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Beritzholm

A non-intrusive survey of the earthworks and landscape of an early medieval castle

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Abstract

Beritzholm, a medieval castle in Scania, southern Sweden, is studied through historical sources, maps, and through a DGPS elevation survey. Its historical and geographical context is taken into account in order to advance the knowledge of the site, which has never been excavated. The castle was in use between the 14th and the 16th century; it was a royal stronghold which functioned as the administrative centre of Färs *härad* (hundred). Today, only the earthworks remain: a double-motted structure with moats and earthen walls.

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1 Introduction

This thesis discusses the medieval castle of Beritzholm (FMIS Östra Kärrstorp 1:1). The site lies just north of the village Bjärsjölagård, in central Scania (see fig. 1). There are no remains of standing superstructures of the castle, but earthworks with moats and mounds are clearly visible in the landscape. The choice of Beritzholm as a subject for this thesis was based on the need to advance the knowledge about the monument, as no archaeological field work has been conducted at the site. The site is little known, even to the local population, as it is remotely located and the access is through the estate belonging to the 18th century manor house at Bjärsjölagård. This thesis gives an overview of Beritzholm's history, its location in the landscape with surrounding medieval settlements; it will also provide elevation maps for the site.

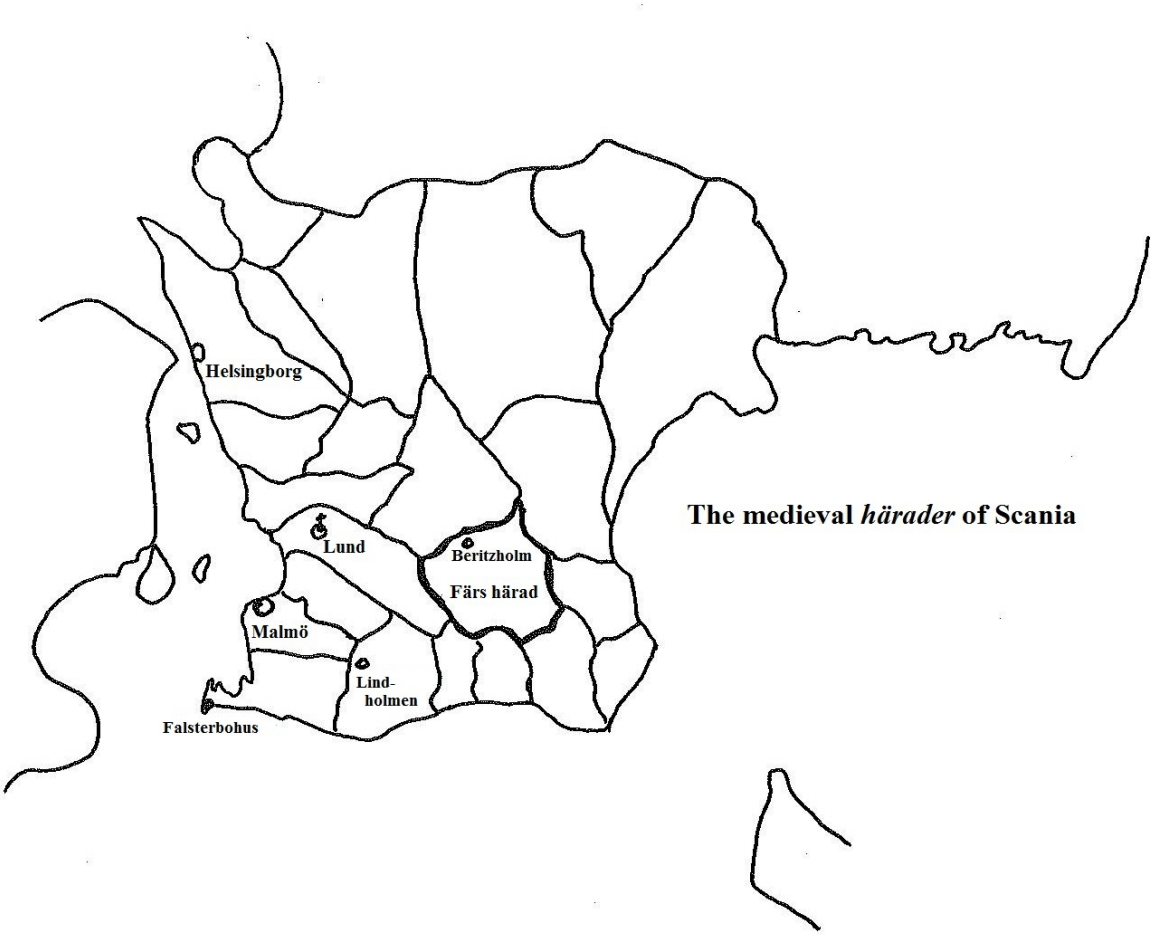


Fig. 1 Map: the medieval *härader* of Scania (after Steenstrup, 1896:452f).

1.1 Aims and research questions

Very little work has previously been conducted concerning the castle; the main aim of this study is to advance the understanding of the site. A survey will be conducted, with the aim to create reliable elevation data through the use of a DGPS (differential GPS), and combine other available information to further study the medieval castle and the landscape surrounding it, as well as visualising the monument through computer applications.

- What is the historical and geographical context of the site?
- Which settlements in the surrounding landscape made up its hinterland?
- Can the present day features of the castle lead to a plausible reconstruction?
- What information about the castle can be gained through digital techniques?

1.2 Methodology

Initially, relevant literature and maps will be studied. A field survey will be conducted using a DGPS, photographs of the site will be taken and the immediate landscape around the castle will be considered. Information acquired from *Riksantikavarieämbetets Fornminnesregister* (FMIS) and *Lantmäteriet/Digitala Kartbiblioteket* will be used in GIS (Geographic Information System) software to elaborate the data, as well as create a terrain model using the data from the survey. The research limitations of the study will be to limit the review of the settlements surrounding the castle to the immediate hinterland, instead of the entire historical castle province. A DGPS, instead of a total station, will be used. The data from a total station survey would be similar to the data provided by a DGPS survey; as a DGPS was available through Lund University, the total station was excluded. The information gained during the survey will be analysed using GIS software, and survey maps and models will be produced. Kriging, a more complex process of interpolation, will be used on the data set values, to average the values in order to create smoother surface models (Conolly & Lake, 1996:97ff). Due to the non-invasive literature study and GIS survey, no conclusive data as to the construction and function of the castle superstructures can be gained; it can however be theorised on the above.

1.3 Theories

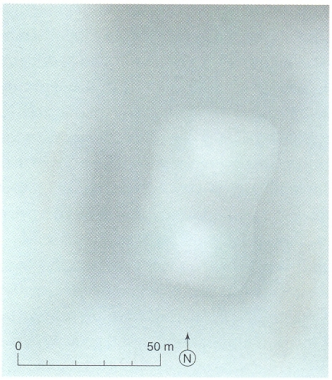
When researching the site of the castle, ideas from central place theory and spatial analysis have been kept in mind. Central place theory was established in the 1930s through a study of medieval towns in southern Germany and their interaction with the hinterlands, in economic terms, as well as considering the effects of infrastructure and topography on the economic structures (Christaller, 1966). Spatial analysis in archaeology is used to discuss the outlay of a site and the patterns of use, as well as placement of sites in the landscape (e.g. Hodder & Orton, 1976). The location of Beritzholm may appear to be remote in the present day. Its location in a past landscape can be studied by combining an overview of other medieval sites in the vicinity and an application of thoughts inspired by spatial analysis and central place theory. By using ideas from access analysis, the outlay of the castle and the functions of the different areas can be considered. This approach has been successfully applied on medieval structures by studying the outlay of structures and the connecting points of access between rooms, the relative ease of access between areas, and interpreting them in terms of freedom and control, privilege and privacy (e.g. Richardson, 2003).

2 Literature study

This section gives an overview of the site in its present condition, its historical background, and a description of its historical context. Other medieval settlements in the area are presented, as well as castles of similar functions and construction.

2.1 Research history

The research history of Beritzholm is short. Very little academic work has concerned the site: it was described by antiquarians in the 19th century and by local historians during the last century (e.g. Persson, 1966). A geodetic distance meter survey has been made (see fig. 2), but the result of this does not yield a clear image of the site's structures (Ödman, 2002:48).



Beritsholm ritad efter geodimeter-uppmätni LUHM:s arkiv. Skala 1:2000.

Fig. 2 Geodetic distance meter survey (Ödman, 2002:48).

The first antiquarian interest in the site dates from the 1600s. In the early 17th century, all priests were requested by the Crown to account for all features of historical interest in their parishes (Ödman, 2002:10). This resulted in a collection of letters, *Prästrelationererna*, from the year 1624. In the relevant letters, the castle of Beritzholm is described. "..In the same forest there has been a beautiful large castle, which is still to this day called Birridzholm / and, which the Elders say, have had its name by one called Birring or Birting / who had it built [*sic.*]" (translated by the author after Tuneld, 1934:55). Furthermore, the castle is described as built in three parts, one with the main castle, one with a byre, and the third with a garden. The parts were separated by water-filled moats, and connected with drawbridges. Outside of the castle islands were two deep moats and walls, where the outer moat was filled with water by the surrounding lake. The lake had surrounded the castle on all sides, and was rich with fish, but already in 1624 more than half of it had disappeared (Tuneld 1934:56). In the notes to *Prästrelationerna*, Tuneld describes the lake as a peat bog in his day (1934:224). In the letters, the castle is said to have been destroyed during Axel Gyllenstierna's time (latter half of the 16th century), and that later a barn was built not far from there. This is the first mention of the current manor in historical sources (Tuneld, 1934:56, 224).

Gustav Ljunggren travelled extensively in Scania during the mid 19th century and compiled a book on the Scanian castles and manors. In the chapter about Bjärsjölagård, he describes the site at Beritzholm. He claims there to have been a square castle building on the larger motte, and a round tower on the smaller. The walls surrounding the moat opened to the south-east. Next to the opening, he claims there to have been a ravelin with a gate tower, inside of the outer moat. Through the bog surrounding the castle on the land side, presumably to the south

and east, there was a stone-filled road leading to the castle. Perhaps this can be tied to a road (Östra Kärrstorp 10:1) in the FMIS register, which is described to be heavy with stone (see fig. 6). Ljunggren describes fragments of ruins above ground on top of the mottes, but on some parts he only sees "the shifting shape of the grass" (Ljunggren, 1852-63: vol. 7, p. 1). Nils Månsson Mandelgren visited the castle in 1880 and surveyed the site (Ödman, 2002:46). His watercolour plan of the site may provide an insight in how the now destroyed earthworks were shaped (see fig. 3).

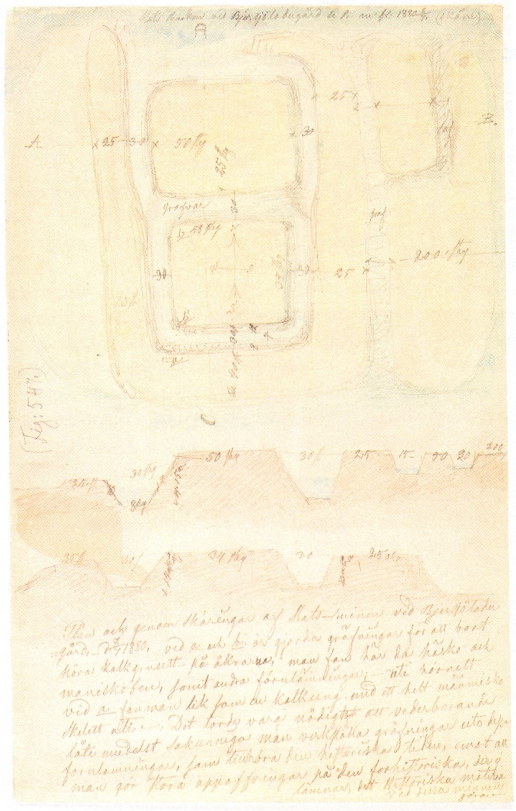


Fig. 3 Mandelgren's watercolour plan (Ödman, 2002:47).

2.1.1 Site description

The site is located just north of the village of Bjärsjölagård in central Scania. There is a Swedish National Heritage Board (RAÄ) rune sign on the main road in the village indicating the way to Beritzholm; the site is accessed by a gravel road directly to the west of the exhibition grounds of the 18th century manor at Bjärsjölagård. The road leads through the estate; about a kilometre further to the north-west there is a sharp bend in the road, where there is a RAÄ information sign about the castle. The sign is next to a gateway through a

fence, which surrounds the site. The site is now occasionally used as pasture. Beritzholm is made up of two square mounds with surrounding moats and earthen walls. It is situated next to a marsh, a drained lake.

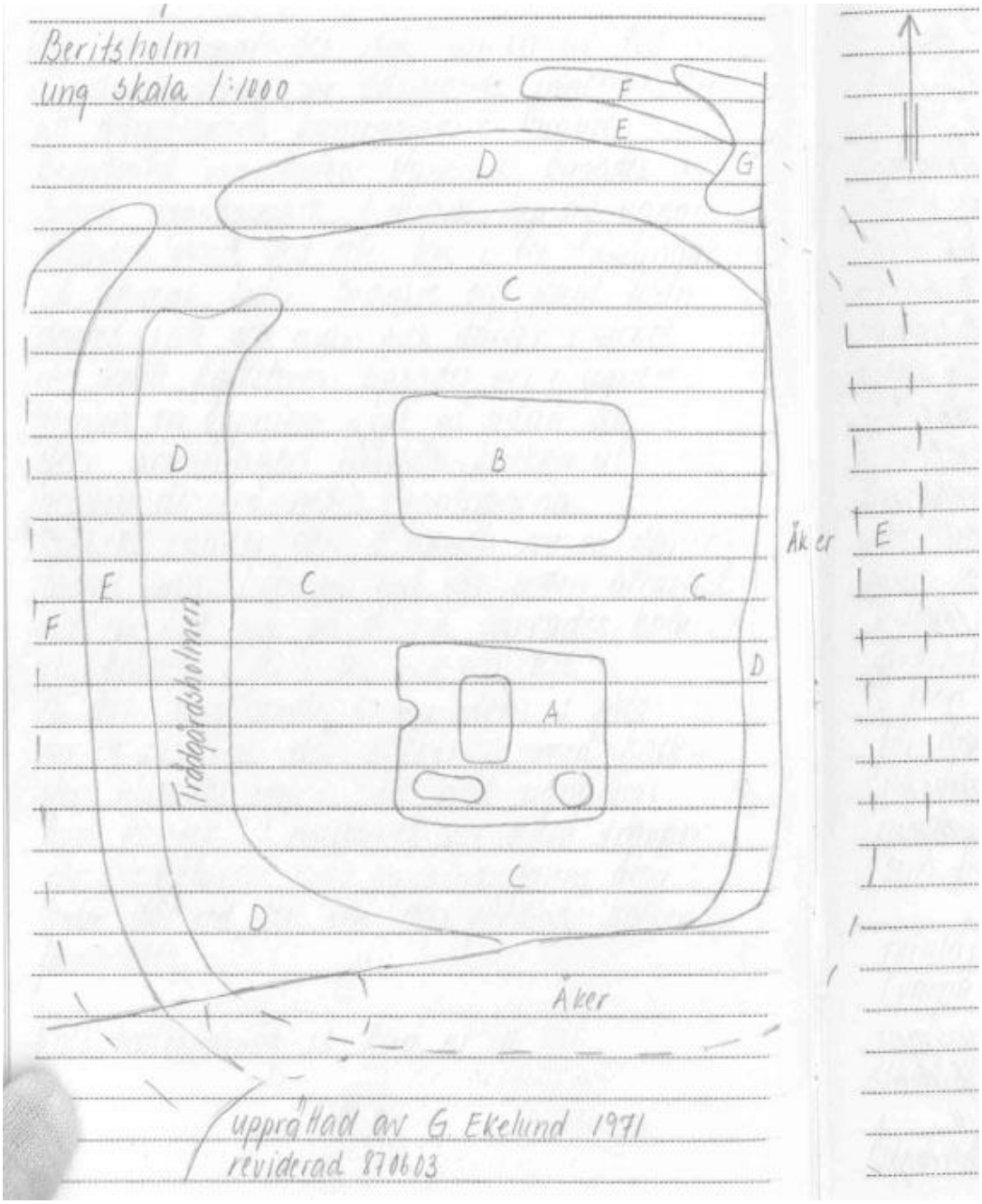


Fig. 4 FMIS surveyor's plan (Östra Kärrstorp 1:1).

The castle appears to have been a double-motted structure. A motte is a type of castle construction, consisting of a man-made earthen mound, on top of which a fortification was built. Although no ruins of any superstructure are preserved, the site is impressive in the scale

of its earthworks. The height differences of the features may have evened out through time and erosion, but it still makes a considerable impact in the landscape.

