
Hunting in northern Europe until 1500 AD

Old traditions and regional developments, continental sources
and continental influences



The 7th century's royal follower's grave at mid-east Swedish Rikeby (Uppland) – the deceased one with his horse, several dogs, several raptor birds, several birds which represent the typical prey of falconry plus food gifts (drawing Ulla Malmsten).

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Hunting in northern Europe until 1500 AD

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and continental influences

Edited by
Oliver Grimm und Ulrich Schmölcke

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Centre for Baltic and Scandinavian Archaeology (ZBSA)

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Table of Contents

Foreword	11
Introduction	
Oliver Grimm and Ulrich Schmölcke The hunting workshop and its publication	13
The transition from the last hunters to the first farmers	
Sönke Hartz and Ulrich Schmölcke From the Mesolithic to the Neolithic – Hunting strategies in the south-western Baltic Sea area	21
Hunting in the long run: some chosen aspects (Stone Age to medieval times)	
Sveinung Bang-Andersen Prehistoric reindeer hunting in south-west Norway with emphasis on the period 1000 BC to AD 1000 – Overview, retrospect and perspectives	41
Svein Indrelid 'Industrial' reindeer hunting in the south Norwegian mountains in the Viking Age and Early Middle Ages	55
Mara-Julia Weber Late Upper and Late Palaeolithic reindeer hunting in the Ahrensburg tunnel valley – Differences between Hamburgian and Ahrensburgian hunting tactics.	75
Ulrich Schmölcke A short history of seals and seal populations in northern European waters	91
Aikaterini Glykou Seal hunting at the Baltic Sea coast – A case study from the Late Mesolithic and earliest Neolithic Neustadt in Holstein, Germany	101
Ulf Ickerodt Barbed points through time – A hunting weapon between ethnoarchaeological argumentation and functional analysis.	113
Peter Vang Petersen Mesolithic Dogs	147
Bodil Holm Sørensen Dogs in the Danish Viking Age – The Ladby Ship and other finds	163
Ulrich Schmölcke The evidence for hunting dogs from Mesolithic times up to the Viking Age from a zoological point of view – A survey.	175
Harm Paulsen From Stone Age hunting bow to medieval weapon of war – Selected examples of bows and arrows in the North	185

Late Bronze Age and Hallstatt/Early La Tène hunting

Maria Vretemark

- Late Bronze Age hunting in Middle Sweden – Evidence from
“King Björn’s mound” in Håga and the surrounding settlements 207

Peter Trebsche

- Hunting in the Hallstatt and Early La Tène Cultures: the economic and social importance . . . 215

Leif Hansen

- Hunting in the Hallstatt period – The example of the
Eberdingen-Hochdorf “princely grave”. 239

Roman and late ancient Germanic hunting

Thomas Fischer

- Hunting in the Roman period. 259

Christoph Reichmann

- Late ancient Germanic hunting in Gaul based on selected archaeological examples 267

Bear hunting in the 1st millennium AD

Oliver Grimm

- Bear-skins in northern European burials and some remarks on other bear-related
furnishings in the north and middle of Europe in the 1st millennium AD 277

Sigmund Oehrl

- Svá beitung vér björnuna á mörkinni norðr* – Bear hunting and its ideological
context (as a background for the interpretation of bear claws and other remains
of bears in Germanic graves of the 1st millennium AD). 297

Hunting in the long run: noble and royal hunt (AD 350–1500)

Oliver Grimm

- Wiesbaden-Breckenheim, Tissø and beyond – Some methodological remarks
on bones of wild animals from continental and southern Scandinavian centres
of power in parts of the 1st millennium AD 333

Claus Dobiati

- Early falconry in central Europe on the basis of grave finds,
with a discussion of the origin of falconry 343

Wietske Prummel

- Falconry in continental settlements as reflected by animal bones
from the 6th to 12th centuries AD. 357

Maria Vretemark

- The Vendel Period royal follower’s grave at Swedish Rikeby as
starting point for reflections about falconry in Northern Europe 379

Martina Giese

- Continental royal seats, royal hunting lodges and deer parks
seen in the mirror of medieval written sources. 387

Lydia Carstens	
On the hunt in Old Norse sources	397
Christian Radtke	
Lordship and hunting in Schleswig – A sketch	419
Åsa Ahrland	
Vert and venison – High status hunting and parks in medieval Sweden	439
Frode Iversen	
The name of the game! The changing role of hunting on royal land in Norway during the Middle Ages	465

Hunting in laws, depictions and place names

Martina Giese	
Legal regulations on hunting in the barbarian law codes of the Early Middle Ages	485
Sigmund Oehrl	
Hunting in the West Norwegian Gulathing Law (<i>Gulapingslog/Gulapingsbók</i>)	505
Sigmund Oehrl	
Can pictures lie? Hunting the red deer with raptors – According to visual representations from the Viking Age	515
Vera Henkelmann	
A hunting scene on a late medieval linen embroidery from a convent in Preetz (northern Germany) – An art-historical perspective	531
Jürgen Udolph	
Hunting in continental place and field names	543
Inge Særheim	
Toponyms from south-western Norway referring to hunting and fishing	551

Further perspectives

Algirdas Girininkas and Linas Daugnora	
Hunting in the territory of Lithuania from the Late Palaeolithic to the Middle Ages	567
Elena A. Nikulina and John Meadows	
Ancient DNA and stable isotope analysis – Two innovative scientific methods in the archaeology of hunting	597

Summary and outlook

Oliver Grimm and Ulrich Schmölcke	
Results and future perspectives in relation to an overall concept of hunting-related research	605

Foreword

The basis of the present volume consists of the proceedings of a workshop initially dedicated to *Hunting in Northern Europe AD 500–1500. Old Traditions, Regional Developments and Foreign Influences*. The workshop was organized by Dr. Oliver Grimm and Dr. Ulrich Schmölcke and held at the Centre for Baltic and Scandinavian Archaeology, Schloss Gottorf, Schleswig, in June 2011. The aim of this interdisciplinary and international workshop was to gather together researchers working on the social significance of hunting throughout pre- and protohistoric times in northern and central Europe. The focus was set broadly on two main questions: What traditions can be traced from the Stone Age to AD 1500 in northern Europe? What regional developments and continental influences can be observed, e.g. in hunting weapons and techniques, and with regards to special privileges as to hunting? Participants were encouraged to share knowledge, data and analytical results considering these issues, and in the following editorial process the original score of papers presented in Schleswig was further enriched by manuscripts from authors who were not able to participate in the workshop.

In preparing the publication we followed a peer-review system in two steps. First, the manuscripts were circulated to all participants ahead of the workshop and then critically discussed during the meeting. Second, each manuscript was revised after the workshop, before being re-read and again commented upon by at least one other participant as well as by the editors. Papers that had not been presented at the workshop were also submitted to a corresponding critical peer-review.

On behalf of the editors and publishers I would like to thank all contributors for their engagement in the workshop and ensuing publication project and for their commitment throughout the process. We are particularly indebted to Dr. Sigmund Oehrl (Göttingen) for his invaluable and constant support which helped us make both the workshop and the publication happen.

Moreover, our warm and heartfelt thanks to Dr. Daniela Hofmann (Cardiff), Wilson Huntley B.A. (Göttingen), and Sharon Shellock M.A. (London) who took on the substantial task of translating or revising and improving the English texts. The graphic layout, typesetting and editorial supervision was handled expertly by good colleagues from the Centre for Baltic and Scandinavian Archaeology and from the Archaeological State Museum: Dipl.-Des. Jürgen Schüller (typesetting, graphics and layout), Matthias Bolte (typesetting), Dipl.-Des. Joachim Mocka (graphics), Gert Hagel-Bischof (drawings), and Isabel Sonnenschein M.A. (editing and proofreading). Finally the printing of the volume by the Wachholtz Verlag was supervised by Renate Braus with her usual efficiency.

The present volume aims at an overview of the current state of research on the *History of Hunting*. Evidently many questions still remain to be dealt with. Thus, we hope this volume will merely be the first in a series presenting the most recent studies pertaining to this fascinating field of research.

