

8 Archaeological research in the Kurkijoki area in 2001 and 2003: a preliminary study of the Stone Age settlement patterns in southern Ladoga Karelia

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Abstract

This paper describes the archaeological studies conducted in the former municipality of Kurkijoki in southern Ladoga Karelia by Finnish and Russian researchers in the early years of the 21st century, as well as the environmental and research history of the study area, covering also parts of the neighboring municipalities. This information is used as the basis for a Stone Age settlement pattern, which can be used as a working hypothesis for future research in the current and adjoining areas. Based on our current observations, the more sedentary sites, in many cases with dwelling depressions and ceramic finds, were situated on the eskers bordering the study area. From these sites, which resemble base camps, logistic trips were made into the inner archipelago between the eskers, which is dotted with numerous small quartz find locations interpreted as less sedentary sites. The only exception to this picture is the famous Kurkijoki Kuuppala site excavated in the early 20th century. It is situated in the environmental setting typical for less sedentary sites, yet its find material suggests some degree of sedentariness and a prolonged use life, at least through the Neolithic to the Early Metal period. This could suggest a special character for the Kalmistomäki site, e.g. as a seasonal aggregation point.

8.1 Introduction

Archaeological research has been conducted in the former municipality of Kurkijoki (Ru. Kurkiëki) for nearly a hundred years. However, the research in the 20th century concentrated mainly on the Iron Age and later studies. The first systematic survey of Stone Age and Early Metal Period sites in the study area was carried out in May 2001 by the Department of Archaeology, University of Helsinki, the Institute for the History of Material Culture, Russian Academy of Sciences, St. Petersburg and the Peter the Great Museum of Anthropology and Ethnography (Kunstkamera), St. Petersburg.

The short archaeological survey proved to be exceedingly successful despite the depressing weather conditions: sub-zero temperatures, snow and hail. No less than 44 new Stone Age and Early Metal Period sites were found during the survey and a total of 51 sites was inspected and documented. (Fig. 8.1)¹ (Timofeev *et al.* 2002; Gerasimov 2003.) The research co-operation in Kurkijoki continued in June–July 2003 when two Stone Age sites found in 2001 were trial excavated (Gerasimov 2003; Nordqvist & Seitsonen 2004; Gerasimov *et al.* 2004). The archaeologists from Petrozavodsk excavated at three of the sites in Kurkijoki in 2003 and 2005 (I. F. Vitenkova 24.7.2005 pers.



Figure 8.1 The 2001 survey team having a break on the Kuuppala Island. Crew from left to right: Mika Lavento, Sergej Astahov (behind Lavento), Vladimir Timofeev, Oula Seitsonen (in front), Sanna Puttonen, Mikko Keränen, Petri Halinen, Kerkko Nordqvist. (Photo: P. Uino 2001)

comm.). Also a few new sites were found after 2003 during our own fieldwork and by archaeological expeditions from the Museum of North Karelia, St. Petersburg and Petrozavodsk². The studies in 2001 were funded by Karjalaisen Kulttuurin Edistämissäätiö (The Foundation for the Promotion of the Karelian Culture) and the 2003 investigations by a grant from the Russian Foundation for Fundamental Research (RFFI No 02-06-80469).

In this paper the general geographical setting of the study area and the archaeological material known up to date are presented. On the basis of these and of the environmental setting of the prehistoric sites a preliminary view is taken into the Stone Age settlement patterns of the area (see e.g. Mökkönen 2000; 2002; Pesonen 1995; 1996; Vikkula 1994). First some of the general views connected to the study of prehistoric settlement patterns are briefly reviewed, and after

that the archaeological material from Kurkijoki is discussed more closely. The aim of the study is to provide a tentative view of the settlement patterning on the basis of the current archaeological material and to test the methods developed for the study of the settlement patterns in the Lake Saimaa area in a new environmental setting.

Previously no studies of the Stone Age settlement patterns had been performed in the Ceded Karelia. Thus the studies in the Kurkijoki and Kaukola-Räisälä study areas (Nordqvist & Lavento 2008, this volume) introduce the first attempt to study them in the Ladoga Karelia and in the Karelian Isthmus.

8.2 Placement of the sites in the landscape

The placement of the dwelling sites in the landscape is directed by both social and ecological factors. Since the 1980s the theoretical trends in archaeology have been trying to raise the landscape from its former role as a three-dimensional stage into an active, socially created agent (see Tilley 1994). The way a group perceives its environment affects the actions of all of its members. How man uses his landscape is not random, neither exclusively connected to the ecological adaptations. Of archaeological interest is that the manner in which a social group perceives its environment might be less prone to abrupt changes than for example its material culture. Thus landscape studies could be one approach to get closer to major archaeological questions such as continuity and migration. (e.g. Barrett 1994; Bradley 2000; Kvamme & Jochim 1989; Mökkönen 2000; Tilley 1994.)

Natural resources define in their part the distribution of sites and routes. Locations in the landscape must have a certain ecological bearing capacity to attract human activity in the first place (e.g. Wilkinson 1981: 253). Also the social and cognitive values affect the perceived image a group constructs of its environment and in this way influence the forms of behavior in the landscape (e.g. Gould & White 1974; Tilley 1994). Some researchers have argued that the ecological variables might have more effect on the placement of sites of hunter-gatherer communities than the diverse social and/or cognitive factors, especially in previous decades, which is in line with contemporary theoretical trends (e.g. Jochim 1976; Kvamme 1985; Kvamme & Jochim 1989). However, this might not always be the case (see e.g. Lahelma & Sipilä 2004; Mökkönen 2002).

Some of the important environmental variables affecting the placement of the sites in the

landscape are the vicinity of water, and the soil and terrain types. Rocky and clayey soils are not especially favorable for habitation and thus dry and absorbent sandy soils were preferred, particularly for more permanent settlements. The topography of the landscape is also an important factor. Clear visibility from a site into the surrounding area is important e.g. for resource utilization, observation of game and visual control of various routes of passage. Also various environmental factors that are difficult to study through the archaeological record, such as the availability of firewood, affect the placing of a site. (e.g. Jochim 1976; Kelly 1983; Kvamme 1985; Kvamme & Jochim 1989.) Settlement patterns are also closely connected to the differing subsistence strategies, as well as to the intensity of the occupation, sedentariness and seasonality of the various sites (e.g. Binford 1980).