The two mottes are separated by a moat, and they are surrounded by a deeper moat. The inner moat is surrounded by an earthen wall. To the west, there is a smaller second moat and wall, outside of the earthen wall. To the east, most of the inner wall as well as the outer wall and moat have been incorporated into a field, and have been ploughed out (appendix, image 11, 13-15). This outer area is registered as Östra Kärrstorp 1:2 in the FMIS register, whereas the inner area is Östra Kärrstorp 1:1 (fig 6). The area measures c 120-130 by 100m in a north-south direction, but was originally about 150 by 135m (figs. 4 & 5).

The two mottes are uneven at the top, with some vegetation of large trees. The northern motte, c 34 x 20m in size and 2.5-3m tall, has a large, unevenly shaped depression in its centre. The southern plateau measures 30 x 25m and is about 3m tall, the centre of the motte has an oblong depression in a north-south direction, with three large stones aligned in the southern end. There is also a round pit covered in smaller stones in the south-east corner of the southern motte (appendix, image 9 & 10). The features on top of the mottes may be indicative as traces of superstructures .

The mottes yield pieces of brick, mortar and large, possibly dressed, stones in the topsoil. The FMIS information claims there to be foundations of a structure in stone in the north-western part of the northern motte, but this was not confirmed in the field. Part of the western side of the southern motte is made up of a section of constructed stone wall with mortar, appearing to be a recent addition (see fig. 5, number 3; appendix, image 7 & 8). Perhaps it is to counteract erosion: comparing the 1971 field documentation from FMIS with a field sketch created in connection with the survey conducted for this thesis (figs. 4 & 5), the first has what appears to be a hole in the western edge of the southern motte, in the same area where the stone wall now is.

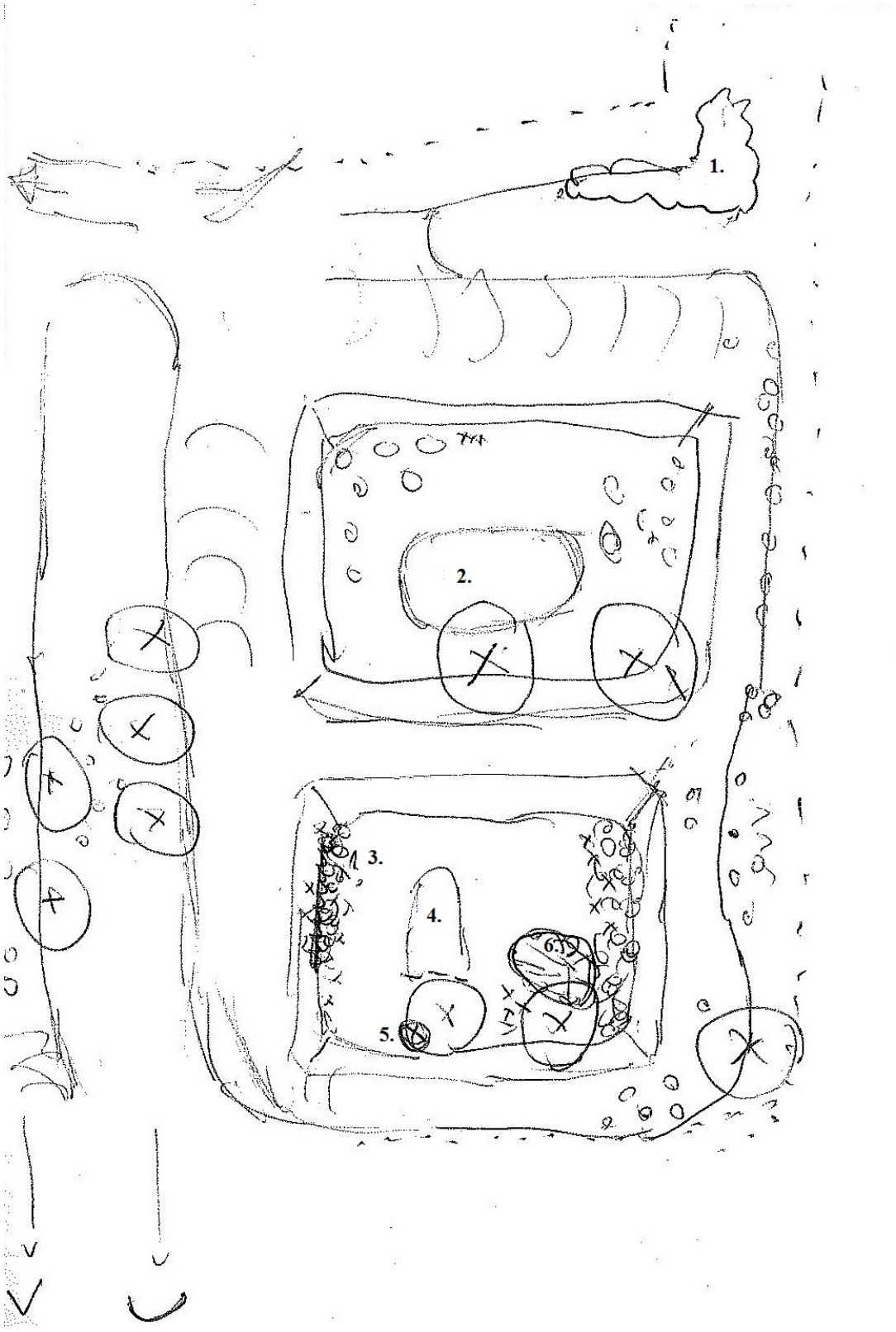


Fig. 5 Field plan (by author). 1: stone cairn, 2: depression, 3: stone wall, 4: depression lined with stones to the south, 5: animal burrow, 6: stone-filled depression. Circles with crosses: trees. Small circles: stones. Small crosses: pieces of brick. Dotted line: fence.

The inner moat separating the two mottes is 15m wide, and slightly shallower than the rest of the inner moat (appendix, image 6). The inner moat is c 20m wide and 3m deep; it is still filled with water to varying degrees depending on weather conditions, on the western side of the southern motte, and the western and northern side of the northern motte (appendix, image 1 & 4). The inner moat is surrounded by an earthen wall, to the west it is 10-12m wide and 3m tall (appendix, image 2 & 5).

The northern wall is lower than the other stretches of wall. There are cairns of stones to the north of the inner moat (fig. 5, number 1), these could have been placed there later through agricultural use of the nearby fields, but they seem to make up the northern part of the wall. There is an opening between the northern and western wall, 5-10m wide, facing towards the disappeared lake (appendix, image 12). The inner earthen wall is surrounded by a second moat and wall, which are only preserved in the western part of the site (appendix, image 3). The outer moat is 5-6m wide and 1.5m deep, the outer wall is 6m wide and 1m tall (FMIS Östra Kärrstorp 1:1).

2.2 Historical Background

This section discusses the historical context of the castle through a short summary of Danish history during the relevant period, and historical sources in which the castle is mentioned.

2.2.1 Danish medieval history

As will be discussed further below, Beritzholm can probably be dated to the end of the 13th century or the first half of the 14th century. This period is characterised by the rapid surge in castle building in Denmark due to internal unrest. The 14th century was marked by violent power struggles between the Crown, the church, and the nobility. King Erik Klipping (1259-1286) was murdered in 1286, leaving a complicated political situation. A new king was elected, Erik Menved (1286-1319), who was only 12 years of age at that time. Some of the most powerful noblemen in Denmark were outlawed at this point; they allied themselves with the Norwegian king and aided Norway in its then ongoing war with Denmark. The reign of Erik Menved was marked by his disastrous foreign policy, as he extensively waged war on Norway, Sweden and the German Hanseatic cities. He also battled inner strife against the church and the Danish nobility. The failed attempts to expand the kingdom led to a financial

crisis and new taxes were imposed, which led to a rebellion in 1312-13. Erik's brother Christoffer claimed the throne, and joined the king's enemies. The king managed to subdue the population and enforced punishments, which included that a number of castles were to be constructed. Amongst these were Bygholm in Horsens, Borgvold in Viborg and the castle at Kalö (Etting 2010:25ff; Rikke, 1986:59ff). However, the worsening finances of the Crown forced Erik Menved to borrow money from a large number of creditors, who in turn received the rights to castles and entire provinces. Scania came into the possession of creditors in 1318, and the king died the following year. Erik was succeeded by his brother Christoffer II (1320-26 and 1329-32), who continued where Erik had left off: battling poor finances and the Danish nobility. Christoffer's ascension to the throne was made on a number of conditions set by the church and nobility, and the power of the Crown was heavily limited. Castles were to be pulled down, confiscated land was to be returned to the church and nobility, and the Crown's debts were to be paid off. The weak kingship led to yet another revolt, and king Christoffer fled the country. He regained the throne in 1329, but had to pawn large areas of land for money. Thus Scania came into the hands of count Johan of Holstein. After the death of Christoffer, the counts of Holstein ruled Denmark for 8 years (Etting, 2010:31ff; Skansjö, 1995:72f).

In the year 1332, the Swedish king Magnus Eriksson was able to buy the eastern provinces of Denmark for a sum of 34 000 mark silver from Johan, following a revolt in Scania when the Scanians gave the province to Magnus (Etting, 2010: 33; Ödman, 1995:38; Skansjö, 1995:73f). The Danish throne was claimed by Valdemar Atterdag (1340-1375), Christoffer's son, in 1340. The dissatisfaction with the German noblemen enabled Valdemar to take the throne; he went on to unify the kingdom. Many estates were confiscated to restore the Crown's lands, and some were taken by force. Valdemar confirmed Swedish ownership of Scania in 1341 and 1343, but engaged Sweden in war in 1359 and regained Scania in 1361. Sweden's surrender led to the marriage of Valdemar's daughter Margrete and Magnus's son king Håkon of Norway. Kingship was not yet hereditary, and when Magnus was dethroned, Albrecht of Mecklenburg was offered the Swedish throne. Valdemar faced the agricultural and economical crises which the Black Death resulted in, as well as several new rebellions on Jutland. Royal castles were rebuilt and enlarged to deal with the problem of controlling the country. In 1368-9, Valdemar suffered defeat against a coalition of the king's enemies, and was forced to hand over Scania to the Hanseatic League for 15 years in 1370 bar Lindholmen

castle, as well as two thirds of the income from the profitable herring markets in Skanör and Falsterbo (Skansjö, 1995:77ff).

After Valdemar's death in 1375, his infant grandson Olof, son of Margrete and Håkon of Norway, was chosen to be the next king under the guardianship of his mother. Queen Margrete was to rule Denmark for the next 37 years. Margrete managed to regain Scania in 1385, and when king Olof died in the castle of Falsterbohus in 1387, Margrete was elected regent of Denmark. The following year she was elected regent of Norway; when Albrecht of Mecklenburg was ousted from Sweden due to discontentment with his rule, Margrete was elected regent of Sweden in 1389 (Queen Margrete I, regent of Denmark, Norway and Sweden 1387/9-1412). Albrecht was taken prisoner after he lost in battle against Margete in 1389, and was imprisoned at Lindholmen castle for six years. Margrete enforced a ban on building private castles in 1396; it was to last after her death in 1412 into the reign of her successor, Erik of Pomerania, and was not abolished until 1483 (Etting, 2010:33ff; Ödman, 2002:23; Skansjö, 1995:79ff).

The royal administration changed during the 13th century; the Danish Crown created a number of *riksborgar*, royal castles, which administered the country. The castles were made administrative and economical centres, with each castle ruling over a county. Denmark was divided into hundreds, *härader* (härader in Scania, see fig. 1), and each castle ruled over one or more of these as a part of a castle county. These castles were the main point of royal authority in the kingdom, and served to subdue internal and external enemies. The king had no permanent residence during this period; the court travelled from castle to castle. The bailiff of the castle controlled the surrounding landscape on the king's behalf, collecting taxes, overseeing judicial matters, maintaining the castle, administering the crown lands and assisting the king with armed forces if needed. The bailiff was chosen by the king, and could be replaced at any time. The bailiff could keep some of the revenues of the castle for himself, thus these positions were much desired by the nobility, or royal civil servants who were eligible (Skansjö, 1995:85ff). By the end of the 13th century, a network of about 40 royal castles had been established (Etting, 2010:20ff). Beritzholm's castle county was Färs *härad* in the centre of Scania. The other royal castles in Scania were Kärnan in Helsingborg, Falsterbohus and Skanör castle on the Näset peninsula in the south-west, and Lindholmen in the south-west inland (see fig. 1). All of these would later be replaced by Malmöhus castle (Etting, 2010:40ff; Skansjö, 1995:94f).

2.2.2 The site in historical sources

Historical sources do not yield answers to the earliest construction of the castle. It is first mentioned in legal documents in 1363, when the castle comes into the Crown's possession. Tuneld describes the document as a gift deed, whereas Flensmarck considers it to be a sales deed (1934:55; 2003:150). Two castle lords, Holger Gregorsson of Vittskövle and Tuve Galen of Näsbyholm, grant Beritzholm as a gift or sells the castle to Valdemar Atterdag. The owners are said to be the knight Niclis Truitsson's sons, Truit Niclisson Haass and Gregorius Niclisson. The occurrence of two lords of other castles and not the owner of the castle giving it away, could possibly indicate the nature of the take-over. It may have been confiscated by the crown, and only was a gift or sale in name. The Crown not only received the castle, described as a stone house, but also the estate with the two villages Birrith and Kaeristhorp (present-day Bjärröd and Östra Kärrstorp, see fig. 7), and a water mill and a weather mill in Birrith. Beritzholm was made to the main castle of its own castle county, were the crown placed a bailiff (Tuneld, 1934:55, 224, Flensmarck, 2003:150). It seems that Valdemar pledged the castle and the county to Mogens Munk, as the king's daughter Queen Margarete bailed Munk out in 1401 at a sum of 900 mark (Ljunggren, 1852-63: vol. 7, p.1).

The castle is referred to in letters and legal documents through the 14th to the 16th centuries, indicating the names of several bailiffs. The historical documents provide some information about the royal functions, such as how many horses were to be kept for the Crown's knights, how many men were to be provided to the Crown, and how many nights per annum the castle would house the king. In documents listing the capacity of the royal castles, Beritzholm is listed as stabling four horses, one each for four named knights, in 1486, as well as in 1490-95; in 1496, the bailiff was to provide 10 mounted men: in 1502 the bailiff was to equip 40 men, and house the king's court for one night (Flensmarck, 2003:150ff).

In 1526 the bailiff Mourids Jensen Sparre was ordered by the Crown to dismantle the castle, as it was poorly fortified and derelict, and put the castle and its county under the rule of Lindholmen castle. In 1529, a deed of gift was given to Sparre, granting him all the salvageable timber and stone from the castle, although it seems that the castle was still standing half a century later. However, the material was used in the construction of Svaneholm castle, located north-west of Skurup. Axel Knudsen Gyldenstierne came into possession of Beritzholm in 1577, and it seems to have completely disappeared during this time (Tuneld, 1934:56, 224, Flensmarck, 2003:152). According to Göransson, the castle was

destroyed in 1580 (1904:114). In a parish register from 1570, a place named Byrödtz stette is listed, but it has no inhabitants (Flensmarck, 2003:152).

2.3 Sites in the surrounding landscape

The site can be put in context with other archaeological features surrounding it in the landscape (see fig. 6). In the direct vicinity there are few features in the FMIS information which could be dated to the same period as the castle. Just north of the 18th century estate, there is a stretch of an old road registered (Östra Kärrstorp 10:1), which now cuts across a field. In the FMIS information, it is described as an area with soil heavy with stone c 400m by 5-6m. The road may have led to the castle, if these two features are contemporary with each other.