Schleswig, December 2012

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The name of the game! The changing role of hunting on royal land in Norway during the Middle Ages

By Frode Iversen, Oslo

Keywords: Commodities, royal land rent, royal villas, royal cadastres, farm name evidence, royal estates

Abstract: This article argues that changes in property structures, from clustered estate systems in the Early Middle Ages to more scattered systems in the Late Middle Ages are an indication of the reduced importance of hunting for the royal household economy in Norway during the Middle Ages. Place-name evidence close to royal manors is seen as a possible indication of tributes or dues paid in-kind to the king during the Early Middle Ages, and is compared to commodities and land rent of royal land in the Late Middle Ages.

What did hunting mean, economically, for the kings in Norway in the Viking and Middle Ages? Was it just for leisure? What was the role of hunting on Crown land? What kinds of *naturalia* did the king get from his land and how much of this was related to hunting? I shall undertake two case studies in western and eastern Norway to shed light on this, comparing the situation before and after c. AD 1200–1250 and examining the composition, complexity and income of royal land in Norway with regards to hunting.

Payment in kind from royal land was just one of many governmental incomes during the Late Middle Ages (AD 1350–1536). In the 1520s, land rent from Crown land accounted for approximately 12 % of the king's total income from Norway. Taxes and fines made up the largest share, respectively 50 and 30 %. The king also had a means of income from leasing out regalia rights such as falconry and fishing in great salmon rivers, and this accounted for 8 % of the revenues (BJØRKVIK 1968, 179).

In the Early Middle Ages (AD 1050–1150) and the beginning of the High Middle Ages (AD 1150–1350), substantial amounts of Crown land were granted to ecclesiastical institutions, and royal land went through an extensive restructuring, in particular during the 12th and 13th centuries (IVERSEN 2008). What happened to royal hunting rights in this process? Did the king keep these rights or were they granted new institutions? The income of royal land appears to have accounted for a larger share of the revenues during the Early and High Middle Ages, calculated to about 23 %, which has been highlighted by the historian Halvard BJØRKVIK (1996, 62). In the decades prior to the Reformation, royal land was still relatively substantial, thus halved compared to the Early Middle Ages. However, payment in commodities from several thousand farms was gathered at new “urban strongholds” built in the 1200s and 1300s. Fortified castles such as Bohus, Akershus and Tønsberghus in eastern Norway, Bergenshus in western Norway, Nidaros in Trøndelag in Middle Norway and Vardøhus in northern Norway had replaced the rural royal farms as collecting points for revenues and taxes

(IVERSEN 2011). What kind of commodities were collected and how important was hunting produce in the overall royal economy?

METHOD

The design and method of this particular study are twofold. The account of income from royal land in eastern Norway (case study I) is based on detailed data from Halvard BJØRVIK's comprehensive work *Det norske krongodsets i reformasjonshundreåret* (1968). The main figures for Norway have been published in BJØRVIK (1992; 1996, 61–78). Case study II is based on data from this author's PhD (IVERSEN 2008), representing a systematic review of the property structures around three of the foremost royal villas in western Norway in the 9th to 14th centuries, including a survey of place-name evidence indicating available royal recourses on these estates.

Case study I is based upon a thorough review of the recordings in the Royal Cadastres of medieval Norway, including the area of Bohuslän in present day Sweden. The cadastres represent the earliest systematic sources of royal property, and have been published by Asgaut Steinnes. The quality of the data is generally good, but areas held as fiefs in the 1500s can be challenging and sometimes lack the necessary records. However, this has been accounted for in the works of Bjørkvik in an excellent way. As far as it has been possible, ecclesiastical estates that befell the Crown at the Reformation have been ruled out of the equation, and the figures represent the position of pre-Reformatory royal lands.

The research area is divided into 18 sub-regions that follow historical divisions (Fig. 1). In the Middle Ages, the Borgarthing area covered the coastal area of eastern Norway, and was divided into so-called *Skipreider* (known from AD 1277). These were subdivided into smaller *Fjerdinger* (Quarters), which are partly reflected in the municipality structure in 1838. The non-coastal area (the law province of Eidsivating) was organized in *herreder*, roughly corresponding to the later known municipalities. The number of farms in each area is based upon the information recorded in Oluf RYGH's voluminous compilation, *Norske Gaardnavne* (1887–1936). The number for present day Bohuslän in Sweden has been obtained from BJØRVIK (1968) and reflects the situation in AD 1573. A more accurate division is presented in Tab 1.

During the 1500s, the Crown received land rent in over 70 different types of *naturalia* in Norway. I have arranged these into ten main categories: (1) *Seralia*, such as grain, flour and malt was an essential part of the income while (2) *Animalia*, such as horses, cows, oxen, bucks, goats, sheep, lamb, geese and hens, and secondary produce such as butter, wax, cheese and lard were usual commodities. Also, different types of skins, such as buckskin, goatskin, sheepskin and calf hides are included in this group; (3) different types of *fish*, such as stockfish, cod, herring, mackerel, eel, pike, whiting, European whitefish and so-called rockfish, such as halibut and trout and variants of salmon; fresh, dried and cured, in addition to cape shark (*hå*); (4) *salt* was also an important commodity; (5) hunting produce such as hides from pine marten, otter, fox and, amongst others, stoat and grey skin (from squirrel) were accepted as payment, in addition to marine produce such as blubber from seal and whale and cod liver oil (so-called *lyse*) from northern Norway; (6) land rent was also paid in textiles. These are featured as homespun and canvas, and also some imported textiles, such as *English*, *Ledske cloth*, *Deventer* and *Nerske*, the latter probably from Naarden in North Holland. It is likely that textiles such as *vareklede* and *vestfar* were also imported; (7) various metals such as silver, iron, copper, tin and bromine were also paid as land rent; the Crown also accepted payments in (8) “lumber merchandise”, such as birch bark, tar, wood plank, woodcuts *sparrer* and coal; (9) other registered land rent commodities were peas (in Trøndelag), hops, sweet gale, hemp, bast fibre and steal-bows, millstones, amber and limestone; (10) last, but not least, a substantial amount of the land rent was paid in coins in certain regions.

The results of case study I and II will be compared. My study (publ. 2008) substantiates that the king's manors were surrounded by dependent settlements, most likely farmed by bondsmen who worked the king's land. My reconstruction of such manorial systems is mostly based on identification of clusters of ecclesiastical property close to these manors. The large amount of such clusters near these royal manors presupposes that the king donated much of this land to the church in the Early Medieval period, or not much later. By comparing these patterns with the spatial distribution of burial mounds, I have been able to identify older elements belonging to a former royal manorial system (IVERSEN 2005; 2008). These methods have formerly been outlined in detail (see IVERSEN 2005; 2008; 2009). In this article, I will only use the main results of the analyses of the farm names as a scale for case study I. The results are not directly comparable but may indicate the changing role of the hunting economy at royal estates at the start and the end of the Middle Ages.

In England, place-names referring to special resources have been studied in the context of manorial systems. Subordinated settlements with names such as Linacre, Halifax, Rycote and Latton have been connected to a system of payment in kind to the lord (KEYNON 1991; FAITH 1997, 47–48). It is argued that a lord had need of a wide range of commodities for themselves and their followers, and that economical specialization between different estates also occurred. We have less knowledge about how this functioned in Norway. Basically, I assume that large amounts of in-kind produce must have been collected at the royal villas, and that this formed an important economic foundation for the early kingdom.

I have examined the farm names surrounding the royal villas in the county of Hordaland (Fig. 2). As a methodological foundation, I draw mainly upon Oluf RYGH's and Magnus OLSEN's (1910) etymological interpretations of the farm names, supplemented by Johan FRITZNER (1973 [1867]), Leif HEGGSTAD (1963), Eivind VÅGSLID (1958–1984) and Inge SÆRHEIM (1999). I have included all names that potentially could have derived from certain benefits, particularly those relating to animals and animal products or hunting of animals. From this I have made a simple frequency analysis in the reconstructed royal estates, compared to areas outside. However, caution should be used. Other interpretations of animal names are also possible, e.g. as metaphors, for instance, naming landscape-features, as pointed out by RYGH/OLSEN (1910) and SÆRHEIM (1999).