8.2.1 Methods of the analysis

Due to the character of the archaeological material in this study – sparse and mostly undated stray finds, survey observations and a few test excavations – the picture of the settlement patterns presented on the basis of current material remains tentative. There is not much archaeological material from the study area that could be used for examining possible socially defined factors affecting the placement of the sites. This may become possible once more data is collected in future studies, especially when more excavations are conducted within the area. However, with the current archaeological material the settlement patterning must be studied almost exclusively based on the environmental factors. For the few excavated sites the questions of sedentariness, seasonality and the intensity of occupation are touched upon. However, as the conducted excavations are small, so also these interpretations remain preliminary and should be supplemented with further studies.

Owing to the nature of the available material the settlement classification presented by Kenneth L. Kvamme (1985) was used in the analysis. Sites used for different functions have varying general prerequisites for their placement in the landscape, and Kvamme (1985) has proposed that the relatively sedentary residential sites, on which multiple activities were performed (extended activity sites), are usually situated in more favorable environments than sites used for some specialized short-term purposes (limited activity sites).

Extended activity sites tend to be generally situated in more sheltered localities, closer to water and transportation routes and on more accessible and even terrain than limited activity sites. Because these sites are used extensively and for longer periods, more attention is drawn into choosing their place than is the case with locations which are not utilized continuously for long periods. Thus multiple criteria have to be fulfilled when choosing an extended activity site. Some of the important variables that need to be taken into account when placing them are that the terrain at the site is favorable and relatively even, the site is sheltered yet easily accessible, close to water and has a wide visibility range. Residential sites are often assumed to be on the south – south-east descending slopes, especially in places where the morning sun could be enjoyed. (e.g. Kvamme 1985.) Also already Stone Age man seems to have had an eye for a nice and scenic view from his dwelling site (e.g. Huurre 1998: 63).

Limited activity sites are supposedly less sedentary than residential sites. They can be for example hunting blinds, quarries, butchering sites or locations for other operational activities, e.g. obtaining clay for manufacturing pottery. Limited activity sites might also serve socially defined purposes, e.g. function as seasonal aggregation sites. At this kind of site the

inhabitants of a wider area might have come together seasonally e.g. for feasting, trading and socializing. (e.g. Kvamme 1985.) Small scale hunter-gatherer societies had to keep in contact with other groups if only to assure the continuity and survival of the community, for example by securing a sufficient gene flow (e.g. Williams 1968: 127); these kinds of factors can form settlement patterns which differ from the ones based solely on ecological variables.

The placement of the dwelling sites was examined separately for both extended activity sites and limited activity sites. Sites were divided into these categories based on the find material and the structures observed at the sites. Sites containing a clear cultural layer, permanent structures such as dwelling depressions and ceramics were interpreted as potential extended activity sites, which might have also been more sedentary and base-camp-like. Dwelling depressions and ceramics are often taken as a sign of sedentary habitation although this might not always be the case (e.g. Mökkönen 2000; Nuñez 1990; Siiriäinen 1981). Sites where finds from more than one find category, such as lithics and burnt bone, were observed connected to a cultural layer were also classified as extended activity sites because the formation of a cultural layer requires long or recurring use of these locations. Sites containing only one find category, for example quartz artifacts, were interpreted as limited activity sites potentially formed by less sedentary activities.

In the examination of the environmental variables the basis were the variables defined by Anne Vikkula (1994). These variables were originally defined for studying the hunter-gatherer settlement patterns in the Lake Saimaa area, and thus one of the aims of the current studies in the Kurkijoki and Kaukola-Räisälä study areas is to examine how well they work in a different kind of environment. In the analy-

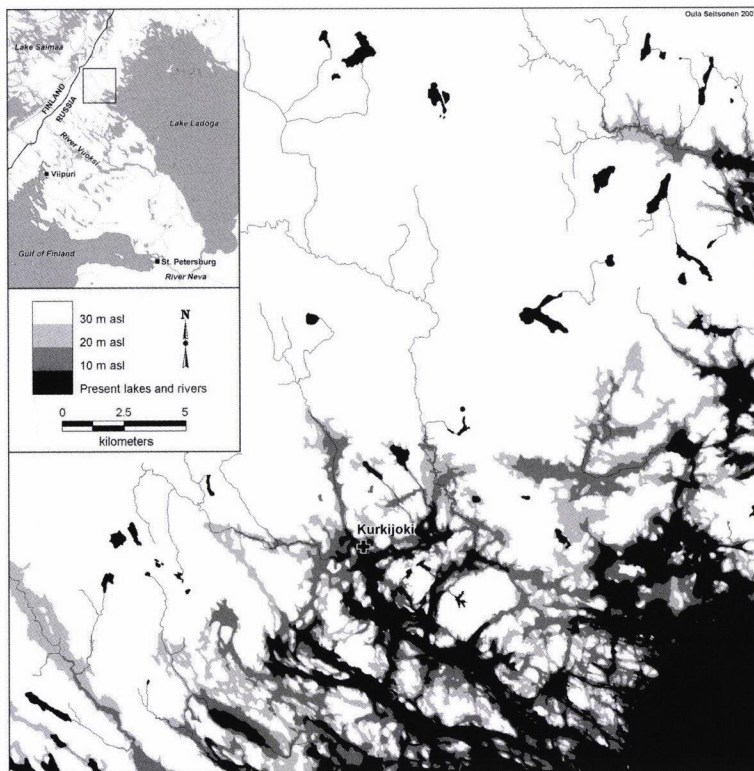


Figure 8.2 The location of the study area on the north-west shore of the Lake Ladoga and the water level reconstructions for the area. Archaeologically significant shore levels of 10 m asl, 20 m asl and 30 m asl are presented. Areas over 30 m asl marked white, present waters and areas between present waters and 10 m asl shown black. (Map: O. Seitsonen & K. Nordqvist)

ses the variables of 1) the types of shoreline, 2) the size of the bodies of water in front of the sites and 3) the slope directions were defined from the topographic maps and checked at the sites (see Nordqvist & Lavento 2008, this volume; also Mökkönen 2000; 2002; Pesonen 1995; 1996; Vikkula 1994). Additional variables in this study are 4) the protectiveness of the background of the site and 5) the soil type at the site (see Mökkönen 2000); these variables were determined at the sites themselves. The same variables were used in the case study of the Kaukola-Räisälä area (Nordqvist & Lavento 2008, this volume).