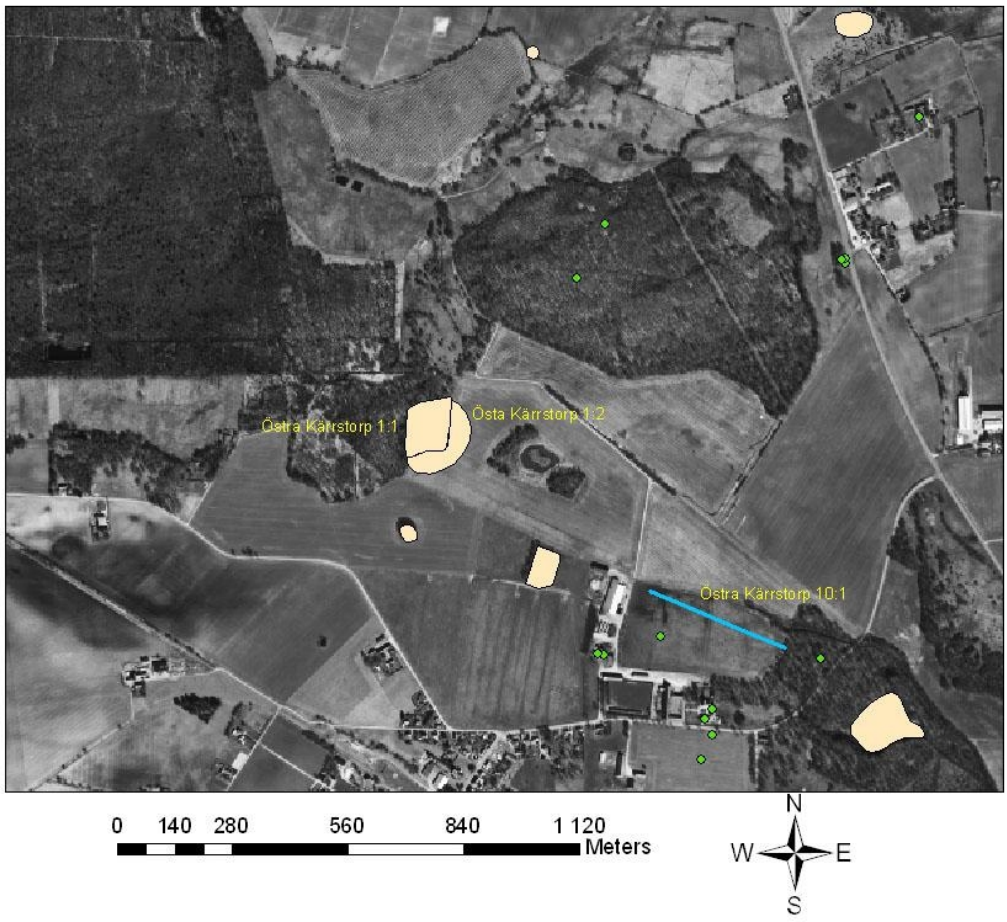


Fig. 6 Features listed in the FMIS record. Features without tags are dated to the prehistoric or modern period. (FMIS Östra Kärrstorp 1:1, 1:2, and Östra Kärrstorp 10:1)

Medieval churches and settlements within a radius of 6 km from the castle are listed below. The limitation of a 6 km radius is superficial – the same density of medieval settlement continues beyond this limit; the radius was chosen purely to limit the research. The castle province of Beritzholm was Färs härad, in which the castle was located close to the north-west border. In general, the coastal areas of Scania were more densely settled during the early Middle Ages, but as this chapter proves, the inland was certainly not devoid of settlement during this period.

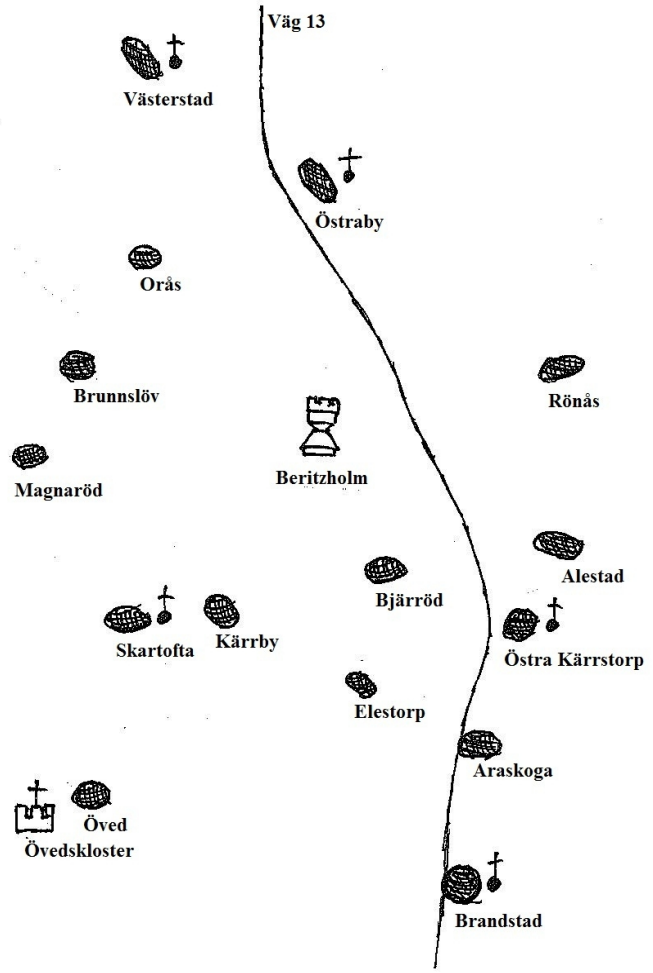


Fig. 7 Map of villages with medieval dates in the vicinity of the castle (after the FMIS record). The marked road is the modern road 13. Church villages marked with crosses.

The distribution of villages and churches in figure 9 may appear to be centred around the castle, but this pattern may also be due to the selection of sites through the limitation radius around the castle. The churches are of an earlier date than the castle. The villages, although of

later dates, must have been present when the churches were constructed. It is feasible to consider the castle secondary to some of the villages, and some villages may have been secondary to the castle.

2.3.1 Churches

There are five church villages surrounding the castle, as well as a site of a medieval monastery. Three out of the five medieval churches have been partly or completely demolished. There was a Romanesque medieval church in Östra Kärrstorp from the late 12th or early 13th century, which was completely remodelled in the 19th century. A baptismal font from the first half of the 13th century is a remnant of the earlier building (Björkelund, 1973:240). There was also a 12th/13th century Romanesque church in Skartofta which was torn down in 1839 (FMIS Öved 15:1; Björkelund, 1973:244f). Västerstad had its medieval church (FMIS Västerstad 4:1) partly demolished in the 19th century, there are still ruins of it at the site. This church dates from the same period as Östra Kärrstorp and Skartofta. The churches in Östraby (Bebyggelseregistret, BBR 23:1) and Brandstad (BBR 33:1) are still in use, both are dated to the period between 1100 and 1349. To the south-west of Beritzholm there was a Premonstratensian monastery at Övedkloster, which was founded in the second half of the 12th century as *Insula Sanctae Trinitatis de Öwith* (Björkelund, 1973:49).

2.3.2 Villages

There are a number of medieval villages around Beritzholm, some some of them being church villages. The dating of the villages relies on historical sources; however the first mention in historical documents may not provide a reliable date. Historical sources only show that the village was present at the time the source was written, it mostly does not give a date as to how long the village had been there or when it was first set up. Many of the church villages are first mentioned in historical sources centuries after the churches were constructed. It can be assumed that the church villages were present at the time of the church builds; the stone built churches must have been sponsored by a wealthy patron who had them built, and the church must have had people attending it. The two villages mentioned in the deed of 1363 together with Beritzholm are Bjärröd (FMIS Östra Kärrstorp 53:1) and Östra Kärrstorp (FMIS Östra Kärrstorp 54:1). The latter has a slightly earlier date, as it is first mentioned in 1350.

To the north of Beritzholm, there are two church villages: Västerstad (FMIS Västerstad 47:1) with a first mention in 1228 and Östraby (FMIS Östraby 99:1) from 1570; as well as Orås (FMIS Östraby 54:1), mentioned in 1514. To the east of the castle are the villages Alestad (FMIS Östra Kärrstorp 51:1) dated 1350, and Rönås (FMIS Östra Kärrstorp 52:1) dated 1546-1547. South of Beritzholm are the villages Kärrby (FMIS Öved 64:1, now deserted) and Skartofta (FMIS Öved 59:1), both from 1505. The village at Öved (FMIS Öved 62:1) is dated 1138-1171. Furthermore, the villages of Elestorp (FMIS Östra Kärrstorp 55:1) and Brandstad (FMIS Brandstad 40:1) are both dated to the 14th century, 1361 and 1331 respectively. Araskoga (FMIS Brandstad 42:1) is slightly later, from 1447. In the area to the west of the castle, there a few smaller villages with early dates: for example Magnaröd (FMIS Östraby 98:1) and Brunnslöv (FMIS Östraby 57:1) are both from 1546.

2.4 Castle building in Scania

As per the guidelines of the Swedish national heritage board (RAÄ), a castle or "*borg*", is a fortified structure, with an area surrounded by walls, moats, palisades, or combinations of these. Access to the site has been limited and controlled. It served the functions of residence for the noble class, storage and defence (Johansen & Pettersson, 1993ff). The Viking age version of castles were the *trelleborg* type of geometrical fortification, such as Fyrkat, Aggersborg and Trelleborg in Denmark. When the European way of organising society was adopted in Scandinavia towards the beginning of the 12th century, warfare shifted towards castle building (Higham & Barker, 2004:79; Etting, 2010:15). The Danish crown had several castles constructed during the 12th and 13th centuries to enforce royal authority and ward off foreign advances; the church had castles built as residences for the bishops, but the Danish nobility built fortified manor houses rather than castles during this period. The feudal system did never fully develop in Denmark, as a result of the strong position of the Crown. Between 900 and 1000 fortified sites or castles were constructed in medieval Denmark, out of which about ten percent were built by the church and the Crown. Historical sources are scarce; for many sites the construction date, ownership, function and the reasons for abandonment are unknown (Etting, 2010:19f; Liebgott, 1989:52). The royal castles and the smaller private castles were often different in size and construction, as well as in the level of material wealth found at the sites. According to Ödman, most medieval castles in Scania were small fortifications constructed in timber, with a low material standard. The function of the castles

was economic production, and they lacked the affluence commonly associated with castles (2002:9). The smaller castles were mainly a defence against peasant uprisings and looters. The castle stored goods, which was an important tool in order to gain control. The castle also had a symbolic value for the control over the surrounding landscape, and warfare during the medieval period turned to focus on defending and besieging castles. During periods of turmoil, many noblemen moved out from the villages and constructed castles (Ödman, 2002:13ff). As an example, a historical source claims that the castle of Beritzholm "was an asylum for noblemen in times when they feared their enemies, and they fled there" (Tuneld, 1934:56).

2.4.1 Contemporary castles

Below are descriptions of three castles contemporary to Beritzholm; Lindholmen and Falsterbohus in Scania, and Eriksvolde in Denmark. These castles are similar to Beritzholm in function or outlay, and are discussed to further highlight the context of the studied site. Out of the Crown's castles in Scania, Lindholmen and Falsterbohus are most similar to Beritzholm, as Kärnan in Helsingborg is a hill castle for example. Eriksvolde is not known as a *riksborg*, but is very similar to Beritzholm in construction.

Lindholmen castle was one of the most important of the royal strongholds in Scania (see fig. 1 & 8). It is situated in the south-west of Scania, on the shore of a lake, Börringesjön. The site measures 135x120m. The castle was built on a motte, 62x58m and 3.5m tall, which is surrounded by moats 10-15m wide 1-1.5m deep. The site has entrances to the west and north-east. The moat is surrounded by earthen walls 15-20m wide and 1-1.5m tall; there may also have been an outer moat. The ruins on top of the motte measure 52x44m. There was a central tower, 9x9m, which was surrounded by a curtain wall, 1.5-3m wide. The complex also had a gate tower, 6x4m, in the western wall. A corner tower covered the well in the north-east corner of the curtain wall, 5m in diameter. The latter two towers were a secondary construction in relation to the wall. There was a hall building, measuring 23x8m, along the southern part of the curtain wall. The central tower is probably the oldest, as the walls of the other two towers were thicker, and possibly adapted to more effective siege-weapons. The castle has good natural defences, it is situated in the marshy areas to the north-west of the lake and just south of the Segeå river (FMIS Svedala 7:1; Ödman 2002:102ff).

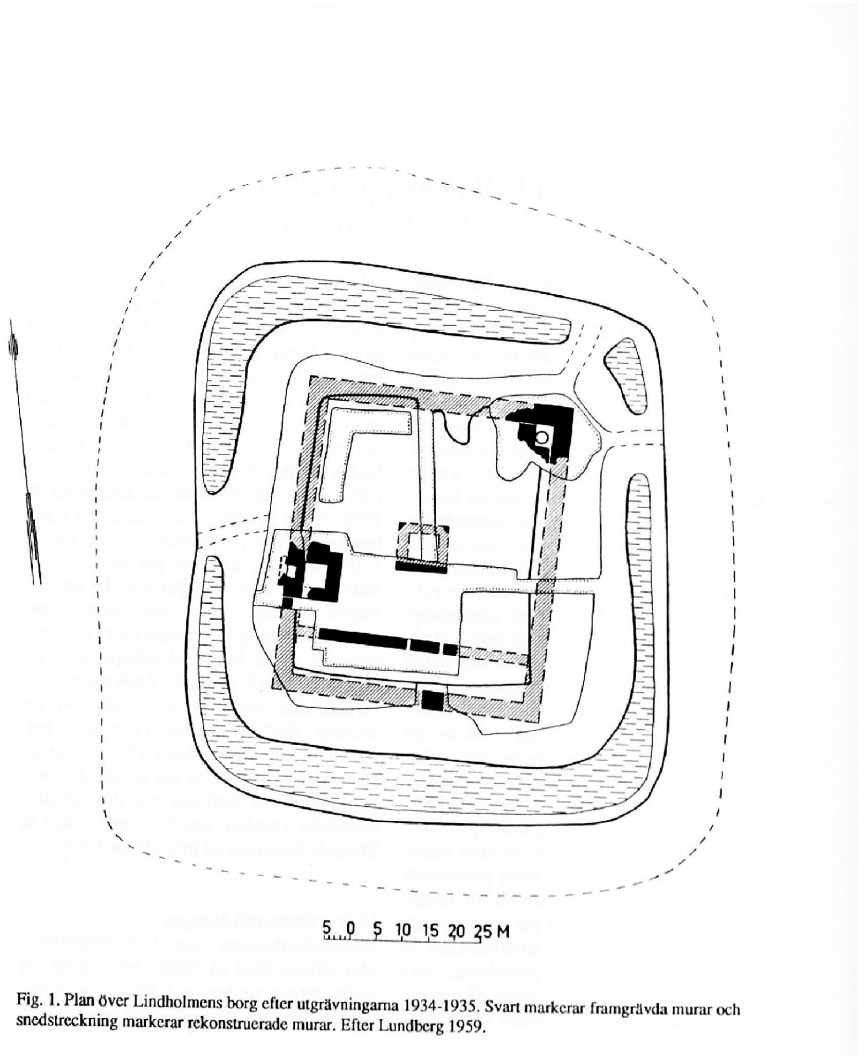


Fig. 1. Plan över Lindholmens borg efter utgrävningarna 1934-1935. Svart markerar framgrävda murar och snedstreckning markerar rekonstruerade murar. Efter Lundberg 1959.

Fig. 8 Lindholmen castle (Augustsson, 1995:12).

The site was first excavated in 1934-35, and again in 1993-95. Lindholmen is first mentioned in detail in a document from 1332, were it is described as a stone tower with palisades and moats. The original castle is believed to be first constructed in the 13th century and then later reconstructed. The castle was probably constructed during king Erik Menved's reign; the build of the castle was presumably initiated after 1300, but before 1315, when fewer castles were built and the state finances were depleted. The location of Lindholmen was perhaps chosen due to a need to enforce royal power: the crown needed to be represented in an area with several private castles and powerful noble families. The castle remained a stronghold to both king Valdemar Atterdag and his daugther Queen Margrete during the 14th century; and the latter kept the deposed Swedish king Albrecht of Mecklenburg imprisoned here for 6 years. By the 16th century, Lindholmen had lost its importance; it was probably abandoned around

1540 and material from it was used in the construction of Malmöhus castle (Ödman 2002:102ff).

Falsterbohus was a royal castle located on the peninsula in the south-west corner of Scania (see fig. 1 & 9). It consists of a square motte (42x42m) surrounded by a set of double moats and earthen walls. The motte has reconstructed walls representing a tower-building and a curtain wall. The site in all measures 120x120m, the courtyard within the curtain wall measures 29x27m. The tower, situated off-centre to the south, measures 9x9m. There are remnants of other buildings; a 25m wall aligned with the east side of the curtain wall, about 5m from the tower. There is a foundation of a building on the outside of the north side of the curtain wall, 7x4m. The inner moat is between 3 and 12m wide and 0.2-0.6m deep. The earthen wall separating the inner and outer moat is 5-15m wide and 1m tall. It is built on top of 6 barges on the south, sea-facing side. The outer moat is 5-15m wide; along its southern stretch it has a barrier towards the sea of rocks as breakwater (FMIS Falsterbo 5:1). The size of the base of the tower keep suggests a tower with perhaps 3 floors. It probably functioned as accommodation and storage, as well as defence. A hall building was added later to the east along the curtain wall; it probably had two floors and measured 27.5x6.25m. The building on the outside of the north wall could possibly be a part of an earlier fortification (Ödman, 2002:57ff).

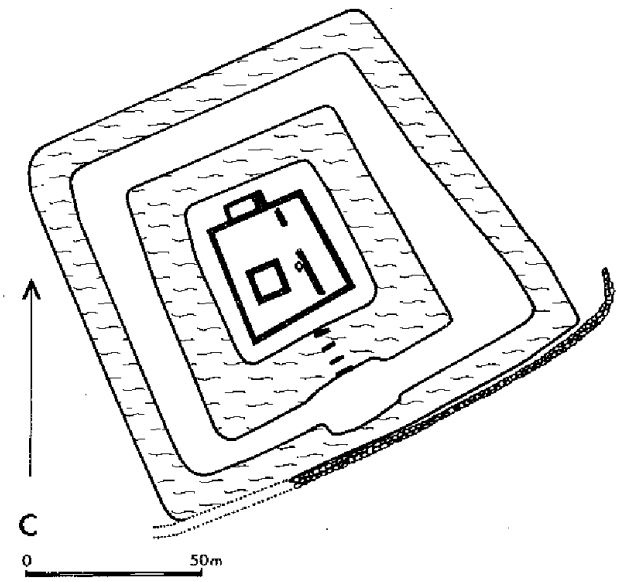


Fig. 9 Falsterbohus (Winstrand, 1995:99).