RESULTS

I shall now present the main results of the two case studies. The Crown received land rent from 1850 farms in eastern Norway and Bohuslän towards the end of the Middle Ages. Approximately 30,000 farms are recorded in this region (Tab. 2). The Crown thus received rent from 6 % of the farms. Grain produce amounted to 61 % of the income from the estate (Fig. 6). Animal husbandry amounted to 22 %, whereas goods like cowskin and butter were the most important ones. Money amounted to 12 % and fish produce amounted to 3.5 %. Salt, timber and hunting produce made up the remaining 1.5 %. The relative and actual size of royal land varied from region to region, as did the types of produce used to pay rent, with animal produce coming from the valleys and grain produce from the arable land in the low lands.

Royal land in Elvesyssel and Ranrikesyssel was by far the most extensive (Fig. 3). Here the king seized land rent from 492 and 421 respectively out of approximately 1700 recorded farms in each area. Thus the Crown received land rent from a quarter of the farms in present day Bohuslän. The value of the rent (in Danish *mark* = 16 shilling = 1 cowskin = 0.5 lp. butter) was more than doubled in Ranrikesyssel (1434) when compared to Elvesyssel (635). Grain produce amounted to 93 % of all *naturalia* in Ranrike, whereas in Elvesyssel it was below 6 % (Tab. 3; Figs. 4–5). During the 1400s, monetary taxation seemed to have become more common in Elvesyssel, and repressed/replaced grain produce

as a royal land rent commodity. The reason for this is not fully understood. The monetary land rent accounted for a total of 55 % of the Crown's rent in Elvesyssel in AD 1573, which distinguishes Elvesyssel from the other regions. Bjørkvik has demonstrated that the land rent in Elvesyssel became fixed during the 1400s, and that the value of money in AD 1573 is, due to inflation, hardly representative of an earlier situation. Regarding Elvesyssel, the monetary and grain rent combined accounted for 61 % of the Crown's income of land rent in AD 1573. That grain previously accounted for an even larger proportion of this would be a fair assumption.

According to *Norske Gaardnavne* (NG), there were 3230 farms in Borgarsyssel. During the Reformation, the king seized a value of 222 *mark* land rent from 125 farms, which amounts to approximately 4 % of the farms. Grain produce totalled 75 % of the rent and animal husbandry accounted for 19 %, whilst salt amounted to 2.7 %. The proportion of grain produce as land rent decreased further south on the west side of the Oslofjord. The highest proportion was in Oslosyssel (72 %) and the lowest in Tiendetaket (27 %) in the south. However, in Oslosyssel Crown lands were fairly minute and encompassed only 9 of 1229 later farms, which is less than 1 %. *Animalia* accounted for 67 % of the land rent in Tiendetaket, which collectively derived from 51 farms. The land rent in Tønsberg and Brunla len was by far the most multifaceted. Amongst others, payments in seal blubber and timber products accounted for a certain percentage of the rent from these areas, as it did for Tiendetaket, Bragerne, Oslosyssel and Borgarsyssel.

In Tønsberg len, the Crown seized land rent from 125 out of 1523 farms, which is 8.2 %. In Bragerne, rent was seized from 96 out of 1471 farms, which is approximately 6.5 %, while in Numedal 40 out of 690 farms, which is 5.8 %. With the exception of Numedal, the proportion of grain produce was in excess of 40 %. In Numedal, land rent came in the forms of hides and cowskin, in addition to some money. In upper Bragerne (Modum, Sigdal, Krødsherad), salmon and small whitefish accounted to 24 % of the land rent, while grain was dominant in Lower Bragerne (56 %). In no other areas in present eastern Norway was royal land more dominant than in Tønsberg, Bragerne and Numedal. During the 1500s, the king seized land rent of a value of 201 *mark* from 261 farms here. Still, this was significantly less than in Ranrike and Elvesyssel. In the current area of Bohuslän, royal land accounted for 10 times as much in collective value (2068 *mark*) and encompassed almost four times as many farms (900) in an area of the same size.

Royal land was scarce in most parts of the inner Oslofjord. Neither was it very extensive in Gudbrandsdalen, Valdres or Hallingdal. The land rent from the 70 farms in these valleys was for the most part paid in hides and an insignificant amount of money. The areas enclosed about 4500 farms and there was a fair distance between each of the Crown estates. Royal land in inner eastern Norway (present day counties of Oppland and Hedmark; cf. Tab. 1) was somewhat more extensive, and the king seized land rent from about 3–4 % of the farms. Only in Hedmark did royal land surpass 4 %, assessed by the ratio of Crown estate farms (109 of 2545). Royal land in Brunla len was not particularly extensive either. However, the Sandvær-area in Brunla len was an exception. Here the king received rent from 17 out of 322 farms, which accounts for 5.3 %. During the 1500s, Numedal became tied to Tønsberg len. The 100 or so Crown estates in Telemark were evenly distributed between the so-called *Skattlandet* and *Tiendetaket*, but did not total more than 3 % of roughly 3400 farms in this area.

To summarize, we see that the king's ownership was more strongly represented in the areas of grain produce in Bohuslän and in northern Vestfold and Buskerud. Royal land bordering Sweden was strikingly extensive. The king had less property in the eastern mountain valleys though, where animal husbandry and hunting were important resources. Even in Oppland, where the percentage of grain was high, the king's ownership was not significantly represented. Neither was royal land at all comprehensive in southern Vestfold (Brunla) and Telemark by the end of the Middle Ages.

Naturalia from hunting and fishing activities combined accounted for barely less than 4 % of the land rent of royal land in eastern Norway (Fig. 6). Hunting produce alone accounted for 0.43 % of the

income, and fish somewhat more, being 3.4 %. The income mostly consisted of grain (60.5 %), animal husbandry (21.5 %) or money (12.5 %). If we take a closer look at the fishing and hunting produce the king received from his farms there are certain areas that begin to stand out.

Commodities like whiting, cod and especially fresh salmon, in addition to half a barrel of eel, came from Elvessyssel. The combined value of this was 56 *mark*, which accounted for no less than 9 % of the land rent from this area. As previously mentioned, Elvessyssel was the area that held most royal land in eastern Norway. Further north, from Ranrikeyssyssel, $\frac{3}{4}$ of a barrel filled with mackerel and the same amount filled with eel came with a value equal to 9 *mark*. From Borgarsyssel came c. 18.5 kg of cape shark (*hå*) and 0.5 pounds of pike, which are relatively modest quantities. Various types of fish came from the eastside of the Oslofjord. From Aker, Bærum and Asker in Oslosyssel came one pail of fresh trout and from lower Bragernes some fresh salmon. From Tønsberg came $\frac{3}{4}$ of a barrel filled with seal fat, some mackerel and pike and half a barrel of salmon from Tiendetaket. Also, there came some salt from Borgarsyssel, Oslosyssel, Bragernes and Tønsbergssyssel.

Various fish and hunting produce came from the areas inland. Fresh water fish, such as pike, came from Romerike, in addition to skins from martens. Pike alone accounted for 7 % of the Crown's land rent from Romerike, which totalled a value of 127 *mark*. Another fish belonging to the salmon family was *sik* (whitefish), which also came from Ringerike. This accounted for approximately 32 % of the land rent from this area. However, royal land was fairly scarce in Ringerike and the income from it totalled only a value of 30 *mark*. In addition to this, there were five grey skins from lower Glåmdalen, while from the royal land in Østerdalen there were forty grey skins and two hides of martens. This accounted to no less than 7 % of the total land rent from this area, which was a value of 64 *mark*. 15 fresh salmon, 40 whitefish and one barrel of salmon came from Upper Bragernes. 25 grey skins came from Numedal, which accounted for 7.5 % of the relatively modest income from this area (10.5 *mark*). I shall now briefly compare these results to my previous study of farm names and land estates surrounding the royal villas at Seim, Alrekstad and Fitjar in western Norway. Traditionally these are regarded as the main farms in the estate of King Harald Hårfagre (c. 865–933) and the later kings in the county of Hordaland. Close to Seim I have identified five ecclesiastical clusters of property, each consisting of at least three farms belonging to the bishop and different monasteries in the medieval town of Bergen. These clusters constitute a large coherent area of property of at least 24 farms, and may indicate a former royal estate (Fig. 7).