Also the background environment of the studied area is important when thinking of the setting of a dwelling site and whether it differs from the general background environmental variables (Kvamme & Jochim 1989). However, in this study this was not studied statistically,

as there is currently no database material about this from the Ceded Karelia, and thus it has been taken into account only through a visual examination.

8.3 Geographical setting and the shoreline displacement history of the Kurkijoki study area

Three major geological regions can be discerned in the Ceded Karelia. Thick sediment layers covering the bedrock and deep valleys worn by river erosion are characteristic to the terrain of the Karelian Isthmus south of the River Vuoksi (Ru. reka Vuoksa). Immediately north of the River Vuoksi the terrain is generally reminiscent of the southern areas but farther north a new landscape is encountered. In the Ladoga Karelia and Finnish South-Karelia vast areas of

the bedrock are exposed and the landscape is by and large fjord-like. Great vertical differences and broken landscape are typical for this rocky terrain. A third major area, the Border Karelia, is a bedrock area out of the reach of the stages of the Baltic Sea or Lake Ladoga (Fi. Laatokka, Ru. Ladožskoe ozero). (Saarnisto 2003: 38–41.) Kurkijoki and its neighboring (former) municipalities of Hiitola (Ru. Hijtola), Jaakkima (Ru. Jaakkima) and Lumivaara (Ru. Lumivaara) are situated right on the southern fringe of the Ladoga Karelia (Fig. 8.2).

The Kurkijoki area presents a good example of the broken fjord-like landscape of the Ladoga Karelia. The landscape is characterised by steep cliffs bordering long, narrow bays and tangled waterways of the Lake Ladoga coastline. Farther inland the landscape is sharply outlined and incised by numerous river beds. The northern part of the area is covered by a wide swampy region which is bordered by moraine ridges. The study area is bounded in its north-east and south-west sides by north-west – south-east directed esker formations: the western of these is called here the Hiitola esker and the eastern one Vätikkä esker. These natural barriers border the 900 km² study area, which covers nine Finnish 10 x 10 km topographic map sheets of 1:20 000 scale (all of them measured in the 1930s).

The hydrological history of the area has been affected by the Baltic Sea, Lake Ladoga and Lake Saimaa stages. Before the regression of the Baltic Ice Lake the shoreline in the northern part of Lake Ladoga remained c. 70–80 m above the present sea level. Already during the Baltic Ice Lake the highest peaks in northern Kurkijoki formed a broken outer archipelago (Saarnisto & Grönlund 1996). During the Yoldia Sea stage the regression of the water level continued rapidly until the Ancylus transgression turned the waters of Lake Ladoga to rise again. (Saarnisto 2003: 57.)

The shoreline in Kurkijoki stabilized at

about 20 m asl for thousands of years after the decline of the Ancylus transgression. The slow transgression of Lake Ladoga in the area was accelerated at about 3700 BC (5700 BP)³ when the waters of Lake Saimaa broke through the Salpausselkä I formation and the Vuoksi River channel was formed. This discharge of Lake Saimaa waters into Lake Ladoga seems to have caused the water level to rise rapidly by 1–2 meters also in the current study area. The transgression continued slowly until around 3350 BP (1350 BC) a new outlet channel broke to the Baltic Sea through the Porogi threshold in the south-west corner of Lake Ladoga. This formed the present day River Neva (Ru. reka Neva) channel. The outburst of River Neva caused the water level in Kurkijoki to lower rapidly, about 10 meters over just a few centuries. (Saarnisto 2003: 57; Saarnisto & Grönlund 1996: 32; Saarnisto & Siiriäinen 1970.)

Three water level stages have been modeled for the study area (Fig. 8.2). These hydrological reconstructions are based on the above-mentioned Finnish topographic maps measured before World War II. Currently they offer the best accessible topographic material for the Ceded Karelia. Because presently there is no information of the shoreline gradients connected to other time periods except for the two modeled by Saarnisto and Siiriäinen (1970), the effects of isostatic land uplift were not taken into consideration in these water level reconstructions.

The hydrological settings of the study area have been modeled for the potentially archaeologically important water levels of 30, 20 and 10 m asl. The 30 m asl reconstruction represents the situation in the earlier part of the Mesolithic Stone Age. The known Early Mesolithic sites in the northern part of Lake Ladoga are situated on the 25–35 m asl levels (e.g. Jussila 2001; Timofeev *et al.* 2002). The second reconstruction represents the situation about 9500–3350