Falsterbohus was first excavated in the years 1887-91 and 1907-11 by Georg Karlin, the founder of the Culture Historical Museum (Kulturen) in Lund. However, no documentation of the excavations survives nor was a report published. RAÄ had the site thoroughly investigated in 1934 (Ödman, 2002:57ff). The Näset peninsula was a centre for fish trade in the Baltic Sea, and the yearly herring markets became widely famous from the mid 13th century and onwards (Etting, 2010:33). The castle of Falsterbohus is first mentioned in 1311, when it was besieged by the Hanseatic League. The date leads to an assumption that it was probably built during king Erik Menved's reign. It was again attacked in 1318 by the Swedes. The king's bailiff was moved from the castle at Skanör (FMIS Skanör m. Falsterbo 1:1) to Falsterbohus in 1420, possibly as a result of a relocation of the market place. The castle was important as it controlled and administered the trading colony, and in doing so, generated taxes for the Crown. The Hanseatic League came into possession of the castle in 1370 and held it for 16 years. In 1540, the castle and its county were incorporated into Malmöhus castle county. The material from Falsterbohus was granted as building material in a deed from 1596, and the ruins of the castle was used as a quarry in the 1770s (Ödman, 2002:57ff).

Eriksvolde on the island of Lolland in Denmark shows remarkable similarities in outlay to Beritzholm (see fig. 10). It is also a double-motted structure with double earthen walls and moats. Furthermore, it has almost the same alignment, with a northern and southern motte. The inner earthen wall is opened to the west and south-west instead of to the north and north-west as at Beritzholm. The western wall may have been a third castle mound, as the other parts of the inner wall at Eriksvolde are double-crested, whereas the western segment is flat. No indication of a double-crested wall could be observed at Beritzholm. The western part of the earthworks have been damaged through agriculture, but the eastern part is better preserved. There is evidence of soil extraction from the moats at the site during the modern period; the soil was used as fertilizer. Some disturbance of the top of the mottes was caused by an early 20th century dance pavilion which was constructed on the site (Lökkegard Poulsen, 1992:109ff).

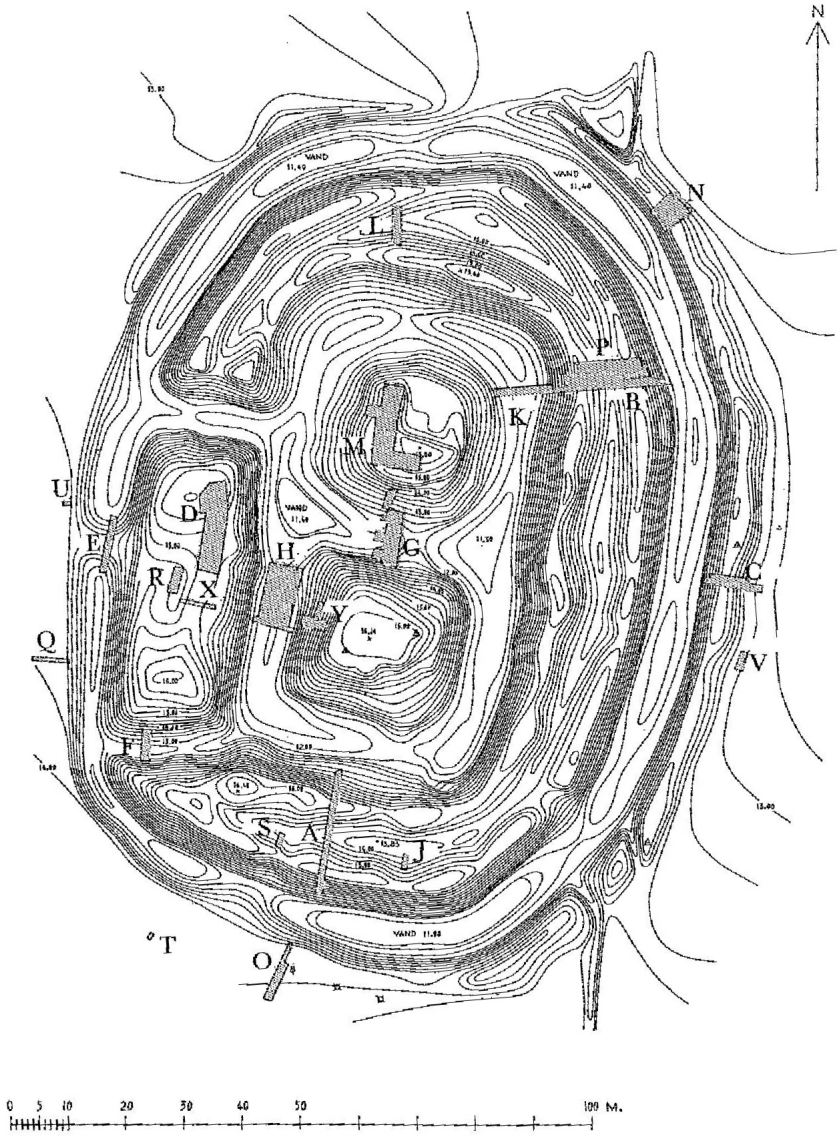


Fig. 10 Eriksvolde castle (Lökkegard Poulsen, 1992:110).

Eriksvolde was partly excavated in 1977 and is dated by dendrochronology to 1342-44. Ceramic evidence point to the same period, as do coins with dates between 1279 and 1340. The site is however not mentioned in historical sources. Before the excavation it was typologically dated to the 12th century due to its double-motted construction. During the excavation, wooden structures were found between the two mottes and between the southern motte and the western wall. There were remains of a smithy on the northern motte, but no other remnants of superstructures. The culture layers were thin, there were no fragments of walls or bricks, no traces of palisades in the inner or outer walls, and no stone structure or other buildings of other materials was found at the site. The lack of evidence may partly be

due to poor excavation conditions; only one archaeologist was present, and the clay soil was very torrid, making features difficult to spot. The lack of material at the site lead to the conception of the theory that the castle had never been completed or only used for a very short period of time and therefore lacked traces of any superstructures. Since it is not mentioned in historical sources, it cannot be determined whether it was constructed on the orders of Valdemar Atterdag or a nobleman, or the German creditor who held the island of Lolland before the reign of Valdemar (Lökkegard Poulsen, 1992:109ff; Liebgott,1989:55; Stiesdal, 1982:255ff).

3 GIS landscape study

This section gives a brief overview to the technologies used to investigate landscapes, and illustrates Beritzholm through historical maps and maps generated in GIS software.

3.1 Analysing landscapes

There are a number of complementing technologies available in landscape analysis. These provide information that can be put into GIS software; larger areas can be analysed, and by combining the information areas can be studied in-depth. Digitized historical maps can be processed in the same software as data gained from remote sensing technologies, such as satellite images, aerial photography and LIDAR (LIght Detection And Ranging).

Aerial photography is an important tool in identifying archaeological sites. Aerial photographs are often oblique photographs, taken from an angle, using lighting conditions to increase visibility of man-made features in the landscape. By accentuating mounds or ditches with shadows, sites such as stone age burial mounds can be identified. If the photographs are taken vertically, they can be orthorectified, and archived as reference material. Satellite images are used similarly to aerial photographs. In addition, there is a higher availability of satellite images, and they cover larger areas. Satellite images are also available in different bands of the electromagnetic spectrum, which is significant when considering vegetation cover, amongst other things (Parcak, 2009:14ff).

LIDAR is an airborne device which produces scans of the earth's surface; it measures the distance to the ground through a pulse of light and calculates points by using a GPS system.

The scans are used for creating DEMs (digital elevation models), three-dimensional landscape models, to get a better visualisation of the landscape (Parcak, 2009:77).

Various data can be put together in a number of layers using GIS software. Aerial photographs (orthorectified and georeferenced), historical maps, modern maps, LIDAR scans, as well as information acquired with total stations or DGPS can be added to geographical site information from FMIS. GIS has become an invaluable part of archaeology, and many field surveys are based on information elaborated with GIS.

Remote sensing and GIS have increased the possibilities of desk-based archaeology and non-invasive surveys. Through remote sensing, invaluable information can be gained and a better overview of a vast sites can give new insights and lead into new research. Limitations of remote sensing are that the images acquired with the various technologies may be expensive and not available to researchers. Satellite images, aerial photographs and laser scans must be acquired under the right conditions, the exact area must be without cloud cover, the time of year and the time of day must be taken in consideration due to vegetation cover and lighting conditions. If the conditions are not right, the images will be rendered useless. Nonetheless, the technologies described are great tools in landscape analysis.

3.2 Historical maps

There are a number of historical maps that cover the area around Beritzholm. The earliest is a map describing the ownership of the land around Beritzholm from 1718 (figs. 11 & 12). The outline of the two castle mottes are sketched in south of the lake. *Skånska rekognosceringskartan* drawn between 1812 and 1820 also has a representation of Beritzholm (fig. 13). Two later maps, *Generalstabskartan* from 1865 and *Häradsekonomiska kartan* from 1910 do not depict the castle, but the disappearance of the lake can be observed (figs. 14 & 15). Arrhenius phosphate map from 1934 is a valuable tool in locating archaeological sites (fig. 16). The map, initially produced to determine which areas were most suitable for growing sugar beets, has since proved to indicate the presence of archaeological sites through high phosphate content as a result of past human activity. Lighter areas have lower phosphate levels, whereas black areas indicate the highest phosphate levels. On the section of the map depicting Bjärsjölagård, there appears to be a darker area with a high phosphate content where Beritzholm is (north of the first letters in 'Bjärsjölagård').

Fig. 11 Map: Land ownership 1718. North is to the top left. Beritzholm is in the centre, towards the bottom of the map (Lantmäteriet/Digitala Kartbiblioteket).

Fig. 12 Detail of map from 1718 (Lantmäteriet/Digitala Kartbiblioteket). Text top left: *Biärsiö Ladugårds Siöö* – Bjärsjölagård lake. Centre right: *gamalt Rudera af ett Slått Biäröd Slått* – old ruins of a castle Bjärröd castle.

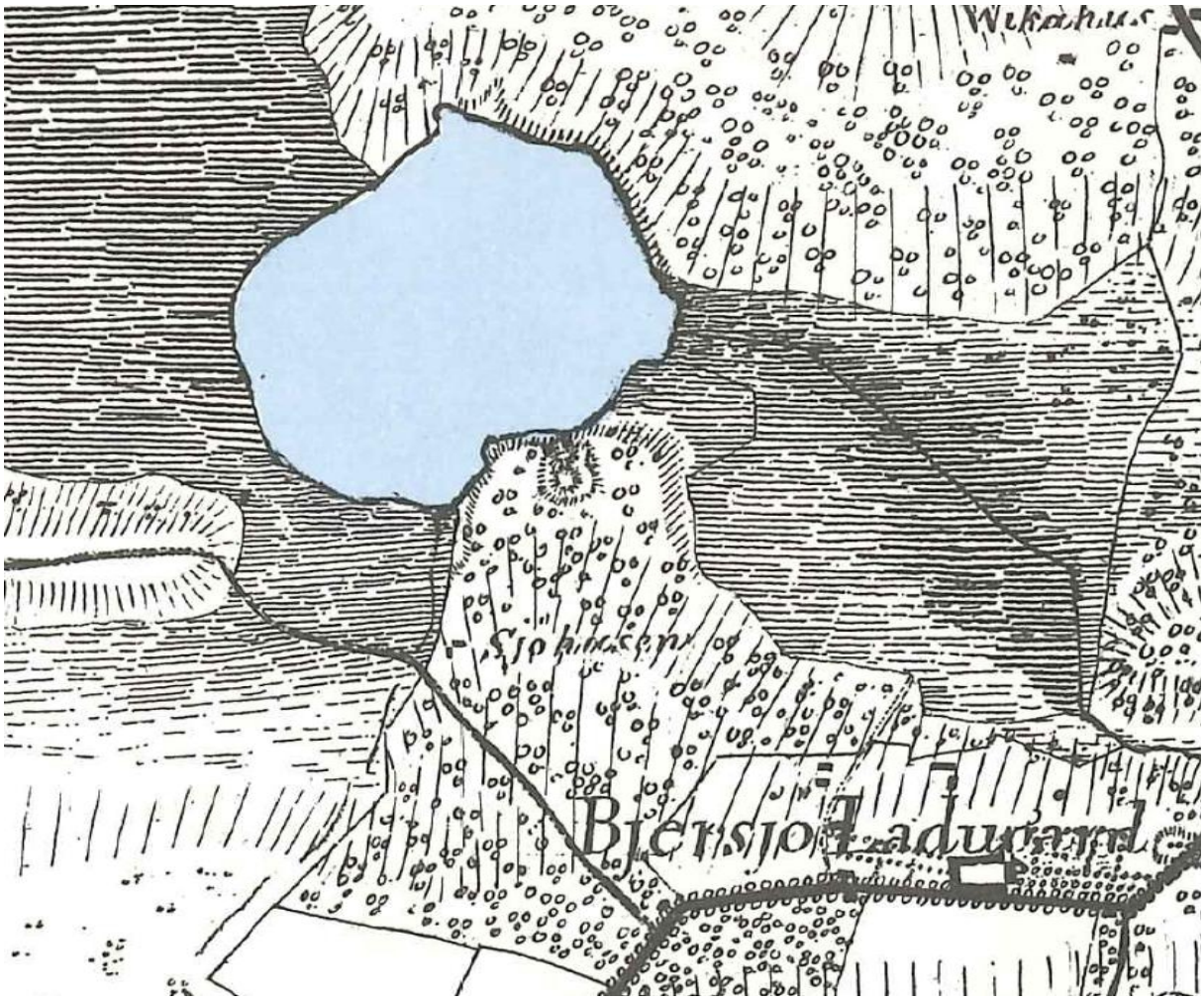


Fig. 13 Map: Skånska rekognosceringskartan 1812-1820, detail. The castle is depicted as two small mounds and a moat south of the lake (Lantmäteriet, 1986).

Fig. 14 Map: Generalstabskartan 1865, detail. The lake appears smaller than in the earlier maps. The railroad across the centre of the map is a new addition to the landscape (Lantmäteriet/Digitala Kartbiblioteket).

Fig. 15 Map: Häradsekonomiska kartan 1910, detail. The lake is smaller than in 1865. The location of the castle is in the meadow south of the lake, in the centre of the map (Lantmäteriet/Digitala Kartbiblioteket).

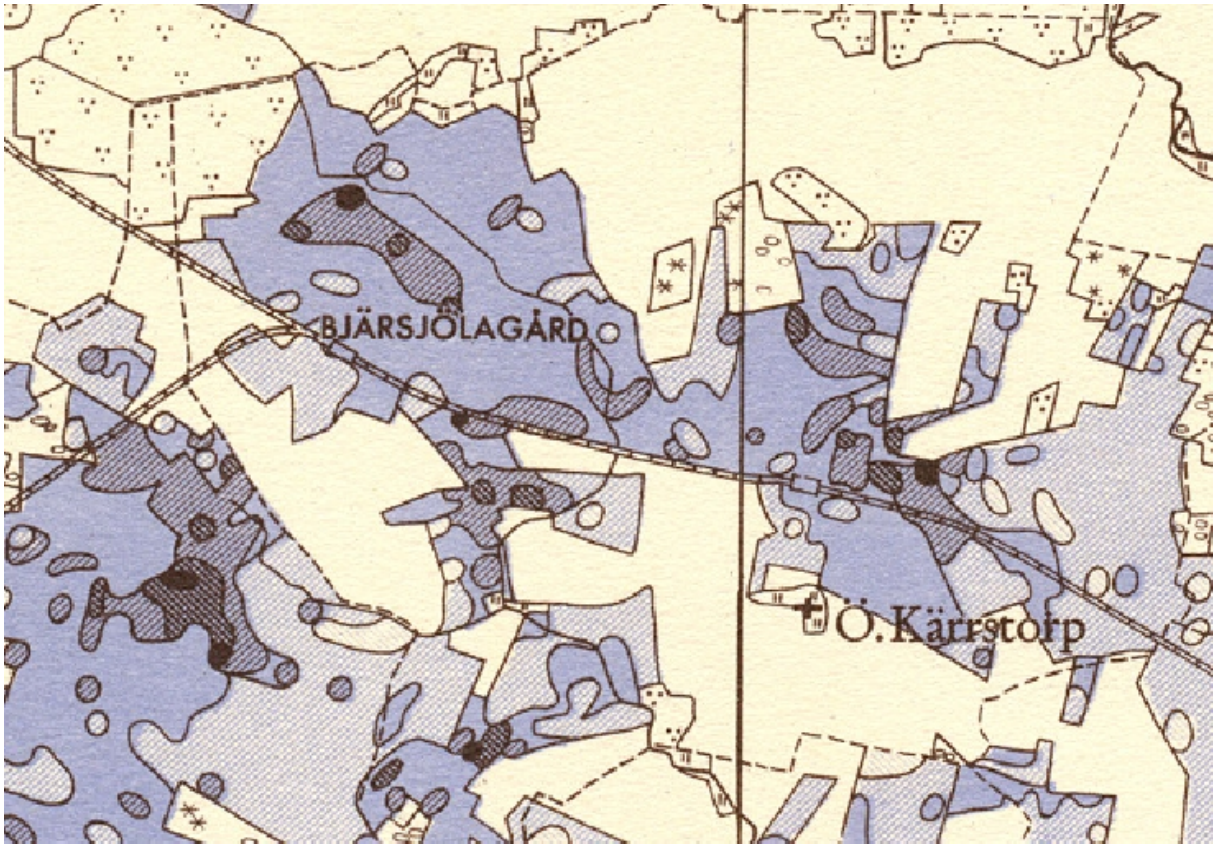


Fig. 16 Map: Arrhenius' phosphate map, detail. Beritzholm is located north of the first characters of 'Bjärsjölagård' (Arrhenius, 1934).

