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An Archaeology of the Commons

Cooperative natural resource management in
northern Sweden



*The Swedish Research Council for Environment,
Agricultural Sciences and Spatial Planning*



Commons Research

Commons are lands or resources maintained by principles of cooperative management or joint ownership.

- Hardin (1968) "Tragedy of the commons"; Commons result in overexploitation or degradation of natural resources
- Feeny *et al* (1990). Hardin overlooked institutional arrangements and cultural factors regulating the use of commons
- Currently a strong influence of the Nobel Prize Winning Common Pool Resource (CPR) theory of Elinor Ostrom (1990).
- The general objective of CPR is to understand the emergence of cooperative behaviour in order to develop institutional design principles for sustainable management of natural resources

A focus on economic rational choice and new institutionalism can be noted. This may obscure equally important aspects of commons related with local heritage, identity, history, ecology, resilience and social change

Objectives:

- 1) Test an archaeological approach for identifying areas that were held as commons in the past (this paper)
- 2) Develop an archaeological contribution to current theoretical discussions concerned with commons and sustainable natural resource management (coming paper)

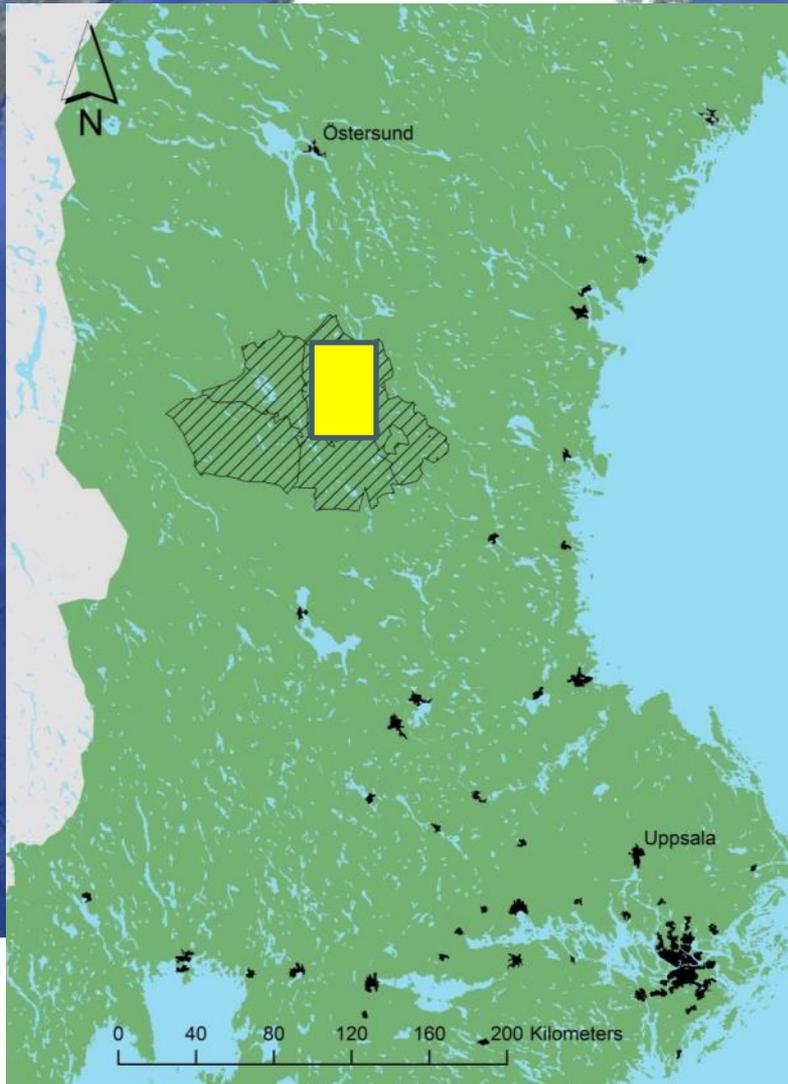


Image U.S. Geological Survey
Image Landsat
Image IBCAO
SIO, NOAA, U.S. Navy, NGA, GEBCO

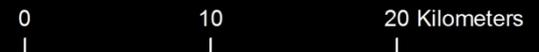


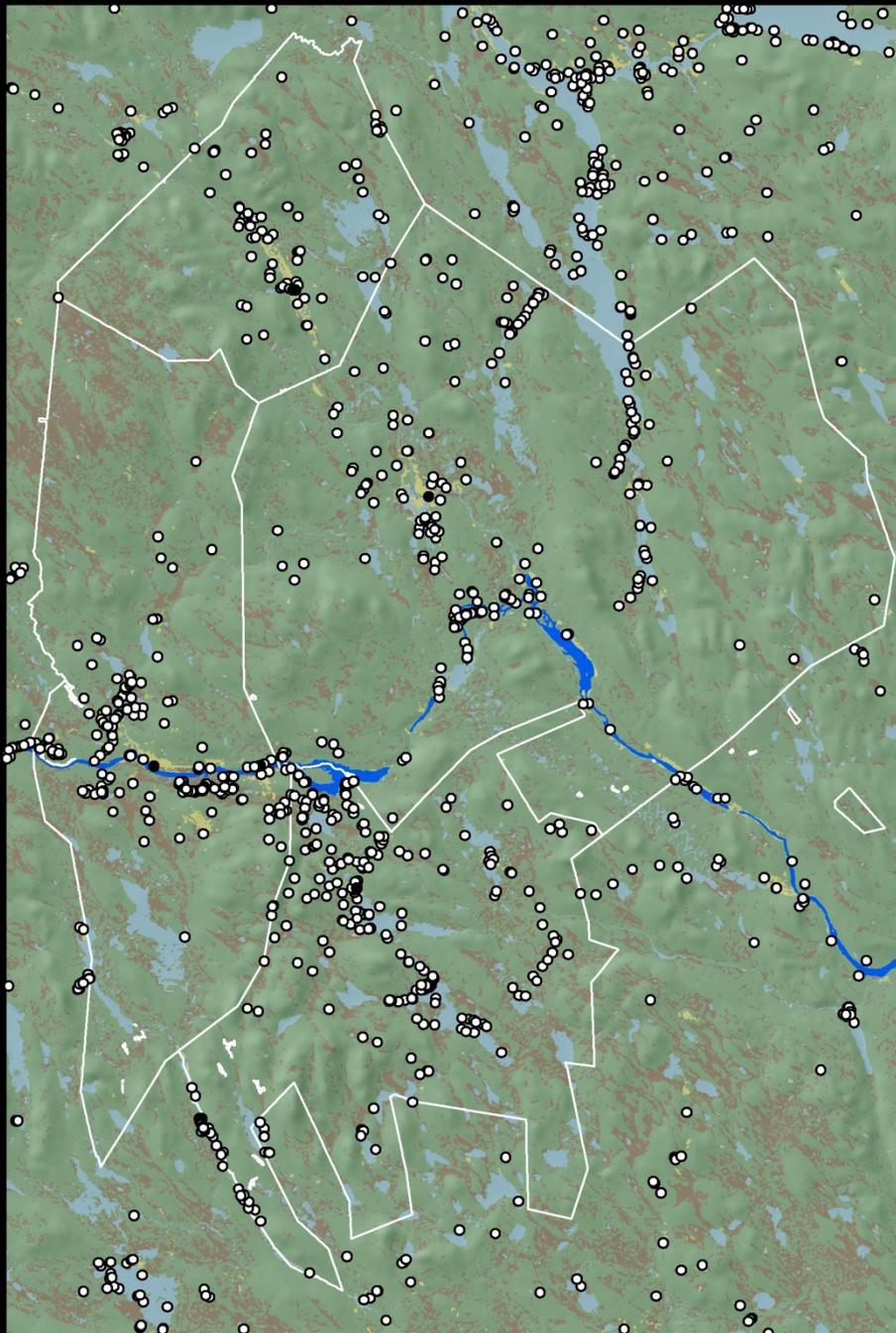
Research Area

Ängersjö Parish
Area; 391 km²

Early 20th century; 470 inhabitants,
ca 0.4% of the parish under cultivation

Agriculture, a very small role in the
local economy





The archaeological record

1174 documented sites

- The majority of the archaeological sites are distributed outside the historical villages
- Many of the sites are related to the use of forest resources, such as game, pasture, wood, energy and minerals



The approach is based on an integrated view on the forest's archaeological record; cooperative forms of natural resource management (NRM)

