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Hunters of forests and waters: Late Iron Age and Medieval subsistence and social processes in coastal northern Sweden

Ingela Bergman and Per H. Ramqvist

ABSTRACT
During the course of the 14th century the Swedish Crown and the Catholic Church made robust attempts to include the areas beside the Bothnian bay within their central fiscal and clerical organization. Salmon fishing in the productive river rapids became major targets for external commercial interests. Written records inform us about the situation from the perspective of the exploiters. However, there is a story running in parallel – that of the local population already occupying the lands and the fishing grounds. The study aims to analyse the significance of hunting and fishing to the overall subsistence of coastal communities in northern Sweden during the period AD 500–1600. The social context is of particular interest, specifically in relation to the successive conformation by the local communities to the Swedish fiscal system. The study draws on archaeological records and on historical records from the 14th to the 17th century, in addition to ethnographic accounts for hunting and fishing. We conclude that the legal cultures embraced by the indigenous population and that of the Swedish central powers were in essence incompatible. The acquisition of land and fishing rights was never settled between two equal parties, but one-sidedly enforced by the party holding the pen.

Introduction
During the course of the fourteenth century, the Swedish Crown and the Catholic Church made robust attempts to include the areas beside the Bothnian bay within their central administrative, fiscal and clerical organization. According to the central powers, the northern border of the “settled” areas, meaning areas with permanent agrarian settlements organized into parishes, had reached Bygdeå by AD 1314 (Figure 1) and beyond that was wilderness (Olofsson 1962, 125). Although subsistence strategies among societies further north and in the interior had long included cattle breeding and the cultivation of cereals (Hörnberg, Josefsson, and Liedgren 2014; Josefsson, Ramqvist, and Hörnberg 2014; Bergman and Hörnberg 2015; Hörnberg et al. 2015), in AD 1344 the archbishop of
Uppsala, Hemming Nilsson, nevertheless described the northern population as being “hunters of forests and waters” (Olofsson 1962, 135). Indeed, the shifting cultivation practised by the coastal (and interior) population would have been hard to discern by an outsider, considering the small and scattered cultivated areas. The very productive fishing, specifically of salmon, attracted the commercial interests of the Crown and Church at an early stage, as corroborated by fourteenth-century documents. Later, during the sixteenth century and under the reign of King Gustav Vasa (1523–1560), fiscal records give detailed information about the extent of fishing and hunting produce on northern grounds.

In this study, we analyse the significance of hunting and fishing to the overall subsistence of coastal communities in northern Sweden during the period AD 500–1600. The

Figure 1. Map of the study area with places mentioned in the text marked out.
social context of hunting and fishing is of particular interest, specifically in relation to the successive conformation by the local communities to the Swedish fiscal and judicial system. The areas of investigation include the coastal regions of the counties of Norrbotten and Västerbotten, stretching from the valley of the river Torneälven in the north to the river Umeälven in the south (Figure 1). Contrary to the predominant colonization paradigm (cf. Wallerström 1995a, 149–172 for an overview of the so-called colonization initiative), we make no a-priori assumptions about the coastal population being “Swedish”, i.e. of central Swedish origin or from the southern parts of Norrland. The Iron Age and Medieval coastal communities are examined in relation to historically known Sámi contexts, however, not as oppositional pairs but for the purpose of evaluating the coastal settlement history in an unbiased way as possible. Therefore, instead of applying ethnonyms, the terms “farmer” and “coastal” are consistently used throughout this paper, ending up in a discussion of the socio-economic and cultural context of the coastal population.

We aim to analyse coastal communities by combining archaeological and cultural-geographical methods. The study draws on archaeological records dating back to c. AD 500 and on historical records covering a period from the early fourteenth century to the late seventeenth century. In addition, we take into account ethnographic information about techniques and social relationships in connection with hunting and fishing enterprises in northern Fennoscandia.

**Early historical records and the history untold**

In 1316, King Birger issued a letter confirming the archiepiscopal rights of Uppsala to salmon fishing in the river Umeälven (Olofsson 1962, 133). This is the first of many records with a similar content, relating to possession of land and fishing rights in northern Sweden by the King, Church and nobility: the river Luleälven is first mentioned in 1327 (SDHK 3462), the river Åbyälven (“Sukubyskiu”) in 1331 (SDHK 3801) and in 1335 the knight and nobleman Nils Abjörnsson was assigned the river Piteälven with surrounding land by King Magnus (SDHK 4147). Two years later, salmon fishing in the river Skellefteälven (“Bredabyske”) is mentioned in a will (SDHK 4354) and the River Rickleån appears in a document from 1376. The River Torneälven is (indirectly) mentioned in 1386 when Mrs Catherina Magnusdotter was adjudged rights to salmon fishing in rapids situated in the Torneå parish (FMU 947).

These and other transactions between the King, the nobility and representatives of the Church reflect a massive commercial interest in northern Sweden during the fourteenth and early fifteenth centuries. Taken together, it is evident that fishing, specifically of salmon, formed the main objective of the acquisitions, with land ownership coming next. Evidently, regal and clerical principles of appropriation had already been imposed and applied by the beginning of the fourteenth century, pointing to a history of exploitation further back in time, prior to the earliest written records. Considering the process of establishing contacts with the indigenous population, developing logistics of production, trade and transport, and finally appropriating the fish resources, it is reasonable to assume that exploitation enterprises date back to at least the twelfth century.

Early written records inform us about the situation from the perspective of the exploiters and appropriators. However, there is a story running in parallel – that of the local population already occupying the lands and the fishing grounds. Who were they, what
were their land use strategies and how were communities organized? What was the mode and procedure of external appropriation of resources and who were the agents involved from the local area? This is a history largely untold.