3.3 Landscape elevation data

This section discusses a set of maps generated through GIS software, combining data accessed from FMIS with maps and aerial/satellite images from *Digitala Kartbiblioteket.*

The data and maps were imported into ArcGIS ArcMap, and a number of different figures were produced. Fig. 17 shows the immediate area around the castle with contour lines, illustrating the height difference in the landscape, and gives the insight that the castle was placed on a narrow piece of higher land between the two sides of a depression. The depression likely shows the outline of the former lake. In fig. 18 contour lines where added to the FMIS information seen in fig. 6. It can be observed that the marsh to the north-west of the castle corresponds to the depression in the elevation contours. The road (FMIS Östra Kärrstorp 10:1) seems to have its course along the southern edge of the depression, towards Beritzholm.

The historical map from 1910 was imported into the program, and georeferenced to fit the aerial image of the present day village (fig. 19). This map shows the receding lake and its relation to the castle. A map generated by the Geological Survey of Sweden shows the calculated water levels 1000 years B.P. (fig.20). It shows a result similar to what could be assumed considering fig. 17. Arrhenius' phosphate map was also fitted to an orthophoto, using the railway line, the church at Östra Kärrstorp, and land ownership borders as reference points (fig. 21). The result places the castle not directly on top of one of the darkest areas with the highest phosphate content, but close to it (the castle is represented by the purple polygon closest to the black dot north of the first letters in 'Bjärsjölagård').

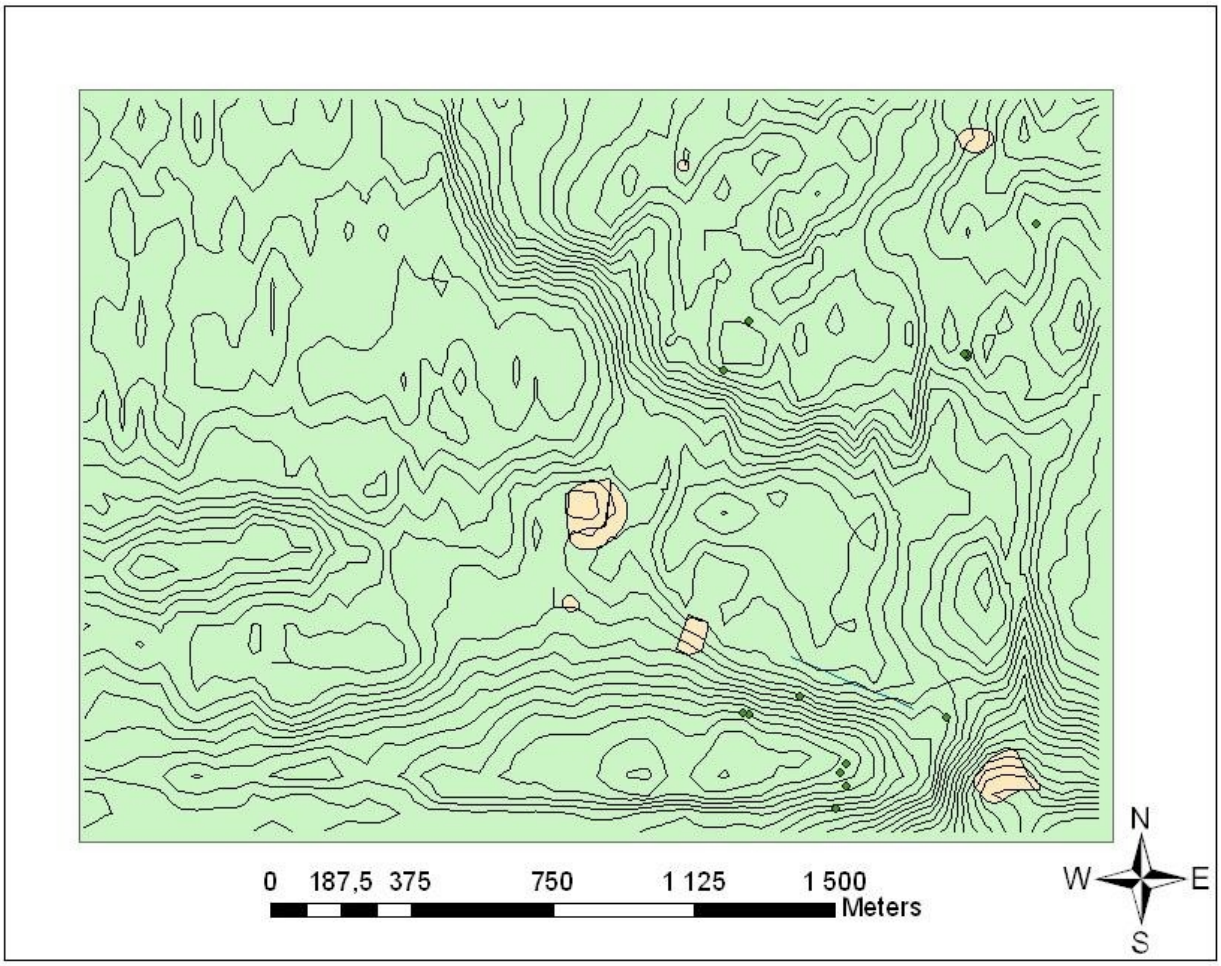


Fig. 17 Contour lines of the area around the castle. Beritzholm is in the centre: there are higher areas to the south and north-east, the former lake is the depression to the north-west (FMIS/Digitala Kartbiblioteket).

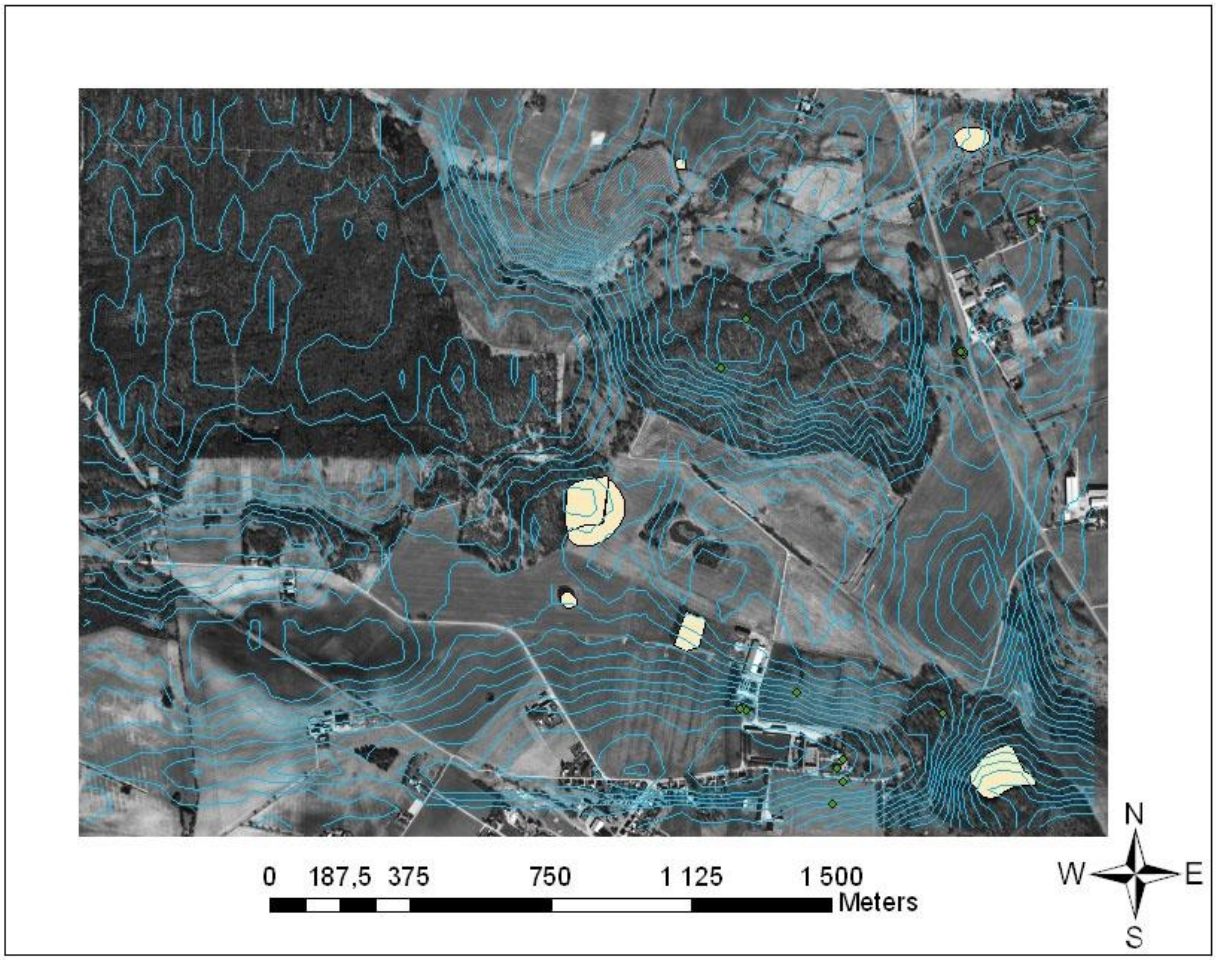


Fig. 18 Contour lines added to fig. 6. the contour lines matches the extent of the marshy area where the lake once was (FMIS/Digitala Kartbiblioteket).

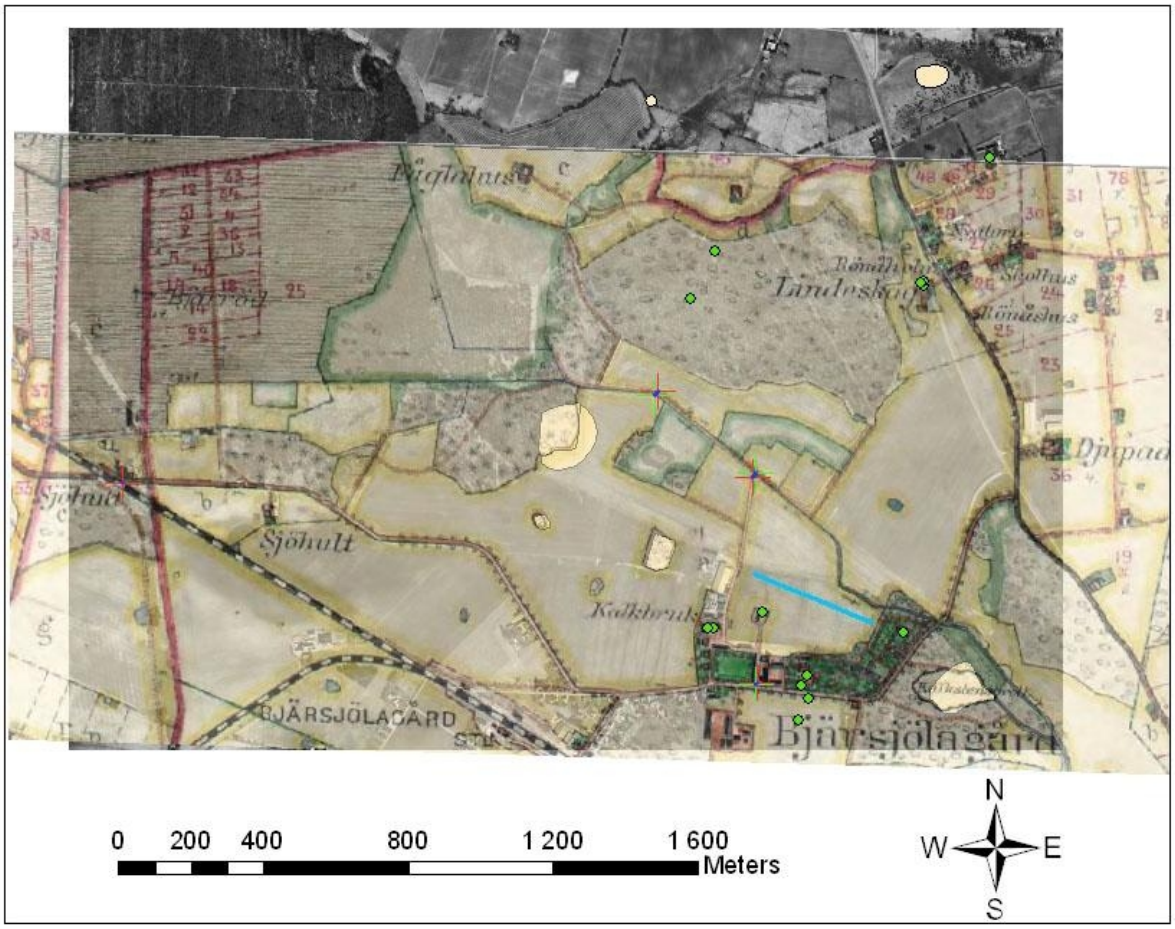


Fig. 19 Map: The map from 1910 georeferenced to fit fig. 6. The largest change in the landscape in the present day is the disappearance of the lake, as land use has remained largely the same (FMIS/Digitala Kartbiblioteket).

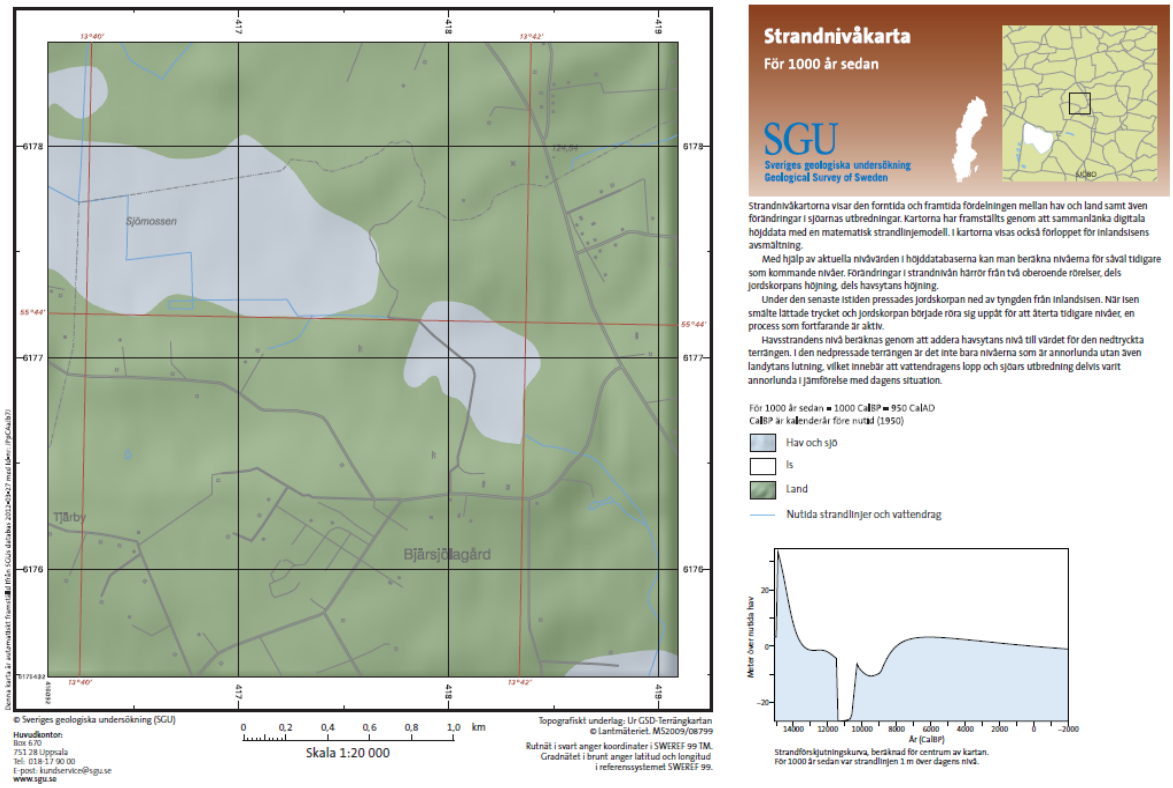


Fig. 20 Map: Water levels 1000 B.P. This map shows a similar result to the conclusions drawn from fig. 17 concerning the spread of the lake. This figure may indicate how the lake looked when the castle was first constructed (Geological Survey of Sweden).