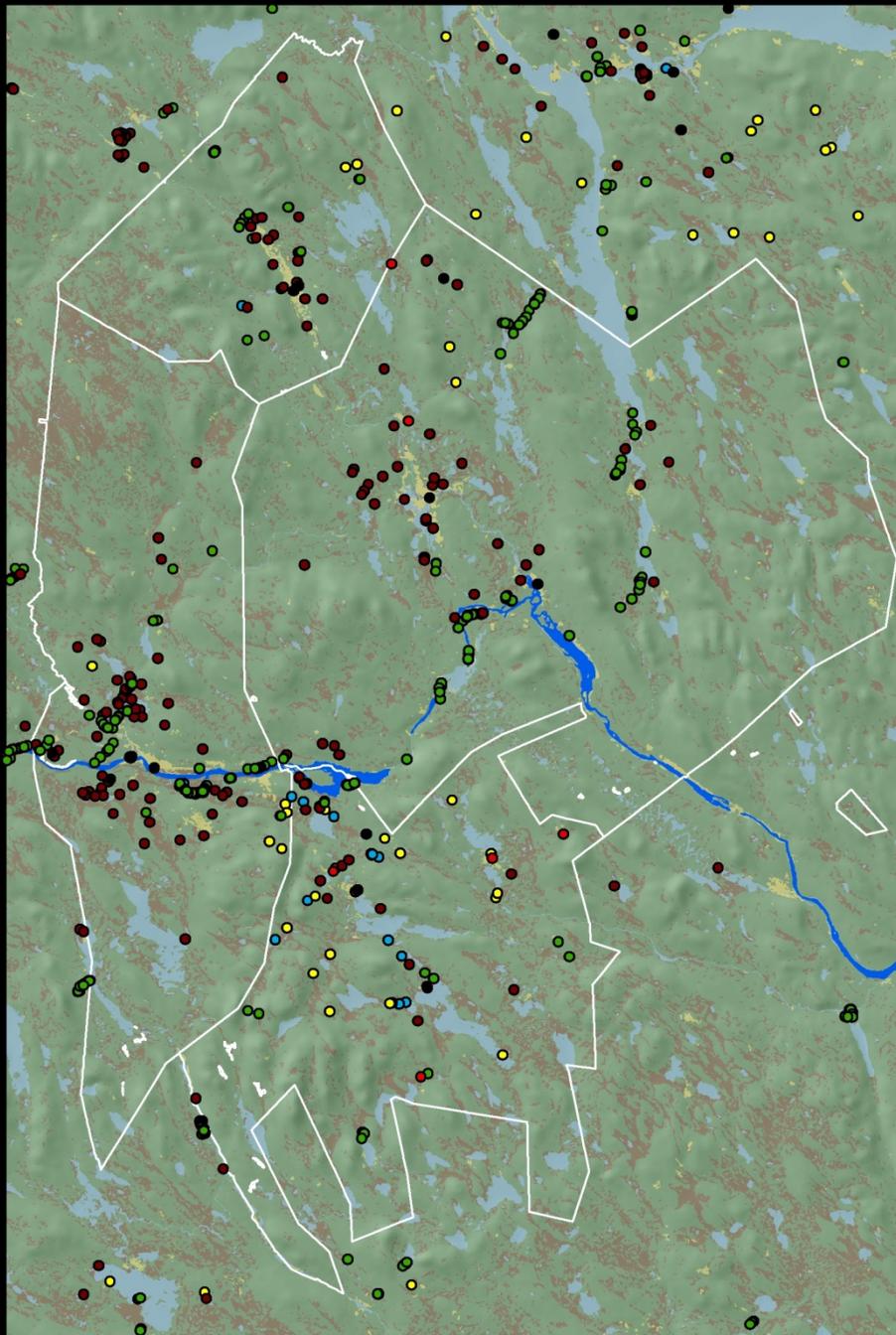
- Pitfalls for hunting reindeer and elk (hides, bone, antler)
- Bloomery iron smelting
- Tar production
- Shielings (periodic settlements for livestock production)
- Pastures & meadows
- Dams (inundated meadows)
- Mills
- Paths & roads

Characteristic traits:

- Long distances
- Labour intensive land use activities

Demanded/stimulated cooperation between households





Legend

JAAH_archaeology

Activity

- Hunting
- Iron production
- Livestock production
- Mill
- Road
- Tar production

564 of the sites are considered indicative for cooperative forms of natural resource management



Place names

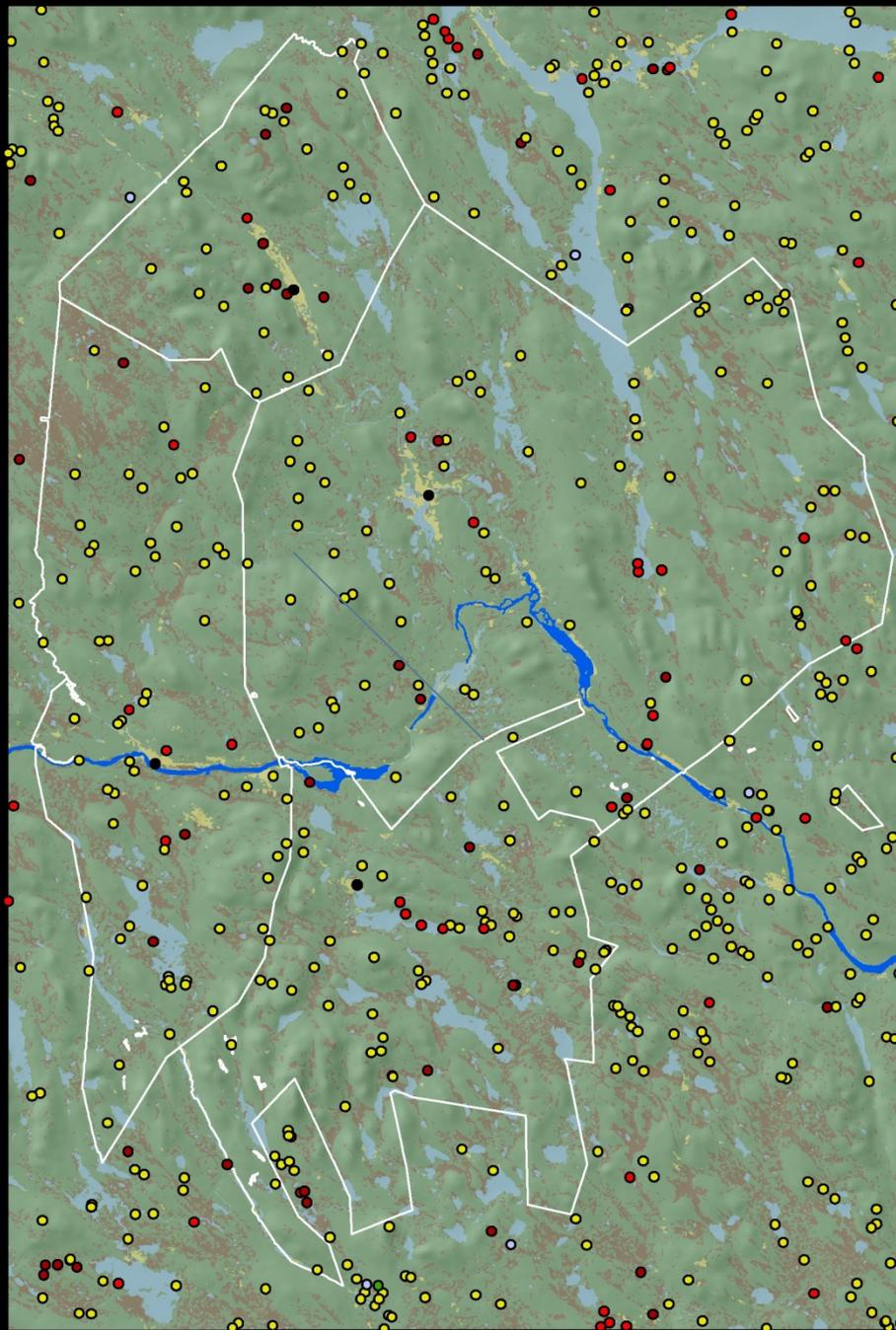
The National database over place names were queried for place names reflecting the same land use activities that were sought for in the archaeological database.

- *rönning*
- *sil* → Inundated meadows (natural or irrigated)
- *damm*
- *slått*

- *bod, bo, bua, säter, vall* → Shielings
(*ko, kalv, get*)

- *löt, änge* → Pastures

- *bläst*
- *malm* → Iron extraction & tar production
- *täkt*
- *tjär*



The database contains
4272 place names

530 indicative for
cooperative NRM

Legend

JAAH_place_name

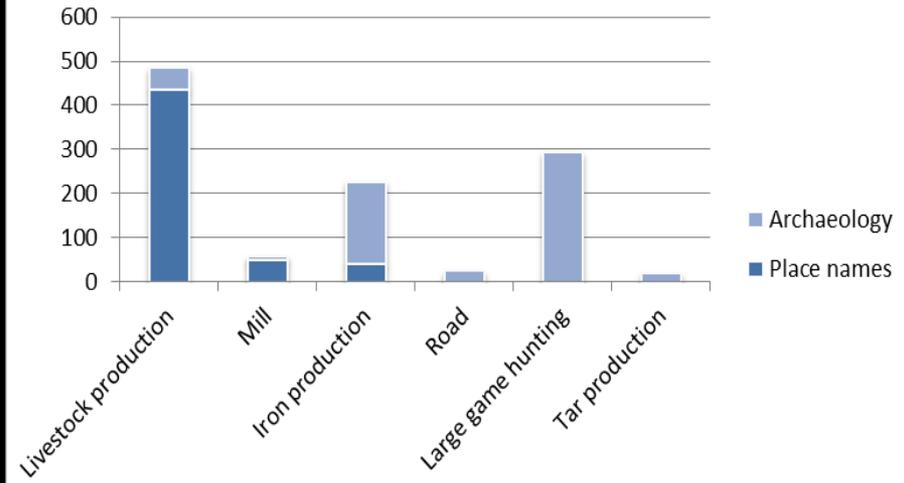
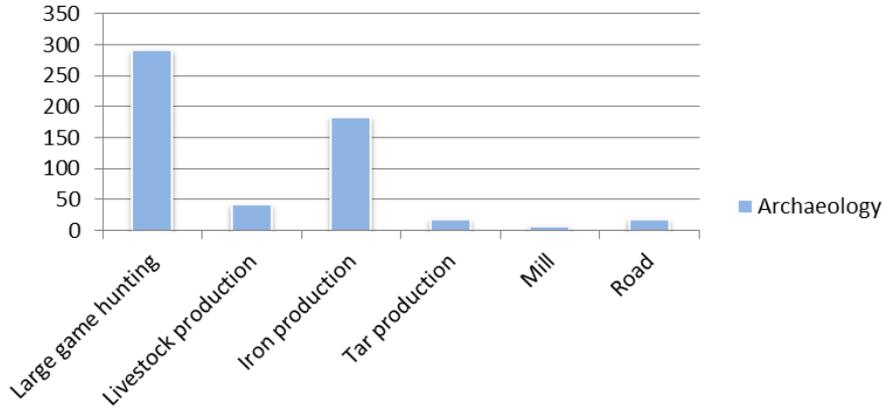
Activity