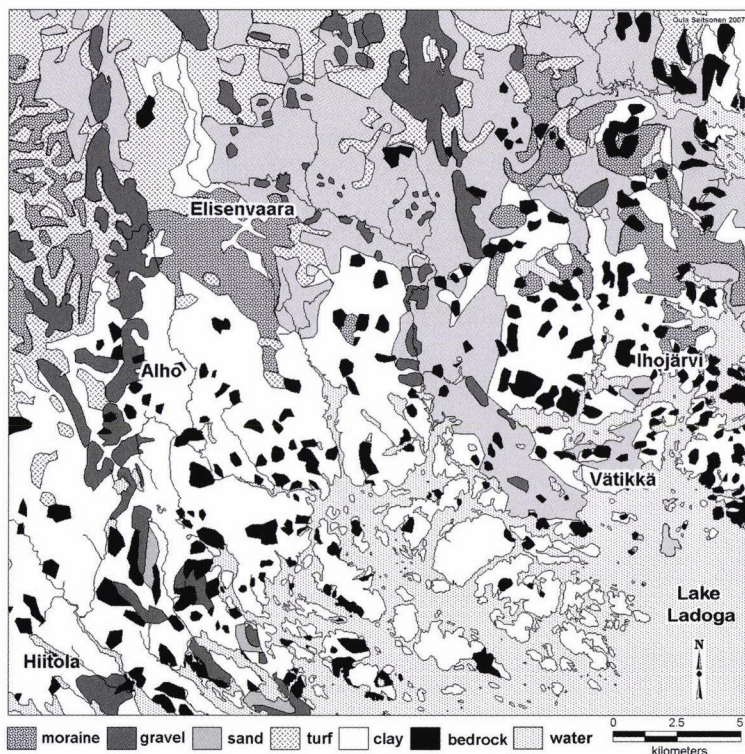


Figure 8.3 Geology of the study area, water level shown at 20 m asl level. (Map: O. Seitsonen)

BP, when the water level lingered close to 20 m asl (Saarnisto & Grönlund 1996). Archaeological material dating from the Late Mesolithic to the initial Early Metal Period can be found on the shore formations situated on these levels (e.g. Timofeev *et al.* 2002; Pälsi 1915). The 10 m asl reconstruction shows the situation in the Early Metal Period after the breakthrough of the River Neva. This is already relatively close to the modern situation (the water level of Lake Ladoga is c. 5 m asl).

As can be seen from the reconstructions, owing to the steep topography the landscape of the area did not change drastically prior to the Early Metal Period. The most severe changes were experienced with the sudden regression initiated by the breakthrough of the River Neva. The drop in the water level caused by the formation of the River Neva must have seemed like a major catastrophe for the prehistoric inhabitants of the area, radically altering the familiar landscape, the

traditional transportation routes and the basis of subsistence in probably less than a century. This must have had a remarkable effect on the way prehistoric people perceived their environment.

The geology of the study area is presented in Figure 8.3. Lake Ladoga is shown in the soil map on the 20 m asl level to make the comparison with the water level reconstructions easier. Information was digitized from a large scale Finnish map of the quaternary deposits (Office of Geology, General geological map of Finland, Helsinki 1903, 1:400 000).

8.4 Archaeological material

Finnish archaeological research in the study area during the early 20th century concentrated mainly on the Iron Age and later periods. As a matter of fact, the study area was the stage for some of the most extensive Iron Age studies in

Finland up to World War II. Altogether 55 Iron Age and Medieval sites are known from Kurkijoki, 51 from Hiitola, nine from Jaakkima and two from Lumivaara; these numbers include both the archaeological sites and the stray find locations. Also the first and only Stone Age – Early Metal Period dwelling site known from Kurkijoki prior to 2001, Kurkijoki 52 Kuuppala Kalmistomäki, was found fortuitously in 1928 during the excavations of Iron Age burials by Nils Cleve (Figs. 8.4 and 8.5). (Uino 1997: 242–258.)

8.4.1 Stone Age and Early Metal Period stray finds

Stone Age stray finds have been collected relatively abundantly from Kurkijoki: 126 items are in the collections of the National Museum of Finland and four were formerly in the Museum of Viipuri. Most of the finds were collected already at the end of the 19th century. However, finds from the area were added to the National Museum collections also as late as 1949 and 1951; these treasured objects had been carried along by evacuees moving west of the present Finnish-Russian border in World War II.

Also the archaeological materials from the neighboring municipalities of Hiitola, Lumivaara and Jaakkima, for the parts which fall within the present study area, are included. There are altogether 70 stray finds from Hiitola, 239 from Jaakkima and one from Lumivaara; 170 of these were found within the study area.

The location information of many finds collected at the end of the 19th century is imprecise. In most cases this means locating the find place only by a village. 119 of the stray finds from Kurkijoki were located on the accuracy of the village. Two stray find places were located exactly (NM 3273: 2 and 10449: 1–4), thanks to the general map drawn by Jouko Voionmaa in 1937 when he inspected the find places. In the



Figure 8.4 The excavation area of Nils Cleve's 1928 excavations at the Kurkijoki 52 Kuuppala Kalmistomäki site, picture taken roughly towards north-northeast. (Photo: N. Cleve 1928, National Board of Antiquities)



Figure 8.5 Kurkijoki 52 Kuuppala Kalmistomäki site from south. The site is located on the hill slope in the background, between and around the deciduous trees. Vladimir Timofeev and Pirjo Uino walking on the grassy field in the foreground. (Photo: O. Seitsonen 2001)

2001 survey a Stone Age dwelling site was located on this same hillock (Kurkijoki 1 Levonpelto Rastaanmäki). 39 of the stray finds were located in a more detailed way, on the accuracy of a farm. The stray finds from the neighbouring municipalities included in this study were located mainly according to the village because an even higher number of these were collected in the 19th century than in Kurkijoki. 27 of the stray finds from Hiitola were located by the village. In Jaakkima 36 of the stray finds were located according to the village and 6 according to the house. The only stray find location within the Lumivaara municipality is situated outside the current study area.

The distribution of the stray finds is presented in Figure 8.6. The distribution represents mostly