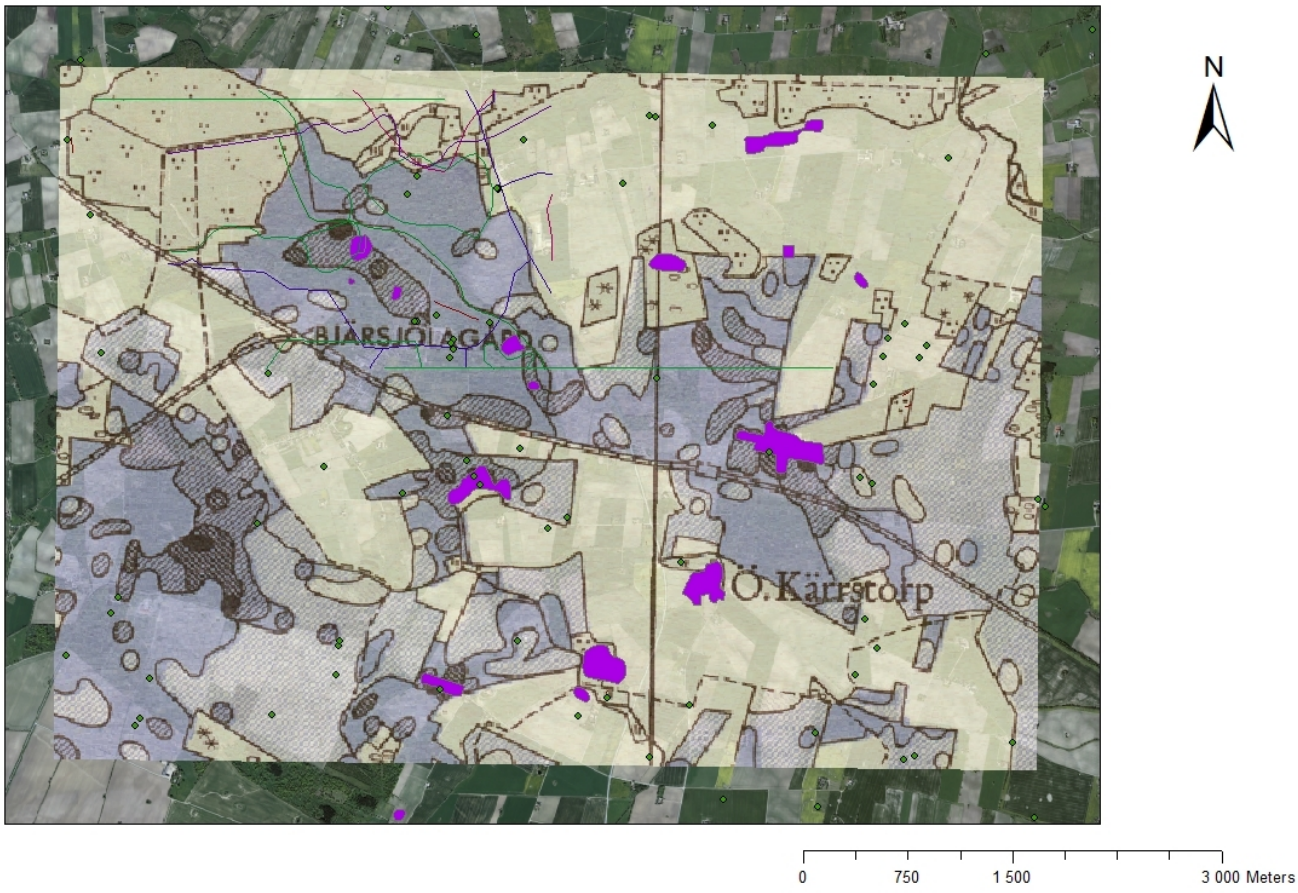


Fig. 21 Map: the phosphate map georectified to an orthophoto; the castle and historical villages in purple. The darkest area north of the first characters in 'Bjärsjölagård' does not match up to the polygon of the castle, seen just right of it, although they are in close vicinity of each other (FMIS/Digitala kartbiblioteket).

4 DGPS Survey

A survey was carried out in order to create an accurate plan of the castle's earthworks. A DGPS comprising of a rover and base station of the type Altus APS-3, together with a Nautiz X7 data collector, was used.

4.1 Execution

Two attempts to survey the site had to be made in order to maximise the acquisition. The first attempt resulted in a partial acquisition of the site, due to adverse weather conditions. The second acquisition was more successful than the first, and a larger area could be covered.

The DGPS was set up as a free station and not connected to any known point. It was left to calibrate for approximately two hours on both occasions, to ensure as accurate z-values as possible. The site was divided into sections and walked across with the rover in a zig-zag pattern in both directions, while the palm computer software had been programmed to log a point every 0,01 meter. The coverage differs between the two acquisitions; during the first survey the northern motte was acquired, and more points were taken in the moat to the north of the mottes, as well as the area just north of the northern moat and the features there, including a smaller earthen wall and a stone cairn. The second attempt focused on covering the south end of the site, it covers both mottes, but has fewer points taken on the northern motte and moat, and no points collected beyond the edge of the northern moat. Figs. 22 & 23 are the point plans illustrating the distribution of the acquired points.

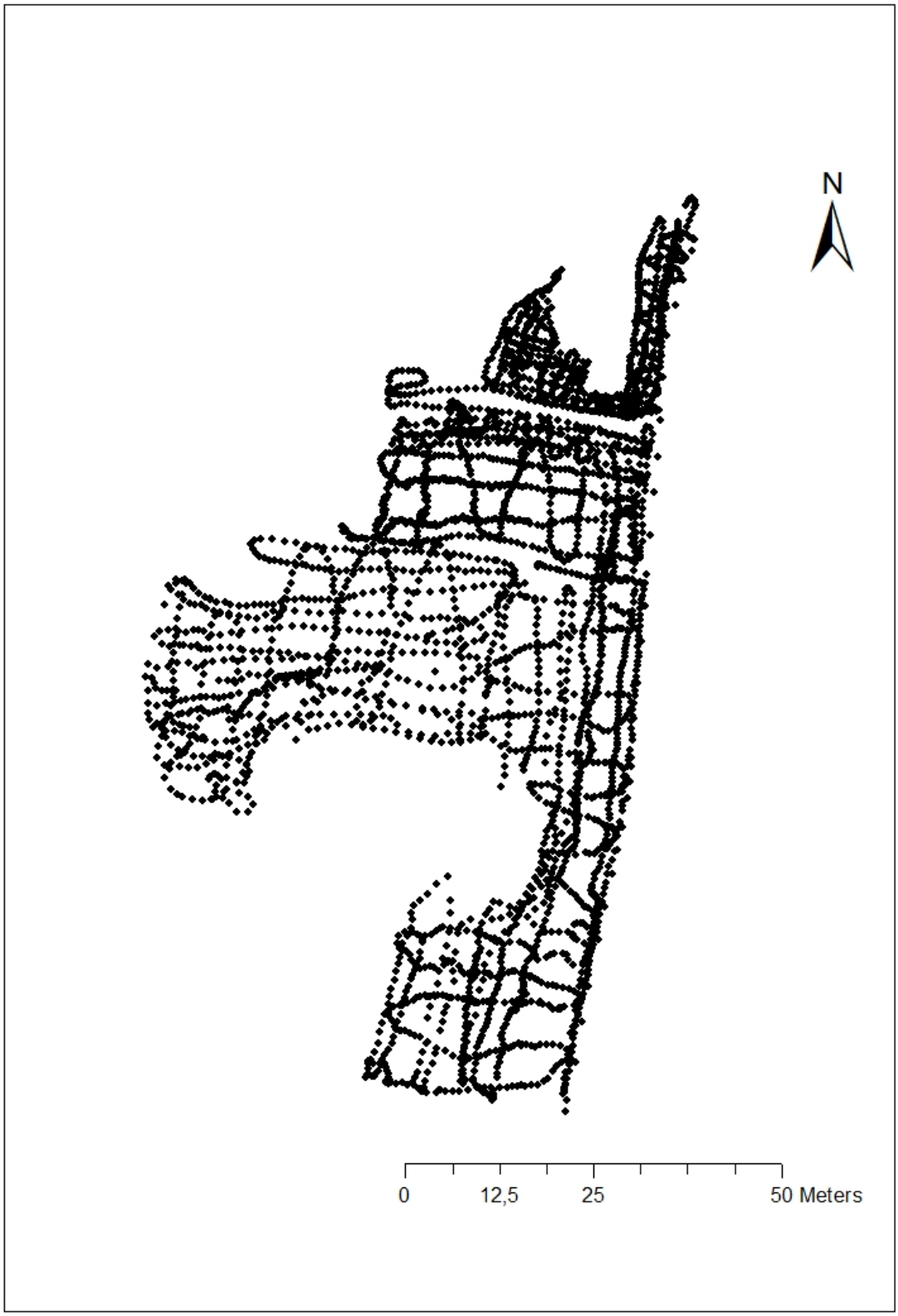


Fig. 22 DGPS survey: points plan, 1st survey (all DGPS survey data produced by author).

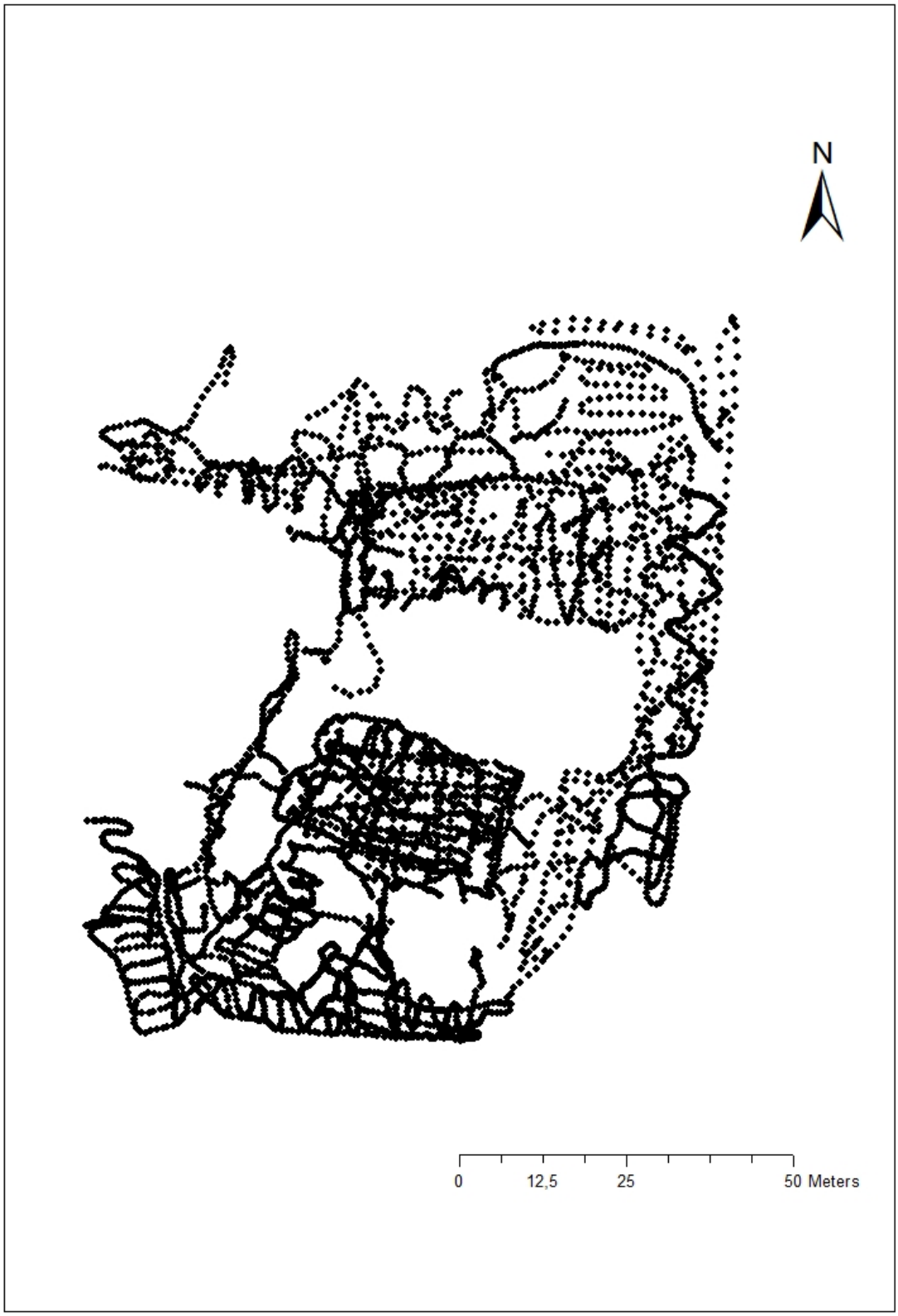


Fig. 23 DGPS survey: points plan, points collected during the second survey.

4.2 Results

The data acquired was converted to shape-files and used in ArcGIS. Maps with contour lines were produced to visualise the height differences at the site (figs. 24 & 25). Fig. 26 illustrates some of the holes in the acquired data, where tree coverage interfered with the DGPS signal. The blank spaces in the data show as distorted geometry in the models. The western earthen wall is only visible to the south-west, and in a thin stripe to the north-west, where a small section of the outer moat can also be seen. The moat separating the mottes is almost completely missing due to tree cover.

TIN (triangulated irregular network) images were also produced to emphasize the elevation information further (figs. 27 & 28). The TIN connects the measured points in the data to create triangles, and in doing so converts the spread of individual points to a connected geometry, which describes the surface of the surveyed area. The first and the second acquisition resulted in images that partly overlap. The southern motte appears to be slightly taller than the northern motte. The observed features on top of the mottes show in the images, such as the oblong, partly stone-lined depression in the southern motte. The position of the base station appears as a small elevation on the northern motte in both versions; this is an error.

To smooth out the geometry displayed in the TIN images, one of the spatial analyst tools in ArcGIS was used to interpolate the data through kriging (fig. 29). The surface from the second survey has been smoothed out, making features such as the outer moat better visible. A second kriging was made after points were added to the data in the area between the two mottes, to simulate the moat (fig. 30). The result is better in its representation of the features, although it does not use data collected in the field.

Fig. 24 DGPS survey: contour lines 1. The result of the first survey described in contour lines, showing the northern motte, and the moat surrounding it to the north and east.

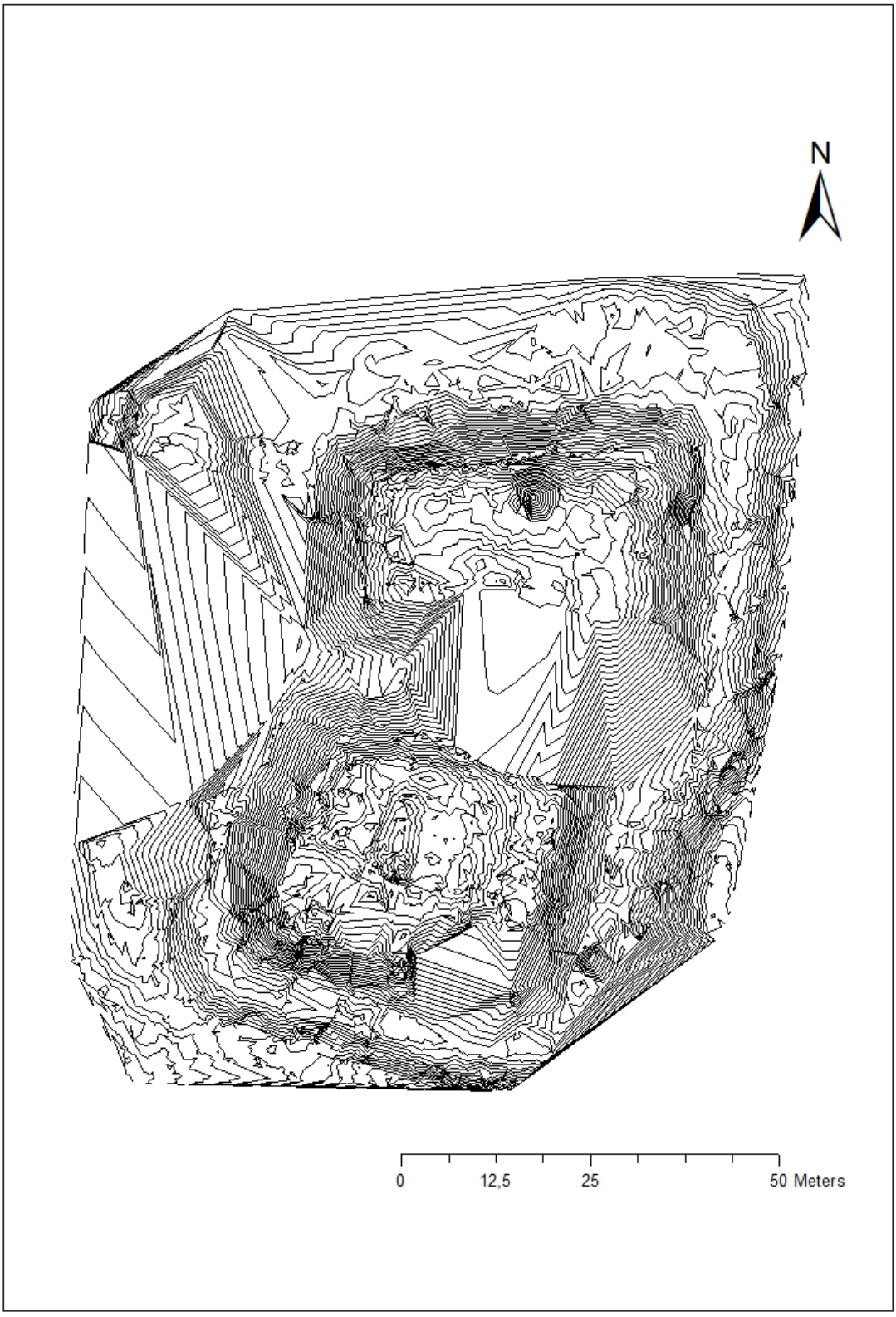


Fig. 25 DGPS survey: contour lines 2. The result of the second survey described through contour lines, showing the two mottes and parts of the moat surrounding them.