- Hunting
- Iron production
- Livestock production
- Mill
- Road

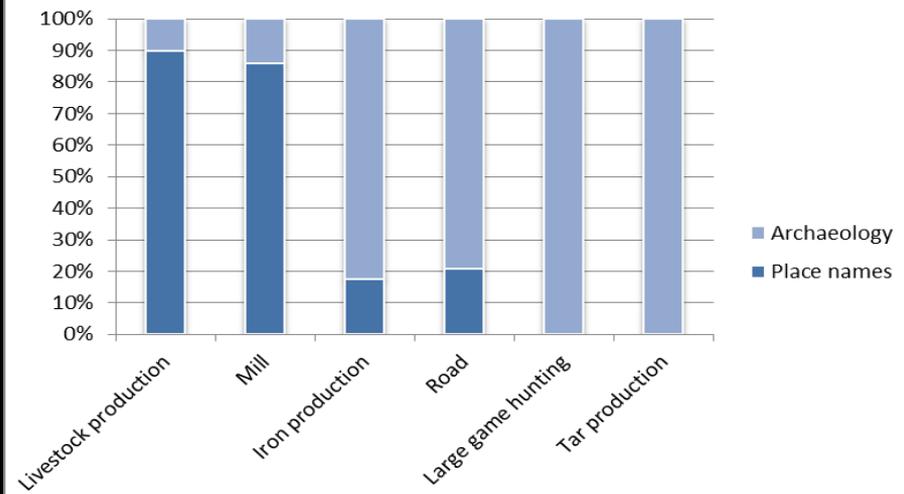
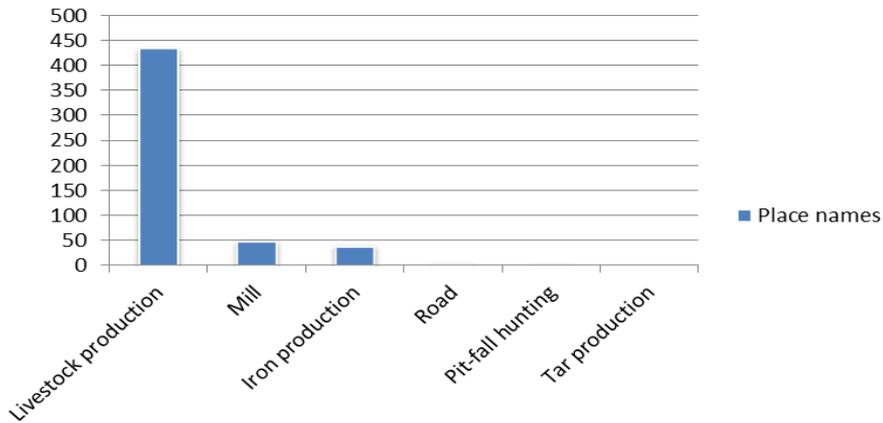
252 place names, in 188 clusters,
are indicative for shielings

0 10 20 Kilometers

Archaeology

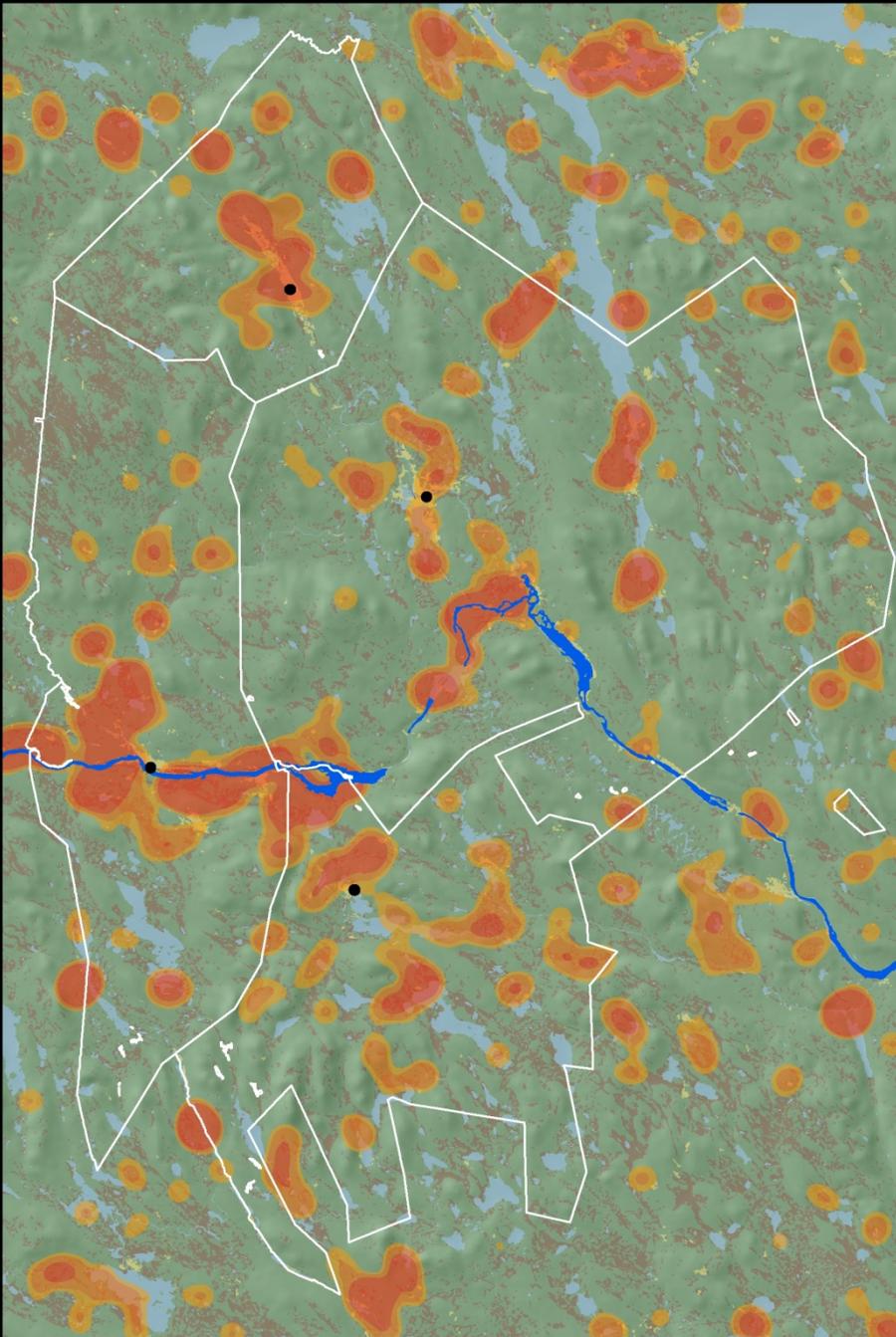


Place names



Archaeology; tangible features, bloomery furnaces, pitfalls, historical shielings

Placenames; reveals more of the pastoral landscape, which tend to be archaeologically obscure



Kernel densities; intensity in cooperative natural resource management

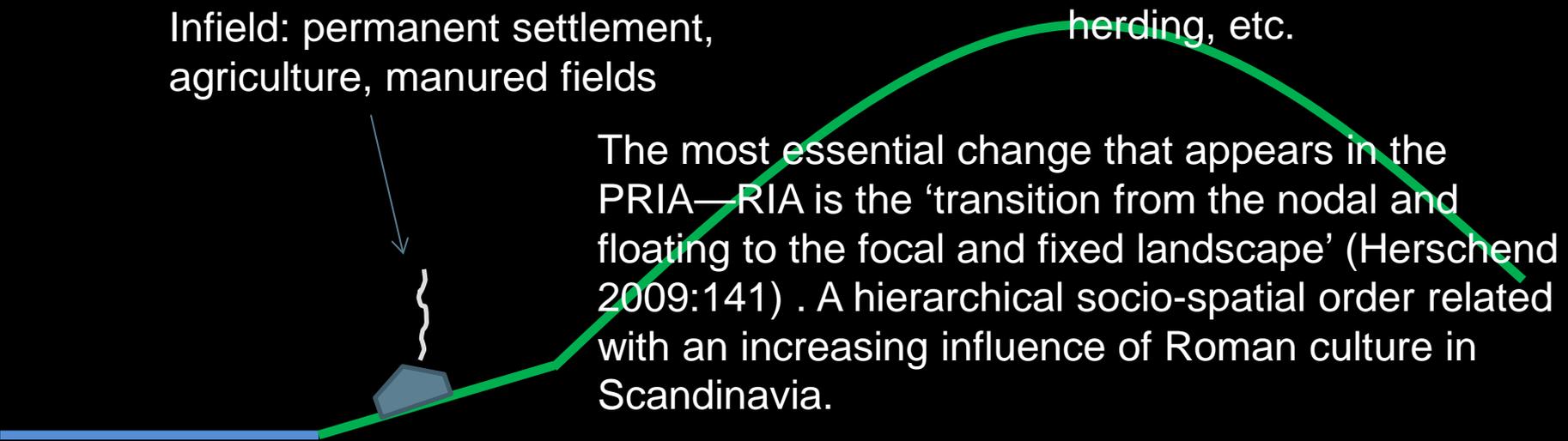


The permanent 'field-and-meadow system' a landscape duality of infield and outland areas:

- Identified in the forested regions of Värmland, northwestern Hälsingland and Jämtland from 300-700 AD (Svensson 1998; Emanuelsson *et al.* 2003; Karlsson *et al.* 2010, etc.)

Infield: permanent settlement, agriculture, manured fields

Outlands; large game hunting, iron & tar production, livestock herding, etc.