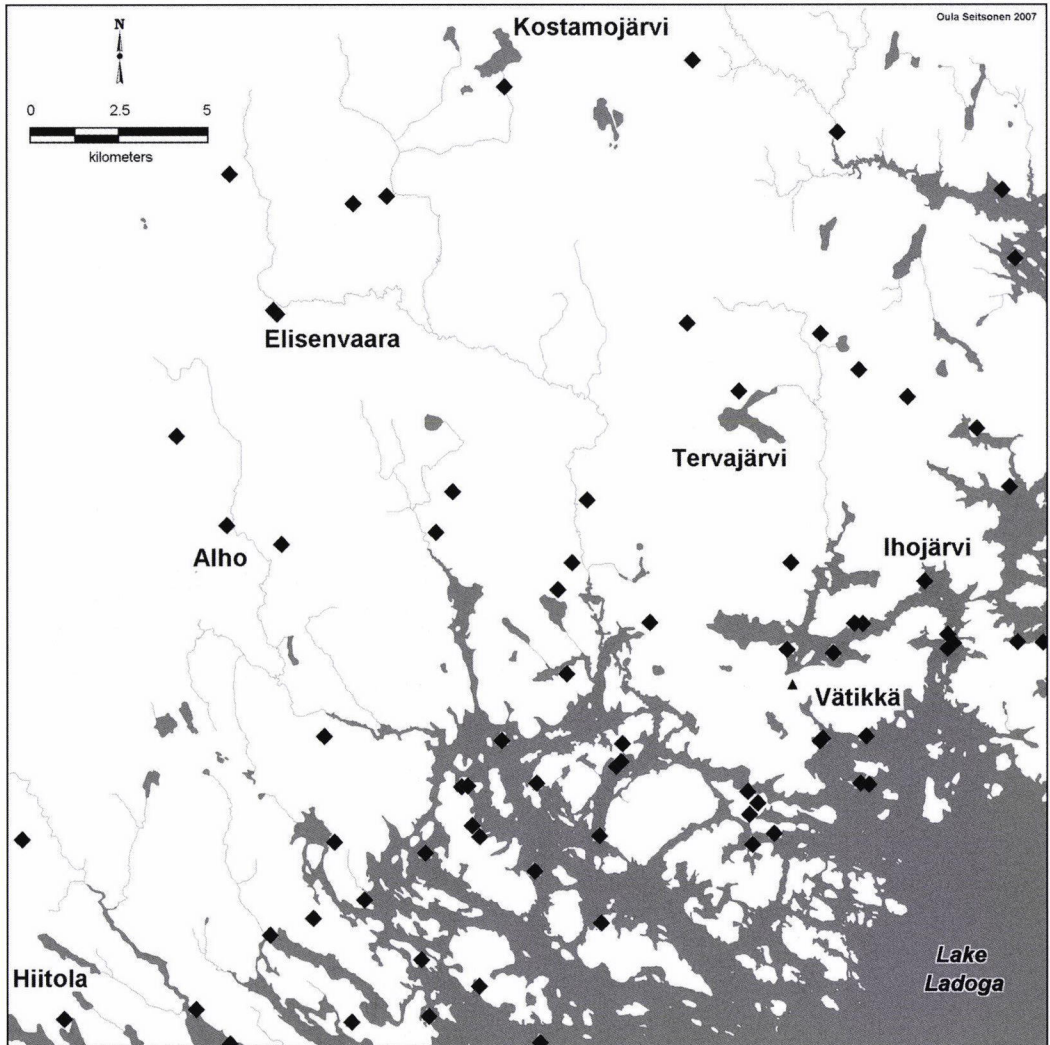


Figure 8.6 The distribution of stray finds in the study area (the locating accuracy of find locations varies, mostly located on the accuracy of a farm). The water level is shown at 20 m asl. (Map: O. Seitsonen)

the areas, where cultivation had been conducted on the level of the Stone Age shorelines, but also the centralization and direction of the prehistoric human activities in the area bordered by the eskers. Approximately one quarter of the stray finds within the study area located on the accuracy of the village are situated in the Ihojärvi village (Ru. Ihojarvenkylä), the shore fields of which were situated on both sides of the elevation of 20 m asl. However, from the hydrological reconstruc-

tions one notes that in the Stone Age also a long and winding fjord reached far inland through the present day Lake Ihojärvi basin (Ru. ozero Ihojarvi). The spatial distribution of the stray finds has been examined more detailed in separate studies (Seitsonen 2003; 2004).

8.4.2 Stone Age and Early Metal Period sites

Besides Kuuppala Kalmistomäki no Stone Age dwelling sites were known from the study area

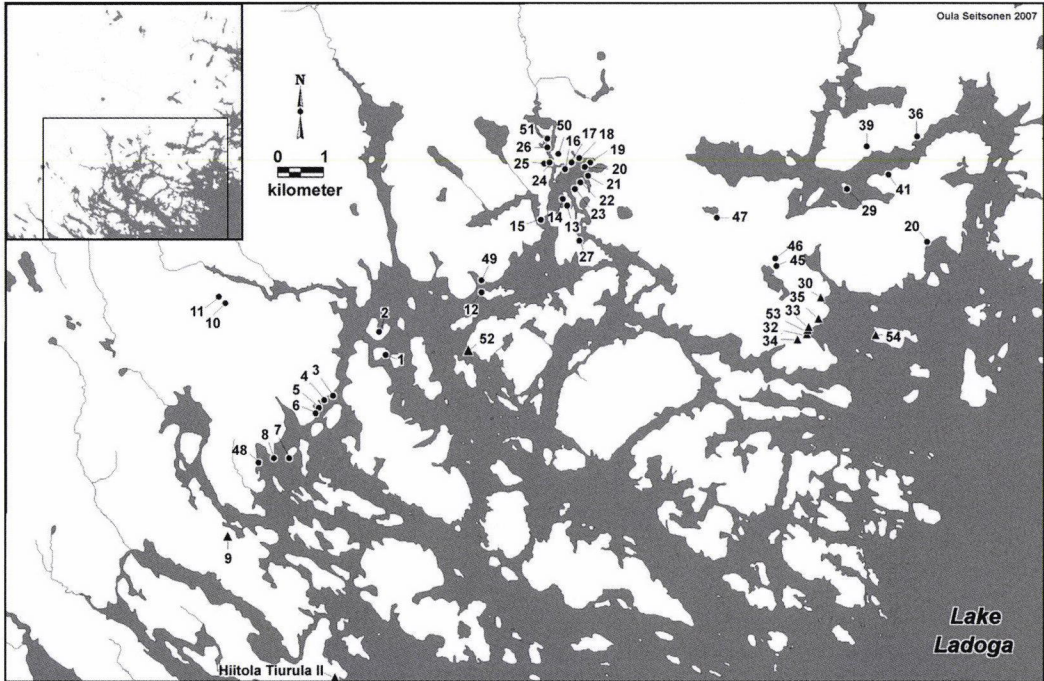


Figure 8.7 The distribution of dwelling sites in the study area: extended activity sites presented with triangles and limited activity sites with dots. Numbering refers to the Appendix 1, with Kurkijoki 53 Vätikkä Kylläisenlahti W-4 and Kurkijoki 54 Vätikkä Kukkola added and Hiitola Tiurula II shown. The water level is shown at 20 m asl. (Map. O. Seitsonen)