The archaeological record

Archaeological remains and palynological data from the Late Iron Age reveal a diversified economy based on hunting, fishing, cattle breeding and the cultivation of cereals. In addition, coastal communities were deeply involved in exchange and trade, as shown by the numerous kinds of items of foreign provenience (Serning 1960; Zachrisson 1976; Ramqvist 2014a). On the mainland, the archaeological record covering the Late Iron Age is sparse and scattered, including only a very limited spectrum of features such as hearths, cooking pits and graves, generally in the form of stone settings. They have mainly been dated by their altitude in relation to the sea level and, in a few cases, on the basis of $^{14}$C-dates or typologically significant finds (Odencrants 1943; Serning 1960, 77–78, 122–123, 126, 139, 150, 160; Ramqvist and Hörnberg 2015). With the exception of graves, there are less than 20 sites in the mainland areas of the coastal Norrbotten and Västerbotten regions that have been radiocarbon dated to the period AD 400–1200. Although sparse and widely scattered, they display a pattern characterized by their location away from the seashores. However, in the outer archipelago there are numerous sites located on the shorelines of the time. The sites cover a period from c. AD 500 into the Medieval Period (Broadbent 2010, 142–143, 229–230) and include dwelling remains (Sw. tomtningar), situated close to the contemporary shores.

In this study, we focus on clusters of cooking pits by river rapids and sea campsites as representatives of specialized exploitation enterprises, representing two aspects of indigenous land use strategies predating the so-called colonization initiatives of the fourteenth century.

Cooking pits and salmon fishing

Cooking pits are among the most common ancient remains in northernmost Sweden and are found in the interior as well as in coastal areas (FMIS; Edbom, Liedgren, and Nilsson 2001), covering a time period spanning from the Mesolithic to the Late Iron Age, and even into historical times (Bergman 2005, 2008). They are generally between 0.5 and 1 m deep but otherwise vary in size and shape, from small, round pits measuring 1 m in diameter to oval or rectangular pits measuring 2–5 m in length. Regardless of size, they all include a thick layer of charred wood covered by a massive layer of cobble stones (Figure 2). This is a construction offering optimum heat production in combination with efficient heat control. As the bottom firewood burns, the stone layer subsides and eventually blocks the oxygen supply at which point the wood starts charring. During the process, the stones store heat that is subsequently given off over a long period of time, sometimes for several days and nights. Cooking pits are particularly useful for the combined drying and smoking of fish. In parallel with traditional fish smoking techniques applied in northern Sweden, fish were probably split and hung in a wooden structure centred over the pit. Small- and medium-sized pits suggest small-scale preparation of foods, possibly on a household basis. Rectangular pits, on the other hand, extending
between 2 and 5 m in length, point to large-scale preparation of huge quantities of fish. By simply extending the length of a pit, the smoking procedure can be managed in exactly the same way as with small pits. If, instead, the pit diameter increased, tending the central parts of the pit would be much more difficult and would also demand a different type of wooden structure. The construction of rectangular pits, including the digging and the

Figure 2. Rectangular cooking pit during excavation, Kosjärv, Töre parish. The compact layer of fire-cracked stones has been removed exposing the charred wood at the bottom of the pit. Photo Mirjam Jonsson, Norrbottens museum.
collection of cobblestones, the logging of trees, the splitting of firewood, and the preparation procedure itself, represents a significant investment in time and labour.

In June, salmon (*Salmo salar*) start migrating upstream in the northern rivers for spawning. Migrations continue until the beginning of August, reaching a maximum in July (Ekman [1910] 1983, 366–391). Today, many rivers are exploited for water power, with a great impact on fish migration, but until the beginning of the twentieth-century salmon migration extended far into the interior, stopped only by steep rapids presenting too great an obstacle (see Ekman [1910] 1983, Figure no. 10). Salmon appear in enormous numbers, making huge catches possible during a limited period of time. In this context, effective preparation techniques are crucial for the storage of surplus catch. This is where clusters of cooking pits occur, round, oval and rectangular in shape, and thus there is a reason to assume that they are related to the annual fishing of migrating salmon (Figure 3). Small pits suggest the preparation of fish for domestic consumption, the rectangular pits point to large-scale fishing for surplus production. Radiocarbon dates (Figure 4) show that rectangular pits were mainly used during the period AD 500–1100 (Sundqvist and Nygren 1993; Wikström 1997; Andersson 2000, 2003; Jakobsson 2005; Lundberg 2005; Östlund, Palmbo, and Jonsson 2006, 2007; Bennerhag and Norberg 2010; Bennerhag 2011; Bennerhag and Palmbo 2014; Palmbo 2014). Considering the inherent age of the firewood, the actual period of use should probably be put forward to c. AD 600–1200. Fourteenth-century records accounting for land possessions and fishing rights (above) give the names of rivers, but with no mention of specific rapids. However, it is likely that the Crown, the Church and the nobility targeted the most profitable fishing sites, identical to the rapids used in prehistoric, as well as in late historical times. In other words, these were the exact points and places of encounter between indigenous communities and external exploiters.

**Taxation, salmon produce and birkarlar**

The very first taxation record mentioning taxed salmon from the counties of Norrbotten and Västerbotten dates to 1539. The levy included salted salmon given in barrels, and *spickelax*, i.e. salted, smoked and dried salmon, given in numbers (Landskapshandlingar, Västerbotten 1539). It is clear that salt was central to the turnover of salmon and the Crowns’ expenses for salt were painstakingly accounted for. From 1543 onwards, fiscal records include information on the taxation of salmon fishing including sea fishing and fishing in major rivers. Fishing sites are given by their names and among the rapids mentioned are those with clusters of cooking pits. The very same rapids have produced profitable salmon fishing until recently and thus there is evidence for continuous fishing over a period of at least 1500 years. During this time, significant changes occurred regarding production techniques, ownership of fishing rights and trading networks. First, the introduction of salt and hemp meant an increase in production capacity. Second, the Crown had acquired the ownership of a number of fisheries and, in addition, all other salmon produce had become subordinated to the central Swedish fiscal organization. Finally, a wide and efficient trading network evolved during the sixteenth century with the Swedish King acting as the spider in the centre of the web. Fisheries owned by the Crown were managed either by local clergymen or by employed fishers recruited from among the local farmers. Fisheries owned by peasants became subject to taxation at different
points in time and tax rates varied between different fisheries (see Berggren 1995, 47–63 for an overview of the taxation of salmon). An estimate of the total produce of salmon in Västerbotten in 1559 amounts to at least 800 barrels (Berggren 1995, 50), i.e. about 85,000 kg, 1 barrel = 16 lispund (Lewenhaupt 1892, 10) and 1 lispund = 6.65 kg (Morell 1988, 10), highlighting the importance of salmon fishing to the local communities and to the Crown.