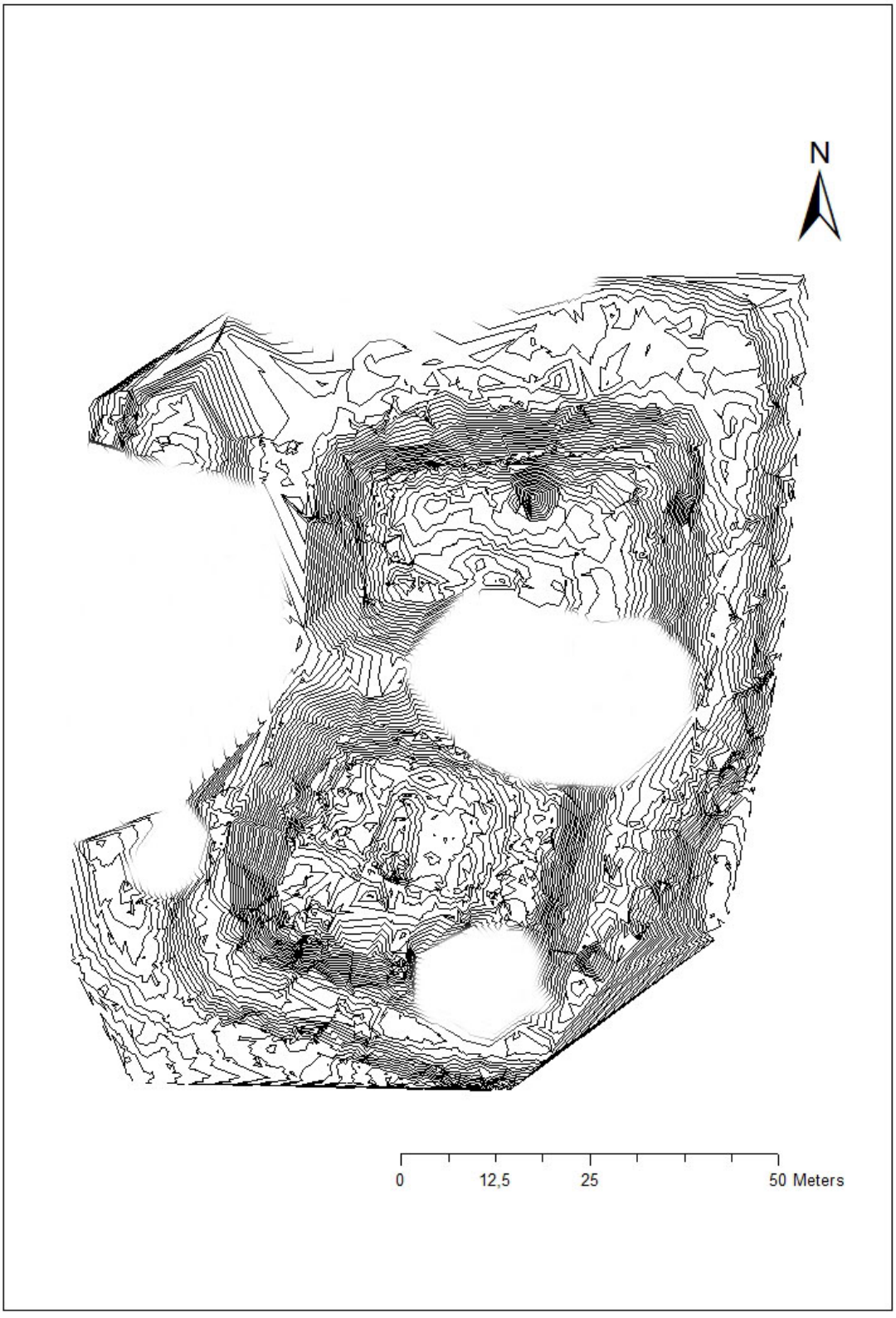


Fig. 26 DGPS survey: contour lines 2, revised. The blank areas are areas without collected data, as a result of tree coverage.

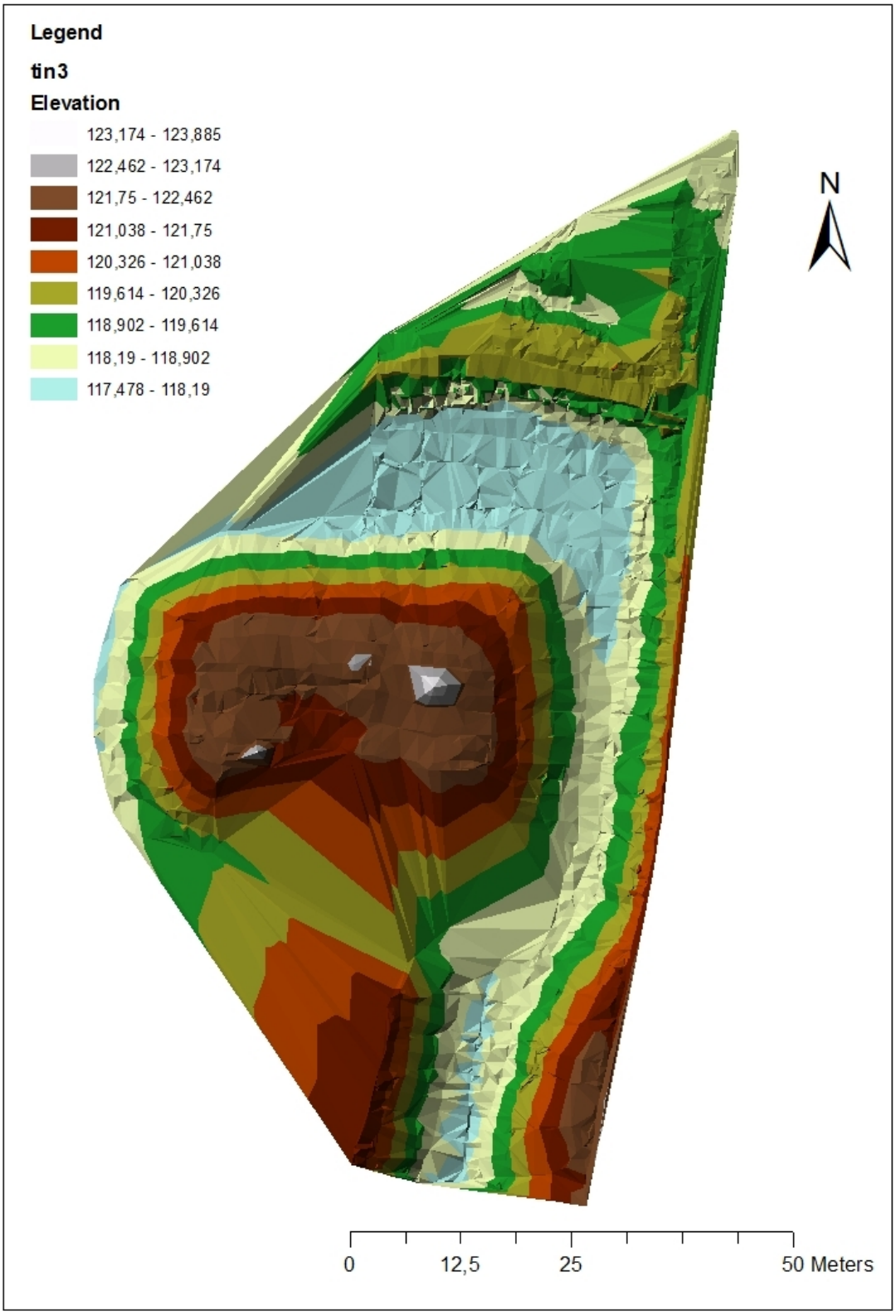


Fig. 27 DGPS survey: TIN 1. The surface of the northern motte is visualised through the data acquired in the first survey.

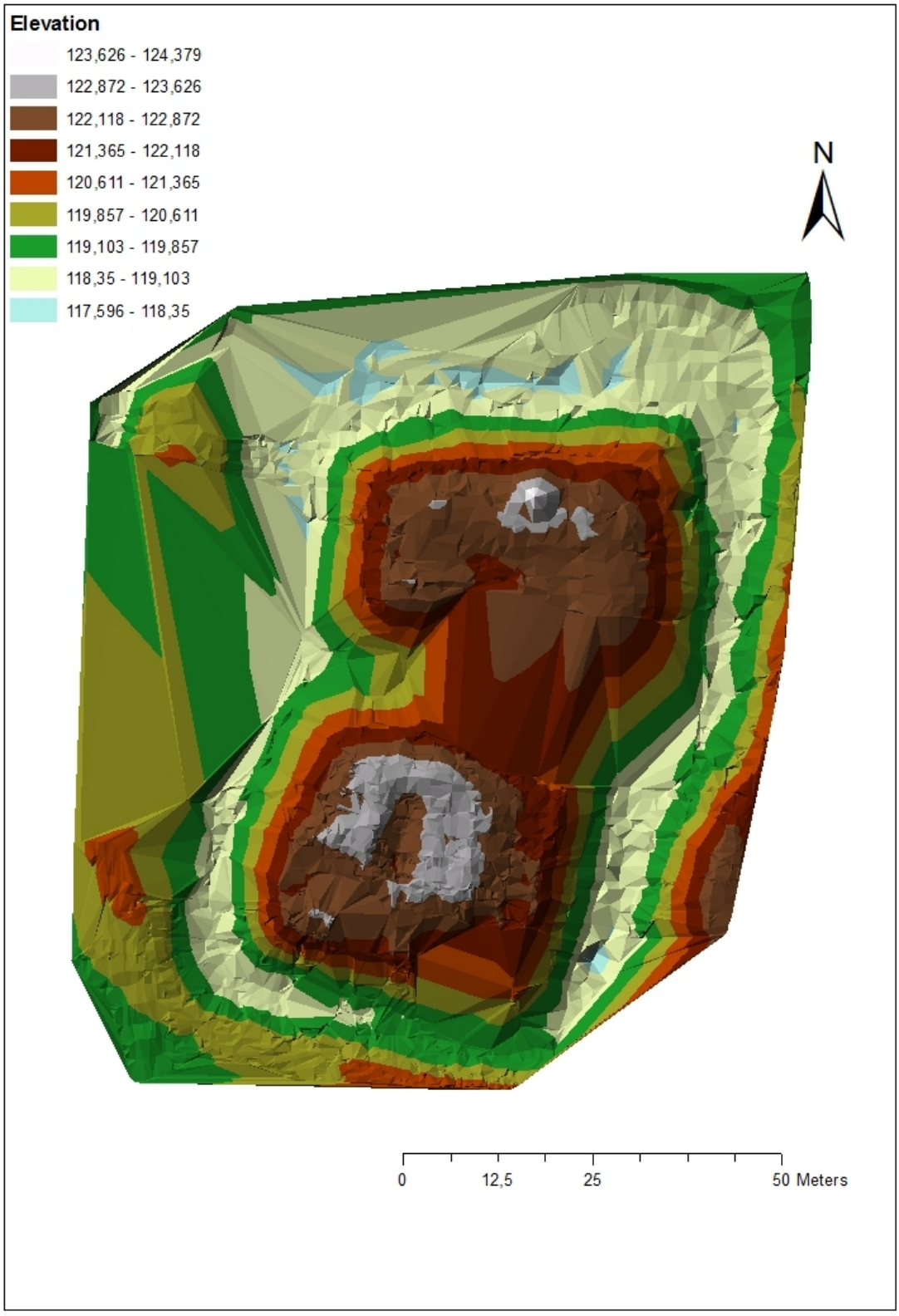


Fig. 28 DGPS survey: TIN 2. The surface of the two mottes described with data from the second survey.

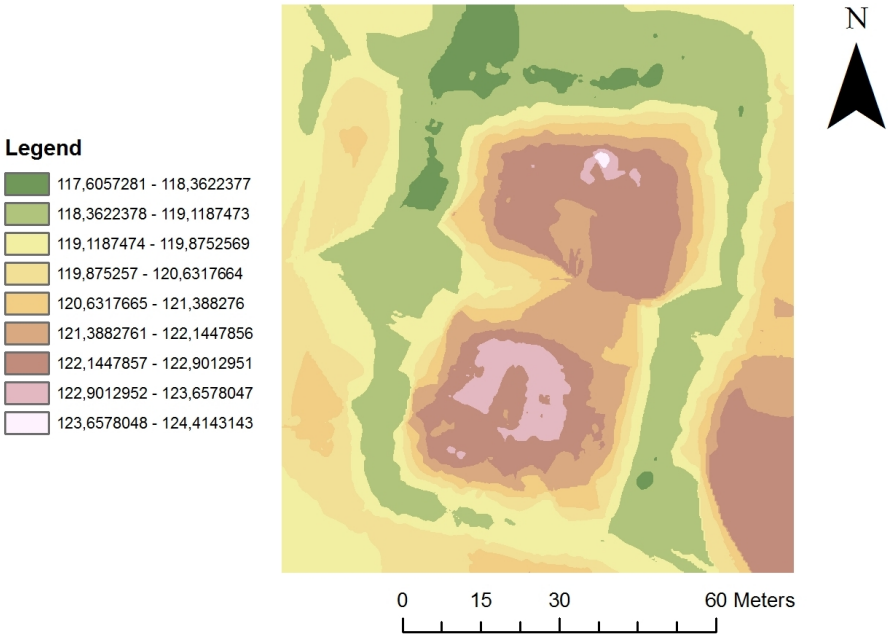


Fig. 29 DGPS survey: kriging using the data from the second survey. The surface appears smoother than in the TIN images , and the image is easier to read. The outer moat can be seen in the top left of the image.

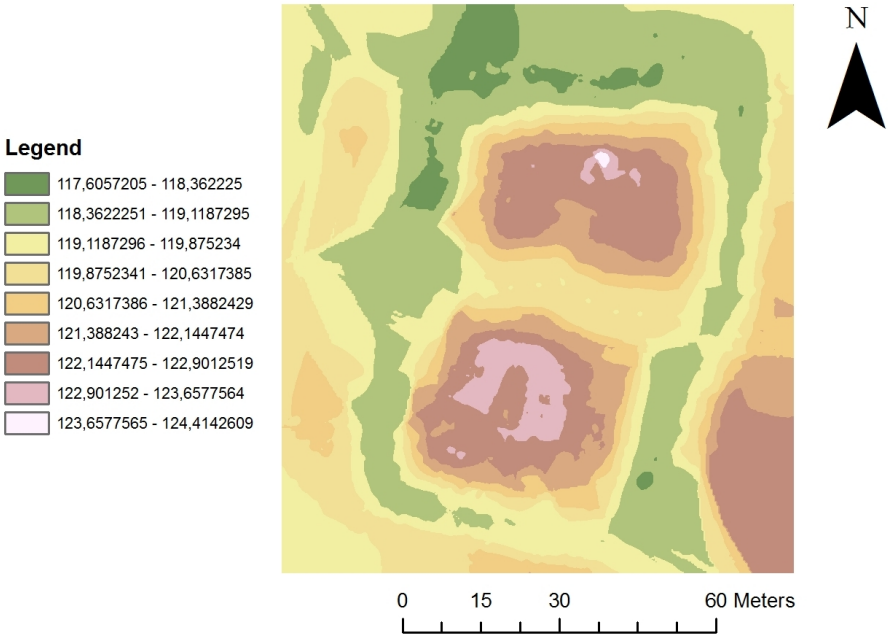


Fig. 30 DGPS survey: kriging, with added points. Points from the western end of the moat dividing the mottes have been copied and added between the mottes, to create an outline of

the moat. The resulting image conveys a better representation of the the moat and the mottes, but is not based on correct measurements.