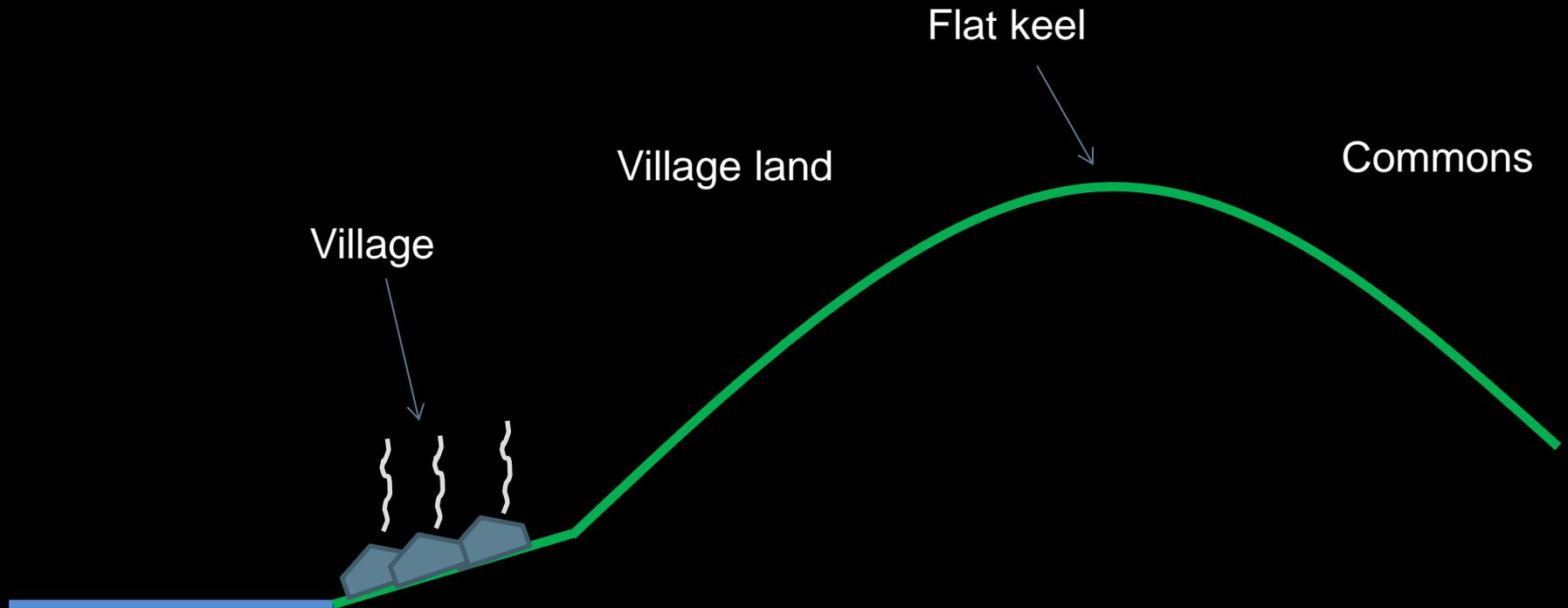


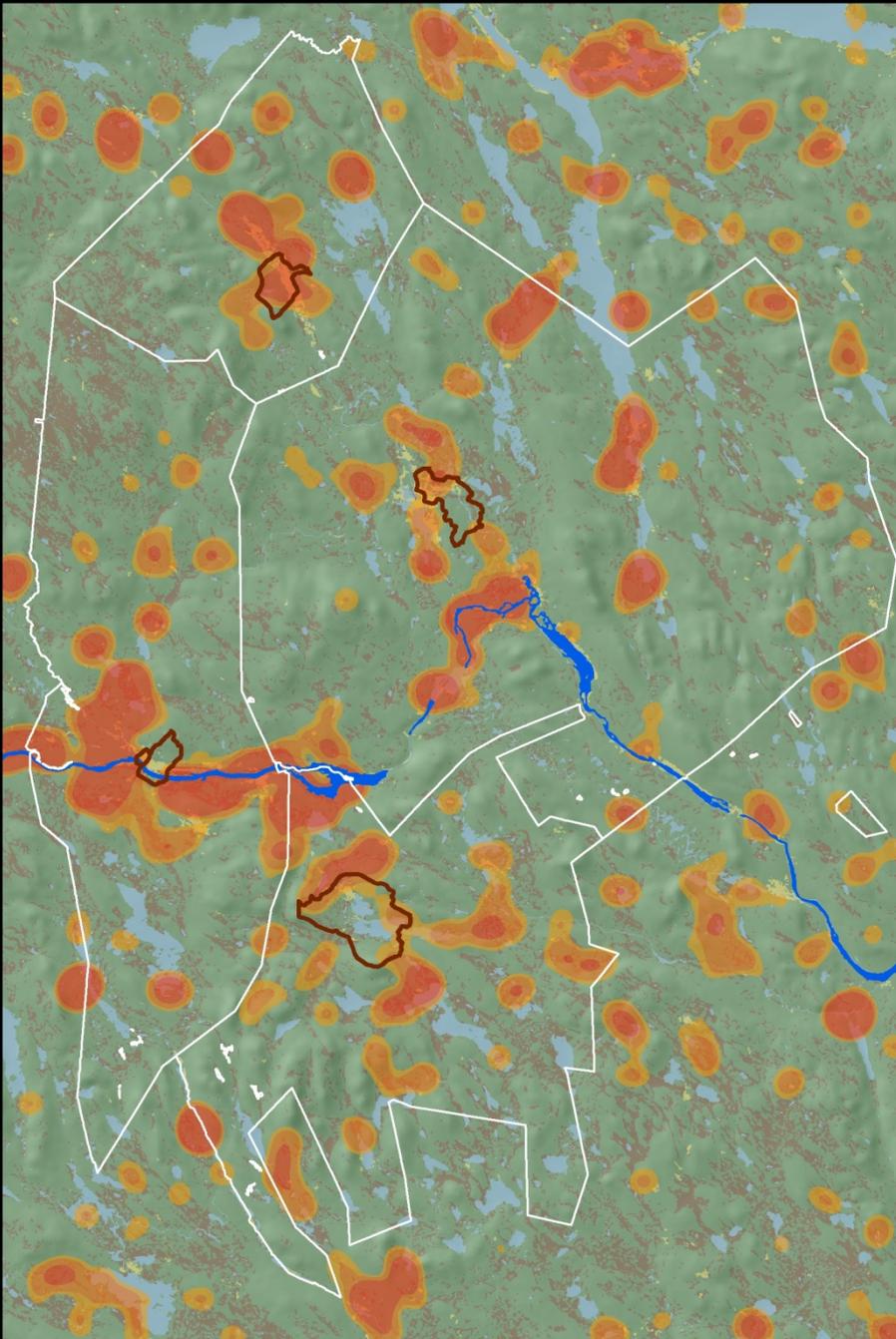
The most essential change that appears in the PRIA—RIA is the 'transition from the nodal and floating to the focal and fixed landscape' (Herschend 2009:141) . A hierarchical socio-spatial order related with an increasing influence of Roman culture in Scandinavia.

The field-and-meadow system may suggest that a sedentary cosmology and an ordered landscape organisation also can be identified in the forested regions

The Hälsinge Law (ca 1320 AD) regulate the use of commons:

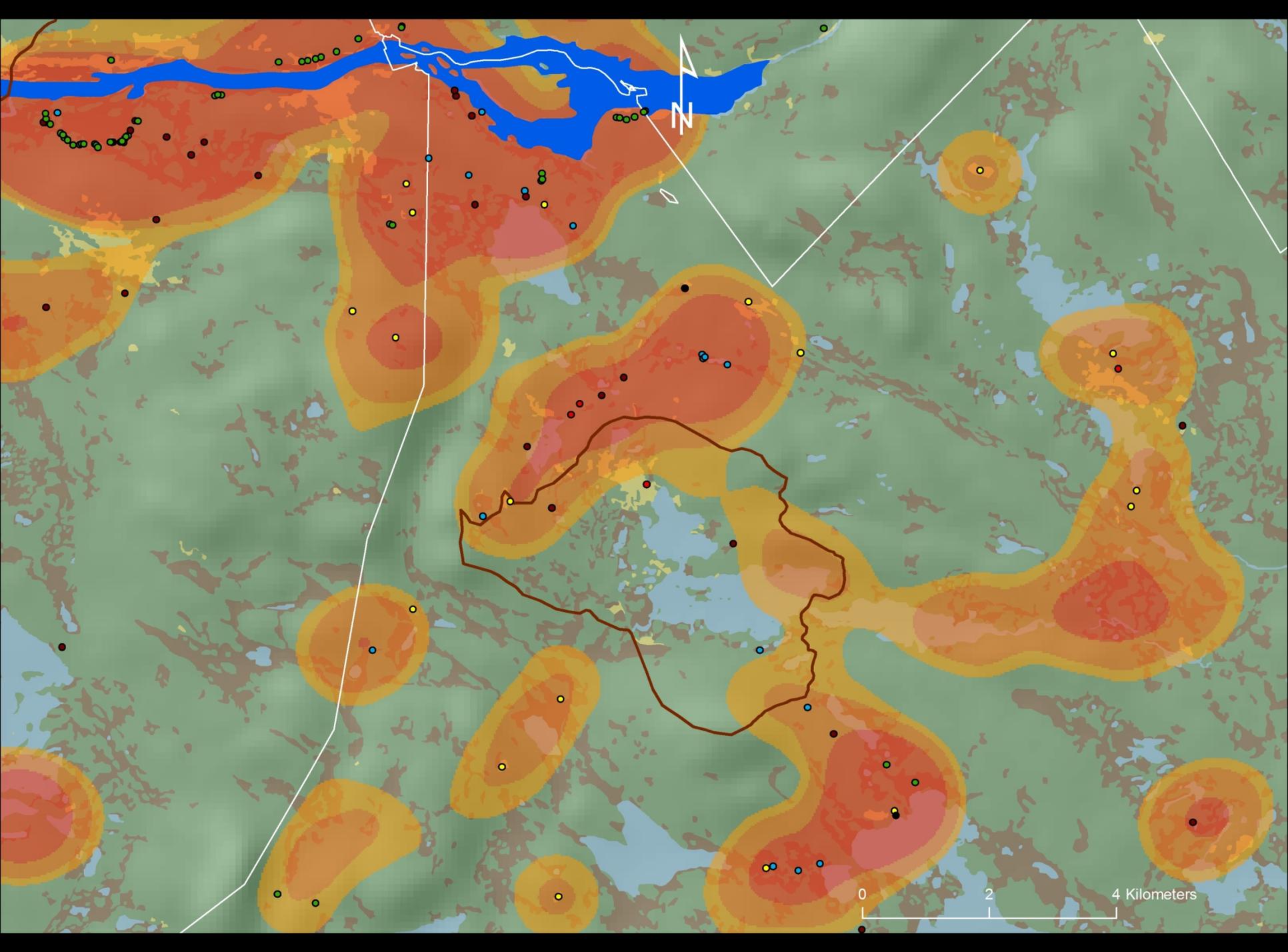
The law express that land extending from the village inlands up to the "flat keel" – i.e. the crests of the surrounding highlands – were village land. The lands and water sloping away from "flat keel" are commons