There is no information at all about the original possessors of the salmon fisheries (and other resources) in the early Medieval records. In later sixteenth-century records, the tax

Figure 3. Distribution of rectangular cooking pits within the study area. The coastline is set to 10 m above the present sea level corresponding to c. AD 1000.
payers of coastal northern Sweden are registered as farmers in the same way as the general population of Sweden without further information. In his collection of historical notes, the so-called *Sumlen* (1600–1601), the Swedish antiquarian Johannes Bureus (1568–1652), records that during the second half of the thirteenth-century King Magnus Ladulås agreed a deal with the *birkarlar* (i.e. representatives of both coastal and interior communities given a commission of trust, specifically in relation to trading activities, see Bergman and Edlund 2016 for a review of the *birkarla* concept) allowing them to manage the taxation and salmon fishing of the Sámi still living by the coast (*... at the skulle hafva Lapparna som än tå bodde ut medh Botnen medh allan skatten och Laxfisken ...*) (Bureus [1651] 1886, 180). In a record written down sometime during the period 1520–1530 are two passages referring to Sámi being in possession of rights to salmon fishing. One passage mentions the King owning the river Skellefteälven and that a *lapp* (i.e. a Sámi) is present there, with whom the King will make common cause. The other passage concludes that *lisla byskå*, i.e. Åby älv, is used by *birkarlar* on behalf of the Sámi (Berggren 1995, 51). In other words, there are three historical notes on Sámi living in coastal areas and in possession of salmon fisheries. The mention of *birkarlar* in connection with salmon fishing is of great interest and there is yet another passage in the abovementioned sixteenth-century record saying that the river Kalixälven was in the possession of local farmers but that the huge rapid called Kengis (i.e. todays’ Jockfall) was administered by *birkarlar* (below). The role of *birkarlar* in connection with salmon fishing may be

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**Figure 4.** Radiocarbon dates of rectangular cooking pits in the study area. Calibrated average figures.
puzzling, however, salmon fishing for surplus production, aiming at an external market, certainly demanded well-organized logistics and well-informed transactions. Considering the standing of birkarlar as representatives of local communities in connection with internal and external trading activities, the passages make perfect sense. Obviously, the birkarlar were acting as agents and middle-men on behalf of the Sámi fishing the river Åbyälven, and in the case of the Kengis (Jockfall) rapid on behalf of farmers from the Lule parish. There were no birkarlar active in the Kalix area (Bergman and Edlund 2016); and therefore, the Kalix farmers acted on their own.

**Indigenous river salmon fishing**

Fiscal records in combination with ethnographic data on the practicalities and social aspects of salmon fishing in rivers form an interpretative framework around which the context of indigenous fishing and early Medieval encounters may be analysed. In contrast to the very detailed accounts from the period 1553–1558, presenting information on the number and names of farmers fishing in interior lakes (the so-called fjällträskfiske) (Bergman and Ramqvist 2017), there is no corresponding information on the composition of salmon fishing teams. Records covering the period 1553–1558 and accounting for each of the parishes include the names of fisheries belonging to the Crown and their respective tax income. In addition, specific fishing sites are listed (Figure 5) together with the number of nets (or other fishing gear) and the amount of taxed salmon (Landskapshandlingar, Västerbotten 1553–1558). There is no information on the individual fishermen, their home villages or even the number of fishers engaged in salmon fishing. During the period 1559–1570, the information given in tax registers varies from year to year and between the parishes. Most commonly, there is only information about the number of nets and the names of fishing sites, implying that farmers engaged in salmon fishing were not paying taxes on an individual basis.

The 1559 and 1560 records from the Torneå parish may shed light on the organizational principles of salmon fishing. In 1559, there were 199 individuals engaged in salmon fishing including two women (widows). There were 50 teams altogether with a mean number of 4 people per team and each team using one seine (Sw: not) (Table 1). Interestingly, only 59% of the fishers were taxed for their landed property that year (Landskapshandlingar, Västerbotten 1559). By comparing the names of fishers, the names of taxed farmers and the total number of taxed village members (including brothers, sons and sons-in-law not registered by name), it is clear that fishers included village members other than adult male landowners, possibly women, younger sons and henchmen. For instance, in the village of Juoksengi there was a widow, Marit, who was a member of a fishing team, but she was not listed in the census register (Landskapshandlingar, Västerbotten 1559). In 1560, there were 672 (un-named) fishers using 69 seines (Table 1) making a mean of 9.7 fishers per team. In comparison with the previous year, the number of seines had increased by 3.8%, while the number of fishers had increased by 238%. There is no census register covering the year 1560, but in 1561 the number of taxed farmers in the villages involved in fishing amounted to 253. There is only one possible explanation for the remarkable figures in 1560. Seines were commonly owned by teams, almost all village members were involved in fishing and fishing was conducted around the clock. When comparing the size of the taxed salmon yield it turns out that in 1560, the tithes had increased
nearly three times compared to the previous year, corresponding to the increased number of taxed fishers. Altogether, the conclusion must be that village membership, but not possession of land per se, was a prerequisite for fishing rights.