In the 13th century, the manor of Alrekstad, close to Bergen, was still in the possession of the king (Håkon Håkonsson). Later, it was granted to the monastery of Nonneseter. Close to Alrekstad I have identified nine clusters of property belonging to monasteries and churches in Bergen during the Middle Ages, indicating a former royal estate. The royal manor of Fitjar belonged to the Crown until the 17th century, but was held as fief as early as in the 11th century. In the Middle Ages, the demesne of Fitjar included a large number of islands. I have identified at least seven clusters of property around Fitjar, which were under the ownership of the bishop, monasteries and some local churches, indicating a former royal estate. The settlement-names around Alrekstad, which are connected with animals and secondary products, are also located near the main farm. Many names here have references to marine resources, in particular fish, as in the example of Laksevåg.

Of the 354 farm names and 396 farms in the three study areas, approximately one third are part of reconstructed royal estates (Tab. 4). It turns out that 41 of a total of 112 names, 36 %, within the estates are related to animals, hunting of animals or products of animals. Uncertain names are also included. Outside the royal estates, only 25 of 241 farm names, 10 %, have similar name forms. This striking difference is represented in all three study areas.

As many as 28 such names could potentially be associated with hunting and the remaining 13 to agriculture (Tab. 5). Many of the names have an uncertain interpretation, and caution should be used. Nine hunting names are related to bird species such as hawks, grouse hens or chicken, falcon, black

grouse, even cuckoo, and, more generally, small birds and bird-rich islands. Amongst the category of fur, squirrels, otters, bears and (more uncertain) wolves are represented. Also, traps occur in the farm names of the royal estates, such as fishing and seal-nets, fish traps and pitfalls. Furthermore, marine resources such as whales and seals are represented in the names, and also more specific names occur, such as *Whalebonebay* (Hvalbeinvik, Fitjar).

However, there are only a few indications of economic differentiation between the estates (Tab. 6). Names related to husbandry often occur around Seim. At Fitjar, the hunting of birds, whales and seals may have been important, while around Alrekstad several fishing-names occur. The king paid special attention to the hunting grounds at Fitjar. A royal official, Niels Gjordsen, was granted Fitjar as a fief in 1529, with the exception of “the Crown’s delights and hunting”. These rights should still belong to the royal castle Bergenhus (NRR I, 20). A part of the forest in the mountains close to Fitjar is named *Kongsskogen*, meaning “the king’s forest”, and may or may not indicate a dedicated forest for royal hunt. Neither is it entirely clear which “delights” are referred to in 1529. It could concern sea hunting or important fishing grounds (IVERSEN 2008, 267).

CONCLUSIONS

The economic importance of hunting seems to have changed during the Middle Ages. The Crown gained greater rights in the commons, fishing lakes and rivers in the 11th and 12th centuries, which also increased the income together with taxes. There must have been considerable hunting resources in the mountains of southern Norway and in Finnmark in the North, where fur products were particularly important. However, the economic importance of hunting activity at royal estates seems to have lost its significance, as this study indicates.

I have analysed place-name evidence close to royal manors as possible indicators of tributes or dues paid in kind to the king during the Early Middle Ages. It is a striking feature that place-names connected with animals and secondary products are well represented within the area of the reconstructed estates, most significantly around Seim. This toponymic material may, of course, only indicate the resources available at the royal manors. I find it, however, more likely that they also reflect dues the peasants paid in kind to the king, as there is an over representation of such names close to the manors. When the farm names around the royal estates are largely composed of prefixes referring to various resources related to fishing, hunting, livestock and other food production, it is possible to interpret this in the context of manorial systems, perhaps as part of the transfers to the manor from the surrounding settlements. Although this conclusion must necessarily be of hypothetical character, the names denote the resources within estates.

A total of 41 out of 112 farms (36 %) in the three royal manorial systems had names associated with different commodities, and in particular 28 names that may have been related to hunting. Thus, as much as 25 % of farm names in the surveyed estates have a possible association with hunting and trapping. This indicates that hunting was important in the royal estate economy in the Early Middle Ages. According to *Fagrskinna*, King Harald Hårfagre had an entourage of 60 followers in peacetime and many more during wartime (IVERSEN 2008, 35). Payments in-kind were probably brought to the manor farm to feed such groups and hunting products, for instance furs from squirrel, may have been used for high status robes and clothing.

In general, hunting products such as fish and furs made up just a fraction of the rent-income of royal land in Norway during the Late Middle Ages, but was far more important earlier on. In the 1520s, royal income was, inter alia, gained by leasing out regalia such as falconry and fishing (8 % of the total income) and land rent from Crown land (12 %). The latter that was paid in naturalia, however, had little to do with fishing and hunting produce since these constituted an amount of only

4 % of the naturalia to be paid. For the most part, this consisted of commodities like squirrel hides (grey skin) and martens, in addition to various types of fish, such as salmon, whitefish, whiting, cod, pike and mackerel.

It is therefore reasonable to conclude that changes in property structures, from clustered estate systems in the Early Middle Ages to more scattered systems in the Late Middle Ages influenced the importance of hunting in the royal household economy.

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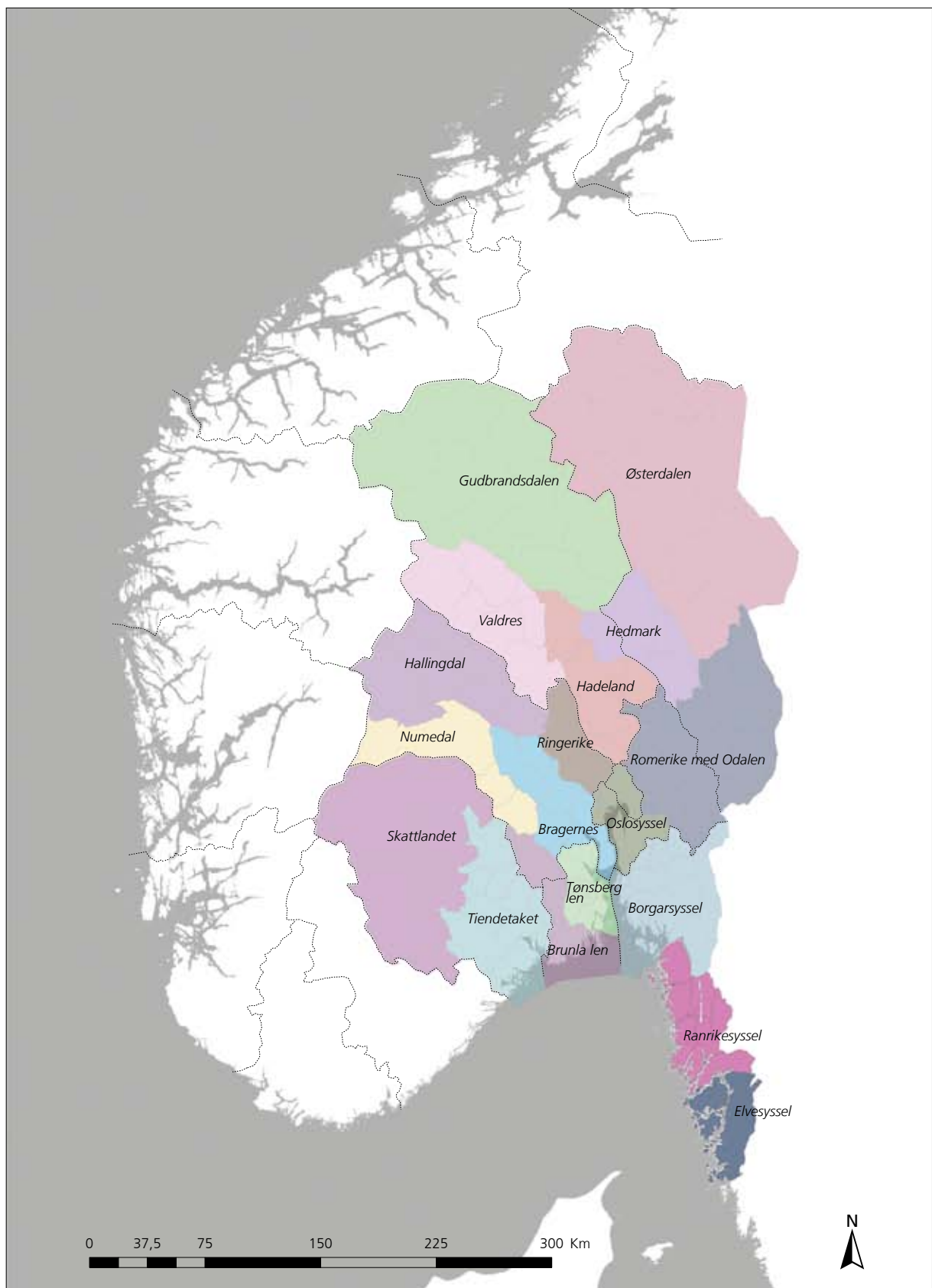


Fig. 1. Historic regions, eastern Norway ($n = 18$). The research area of case study I is divided into 18 sub-regions that follow historical divisions.