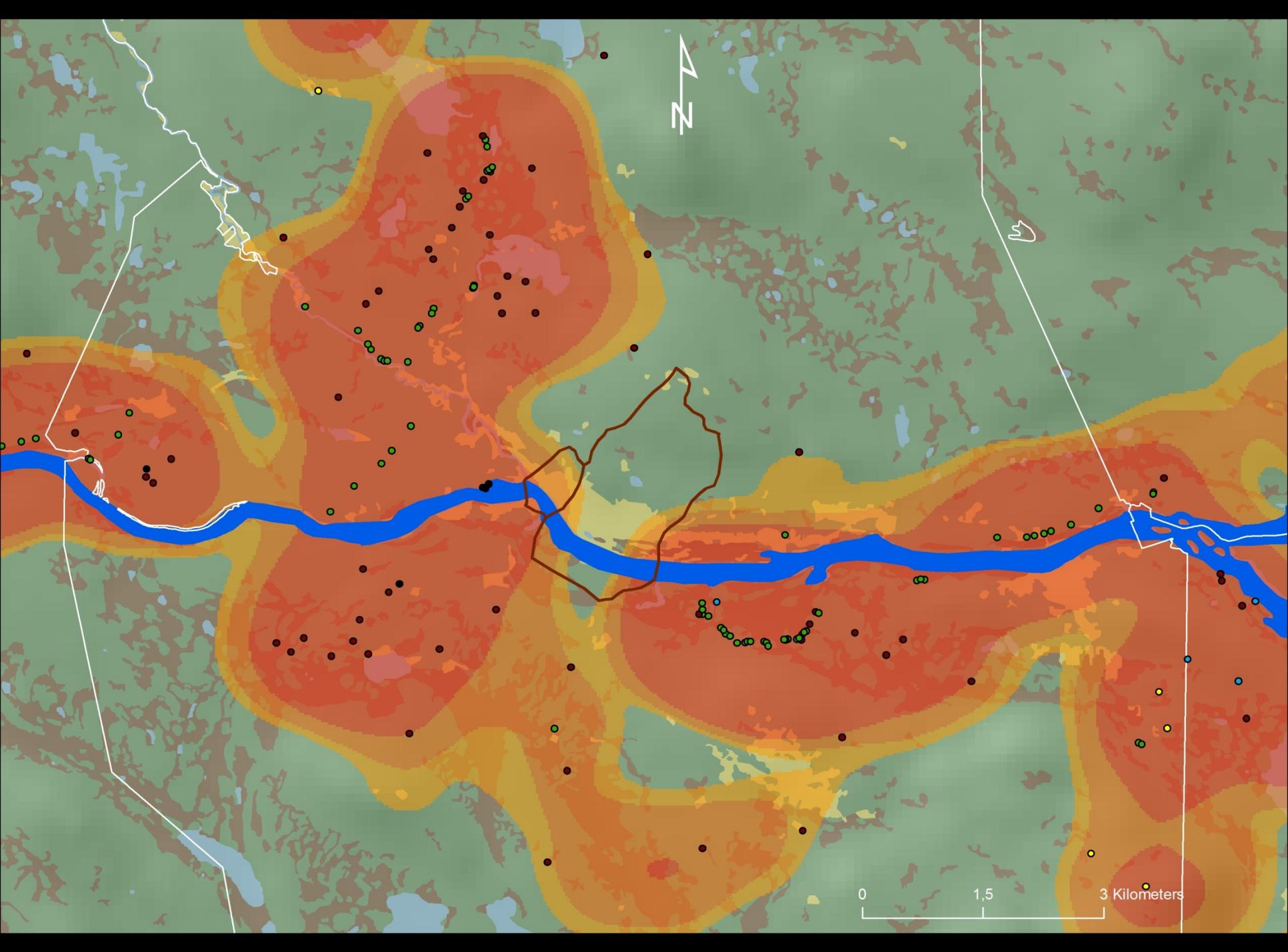


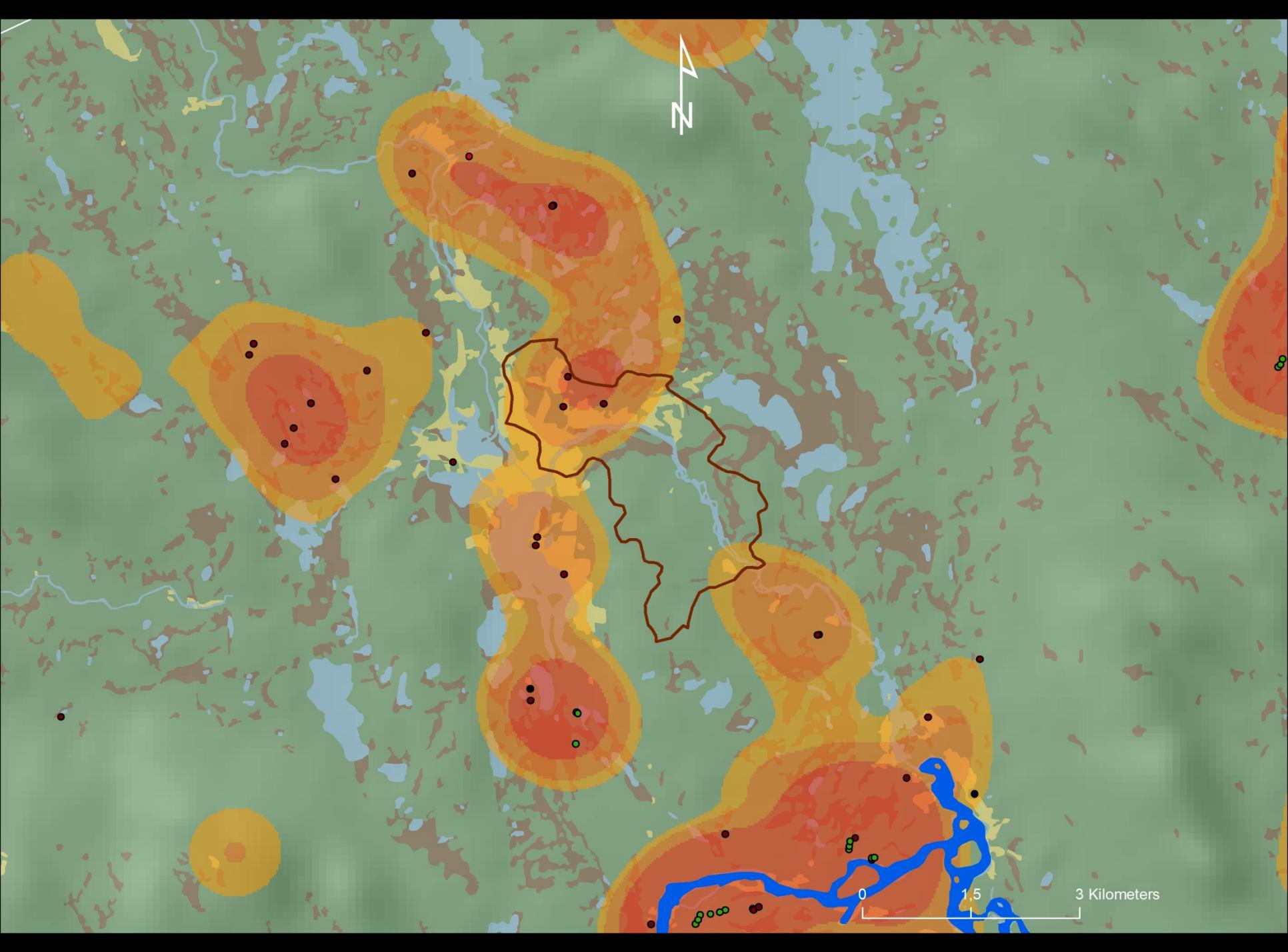


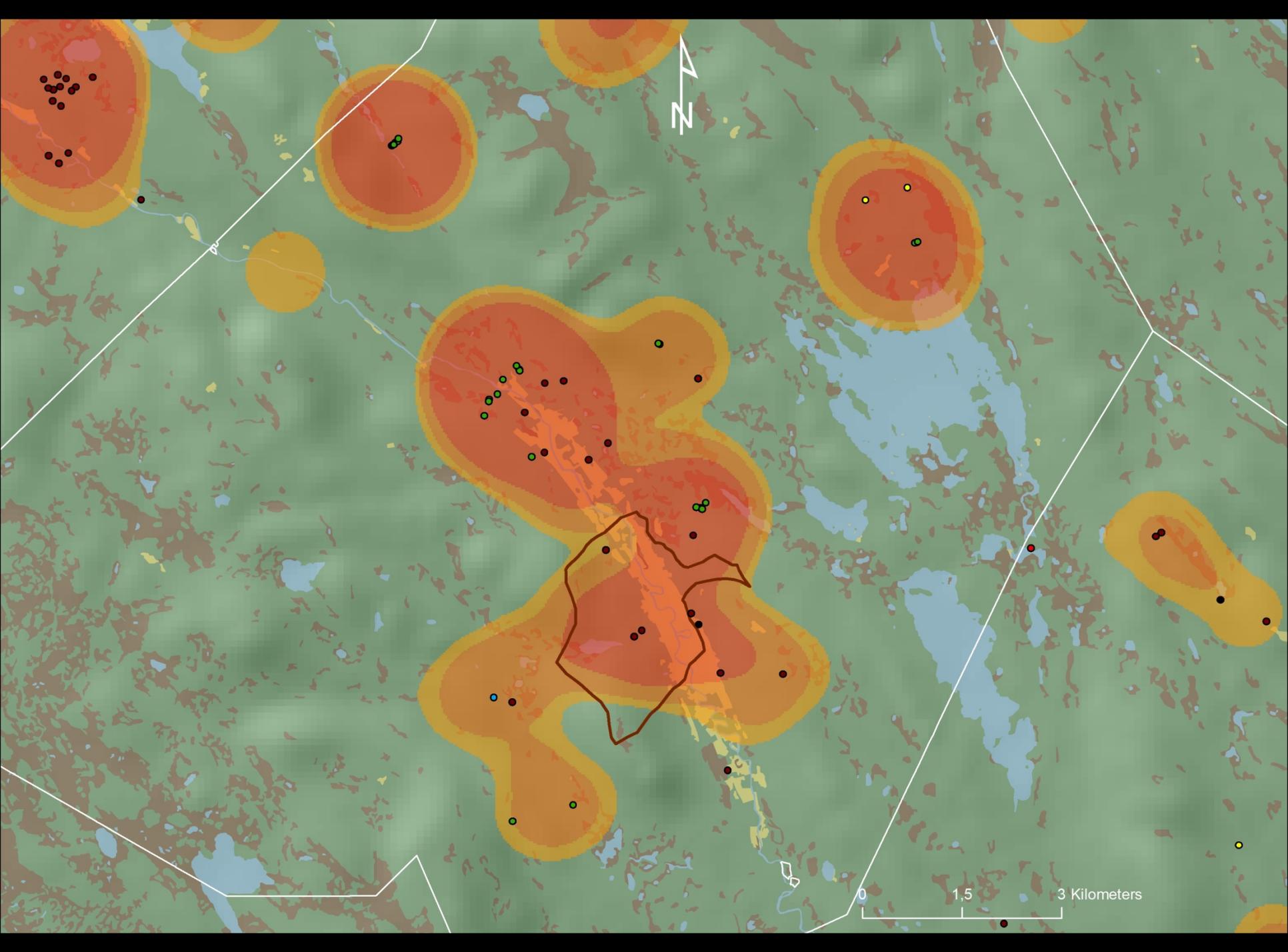
The "village land" according to the Hälsinge law, i.e the