Salmon fishing in the river Torneälven presented unique characteristics as villages were located close to the river banks and were closely linked to the fishing sites. This was not typically the case in the other major rivers. The most productive rapids in the rivers Kalix, Luleälven and Piteälven were situated quite far from the nearest villages and village clusters. Prior to the assumption of ownership of fishing rights by external agencies, there must have been

Figure 5. Salmon fishing locations listed in fiscal records 1553 and 1559. The coastline is set to 10 m above the present sea level corresponding to c. AD 1000.
negotiations and agreements among and between local communities. A letter dating to 1541 illuminates the collective aspects of fishing and the significance of consensus among villages, describing a conflict between farmers from the Kalix parish and birkarlar from the Lule parish over fishing rights in the Kengis (Jockfall) rapids of the river Kalixälven. The letter mentions several birkarlar from the Måttsund and other villages in Luleå parish, (Hederyd 1986, 8) confirming that the birkarla group (hoop) claimed usufruct of the Kengis fishery. Obviously, the Kalix fishers acted jointly against the birkarlar. The Kengis rapid remained in the hands of the local communities with the King settling for a regular tax payment. However, this was not the case with other productive fishing rapids like Ededeforsen (river Luleälven), Fällforsen and Sikforsen (river Piteälven), Bomansforsen and Finnforsen (Skellefteälven) and Sör- and Norrforsen (river Umeälven). Having first been claimed by noblemen and representatives of the Church, they were all in the hands of King Gustav Vasa in the sixteenth century. The Swedish Crown and state have claimed the exclusive rights to salmon fishing in the river Luleälven until today and landownership among village members was never, as far as written records suggest, considered a prerequisite for fishing rights (Olofsson 1934, 55–59).

Common rights of productive fishing among the East and Skolt Sámi of northern Finland are corroborated by seventeenth-century records (Fallman 1912, 8, 49). There were very strict regulations between the different sijda (pl., Lule Sámi language) regarding fishing sites and territorial division (Tanner 1929, 347–357). While the rights to lake fishing were distributed among the individual sijdda (sg., Lule Sámi language) households, productive salmon fishing grounds were collectively owned and the catch distributed among all sijdda members (Tanner 1929, 347–357). It should be noted that the term sijdda in this context refers to the village community as a whole, however, most commonly the term denotes corporate groups corresponding to local bands (for a discussion on the sijdda concept see Manker 1953, 13–17; Odner 1992, 82–83; Mulk 1994, 10–14). In a corresponding way, the disputes over fishing rights in the Kengis/Jockfall rapid (above) strongly point to collective rights among village members. Indeed, the engagement in the matter by birkarlar from the whole parish of Luleå suggests collective rights on an even higher

<table>
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<tr>
<th>Village</th>
<th>Number of fishermen 1559</th>
<th>Number of seines 1559</th>
<th>Number of fishermen 1560</th>
<th>Number of seines 1560</th>
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<td>7</td>
<td>68</td>
<td>6</td>
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<td>672</td>
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</table>

*In addition there were nine fishermen from the Luleå parish fishing at Suensaari in 1560. They were using one net.
social and territorial level, corresponding to Sámi village communities, *tjelde* (pl., Lule Sámi language) including several conjoining *sijda* (Ingold 1978, 151; Ruong 1982, 38–39).

In Lyngen and the Tana valley of northern Norway, old traditions were still being practised during the nineteenth century, stipulating that anyone passing an active fishing site with seines and laying a hand on the seine would have the right to a share of the catch (Solem 1933, 93–94). The Tana river is among the richest for salmon in Europe and traditional fishing among the Sámi was conducted according to common regulations to ensure equal access to fishing among the communities and community members (Leem [1767] 1975, 340–345; Solbakk 2017, 12–13).

In a corresponding way, fishing shares were, and still are, distributed among the fishers and villages by the river Torneälven according to very detailed orders of priority (Portin 1967, 219; Granlund 1975). Today, fishing in the Torneälven river is conducted using so-called *pator*, i.e. fixed fishing constructions made of wood. However, they were introduced during the seventeenth century (Ekman [1910] 1983, 418–419) and prior to that time, fishing was carried out using seines. The special kind of seines, called *kolkar* (Sw., plural form), was specially designed for the fishing in running waters with sinkers and floaters keeping the net floating at a vertical angle and with a large gliding float attached to one end and a rope to the other end (Vilkuna 1975, 291–299). Fishing with *kolkar* required active collaboration between several fishers, some rowing a boat and laying out one end of the *kolk*, and others hauling the other end to the shore. Depending on the size of the *kolk*, each working team included from two to six fishers. It took strength and skill to manage the heavy *kolk* in running waters and it was an activity entrusted to experienced fishers. The significance of fishing teams is illuminated by a note by Johannes Bureus ([1651] 1886, 223–224) on the tradition practised by fishers in the river Torneälven, saying that he who begins fishing with a *kolk* for the first time is obliged to arrange a feast or at least pay for a pint of beer for each of the fishing-team members. The fishers will then honour the new member by trimming a spruce, at least 3.5 m tall and standing by the shore. The superiority of the community collective is further emphasized by the very particular and detailed principles of organizing the fishing enterprises, practised not only in the Torneälven river but also in other fishing waters as well, and of sharing the salmon catch among fishers and fishing teams (Vilkuna 1951, 1951, 47–49, 1975, 94–103, Paulaharju 1966, 59–60; 1975, 149–156; Granlund 1968, 1975). First, the catch was divided into two halves corresponding to the village settlements on either side of the river Torneälven. Second, salmon were separated into as many heaps as there were farmsteads in the village, beginning with the largest salmon and moving on to successively smaller and smaller fish. It was very important that heaps were of equal size and quality. Third, a number of sticks, corresponding to the number of heaps and representing the shareholders, were picked by the shareholders and turned over to a man with his back turned to the heaps. He then distributed the sticks among the heaps and so the shareholders gathered their catch. This procedure, exhibiting archaic traits, was still being practised at the beginning of the twentieth century (Granlund 1968, 1975). Another very old-fashioned custom still practised at the beginning of the twentieth century related to the way the salmon catch was registered, included the use of tally sticks (Paulaharju 1975, 154; Mattsson 2009, 103; see Bergman and Edlund [2016] on the ancient use of tally sticks). Like the division of salmon produce, the fishing and sharing of whitefish at the Kukkola rapid included a number of regulations to ensure fair access and division among the fishermen
and shareholders. In this case, the taxed farmsteads of the Kukkola village jointly owned the fishing rights (Granlund 1940, 65–66).