before World War II. During the Soviet times the Russian researchers located two dwelling sites in the Hiitola municipality, Hiitola 1–2 Tiurula I and II, of which only the latter remains within the study area. However, Tiurula I is also included in the study as it is situated only narrowly outside the border of the study area. Ceramics were found at both Tiurula sites: Pitted and Rhomb-Pitted Ware at Tiurula I, and at least Asbestos Ware, possibly also Combed Ware at Tiurula II. In addition, two sites were located in Jaakkima (Reuskula I and II) and one in Lumivaara, near the village of Harvio (Ru. Harvio), although the exact location of the last-mentioned site is not known anymore. The Reuskula and Harvio sites are possibly Mesolithic, based on their find material and elevation. However, these sites are situated outside the study area. (P. Uino 20.2.2003 pers. comm.)

At the moment our knowledge of the Stone Age and Early Metal Period occupation in the study area is mostly based on the research cooperation of the Department of Archaeology, University of Helsinki and the Institute for the History of Material Culture, Russian Academy of Sciences. In the five day survey in early May 2001, 44 new Stone Age and Early Metal Period sites were located. (Timofeev *et al.* 2002.)

After 2001 also a few more Stone Age sites have been found. In 2005 the researchers from Petrozavodsk located one new site, Kurkijoki 53 Vätikkä Kylläisenlahti W-4, and excavated it (I. F. Vitenkova 24.7.2005 pers. comm.). During a short visit to Kurkijoki in the summer of 2005⁴ a large new dwelling site, Kurkijoki 54 Vätikkä Kukkola, with at least four dwelling depressions was located on an ancient island opposite the sites found at Vätikkä (Ru. Vjatikkja) in 2001. Also an



Figure 8.8 Kerkko Nordqvist excavating at Kurkijoki 33 Vätikkä Kylliäisenlahti W-2 in 2003 in front of a large dwelling depression (DD1 in Fig. 8.9). (Photo: O. Seitsonen 2003)

archaeological expedition from the Museum of North Karelia, St. Petersburg and Petrozavodsk located three more new Stone Age sites in Kurkijoki while mapping previously known Iron Age sites (S. V. Bel'skij 8.5.2005 pers. comm.). The spatial distribution of the Stone Age and Early Metal Period sites is shown in the Figure 8.7. The site numbering refers to Appendix 1, with Kurkijoki 54 Vätikkä Kukkola added and Hiitola Tiurula II included in the map with number 55. The three new sites found in 2005 by the expedition from the Museum of North Karelia, St. Petersburg and Petrozavodsk were not included into this study. However, according to the researchers who located them, they fit well into the picture presented by our own survey material (S. V. Bel'skij 8.5.2005 pers. comm.).

Because the sites are described in detail in Appendix 1 just a few general remarks are made here. Of special interest are the dwelling depression sites located in the survey (Fig. 8.8). Before 2001 dwelling depressions in the Ceded Karelia were known only from the 1999 survey in the Kaukola and Räisälä area (see Nordqvist & Lavento 2008, this volume). Thus Kurkijoki was only the second area in the whole Ceded Karelia where dwelling depressions were recognized. Altogether nineteen dwelling depressions are known from six sites within the study area. All

the sites with dwelling depressions were found in the Vätikkä area, at the south-east end of the Vätikkä esker bordering the study area. In contrast to these, all the sites found in the middle parts of the study area, between the Hiitola and Vätikkä eskers, are small quartz find locations.

As a limited amount of fieldwork has been conducted in the study area, the picture of the prehistoric settlement is distorted by the factors caused by the focus of the research. The survey in 2001 was concentrated in a limited area due to the restricted fieldwork time. Thus the distribution of the sites represents visibly the focus of our short survey on the Lake Ladoga shores, as well as the areas where the two survey teams moved.

Owing to the character of the archaeological material available, mostly survey find locations, the datings and age relations of the sites are generally unknown. From most of the sites there is no datable material at all and only eleven sites within the whole study area can be dated on the basis of the find material and/or radiocarbon dating (see Appendix 1).

8.4.3 Excavations in Vätikkä in 2003 and 2005
At the beginning of June 2003 two of the sites located in 2001, Kurkijoki 33 Kylliäisenlahti W-2 and Kurkijoki 35 Lahdenryhmä, were trial

	Turf	Illuviation	Layer 1	Layer 2	Layer 3	Structure 1	N
Ceramics		2	44	11			57
Stone tool preform						1	1
Flint artefacts					1	3	4
Quartzite artefacts			1				1
Quartz scraper		2	1	2			5
Quartz core						1	1
Quartz artefacts	2	147	291	151	58	133	782
Fragment of a bone artefact				1		1	2
Burnt bone			17	74	33	125	249
Red ochre		2	5	4	3	19	33
N	2	153	359	243	95	283	1135

Layer 1 = reddish sand (cultural layer 1)

Layer 2 = yellow sand

Layer 3 = charcoal-rich yellow sand (cultural layer 2)

Table 8.1 Finds from Kurkijoki 33 Vätikkä Kylliäisenlahti W-2 excavations.

excavated by a team of Finnish and Russian archaeologists from Helsinki and St. Petersburg. The excavations were jointly directed by Russian and Finnish archaeologists. The studied sites are located in the Vätikkä area in eastern Kurkijoki. The results of these excavations are preliminarily described below. (Gerasimov 2003; Nordqvist & Seitsonen 2004.)