drainage catchment area the village is situated in









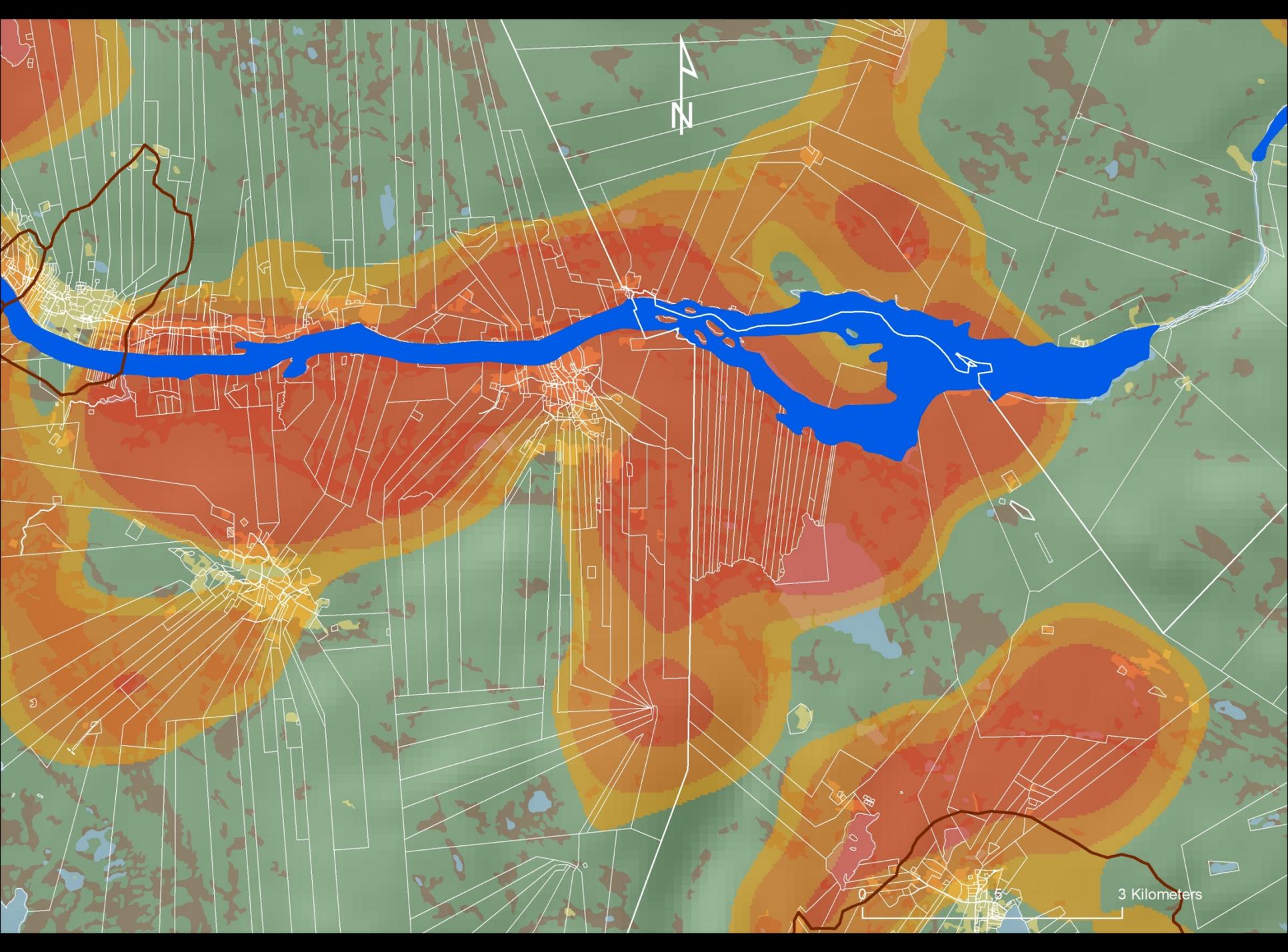


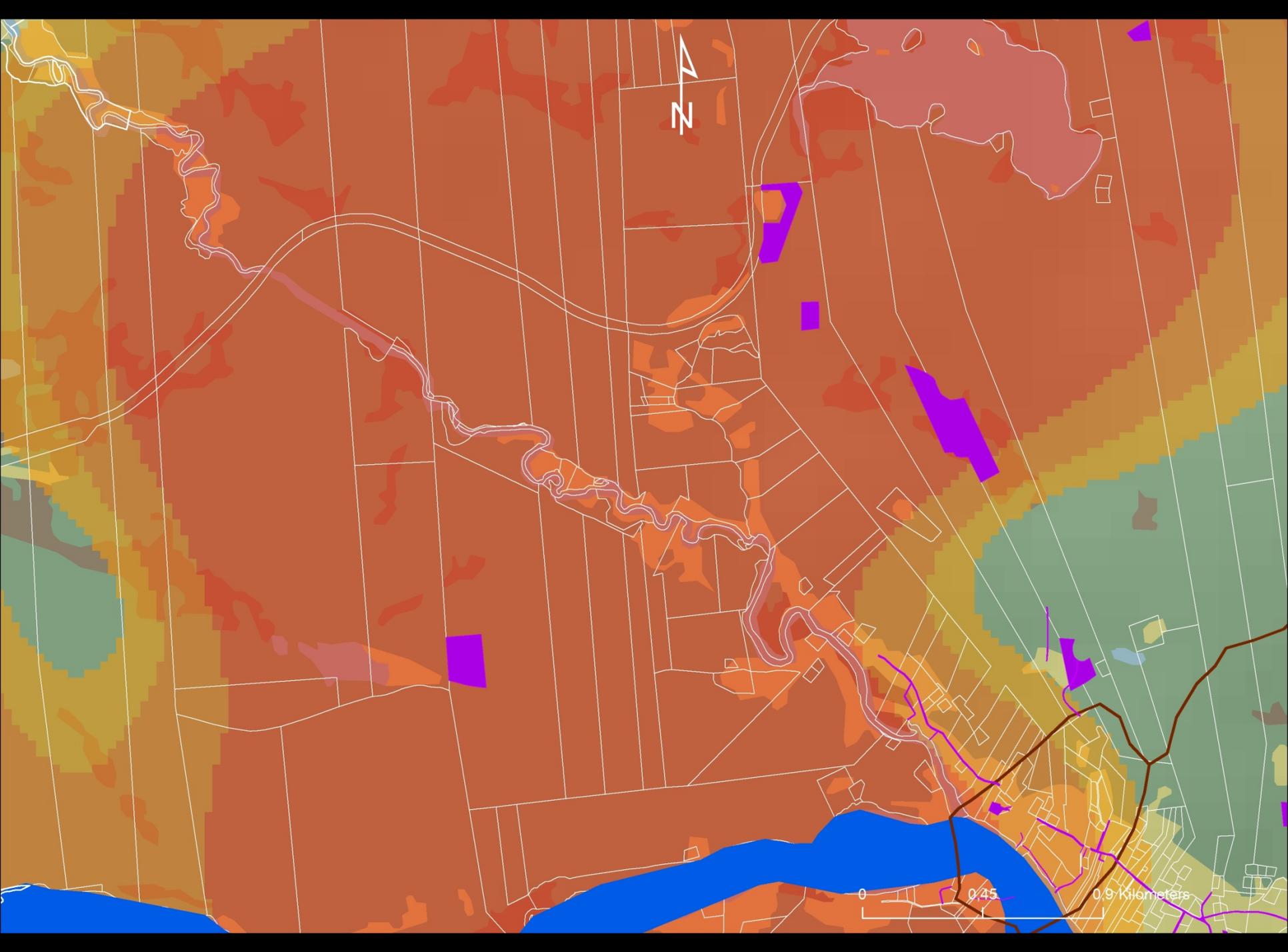
National Land Reforms 17th— 19th Centuries