Tab. 1. Administrative division of the research area of case study I. Number of farms recorded in 'Norske Gaardnavne'. Royal holdings c. 1520–1560. ** present day Sweden, * divided parish.

Historical region	Farms	Present County	Skipreide (per 1277)	Municipals (per 1838)
Skattlandet	1527	Telemark		(Øvre Telemark Fogderi): Fyresdal (med Mo), Hjartdal (including Gransherad), Kviteseid (including Nissedal), Seljord, Tinn (including Hovin), Lårdal, Vinje (including Rauland)
Tiendetaket	1868	Telemark	Lindheim (LS), Gjerpen (GS), Ulefoss (US), Bamble (BS)	(Skienssyssel): Heddal (LS), Bø (LS), Saude (LS), Gjerpen (including Siljan) (GS), Eidanger (GS), Holla (US), Solum (US), Lunde (Nome) (US), Drangedal (US), Bamble (including Sannidal and Skåtøy) (BS)
Brunla len	1144	Vestfold/ Buskerud	Numedal (NS), Lardal (1591)	Tjøme (NS), Sandeherred (NS), Hedrum (NS), Brunlanes (NS), Tjølling (NS), Sandsvær (NS?), Lardal (NS?)
Tønsberg len	1523	Vestfold	Sande (SS), Råbygge (RS), Våle (VS), Slagen (SI), Arendal (AS)	Sande (SS), Skoger (SS), Strømm (SS), Hof (RS), Ramnes (RS), Våle (VS), Botne (VS), Sem (SI)*, Borre (SI)*, Nøtterøy (AS), Stokke (AS), Andebu (AS)
Bragerne len	1471	Buskerud	Lier, Eiker, (Røyken and Hurum?)	(Nedre and Øvre Bragerne): Lier, Eiker, Røyken, Hurum, Modum, Sigdal, Krøds-herad
Oslosyssel	1229	Oslo/Akershus	Aker, Bærum, Asker, Østre Follo (ØF), Vestre Follo (VF)	(Aker, Bærum, Asker and Follo): Aker, Bærum, Asker, Vestby, Ås (ØF), Kråkstad (ØF), Frogn (VF) Nesodden (VF)
Borgarsyssel	3230	Østfold	Idd (IS), Marker (MS), Ingedal (In), Skjeberg (SS), Åbyggje (ÅS), Hvaler (HS), Onsøy (OS), Tune (TS), Skaun (SS), Heggen (HS), Frøyland (FS), Veme (VS), Råde (RS), Våler (Vå), Varna (Va), Mossedal (MS)	Idd (IS), Berg (In)*, Aremark (MS), Rødenes (MS), Skjeberg (SS)*, Borge (ÅS), Hvaler (HS), Onsøy (OS), Tune (med Varteig) (TS), Glemmen (TS), Rakkestad (SS), Eidsberg (HS), Trøgstad (FS), Askim (FS), Spydenberg (VS), Skiptvedt (VS), Råde (RS), Våler (Vå), Rygge (Va), Moss (Va), Hobøl (MS)
Elvesyssel **	1719	Bohuslen	Hisingen, Fokseherad, Grøtsbakke, Torpherad, Frekne, Tjörn, Ordost	(Hisingen, Innland, Tjörn, Ordost): Östra Hisings, Västra Hisings, Inlands Södre (Fokseherad), Inlands Nordre (Grössbacka), Inlands Torpe, Inlands Fräkne, Tjörns, Östra Orusts, Västra Orusts
Ranriksyssel **	1700 (estimate)	Bohuslen (Vika)	Sørbygda, Tungeherad, Stangernes, Sotenes, Kvilde, Tanum, Burdel- len, Vetteherad	Sörbygdens, Tunge, Stånenäs, Sotenäs, Kville, Tanums, Bullarens, Vette
Numedal	690	Buskerud	Numedal (see Brunla len)	Flesberg, Rollag, Nore, Oppdal (Uvdal)
Ringerike	700	Buskerud		Norderhov, Ådal, Hole

Historical region	Farms	Present County	Skipreide (per 1277)	Municipals (per 1838)
Hallingdal	1042	Buskerud		Nes (including Flå), Gol (including Hemse- dal), Ål (including Hol)
Valdres	1140	Oppland		Nord-Aurdal, Sør-Aurdal, Øystre Slidre, Vestre Slidre, Vang, Etnedal
Gudbrandsdalen	2306	Oppland		(Nordre and Søndre Gudbrandsdalens fog- deri): Lom (med Skjåk), Vågå, Lesja (includ- ing Dovre), Nord-Fron, Sør-Fron, Ringebu (including Sollia), Gausdal, Fåberg (Lille- hammer), Øyer
Østerdalen	1773	Hedmark		Tolga (including Os), Tynset (including Kvikne), Alvdal (including Folldal), Stor- Elvdal, Trysil, Åmot (including Rendalen and Engerdalen), Elverum
Hadeland	2296	Oppland		(Toten, Vardal and Snertingdal (Gjøvik), Hadeland, Land): Østre Toten, Vestre Toten Vardal, Biri (including Snertingdal), Jevnaker, Lunner, Gran, Brandbu, Norde Land, Søndre Land
Romerike and Odalen	2087	Oppland/ Hedmark		Nannestad, Hurdal, Eidsvoll, Ullensaker, Gjerdrum, Nes, Nittedal, Skedsmo, Fet, Sørums, Aurskog, Høland, Nordre Enebakk (Flateby and Kirkebygda), Nord-Odal, Sør- Odal
Hedmark	2545	Hedmark/ Oppland		(Hamardistrict, Nedre Glåmdalen [Solør and Vinger] and Eidskog): Nes, Ringsaker, Vang (including Furnes), Løten, Romedal, Stange, Grue (including Brandval), Hof (in- cluding Åsnes and Våler), Vinger, Eidskog