4.3 Critique

The survey yielded results of lesser quality than initially desired, due to a number of factors. Concerning this specific site, the DGPS was not the ideal tool. There are a handful of large trees on top of the mottes, showing up as empty spaces in the acquisition plan, and the mid section of the western wall was not recorded at all due to tree cover. The DGPS was very sensitive to leaf foliage cover, and would also occasionally loose signal in open areas without trees in the vicinity. A non-automatic total station would have made a complete acquisition possible. By having two persons operate the total station, trees can be avoided. A third person could move or cut down branches close to the ground to increase visibility. The total station could be set up in several locations on the site to maximize the acquisition. On the other hand, a total station survey is time consuming, and produces less points than a DGPS survey. The latter is instantly georeferenced, whereas a total stations survey would need to be tied to a known point to georeference it. In both cases, the instruments could have been set up on a specific point at the site, so that the second survey could have been accurately added to the results of the first. The time consumption of the survey had been underestimated; due to the use of a free station set-up without a reference point, the survey had to be made in a single session. This led to the exclusion of the landscape directly to the south and east of the enclosure of the site, where traces of the outer earthworks in the open field could have been recorded. A survey should be made earlier in the year, in favourable weather conditions, before the site is covered in stinging nettles and tall grass. During the first attempt, the inner moat had filled up with up to 0.5m of water caused by heavy rain, and it was difficult acquiring points throughout it. The site is usually used as pasture for sheep, but it seems an animal burrow of possibly a fox in the southern motte may have changed this, resulting in taller grass and weeds in the moat.

A different approach to the survey, with a combination of a total station and a DGPS, in addition to LIDAR data if available, could have produced a better result. With more time to conduct the survey, and the subsequent survey attempts accurately added into the first, the TIN images could have adequately represented the features of the site.

4.4 Summary

The survey resulted in two sets of data of the elevation of the site, one with focus on the north-eastern part of the site, and the other covering the central part of the site. The coverage in the data is not complete, as a result of vegetation. Despite this, the elevation models produced give a more accurate image of the site and its features than previous work on the castle.

5 Discussion

According to the historical sources available, Beritzholm was first constructed as a private castle and later became a royal stronghold. Looking at private castle building in Denmark, it seems most likely that it was built sometime during the hundred year period before it was granted to king Valdemar Atterdag, as private castle building was rare in the period before then, but became increasingly common during the 14th century. The function of the castle before it became a royal castle is unclear; perhaps it had a specific purpose such as production of goods, perhaps it simply served as storage of the castle lord's possessions, and a stronghold to protect its owner. Was Beritzholm modified once the Crown had come into possession of it? Would the construction have differed if it had been built by the Crown initially? Compared to contemporary royal castles like Falsterbohus and Lindholmen, Beritzholm is different in construction with its two mottes. The double-motted construction at Eriksvolde is curiously similar in both outlay and alignment; although there are some differences, the castle plans are almost identical. Could this date Beritzholm to the same period as Eriksvolde?

Falsterbohus' main function was to oversee the herring market; it has been suggested that Lindholmen's inland location was to control a region of locally powerful noblemen, in an area with several private castles. In this sense, what was the main function of Beritzholm? Ljunggren wonders why the castle was built in such a remote location (1852-63, vol. 7, p. 1.). As this report has shown, there were plenty of medieval settlements within the area. The size and the wealth of the medieval churches may be indicators of a class of fairly affluent individuals, who could afford constructing such buildings. The area, although remote, has agricultural riches and may have been abundant of such in the medieval period. Perhaps the castle was to control assets of food production in a pocket of fertile lands in the centre of Scania. It could have served to suppress the local population, who apparently were wealthy enough to have a number of stone churches constructed. Looking at the landscape

surrounding the castle, some of the medieval settlement is still discernible. It can be argued that Beritzholm was a central place, surrounded by medieval villages and and churches. On the other hand, it may be secondary to the settlements; the castle may be a result of the surrounding settlements rather than the opposite. A closer look at transportation routes between the villages and the castle could shed light on this relationship. Perhaps the castle was to oversee the activities at the monastery at Övedskloster. The church was the single largest landholder in medieval Denmark, and relations between the Crown and the bishops were not always peaceful. What influence or power did the monastery and the church hold in this area; was the acquisition of Beritzholm a move to counteract an agent going against the efforts to centralise royal power? The castle had a short period of usage, from the mid 14th century to the 16th century. The castle quickly became derelict and no effort was put into remodelling it. Perhaps the decline of the castle was due to its remote location; perhaps it lost its function, or it may simply have been surpassed by better constructed strongholds.

What did the superstructures of the castle mottes look like? Historical sources give some information; in the earliest record of the castle in 1363 it is described as “howetgardhen i Biritzholm med stenhwset” - the main estate in Biritzholm with the stone house; building materials of timber and stone are salvaged in the 16th century (Flensmarck,2003:150ff). On the map of 1718 the castle is labelled with rudera – ruins. The pieces of brick, dressed stone and mortar observed in the topsoil at the site could be remnants of the medieval superstructures, but they may be debris dumped at the site at a more recent date. Considering the historical sources, it seems probable that Beritzholm did indeed have more permanent structures in comparison with the excavation results from Eriksvolde. Ljunggren claims there to have been a round tower and a square structure, but he does not disclose his sources (1852-63: vol. 7, p. 1). Are these informed guesses or imaginative suggestions? These questions are difficult to answer without a further investigation, such as an excavation, of the site.

Little give evidence as to how the site may have been modified in the years after the castle was abandoned. The ploughed out eastern and southern parts of the earthworks have been incorporated into a field. What effect has erosion had on the remaining earthworks? Has there been any activities during the modern period that may have disturbed the archaeology at the site, like at Eriksvolde? The stone wall with mortar at the western edge of the southern motte seems to be a recent addition, as it is not in the 1971/87 surveyor's sketch. An attempt to reconstruct the ploughed out parts was made with the software Autodesk 3ds Max, where the

size of the mottes have been exaggerated, and the walls to the south and east have been added (fig. 31). In this version, the third castle mound was excluded. The entrance to the site has been placed in the south-east corner as suggested by Ljunggren, with an opening in the inner wall slightly further to the west (ibid.).

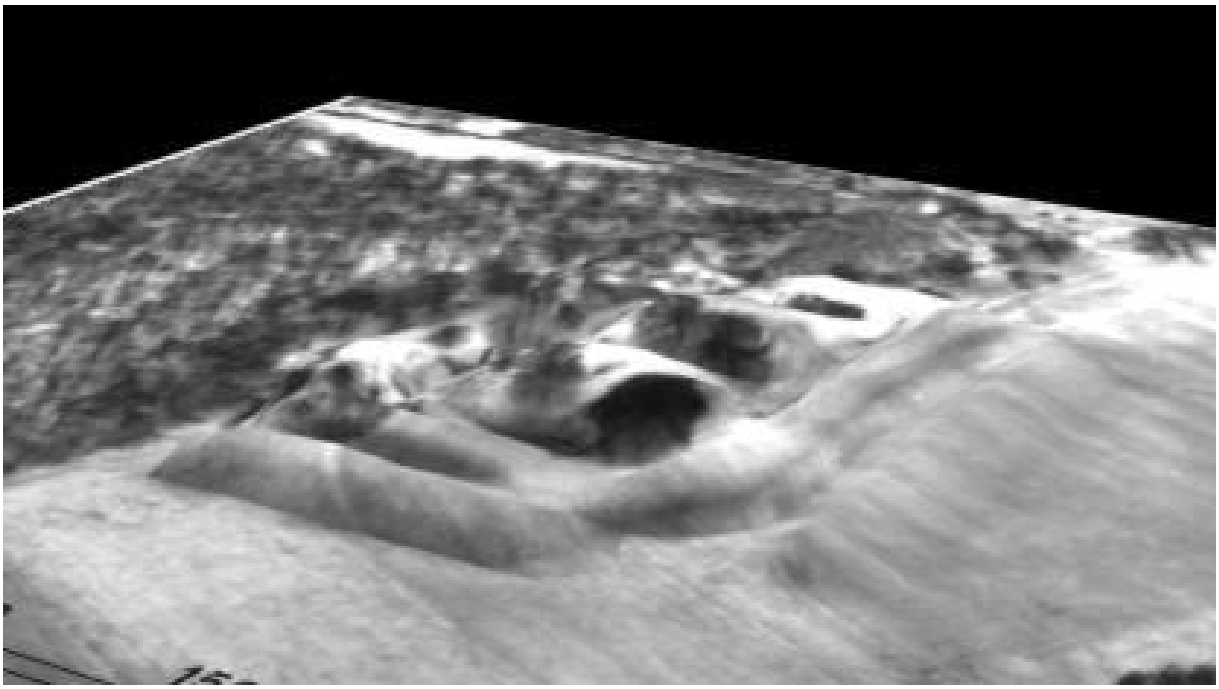


Fig. 31 Reconstruction of the eathworks in 3ds Max

The double-motted construction of the site means that the site was divided into several areas. These areas may have had different functions, such as storage, accommodation, military or defensive functions, or areas for different crafts and animal husbandry. Lindholmen and Falsterbohus castles are both constructed with a single square motte, and had these functions concentrated to the motte and the inner wall. The outlay of Beritzholm can be discussed using thoughts from access analysis. Access analysis is mainly applied on the outlay of rooms in buildings; however, it could be interesting to consider the different parts of Beritzholm in terms of points of access, and which parts of the castle were the most difficult to gain access to.

Firstly, the entrance to the site should be considered. At Eriksvolde, the access was over the western wall. This is unlikely to have been the case at Beritzholm, due to the lake. The western wall at Eriksvolde is separated from the rest of the inner wall to form a separate mound. As Beritzholm may have had a third mound to the east, it could have been the

entrance to the site. In theory, the more points of controlled access, the more difficult it would be for an intruder to pass, thus making the site easier to defend. The inner wall at Beritzholm is open to the lake so that the moats could fill up with water. Perhaps the castle could be accessed from the lake , if a vessel could get through the opening and reach the mottes. If this was a point of access, it may have been protected by palisades in the gap of the wall.

If the main access to the castle was indeed from the south-east corner as suggested by Ljunggren, which function would each mound have? To consider their functions, it is necessary to consider how the mottes and walls were connected. The excavation at Eriksvolde indicated the presence of wooden structures between the mottes, and between one of the mottes and the wall, perhaps some sort of drawbridges. It is reasonable to assume that something similar existed at Beritzholm, which is also suggested in the historical sources. An excavation could give an insight in this. It also seems reasonable to place the entrance to the site in the south-east corner when considering the surrounding landscape. The lake appears to have surrounded the lakes on at least two sides, to the west/north-west and the east. The land to the north is also of a lower elevation. The road in the FMIS information leads towards the castle along the edge of the southern edge of the depression of the lake: the highest bit of land directly surrounding the castle is to the south. However, no gap in the wall, or ramp towards the wall such as the one at Eriksvolde can be discerned, making the exact point of access difficult to determine.

A comparison between Mandelgren's plan, the FMIS surveyor's plan and the newly produced plans indicate some dissimilarities. Mandelgren's drawing has a third mound to the north-east of the castle (see fig. 3 and appendix, image 13); the FMIS plan describes the western wall to be “the garden island” (fig. 4). The information given in the 17th century *Prästrelationerna* supports Mandelgren's plan, as it mentions the castle having three parts, one with a main building, one with a byre, and one with a garden (Tundeld, 1934:56). However, this historical source is written after the castle was abandoned, and the information as from most historical sources, should be used with caution. It is likely that the western wall held a function of some sort, as the top of the western wall is wide and flat enough to have supported structures. It may have had something like a smithy, or it may well have been a garden; it could have been used as pasture, perhaps it held a structure like a byre. If there was a third, smaller mound, its function would probably have been similar to the western wall, such as utilitarian buildings, a byre or a stable, or even accommodation for the lowest levels of the castle household.

Presuming that the deepest part of the castle with the longest access route from the entrance was the most protected, would this part have held a keep, storage or perhaps accommodation? If the mottes were connected in the same way at Beritzholm like they were at Eriksvolde, the northern motte would be the part with the longest access route and most points of access. What the difference in function between the two mottes was can only be theorised. The southern motte may have held defensive functions, storage of collected taxes in form farming produce, and accommodation for the men serving the bailiff. The northern motte may have served as storage for valuable goods, accommodation for the bailiff and his family, and as the main keep of the castle, making it the last part to be conquered should the castle come under attack.

6 Conclusions

A DGPS survey was not the best method for creating an elevation model that covers the whole site. As far as the aims of this thesis, a complete model could not be produced and thus the aim of creating such as model was not met. However, considering the lack of previous research, the survey has produced new data and improved the knowledge of the site.

Throughout the research on this thesis, new areas which could be studied further were highlighted. To further the research in landscape archaeology in central Scania it would be interesting to study the spread of early medieval settlements in Färs *härad*, such as churches and other castles. The medieval settlement of Scania have previously been studied with a focus on the more fertile areas of land around the denser settled coast lines, and very little research has been made on the most central areas of Scania. As Beritzholm is located at the border of Färs *härad*, perhaps the castle county comprised of Frosta *härad* as well, as the castle is in the centre if both *härader* are put together (see fig. 1). If the hinterlands of the castle were to be studied more in-depth, this could be kept in mind.

Likewise, the ecclesiastical organisation in central Scania would be an interesting topic to pursue. What was the relationship between Beritzholm and the large monastery at Övedskloster? Was the castle meant to interfere, control, or keep an eye on ecclesiastical affairs?

Another aspect to consider is the main transport links to Beritzholm. Was it connected by roads to the west, south or east? Which central place would the inhabitants of Beritzholm

have travelled to?Would transport on waterways have been possible? The lake beside the castle emptied into Vombsjön, which empties into the sea on the west coast of Scania via Kävlingeån. Would transport have been possible from Beritzholm to the western coast of Scania? A quick look at a present-day map gives a possible transport link southwards, via lakes and rivers to the sea at Svarte near Ystad on the south coast (Vombsjön – Klingavälsån – Sövdesjön – Snogeholmsjön – Ellestadssjön – Krageholmsjön – Svartån). Would this route have been passable? Or were there no set transport links from Beritzholm to other central places?

When imagining the landscape during the work on this thesis, it was difficult to envision any people in it. Who were the people who built Beritzholm and who lived there? It would be thought-provoking to place humans in the landscape – not only the noblemen mentioned in the historical documents, but also other groups: thralls, women, peasants, rich, poor. Can these people be traced? Perhaps an excavation could give information on this, as people could be more easily sensed through objects rather than through the modern landscape.

Scania, as a part of Denmark, saw large changes to kingship and royal power during the middle ages. The royal castles were an invaluable tool to controlling the country; the castles held the country together and enabled the strong position of the king. Further investigations at Beritzholm could further the understanding of the castle, its functions and the landscape surrounding it.

This thesis has investigated the historical and geographical context of Beritzholm castle, through a brief account of the medieval history of Denmark, castles of the same function and type, as well as describing the landscape surrounding the castle through historical and GIS generated maps. The hinterlands of the castle were considered through a closer look at the medieval settlements in the landscape. A digital archaeology technique was used to increase knowledge of the site, and produce reliable data. Although a complete cover of the site was not achieved, the results were sufficient to create representative models of the site. An attempt to create a plausible reconstruction of the castle superstructure was not made, as the collected data was not conclusive. However, a reconstruction of the destroyed earthworks was discussed.

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Appendix I: Photographic appendix

Image 1 View of the inner moat, west of the mottes. From S (By author, 2011).

Image 2 Top of the inner wall, west of the mottes. From S (By author, 2011).

Image 3 The outer moat and wall, west of the inner earthen wall. From SE (By author, 2011).

Image 4 The north-western corner of the inner moat. From W (By author, 2011).

Image 5 The inner slope of the inner wall, to the west of the site. From N (By author, 2011).

Image 6 The two mottes and the moat separating them. From SE (By author, 2011).

Image 7 The stone wall with mortar on the western edge of the southern motte. Top left: a piece of roof tile. From W (By author, 2012).

Image 8 The stone wall on the western edge of the southern motte. From N (By author, 2012).

Image 9 The stone-lined depression on the southern motte. DGPS rover being operated by Angelina Borgius. From NW (By author, 2012).

Image 10 The stone-filled pit in the south-east corner of the southern motte. From NW (By author, 2012).

Image 11 The ploughed out eastern inner wall. From N (By author, 2012).

Image 12 The northern slope of the northern motte, DGPS base station to the left. In background: the northern end of the western inner wall. From E (By author, 2012).

Image 13 The field east of the site, where the third castle mound is situated in Mandelgren's drawing. From S (By author, 2012).

Image 14 The field south of the site, with a clear slope where the inner wall has been ploughed out. From E (By author, 2012).

Image 15 The field east of the south-east corner of the site, the ploughed out inner wall (By author, 2012).