"Crowded forests"
Negotiation & Conflict
State & corporate involvement
and control
Transfers of common land
Forest industry
New forms of state facilitated
commons







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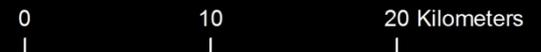
0 0.45 0.9 Kilometers



85 % of the archaeological sites and 72 % of the place names are within areas with small parcels

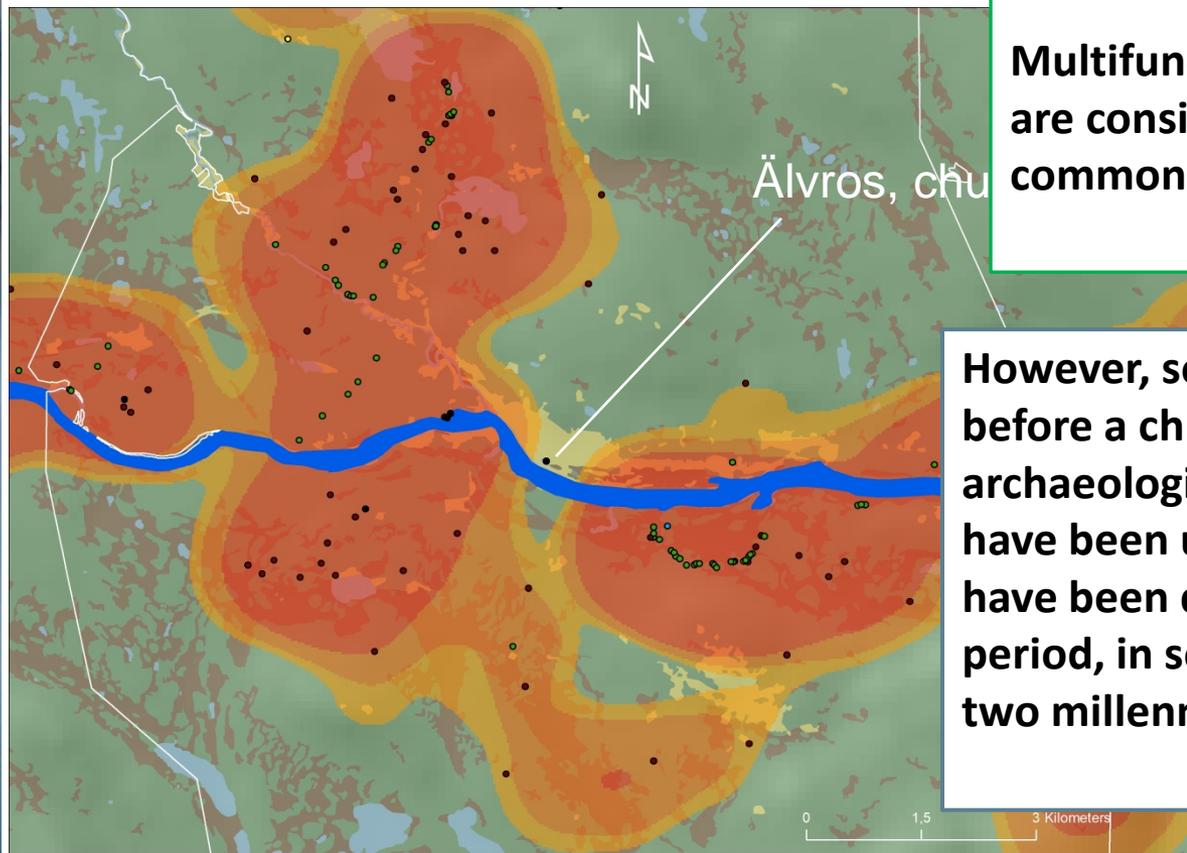
A Topology of the Commons

A topology, implies a historically rooted landscape, a complex social and ecological structure which marks the actual context of past, but also to the present praxis (possibilities from a rural development perspective).



Regulated & multi-functional landscape elements?

- A close association between different types of cooperatively undertaken activities;
- The distribution is structured by a landscape organisation; Field-and-meadow system, Hälsinge Law;
- This can be taken as an indication of territories or claimed resource areas with presence over the whole working year;



Multifunctionality and regulated use are considered as significant traits of commons in current CPR-theory

However, so far space has been favoured before a chronological control. The archaeological sites/place names that have been used to model these areas have been deposited over a long time-period, in some cases extending at least two millennia

Linking space with time

Överhogdal tapestries (Viking Age ca 1100 AD)



The Drocksjö find (700 AD)

- Grave, cremated human
- 43 iron tools (seax)
- Worked pieces of bone

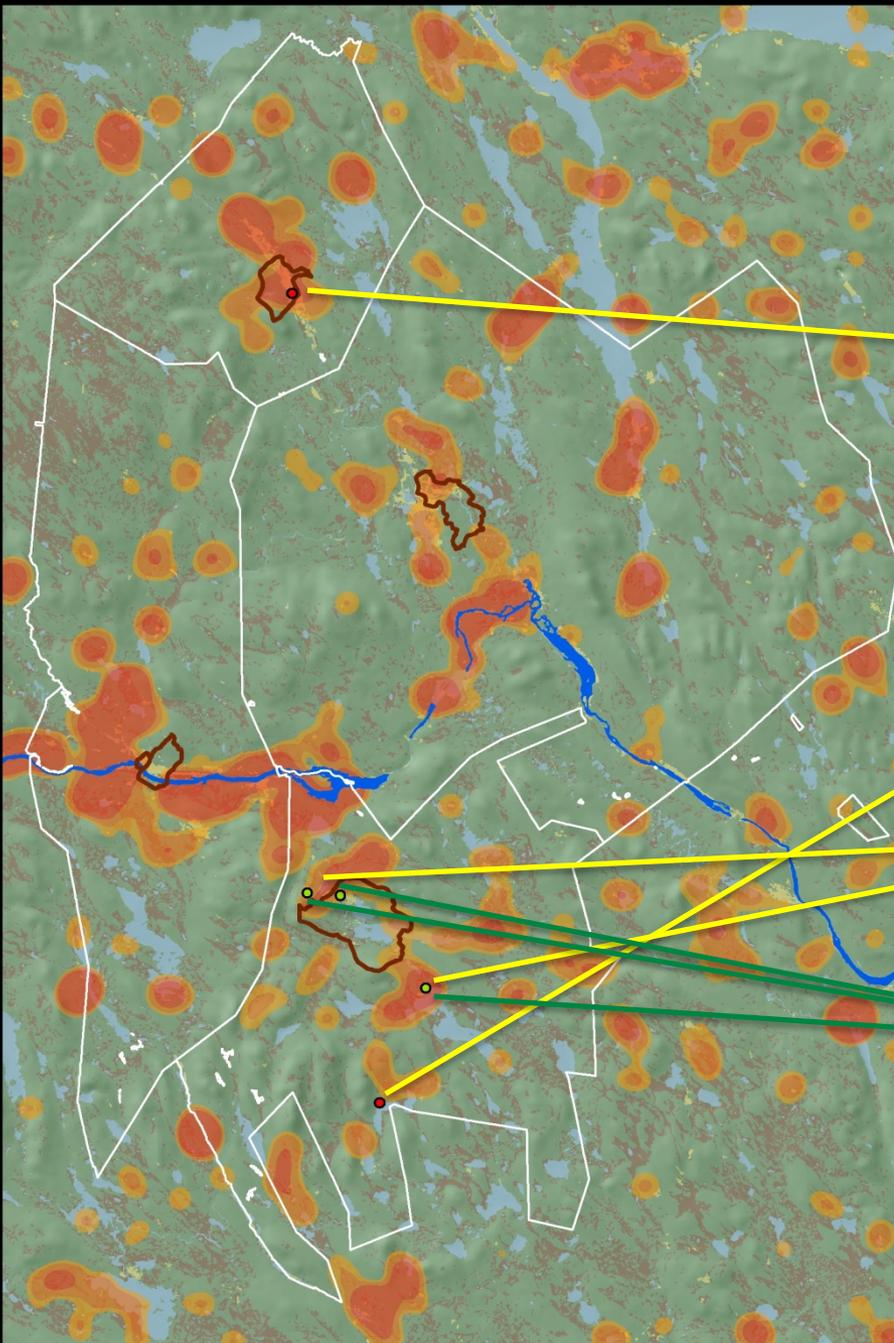
Ängersjögrunder (ca 1100 AD)