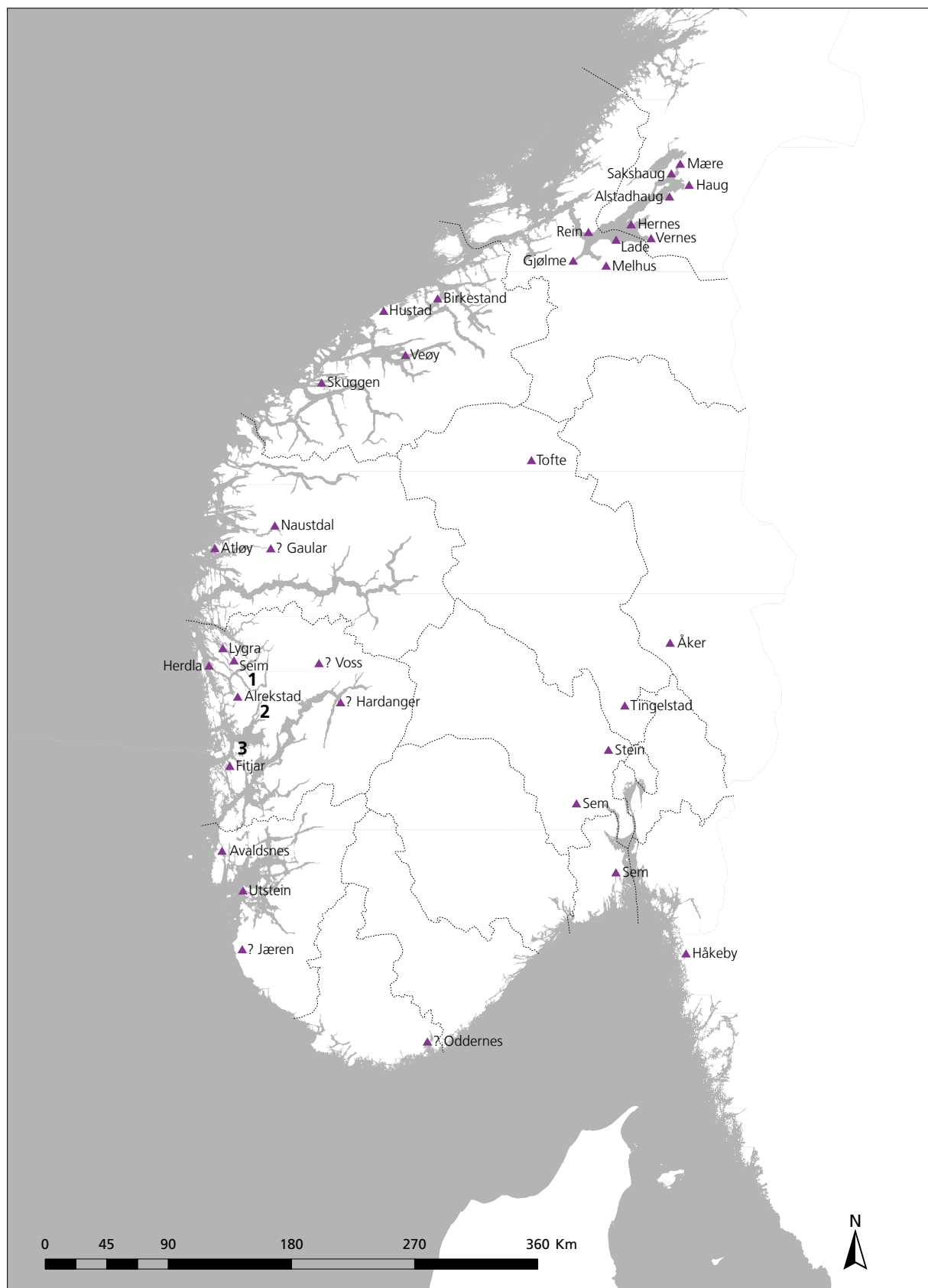
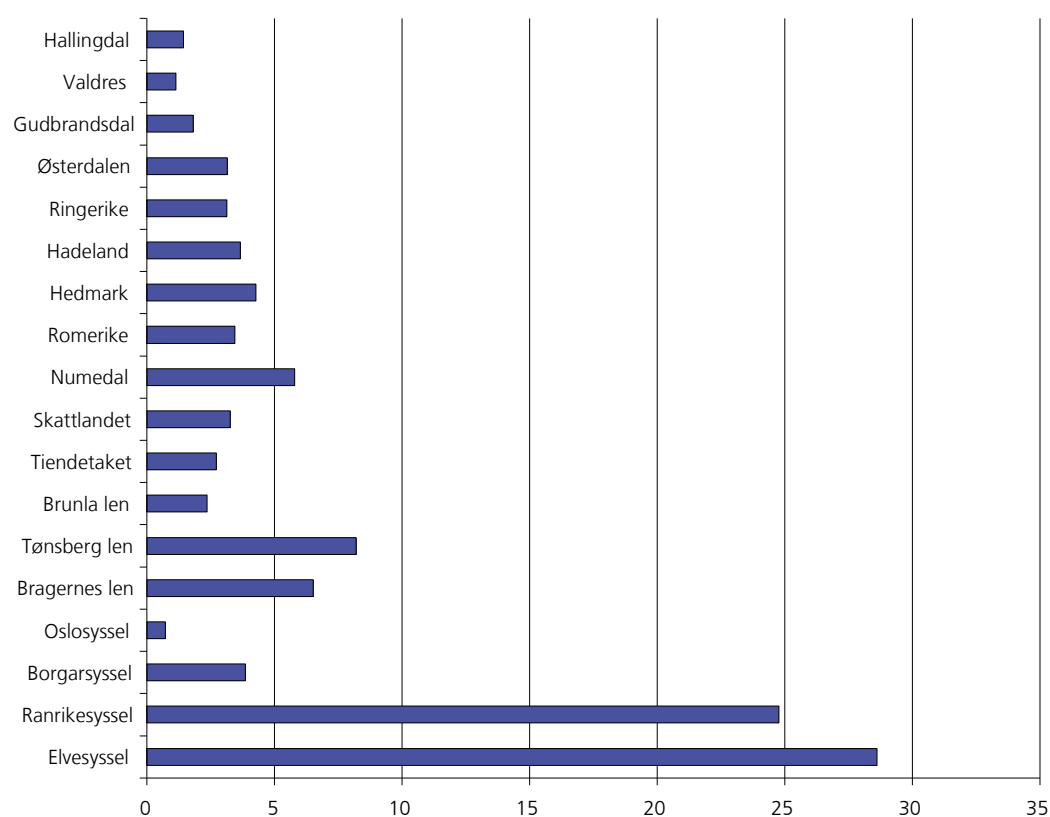


Fig. 2. Royal villas in Norway, prior to AD 1300 ($n = 34$). The three investigated villas in case study II are: (1) Seim, (2) Alrekstad, (3) Fitjar.

Tab. 2 and Fig. 3. The percentage of the number of royal estates when compared to the total number of farms in historical regions in eastern Norway. $N = 1849$ of 29,990.

Region	Number of farms paying royal land rent	Number of farms	Percentage
Elvesyssel	492	1719	28.6 %
Ranrikeyssell	421	1700	24.8 %
Borgarsyssel	125	3230	3.9 %
Oslosyssel	9	1229	0.7 %
Bragerne len	96	1471	6.5 %
Tønsberg len	125	1523	8.2 %
Brunla len	27	1144	2.4 %
Tiendetakel	51	1868	2.7 %
Skattlandet	50	1527	3.3 %
Numedal	40	690	5.8 %
Romerike and Odalen	72	2087	3.4 %
Hedmark	109	2545	4.3 %
Hadeland	84	2296	3.7 %
Ringerike	22	700	3.1 %
Østerdalen	56	1773	3.2 %
Gudbrandsdalen	42	2306	1.8 %
Valdres	13	1140	1.1 %
Hallingdal	15	1042	1.4 %
Sum	1849	29990	6.2 %



	Elvesyssel	Ranrikeyssel	Borgarsyssel	Oslosyssel	Bragernes len	Tønsberg len	Brunla len	Tiendetaket/ Skienssyssel	Skatlandet	Nomedal	Romerike	Hedmark	Hadeland	Ringjerike	Østerdalen	Gudbrandsdalen	Valdres	Hallingdal	Sum
Grain	35	1330	168	11	33	47	6	20	9	0	108	23	76	20				0	1886
Animalia	193	82	42	0	11	33	18	50	39	9	6	49	2	0	59	60	10	7	670
Money	352	12	1	1	2	3	2	0	0	1	3	3	6	1	0	0	1	0	388
Fish	56	9	2	1	15	2	0	3	0	0	9	0	0	10				0	106
Salt	0	0	6	3	9	10	0	0	0	0		0	0					0	28
Timbers	0	0	3	0	8	6	0	1	0	0	0	0	0	0				0	19
Hunting	0	0	0	0	0	7	0	0	0	1	2	0	0	0	4	0	0	0	13
Other	0	0	0	0	4	0	0	0	0	0		0	0					0	5
Sum	635	1434	222	15	82	108	27	75	48	11	128	75	83	30	64	60	11	7	3114

Tab. 3 and Figs. 4–5. The division of commodities in the royal lands in eastern Norway during the 1500s.