The term *kolk* is Finno-Ugrian in origin, occurring in the Sámi and Finnish languages (Nesheim 1947, 115–116; Vilkuna 1975, 291–305, 1981, 56; Granlund 1981, 376). The earliest records mentioning *kolk* date to 1347, in connection to fishing in Kumo River, Finland, and in 1437 regarding fishing in the river Torneälven (Granlund 1981, 376; Ekman [1910] 1983, 418). The term is commonly used in Swedish sixteenth-century records, but, to our knowledge, only in connection with the taxed fishing of northern Sweden. Obviously, the Kings’ bailiffs adopted a local term in recording taxes. Place names including *kolk* occur in the Norrbotten and Västerbotten counties of northernmost Sweden, but not further south (www.lantmateriet.se), corroborating an indigenous fishing tradition with a Sámi signature. In this context, it is worth mentioning that the term *kengis*, which appears as the name of two major falls and fishing sites by the rivers Kalixälven and Torneälven, respectively, is Sámi meaning “great waterfall” (Collinder 1964, 84).

In summary, the clusters and chronological standing of cooking pits associated with productive salmon fishing sites reflect surplus production within the framework of a local socio-economic context prior to the time of early encounters with the Swedish King, Crown and Church. On the basis of archaeological and historical data, together with linguistic and ethnographic information, we argue that indigenous and large-scale salmon fishing was conducted at the community level, possibly with representatives negotiating with the external agents. The historical notes on Sámi in possession of salmon fishing and the Finno-Ugrian fishing term *kolk* applied in the taxation records point to a strong cultural affinity between the indigenous coastal and interior populations of northern Sweden.

**Fur hunting and the hunting of reindeer**

The oldest law relating to conditions in northernmost Sweden, the *Hälsingelagen*, preserved in a hand-written document dating to the early fourteenth century, stipulated that each man strong enough to use a bow was obliged to pay two skins, *tu blaskorin skin* (in the original text) to the King as the only mandatory tax (Holmbäck and Wessén 1979, XLIII, 291–298), underlining that hunting formed a significant part of the population’s livelihood. This is further emphasized by sixteenth-century censor registers listing all men able to bend a bow, the so-called *bågamantal*. The bågamantal was adopted by the Swedish authorities primarily for the taxation of the northern farmer population combining farming with hunting and fishing (Jonsson 1971, 242; Hansen 2011, 314–315). Among the huge number of various fiscal records dating to the sixteenth century, there are also the so-called *gråskinntionde*, i.e. tithes paid in the form of the much sought-after squirrel winter coats, and tax records accounting for the fur trade between farmers and Russian traders at the market in Torneå (cf. Friberg 1983, 217–225). The information given in these records includes the names of the individual hunters/farmers, their home villages and the number and types of taxed skins, making it possible to estimate the scale and significance of hunting for fur and skins. In total, 36.7% of all villages were listed for fur taxes, with a clear decrease in numbers following a north–south gradient. Villages situated in the Tornedalen valley stand out, with a huge number of villages taxed for fur hunting (Figure 6). Squirrel, hare, fox, otter and beaver were among the animals hunted for their fur. The fiscal record of 1553 includes a list of 15 farmers (and priests) taxed for one bearskin each
archaeological remains related to the hunting of large and small game include pitfall systems and occasional finds of iron arrowheads and spearheads in addition to osteological material from excavated sites dating to the Medieval Period. The age of pitfall systems in coastal areas is largely unknown and only a few pitfalls have been excavated and dated. A number of pitfall systems, altogether including more than 100 pits, are located in the Floxen area by the river Piteälven, c. 40 km from the coast (cf. Figure 1). One of the hunting pits has been excavated and radiocarbon dated to 2729 ± 37 BP (Ua-46220), corresponding to a calibrated age of 980–800 BC (Liedgren 2013). Much more recent use of as a special token to the King (Sw. hjälpgärd). This was exceptional as bearskins were only occasionally mentioned in the regular taxation registers.

Figure 6. Map showing home villages of farmers paying fur tax in 1557 in the form of squirrel winter coats (Sw. gråskinn). The coastline is set to 10 m above the present sea level corresponding to c. AD 1000.
pitfalls is corroborated by a court record dating to 1662, relating to a disagreement between two farmers of the Byske village in Skellefteå parish. They accused one another of having caused the killing of a horse that had fallen down into a pitfall (Lundström 2004, 174). Both farmers were fined for having prepared their respective pitfalls 14 days ahead of the allowed hunting period for wild reindeer (starting October 1). Whether or not prehistoric pitfall systems were used for the hunting of reindeer or elk, or both, remains an unresolved issue. However, considering the migration of reindeer in a large herd it seems likely that huge pitfall systems were intended for reindeer. In light of the 1662 case and considering the transformation of landscapes due to isostatic land uplift and shoreline displacement, pitfalls occurring within 20 km of the modern coastline may date to the Late Iron Age and Early Medieval Period. It is worth noting that the occurrence of wild reindeer by no means excluded reindeer herding. Wild reindeer were hunted in parallel with the herding of tame or domesticated reindeer (cf. Bergman et al. 2008; Bergman, Zackrisson, and Liedgren 2013) on the introduction of reindeer herding and Ekman [1910] 1983 on wild reindeer in historical times in Sweden). However, the long-term trajectory implied the successive extinction of wild reindeer and a corresponding decline in hunting pits (Ramqvist 2007).

Osteological materials found at the excavated sites of Björsbyn, Nedeluleå parish, and Degerbyn, Skellefteå parish (cf. Figure 1), covering the fourteenth and fifteenth centuries, respectively, reflect the subsistence nature of hunting, fishing and cattle herding (Liedgren and Bergman 2015; Liedgren 2016). Both sites include seal bones and bones of reindeer, either wild or tame. Small game included squirrel (Björsbyn), hare (Degerbyn), capercaillie and wild geese (both sites). Animal bones found at the fourteenth-century marketplace of Kyrkbyn, Piteå parish (cf. Figure 1) reveal a significantly broader spectrum of species, including elk, reindeer, seal, bear, wolf, fox, marten, squirrel, hare, beaver and unspecified bird species (Wallerström 1995b, 82–83). The many fur-bearing species at Kyrkbyn correspond to the species listed in taxation records two hundred years later. Beyond doubt, the fur trade played a prominent role among Medieval coastal communities.