- Square depressions
- Cellar pits
- Associated with shielings, i.e. settlements linked to the transhumance of livestock production

Vegetation history

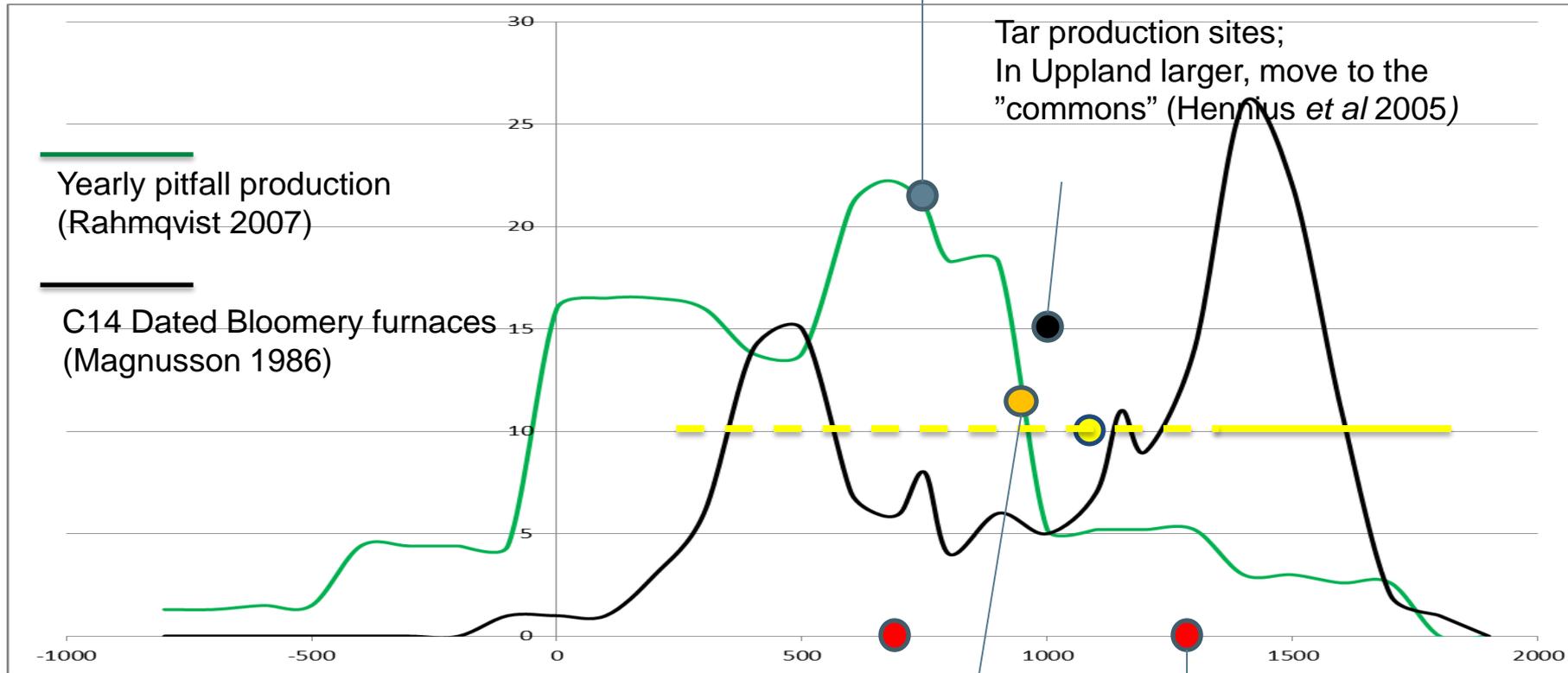
- Field-and-meadow system established in the period between the Roman Iron Age and the Vendel period (300-700 AD); earlier and more prolonged land-use than conventionally thought

0 10 20 Kilometers

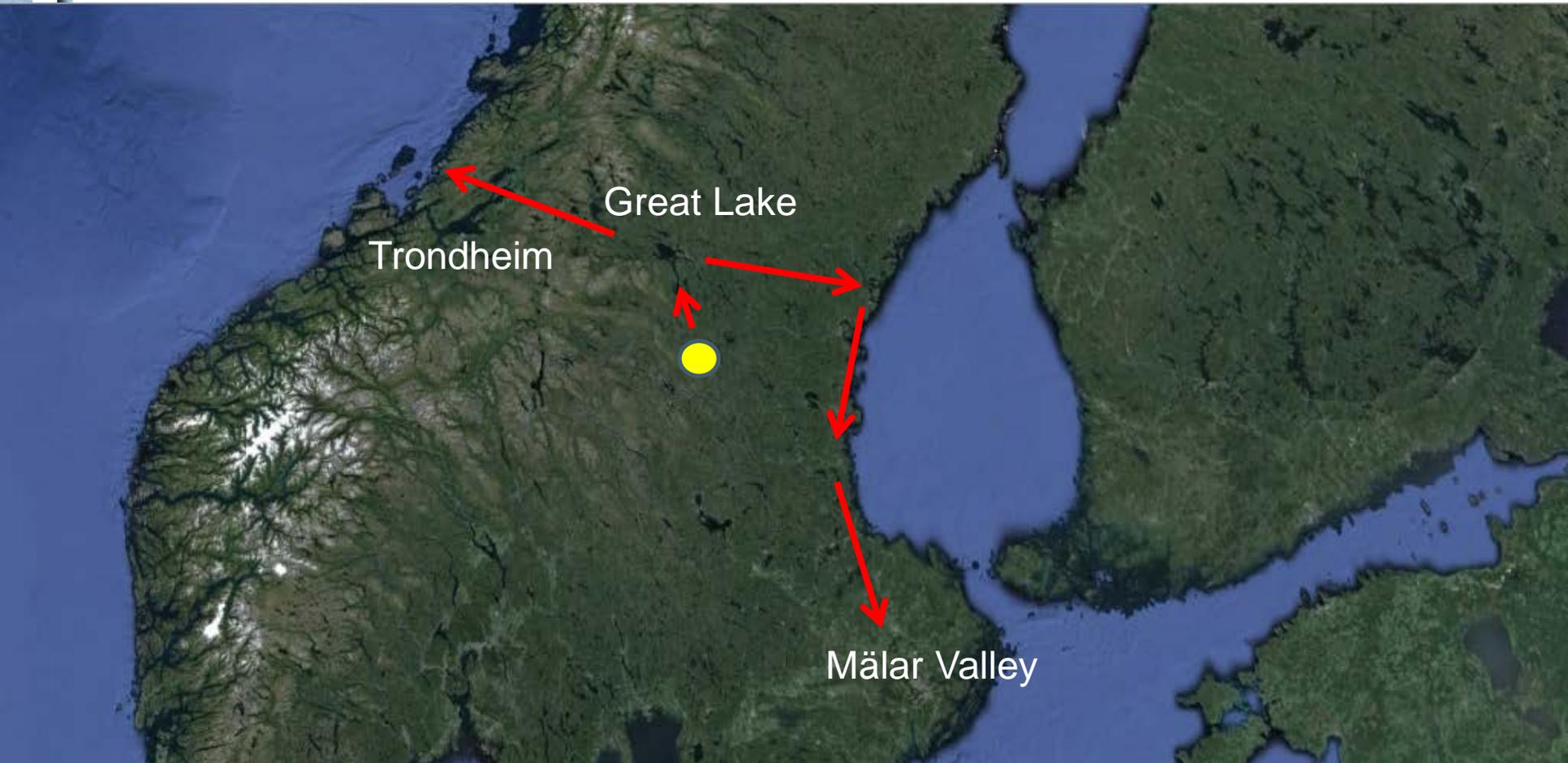


Regional contacts, specialisation

- Hordes of Roman coins
- Drocksjö find (bone/antler crafts)



Interregional trade



Conclusions

- Archaeological sites derived from cooperative forms of natural resource management appear in clusters, integrating a set of different activities; **multifunctional landscape elements**
- In turn this organisation seems to have been based on natural resource management that required the **cooperative efforts of several households'**
- The distribution of archaeological sites -- both older and younger than the Hälsinge law – seem to reflect the stipulates of the law and a field-and-meadow organisation of land use; **regulated and institutionalised land-use system**

Seen together these features can be conceived as distinguishing commons

- A forest agrarian land-use system based on big game hunting, livestock, iron production and specialised crafts and surplus production.
- The commons the basis for production, innovation, intensification and specialisation and for linking to interregional networks of trade.
- During the land reforms during the 19th century the commons transformed and divided to privately owned parcels. The structure of the property map continue to reflect the main resource areas.

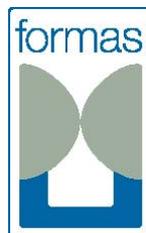
Commons as Hidden Resources - Analysing the Shifting Roles of the Commons in Rural Development Processes

The aim is to create a long-term understanding of joint ownership and cooperative forms of Natural Resource Management in the forested rural region of Sweden. The synthesis will include insights to the different kinds of cultural, social and ecological networks that surround commons – but also insights to the future role of commons in the context of rural development.

Karl-Johan Lindholm (archaeologist) analyse commons from different time periods by using archaeology, historical sources and information about today's commons. To what extent has commons been used as a basis for innovation, rural mobilisation and for linking to interregional networks?

Ann Kristin Ekman (social anthropologist) discuss the levels of social organisation linked to commons and enquiry into their role for social sustainability and for expressing local culture, gender and identity.

Emil Sandström (Natural Resource Management) provide a synthesis of the different kinds of social and ecological networks that surround the commons – but also insights to the future role of commons in the context of rural development.



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