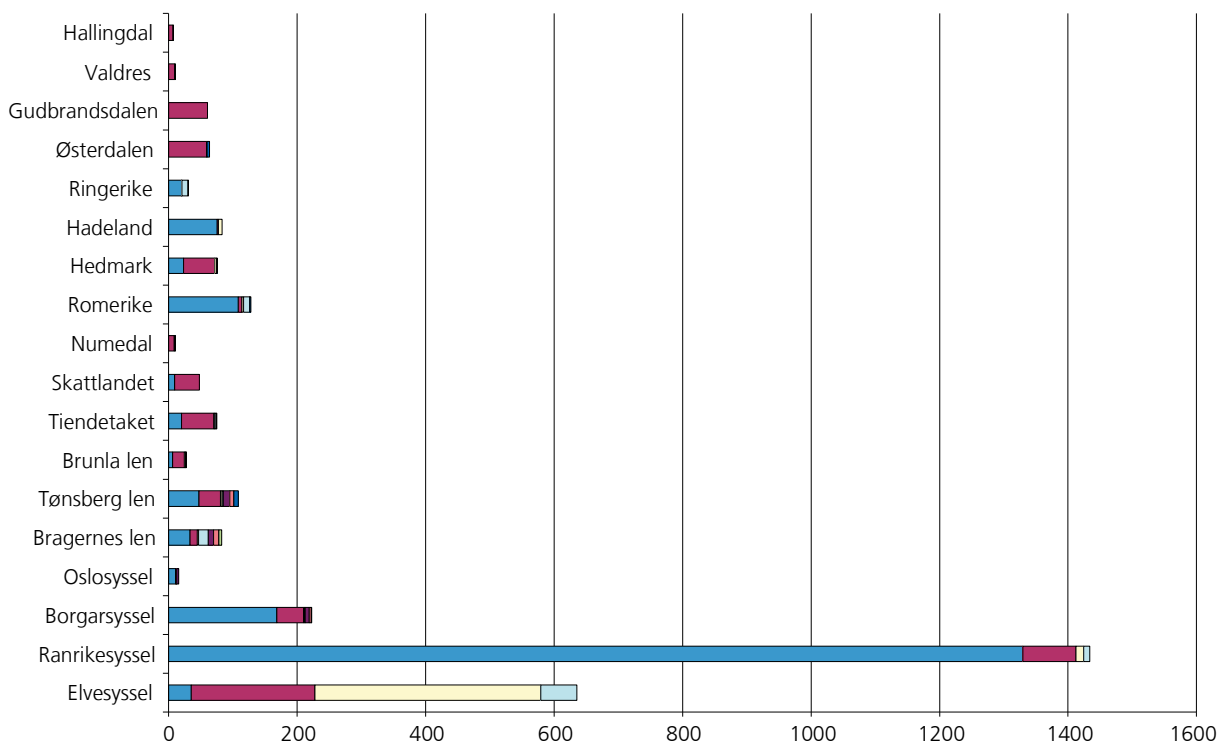


Fig. 4. See Tab. 3.

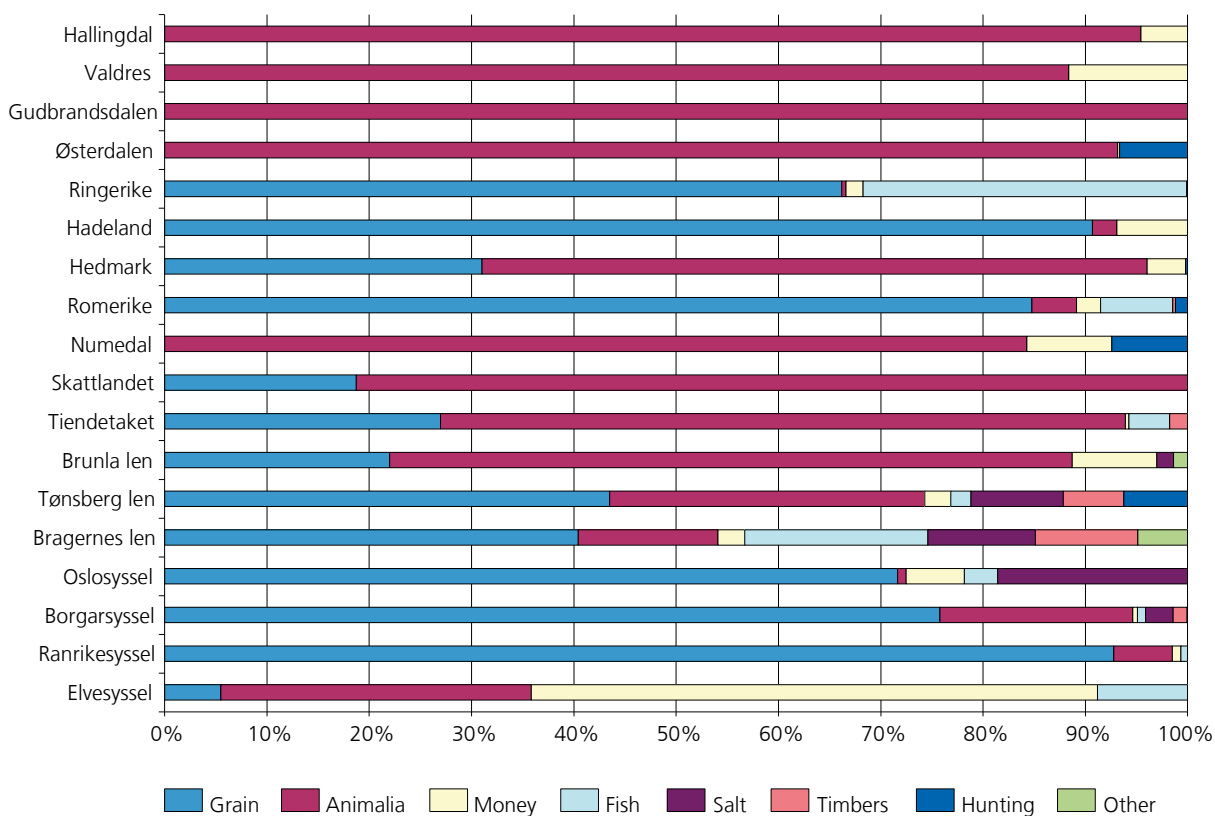


Fig. 5. See Tab. 3.

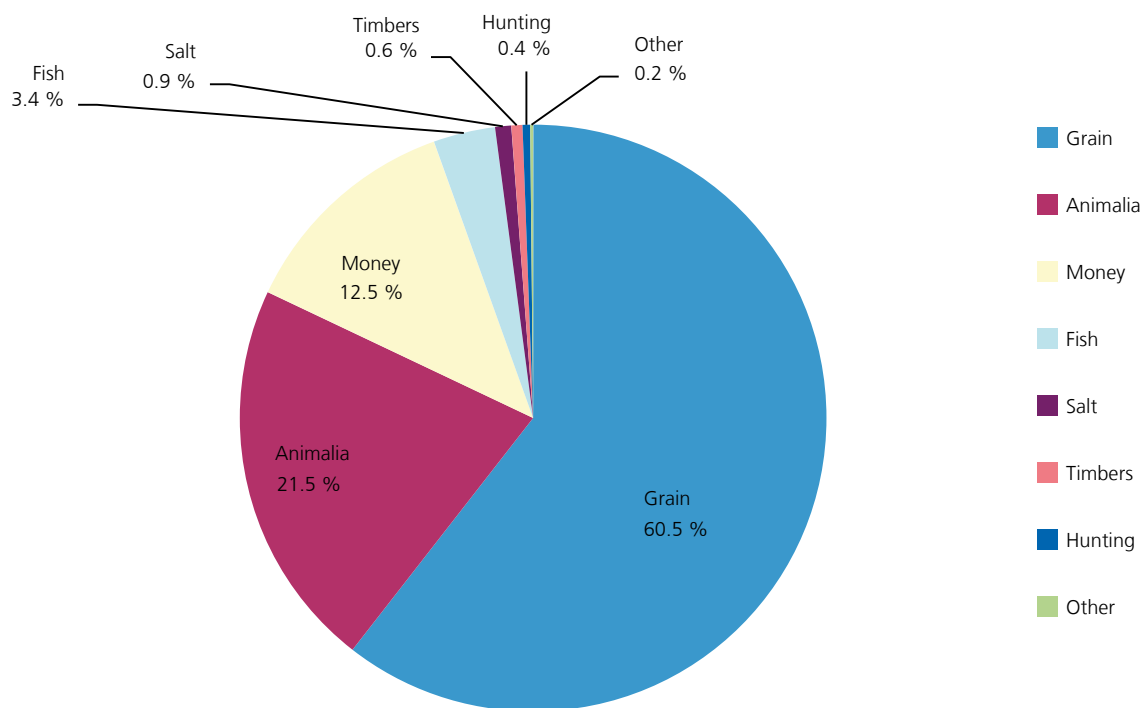


Fig. 6. Commodities, royal land rent in eastern Norway by the end of the Middle Ages.