The organization of hunting and trapping

Prior to the introduction of the so-called mönsterbyordningen in 1742, imposing general regulations controlling village communities, internal village matters were settled according to old custom (Isaksson 1967, 79–92, 119, 125–127). The areas surrounding village infields formed common land and there were strict rules regulating hunting and fishing activities (Isaksson 1967, 29, 65, 344, 353–360). Individual hunters could set out traps following certain “trap trails” (Sw. fångststigar or fångstlinor) on common lands and, with the consent of the village community, the catch belonged to the hunter (Nordberg 1965, 242–246; Isaksson 1967, 353–354). In general, trap trails were common property while the actual traps could be either private or commonly owned (cf. Enequist 1935, 156; Nordberg 1965, 246).

Detailed information on the hunting of large game among coastal communities is lacking. However, in parallel with the organizational principles of salmon fishing (above), the practices and regulations among Sámi communities concerning the hunting of large game may offer an insight into the social and organizational context for coastal hunters. Among the East and Skolt Sámi in northern Finland (and northwest Russia), there was a territorial division between Sámi communities with common lands accessible to community members (cf. Fellman 1912, 26; Tanner 1929, 358–362;
Tegengren 1952, 104). The general practices in connection with hunting large game included the distribution of quarry among community members according to their stipulated shares (cf. Fellman 1912, 2, 13, 58, 60 and 67; Tanner 1929, 358–362). Beaver hunting was a common concern and new members of the hunting teams were obliged to swear an oath promising to respect old regulations and to account for all hunted beavers honestly (Fellman 1910, 242, 1912, 83; Tegengren 1952, 104–124). Within the entire Sápmi area bear hunting involved strictly orchestrated ceremonies involving all members of the sijda communities (Schefferus [1673] 1956, 261–270; Fjellström [1755] 1981; Drake 1918, 333–342; Paproth 1957). Later, during the nineteenth and early twentieth centuries, bear hunting in interior northern Sweden, by Sámi and Swedish settlers, included regulations about the distribution of shares and rights. It was common practice that all members of a hunting team had the right to equal shares; however, the owner of the taxation land (Sw. lappskatteland) received a share even if he had not participated in the actual hunt. Had he participated, he was entitled to a double share. The hunter tracking down the bear was entitled to the bear skin (Zetterberg 1951). Among the Skolt Sámi of northern Finland (and Russia), there were corresponding rules and regulations related to the hunting of bear (Tanner 1929, 361–362). Taken together, information on the social aspects of Sámi hunting traditions reveals a high degree of collectivism. Reading between the lines, historical and ethnographic accounts of coastal hunting practices in coastal northern Sweden point in the same direction.

Coastal campsites and maritime hunting and fishing

During the Iron Age, regular sites with hut foundations were established in the outer archipelago, exhibiting traits that lack analogues on the mainland. These sites occur along the Fenno-Scandinavian coasts and have been the subject of earlier research to some extent (i.e. Hallström 1942; Varenius 1978; Lindström and Olofsson 1993; Norman 1993; Broadbent 2010). To date, 244 sites in the Norrbotten and Västerbotten counties have been identified, with a total of 713 hut foundations included in the Swedish national register of ancient remains. On average, there are 2.9 foundations per site. In addition, there are 243 registered fishing camps (Sw. fiskelägen) characterized by the foundations of small houses/cabins, the foundations of racks for drying nets, boat landing places and storage constructions (Riksantikvarieämbetet 2014, 16–17).

The isostatic land upheaval and related shoreline displacement present a method for analysing the time scale of the sites in a broad context. We considered sites with hut foundations (n = 244) with regard to altitude and accordingly 122 sites were attributed to the first millennium AD, corresponding to altitudes between c. 10 and 20 m above the sea level. The 19 sites situated below 5 m a. s. l. (Figures 7 and 8) and closest to the present day shoreline are fishing camps dating to the seventeenth to twentieth centuries AD (Figure 9). The huge majority of sites (86%) were used during the period AD 500–1500, raising the question of whether they represent similar hunting and fishing activities throughout the period or if there were changes in fishing and seal hunting methods. First, there is a difference in the general outline of foundations. Older hut foundations are more often rectangular or square in shape, slightly larger and seemingly more well-built than the round or oval foundations typical of later periods (Norman 1993, 45). Secondly, boat landing places (Sw. båtlänningar) and/or stone supports for net-drying racks (Sw. gistgårdsrösen) are frequent at
younger sites, while older sites are situated in highly exposed locations lacking suitable boat landings. The lower the sites, the more frequent are boat landing places and net-drying racks (cf. Lindström and Olofsson 1993, 63). The importance of the outermost locations is best illustrated by sites in the upper parts of the Bothnian Bay, where shoreline displacement is most clear (Figure 8). Radiocarbon dated hut foundations \((n = 15)\) (Broadbent 2010, 143, 229–230) confirm to the general chronological outline based on altitudes.

The lack of organic construction elements makes hut reconstructions difficult. The cleared floor areas and surrounding stone walls represent investments of time and labour, demonstrating the significance of the sites. In contrast to the sixteenth-century seal hunting locations listed in taxation records, which are mostly located quite close to the mainland, the prehistoric sites are found in extreme locations farthest out on the coast (Figure 8(a)). This is as close as one can get to the zone where the solid ice sheet first breaks in spring (Sw. landvred), attracting huge numbers of seals. In addition, these are also strategic locations connected to the fishing of Baltic herring \((Clupea harengus)\) during summer and autumn, as shown by the many recent fishing hamlets (Figure 9). Considering the location on islands in a marginal ecotone, the sites were undoubtedly inhabited only on a seasonal basis.

Archaeological investigations have produced a rich osteological record providing evidence of the extensive hunting of seal, mainly ringed seal (Broadbent 2010, 225–228). Fish bones were not observed, possibly due to the poor preservation or excavation

**Figure 7.** Diagram showing sites with hut foundations in the Norr- and Västerbotten counties in relation to the present day shore line.
procedures that did not include the appropriate sieving of material. In addition, bird hunting and the collecting of eggs and down was, in all probability, carried out as in more recent times (Storå 1968), however, only a few bone fragments of unidentified bird species have been found at the excavated sites (Broadbent 2010, 225–228).