Later in the summer of 2003 archaeologists from Petrozavodsk excavated at one more site, Kurkijoki 32 Vätikkä Kylliäisenlahti W-1, under the leadership of Irina F. Vitenkova. In the summer of 2005 the same team from Petrozavodsk excavated at Kurkijoki 30 Vätikkä Tuomaanmäki, as well as located and excavated one new site Kylliäisenlahti W-4 (see above) which is situated between the sites Kylliäisenlahti W-1 and Kylliäisenlahti W-2. Finds from Vitenkova's excavations were lithics and sherds of Typical Combed Ware and Asbestos Ware. Relatively thick cultural layers (c. 40 cm) were also observed at all the sites. (I. F. Vitenkova 24.7.2005 pers. comm.) However, the results from all the excavations are currently waiting for closer

analyses and are thus tentative.

8.4.3.1 Kurkijoki 33 Vätikkä Kylliäisenlahti W-2

The site Kylliäisenlahti W-2 is situated at the bottom of a wide ancient bay on a c. 25 m asl terrace. There is a row of three dwelling depressions and one hunting pit visible at the site. In 2003 a 3 x 1 m test trench was opened in the 'front yard' of the central dwelling depression (Fig. 8.9). (Gerasimov 2003; Nordqvist & Seitsonen 2004.)

The finds from the test excavation are shown in Table 8.1 (Gerasimov 2003). On the basis of the stratigraphy, find material and radiocarbon dating the site has had at least three occupational phases. Longevity of the site use is also shown by the mineralogical and geochemical analyses (Gerasimov & Kul'kova 2006). Finds from the youngest phase are undecorated Asbestos Ware sherds, quartz and quartzite artefacts, burnt bone and red ochre. The dwelling depressions belong most probably to this Asbestos Ware phase. The second occupation phase is represented by undecorated, rough tempered sherds of Combed

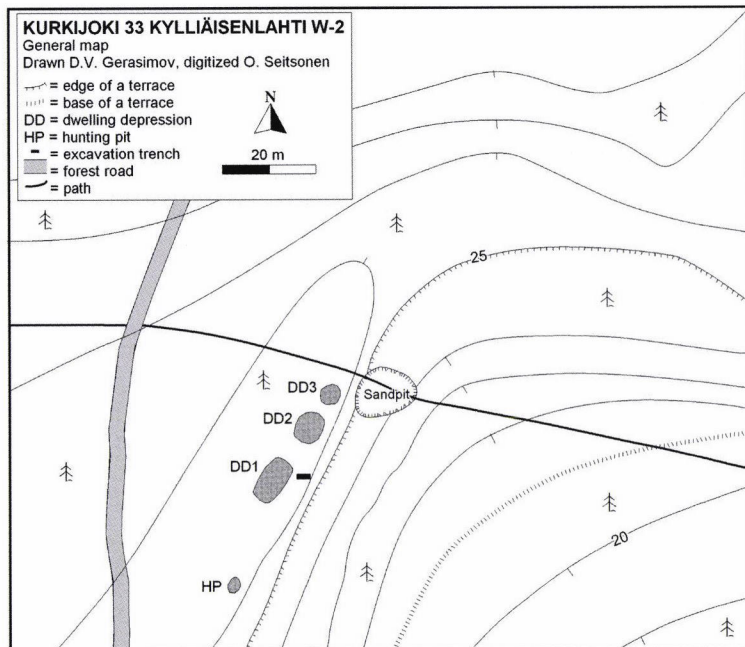


Figure 8.9 The general map of the dwelling site Kurkijoki 33 Vätikkä Kylliäisenlahti W-2.

Ware, possibly Early Combed Ware, quartz artefacts, burnt bone and red ochre. (Gerasimov 2003; Nordqvist & Seitsonen 2004.)

The finds from the earliest – probably Late Mesolithic – phase consist of a stone tool preform, quartz and flint artefacts, burnt bone and red ochre. A radiocarbon dating from charcoal found within the structure 1 gave a dating of 6400±600 BP (LE-6928) (6000–4600 calBC)⁵. (Gerasimov 2003; Nordqvist & Seitsonen 2004.) Further to the east this early datings have been suggested also for the Early Combed Ware – however, in this publication a slightly later chronology has been adopted for the introduction of the ceramics to the area of Ceded Karelia (see Carpelan *et al.* 2008, this volume). (Fig. 8.10)

24 burnt bone fragments of the material were identified to species by S. Puttonen (Seitsonen). These suggest that the habitation of the site was potentially year round at least at some point of the site use. (Puttonen 2004a; Seitsonen 2008, this volume.) Also the dwelling depressions, the ceramics and a very clear cultural layer suggest

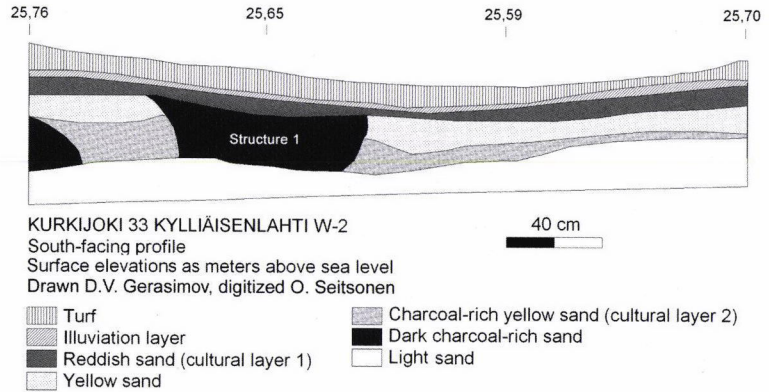
either a sedentary or a recurring use of the site.

8.4.3.2 Kurkijoki 35 Vätikkä Lahdenryhmä

The dwelling site of Lahdenryhmä is situated about 300 m north-east of the previous site on the same c. 25 m asl terrace (Fig. 8.11). The site lies at the end of the same bay as Kylliäisenlahti W-2, next to a recent sandpit. The finds from the 3 x 1 m test excavation are shown in Table 8.2. (Gerasimov 2003; Nordqvist & Seitsonen 2004.)