Fig. 7. The royal villa at Seim, Nordhordland, western Norway. (a) The reconstructed royal estate of Seim; (b) the reconstructed ecclesiastical demesne of Seim; (c) farm names connected with animals and secondary products, perhaps reflecting dues the peasants paid in kind to the king; (d) the distribution of prehistoric graves and mounds near Seim.

Tab. 4. The frequency of “resource-names” on subordinate farms close to the royal villas at Alrekstad, Seim and Fitjar (Hordaland), in western Norway. The difference in numbers between “total number of farm names” and “number of farms” is due to the fact that several farms with different geographical designations have the same principal name, e.g. northern and southern Fyllingen, and such farms are counted as one farm name.

Royal manor	Subordinate farms	Farms with resource names	Farms outside the estate	Farms with resource names	Total number of farm names	Number of farms
Seim	28	12 (43 %)	41	4 (10 %)	70	84
Alrekstad	39	14 (36 %)	152	16 (11 %)	191	209
Fitjar	45	15 (33 %)	48	5 (10 %)	93	103
Sum	112	41 (36 %)	241	25 (10 %)	354	396

Tab. 5. Farm names related to animals, hunting of animals or products of animals at royal land at three royal estates in Hordaland, western Norway. N = 41. Gnr = farm number.

Estate	Farm	Gnr	First occurrence	Basic form	Possible interpretation	Category	Related to
Seim	Kjenes	178	kidra næse (1330–60)	Kið n.	Kid, goat	Animal husbandry	Agriculture
	Okse	150/151	oxa (1330–60)	Oxi m.	Ox	Animal husbandry	Agriculture
	Verland	forsv.	vedralandi (1330–60)	Veðr m.	Ram	Animal husbandry	Agriculture
	Hopland	172	Hopland (1519)	hófr m.?	Grazing of horses?	Animal husbandry	Agriculture
	Haukås	67	Hwgeaassz (1522)	Haukr m.	Hawk	Bird	Hunting/trapping
	Titland	128/129	Titland (1519)	Tita f.?	Small birds?	Bird	Hunting/trapping
	(E)ikeland	168/169	Icornalande (1180–90)	Ikorni m.	Squirrel	Fur	Hunting/trapping
	Oterås	157	askræoðr asa (1330–60)	Askarakki m.? / Otr m.	Fur of otters	Fur	Hunting/trapping
	Hodnesdal	198	Hønsdall (1563)	Horn n.	Horn from cattle	Product of livestock	Agriculture
	Kaperdal	166/167	Kabrethedall (1563)	Kakbretta f.	Kabbretta (cheese)	Product of livestock	Agriculture
	Ryland	173	Rylandt (1519)	Rýr f.?	Handpicked wool from sheep (rýja)?	Product of livestock	Agriculture
	Smørdal	66	Smørdal (1463)	Smör n.	Butter	Product of livestock	Agriculture
Alrekstad	Bjørndal	122	Biernadalir 1427, Biarndal 1490 (1328)	Björn m.	Bear	Fur	Hunting/trapping

(cont. Tab. 5)

Estate	Farm	Gnr	First occurrence	Basic form	Possible interpretation	Category	Related to
Alrekstad	Loddefjord	123	lofdar horne (fjallet), ca. 1330–60, Lødfjorden 1519	Lofdar-fjorðr?	“The prized fjord” because of richness of marine resources?	Fish	Hunting/trapping
	Mathopen	125	Madhob 1600	Matr m.	Food, especially seafood	Fish	Hunting/trapping
	Drotningssvik	136	Drotningssuig 1610 (1603)	Drátr m.	Fishing with net (net)	Hunting	Hunting/trapping
	Kjøkkelsvik	143	Kykeluik 1519	*Kykla f. *kykill m.	Chick or grouse chick	Bird	Hunting/trapping
	Gravdal	146	Grafdalr ca. 1200	Grof f.	Pitfall	Trapping device	Hunting/trapping
	Tennebekklien	147	Tennebechlj 1665	Teina f.	Fish trap	Trapping device	Hunting/trapping
	Laksevåg	151	Laxavåginn ca. 1200 (vågen)	Lax m.	Salmon	Fish	Hunting/trapping
	Hunstad (Kronstad)	160	Honstadt 1563	Hundr m.	Hunt, or Dog animal species, húnn, bear cub, boy, man’s name	Hunting	Hunting/trapping
	Haukeland	162	Hukland 1519	Haukr m.	Hawk, bird, (or *Hauka, rivername)	Bird	Hunting/trapping
	Kobbels-tveit	166	Kabeltuedt 1610	Kópheldr m.?	Net strong enough to hold a seal (kobbe), or *Koppchildr, female name	Trapping device	Hunting/trapping
	Jordalen	214	Jorddall 1519, Hiordall 1535	Hjord f.	Herd, or *Hior, river name	Animal husbandry	Agriculture
	Sælen	22	Selle 1519	Selr m. / Sæla f.	Surplus, richness, or selr m. animal species	Catch, marine	Hunting/trapping
	Fyllingen	23, 25	Fylingir 1427, Öfre Fylinger 1490 (1328), Nedre Fyllinger 1490 (1328)	Fyla f. *Fylja?	Foal, or hidden	Animal husbandry	Agriculture

(cont. Tab. 5)

Estate	Farm	Gnr	First occurrence	Basic form	Possible inter-pretation	Category	Related to
Fitjar	Kalvenes	5	kaluenes, 1606	Kalfr m.	Veal?	Animal husbandry	Agriculture
	Veivåg	6	Weduog, 1612	Veidr f.	Hunt (marine)	Hunting ground	Hunting/trapping
	Årland	16, 17	Orlandt, 1563	Orri m.	Black grouse	Bird	Hunting/trapping
	Valham-mer	19	Valhammer, 1519	Valr m.	Falcon	Bird	Hunting/trapping
	Kvalvåg	20	Qualuog, 1649	Hvalr m.	Whale	Catch, marine	Hunting/trapping
	Hevrøy	21	Haffwerøn, 1519	Hafr m.	Buck	Animal husbandry	Agriculture
	Fugløy	21	Fugleøen, 1647	Fugl m.	Bird	Bird	Hunting/trapping
	Kalvøy, lille	22	Kalfføn, 1519	Kalfr m.?	Veal?	Animal husbandry	Agriculture
	Møkster	23	Mystr, Myster, 1330–60	Mord?	Amount (fish/bird)?		Hunting/trapping
	Hauknes	46	Haukanes, 1328 (1490)	Haukr m.	Hawk	Bird	Hunting/trapping
	Kolbens-vik	58	Hualbeinauk, 1330–60	Hvalbein n.	Whalebone	Secondary product / fishing	Hunting/trapping
	Gaukheim	70	Gugsøenn, 1590	Gaukr m.	Cuckoo?	Bird	Hunting/trapping
	Selberg	øde?	Selberg laatter, 1567	Selr m.	Seal?	Catch, marine	Hunting/trapping
	Ulvesøy	30	Ulvesøen, 1638	Ulfr m.	Wolf?	Fur	Hunting/trapping
	Selsøy	33	Selørne, 1638	Selr m.	Seal	Catch, marine	Hunting/trapping

Tab. 6. Different commodities/resources at royal estates, according to farm name evidence, Hordaland, western Norway.

	Seim	Alrekstad	Fitjar
Fish		Salmon Fish (amount) Trapping of fish (pod)	Trapping of fish
Animal husbandry	Kid, goat Ox Ram Butter Kabbretta (cheese) Handpicked wool		Buck
Bird	Hawk Small bird	Hawk Grouse chick	Hawk Falcon Bird Black grouse
Seal / whale		Seal	Seal Whale bone Whale
Wild game	Squirrel Otter	Bear	
Names of uncertain meaning	Horse (grazing)? Horn from ox?	Pitfall? Fish (amount)? Fish (catch)? Herd? Foal? Dog? Seal-net?	Amount fish/bird? Cuckoo? Wolf? Veal? Veal? Seal?