Altogether, changes in the outline of sites from c. AD 1000 suggest changes in exploitation strategies, from seal hunting during early spring, possibly in connection with fishing under the ice, towards large-scale fishing for Baltic herring (and salmon) during summer and seal hunting during autumn and spring. The changes may be interpreted in terms of a successively stronger emphasis on surplus production for sale. During the Late Medieval Period and into early modern times, the significance of sea fishing and seal hunting seems to have been more pronounced in the northernmost parts of the area studied (Figures 8 and 9).

The organization of seal hunting and sea fishing

Historical records in combination with ethnographic accounts may offer a clue to the size and organization of seal hunting teams in earlier times. Sixteenth-century records account for seal hunting carried out in the inner parts of the archipelago during autumn using boats and nets. Taxation records list the villages involved in seal hunting, the names or numbers of hunters, the names of hunting grounds and number of boats, nets and seals. The information varies quite significantly from year to year and between parishes, however, the tax rate is consistently given in blubber weight throughout the years. By mapping villages involved in interior lake fishing (Bergman and Ramqvist 2017) vis-à-vis seal hunting, a distinctive pattern appears, showing that the two enterprises were generally not combined (Figure 10). Obviously, there was a division of land use strategies.
Seal hunters sometimes worked on their own, but more often in teams of two to four people, sometimes more (Landskapshandlingar 1553–1561). Team composition was flexible and varied from one year to the next. Seal hunters from different villages could join up in the same team and different teams could join in hunting on the same grounds. In all likelihood, the composition of spring hunting teams followed the same organizational principles. Maps and taxation records dating to the late nineteenth century show that fishing grounds and camps were generally situated on land governed by the state, so-called kronomark (cf. Piteå socken, 1875–1879), although some of the islands were village common grounds (Olofsson 1919–1920). Obviously, the state claimed ownership of resources that were originally regarded as common lands and waters by the local communities. Maritime salmon fishing was conducted either in common waters or in village-owned waters close to the village grounds. The organization of salmon fishing in the late

Figure 9. Map showing the distribution of hut foundation sites dating to AD 1100–1500 in relation to fishing camps and seal hunting locations listed in fiscal records the years 1559 and 1561. The coastline is set to 10 m above the present sea level corresponding to c. AD 1000. There is no strict formal distinction between hut foundation sites and fishing camps according to the national register and therefore the fishing camps are also included.
nineteenth century at the Holmön village of Umeå parish may reveal old structural traits practised in general among the coastal communities. Land ownership formed a prerequisite for salmon fishing in the village waters and the number of nets allowed was proportional to the size of the farms. In practice, the farms held equal shares and the particular fishing sites were shifted among the teams according to a meticulous system aiming at as fair a division of the salmon catch as possible (Sandström 2000).

Fishing hamlets used by fishers (and seal hunters) during the late nineteenth and early twentieth centuries were inhabited by several teams from different villages in connection with fishing for salmon, whitefish and Baltic herring during spring and autumn (Olofsson 1919–1920). During summer, whole families would move to the hamlets and take part in the fishing enterprises. At Stor-Räbben in Piteå parish (cf. Figure 9), with campsites covering a period from AD 600 onwards (Broadbent 2010, 124–130), there were 19–20 families living on the island over the summer at the beginning of the twentieth century (Olofsson 1919–1920). One has to bear in mind, though, that during this period the fishing for Baltic herring was almost at an industrial scale, thus demanding much labour (Berggren and Stenberg 1999). The size of hunting teams staying at the prehistoric and early Medieval camps can only be roughly estimated. Broadbent (2010, 154) proposes that 15–25 people may be an appropriate figure based on the assumption that three to five huts were inhabited at the same time with households including five people on average.

The flexible composition of sixteenth-century seal hunting teams and their joint seal hunting grounds on common lands are best explained by a long tradition of common usufruct, similar to the organizational principles of salmon fishing. At the end of the nineteenth century, there were still very strict rules in practice regulating the life at fishing (and seal hunting) hamlets, underlining the authority of the community collective (cf. Jirlow 1921). Similar to the Swedish side of the Bothnian Bay, seal hunting formed a prominent part of the subsistence activities of the coastal population of Österbotten in Finland (Tegengren 1970; Friberg 1983, 124ff). According to old custom, the seal catch was split into equal shares among the members of a hunting team as well as between several associated teams (Nikander 1922). The procedures for allocating shares were
almost identical to the sharing of the salmon catch in the river Torneälven (above), indicating a common set of values and legal culture generally applied among Bothnian communities. As in the case of river salmon fishing, there are Sámi terms related to seal hunting. The Sámi terms *alge*, meaning a male seal, and *morsa*, meaning a female seal, were commonly used among the otherwise Swedish-speaking fishers of Västerbotten until the twentieth century (Nesheim 1953; Korhonen 1989), pointing to a Sámi link.

**Exchange, trade and inter-regional networks**

During the Late Roman Iron Age and the Migration Period (c. AD 200–600), several of the petty kingdoms in Scandinavia based their inter-regional contacts and alliances on much in-demand and prestigious commodities (cf. Ramqvist 1991). The interacting regions included areas as far as the north Pontic, Central and Western Europe. The well-preserved chamber grave at the central location of Högom in Central Norrland, erected c. AD 500 for a petty king, includes a huge number of grave gifts reflecting a wide sphere of interaction (Ramqvist 1992, 31ff, Pl. 2-108). In addition to the many exclusive artefacts, there were furs from bear, beaver, marten, sable, ferret, reindeer and seal, showing the significance of exclusive furs from boreal areas as symbols of high status.

