep have been grazing?

# GPS collar data:

- Attention and overview in grazing season
- Tool for farmer
- Documentation of land use

## Meråker farmer grazing group:

- Common work on running of the GPS collars
- Superusers – digital ‘herders’
- Routines for information and alerts
- Same data frequency from all GPS collars

**Collaboration is key to success !**



**Oddbjørn Kaasa, Meråker**  
farmer grazing group

**Michael Angeloff, NIBIO**  
**Lise Grøva, NIBIO**



Sm@ll Ruminant Technologies



**NIBIO**

# Thank you



Sheep in range grazing area  
in Pålshogga, Meråker