The Högom grave represents one of the northernmost Nordic petty kingdoms of the time, reaching as far as to northern Ångermanland and characterized by sedentary agricultural settlements. Further north, artefacts of Nordic origin corroborate the significance of the Bothnian coast as an area of contact (cf. Serning 1960; Ramqvist 2014a). This is further emphasized by palaeoecological data indicating the occurrence of sedentary agriculture around AD 500 (Josefsson et al. 2017). Early farms were probably related to fur exchange activities during the late fifth and sixth centuries AD in the same way as frontier settlements in Central Norrland during the second-century AD (Ramqvist 1991). The outermost site of Nordic character is situated at the mouth of the River Sangisälven, at the historical and present-day border between Swedish and Finnish speaking populations (cf. Figure 1). The site includes a grave mound dating to the seventh-century AD with its closest parallel in Ångermanland. Excavations at the site showed no indications of the three-ailed or frame-work house constructions typical of Nordic settlements and there were no indications of contemporary cereal cultivation (Ramqvist 2014b; Ramqvist and Hörnberg 2015). Instead, the site is interpreted as a seasonal outpost inhabited by traders from coastal Central Norrland. The early phase of scouting and agricultural settlements, initiated by the demand for prestige goods such as furs, is characterized by inter-regional networks of exchange rather than formal trade. However, during the course of the eighth-century AD, trade nodes in Scandinavia as well as in western *Rus* were established, for example, Birka in Sweden, Hedeby in Denmark, Kaupang in Norway, along the southern shores of the Baltic Sea and Staraya Ladoga in Russia. By this time, archaeological finds of western, southern and eastern provenience support the suggestion that there was intensified contact between northern communities and trading networks (cf. Ramqvist 2007, 2012), perhaps similar to the networks during the Medieval Period. The degree of interaction and influence of the urban nodes on the local communities of northernmost Sweden during the Viking Age and Early Medieval Period has not been fully examined, but it is clear that when Novgorod grew stronger during the course of the eleventh century, the competition between Russian, Danish-Norwegian and Swedish interests
was very intense in the northern part of the study area (cf. Lundholm 1991; Wallerström 1995a, 251ff; Roslund 2016).

Thus, the market for northern products would have increased significantly, and would have been subject to fierce competition, catalysing surplus production and specialization among the indigenous, local communities of northern Sweden. The intensified salmon fishing and seal hunting should be seen in this context. The prospering trade, characterized by mutuality between the parties rather than the subordination of the northern suppliers, continued until the Early Medieval Period, at which point a number of marketplaces were established along the Bothnian coast (Huggert 1978; Grundberg 2006). They may be interpreted as an attempt by the central powers, in close cooperation with the Catholic Church, to gain full control over trade and taxation.

Conclusion

The earliest written records presenting information on encounters between external agents and the indigenous coastal population of northernmost Sweden date to the first half of the fourteenth century. From the point of view of content, they corroborate reports of an already existing and established division of land and fishing rights among the colonizers. However, the legal relationships vis-à-vis the local communities are never touched upon and the indigenous population is totally invisible. The transactions accounted for in the records are links in a chain leading back to prehistoric times. By focussing on the major salmon river fisheries that, apparently, first attracted external interests we aimed to identify the time when such encounters began. The large, rectangular cooking pits, representing an indigenous preparation technique, were frequently used between the seventh and twelfth centuries (Figure 4) and thereafter their use ceased. We suggest that this period marks the time of intensified and regular contact leading to the acquisition of land and fishing sites by the external exploiters.

The time and course of land acquisition at any particular site may have followed the same procedure as in Arnemark, Piteå parish, situated beside the productive rapids of Sälforsen on the river Piteälven. Pollen analyses show that during the period AD 300–700 there were indications of low impact land use and semi-permanent settlements used on a seasonal basis (Hörnberg, Josefsson, and Liedgren 2014). The vegetation was mainly forested at the time and only affected by humans in a limited way. During the period AD 700–1325, changes in vegetation suggest that the area was increasingly used by humans and that grazing and trampling increased. Permanent cereal cultivation started between AD 1300 and 1350 (Hörnberg, Josefsson, and Liedgren 2014) marking the requisitioning of land and fishing rights by Swedish colonizers.

We propose a scenario in which local communities began to link up with external trading networks during the Migration Period, turning over surplus production of sought-after commodities such as furs and smoked salmon. This exchange turned into more formal trade when the inter-regional trading networks became established during the eighth century. The actual fishing enterprises and the preparation of fish produce were in the hands of the indigenous coastal population and trading contacts were administered by local agents, possibly taking on the role of birkarlar as occurred during later periods (Bergman and Edlund 2016). From the eighth century, demand and surplus production increased, eventually attracting powerful interests such as the Catholic Church,
the Crown and the nobility, all acting as entrepreneurs within a well-developed and extensive market. At this point in time, the indigenous coastal populations were presented with an option of increasing the turnover because they gained access to large supplies of salt (Yrving 1968) and to the trading infrastructures that were established during the thirteenth century. Using salt meant that fish and other animal produce could be preserved in enormous quantities. As a consequence, the use of rectangular cooking pits in association with the preparation of salmon ceased and, for the same reason, campsites were established in the outer archipelago focussing on large-scale fishing for Baltic herring. Seal hunting during spring gradually ceased in favour of extensive hunting with nets during autumn and was conducted closer to the mainland.

The productive river rapids became major targets for external commercial interests. Considering the huge quantities of salmon migrating upstream, there would have been no reason for rivalry between the parties, but rather an incentive to co-operate for mutual benefit. However, the external powers had long conformed to a legal system based on land ownership as pivotal to fishing rights, and thus the Catholic Church, the Crown and the nobility were competing among themselves. In fact, the legal cultures embraced by the indigenous population and that of the Swedish central powers were in essence incompatible. During the course of the fourteenth and fifteenth centuries, the colonization process proceeded by increasing land ownership, the establishment of courts and by progressively imposing Swedish administrative and fiscal structures on local communities. Under the reign of King Gustaf Vasa, the Swedish judicial system was implemented in full, including the subordination of customary and non-statutory rights among the indigenous local communities. In this respect, the acquisition of land and fishing rights was never settled between two equal parties, but one-sidedly enforced by the party holding the pen.

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