There seems to have been at least three occupation phases also at this site. Besides the find material and stratigraphy, also the soil chemical analyses support the long use life of the site (Gerasimov & Kul'kova 2006). The youngest phase is represented by a relatively thin, grey charcoal rich layer. A radiocarbon dating of charcoal collected from a shallow pit (structure 1) in this layer gave the date of 2230±30 BP (LE-6930) (300–200 calBC) (Fig. 8.12). Finds from this layer were fine sand tempered pottery, possibly Late Combed Ware, quartz artefacts and burnt bone. (Gerasimov 2003; Nordqvist &

Figure 8.10 The south-facing profile of the trench excavated at Kurkijoki 33 Vätikkä Kylläisenlahti W-2.



Seitsonen 2004.)

Below the grey layer was observed a reddish brown layer which yielded roughly tempered pottery, possibly Early Combed Ware, quartz and flint artefacts, one stone tool preform and a stone flake, burnt bones and red ochre. (Gerasimov 2003; Nordqvist & Seitsonen 2004.)

Under the reddish brown horizon was a charcoally yellow sand layer which dates to the Mesolithic Period. Finds were flint and quartz artefacts, burnt bone and red ochre. A quartz blade end-scraper was found in the lower part of this deposit. A radiocarbon dating from charcoal collected within a pit (structure 5) situated close to the bottom of the cultural layer, right next to the above-mentioned blade end-scraper, gave the date of 7900 ± 80 BP (LE-6929) (6840–6640 calBC). (Gerasimov 2003; Nordqvist & Seitsonen 2004.)

143 burnt bone fragments of the material were identified to species by S. Seitsonen (Puttonen). These suggest possible year round use also for this site at some point of its use. (Puttonen 2004b; Seitsonen 2008, this volume.) Also at this site the character of the find material and structures propose a long and/or recurring use of the location.

8.5 Sites in the landscape of Kurkijoki

The distribution of the sites known from the

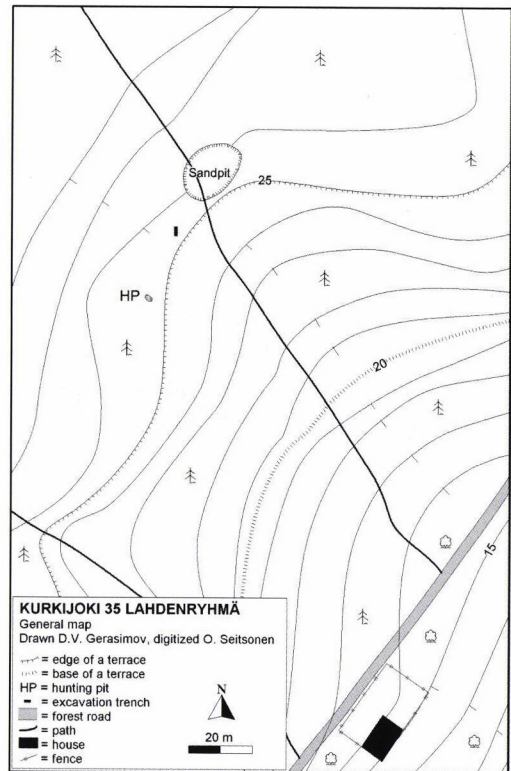
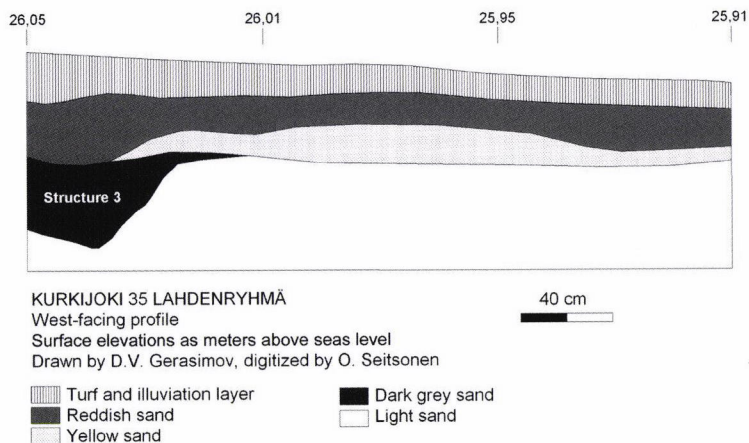


Figure 8.11 The general map of the dwelling site Kurkijoki 35 Vätikkä Lahdenryhmä.

study area is affected mostly by the concentration of archaeological research and is thus seriously skewed. Still, there are some interesting features discernible even from this material.

Figure 8.12 The west-facing profile of the trench excavated at Kurkijoki 35 Vätikkä Lahdenryhmä.



Examined on a larger scale the clear majority of sites classified as (possibly more sedentary) extended activity sites are situated close to the southern ends of the eskers bordering the study area (Kurkijoki 9, 28, 30, 32–35, 52–54 and Hiitola 1–2 Tiurula I–II; see Appendix 1 for numbering). Of these the sites Kurkijoki 9 Unkola Kauniskumpu (Hiitola) and Hiitola 1–2 Tiurula I–II are situated close to the end of the Hiitola esker following roughly the western border of the Kurkijoki municipality. Tiurula I is a little south of the site Tiurula II, on the opposite side of this esker formation but slightly outside the current study area. Site Kurkijoki 9 Kauniskumpu is a possible Early Mesolithic site, which differs clearly from all the other sites both by its elevation and find material.

All the extended activity sites at the end of the eastern Vätikkä esker are situated on a glaciofluvial delta which forms a series of clearly definable terraces between 20 and 35 m asl (Kurkijoki 28, 30, 32–35, 53) and on the nearby island (Kurkijoki 54). Based on the excavated assemblages and field observations many of these sites seem to have been used either continuously or recurrently through several millennia (Timofeev *et al.* 2002; Gerasimov 2003; Nordqvist & Seitsonen 2004).

On a micro-scale all the extended activity

sites are situated within bay areas: over half of them are situated in bay heads and the rest on the shores of bays. Also over half of them are in the vicinity of over 1 km wide open waters. Sites are situated on slopes generally directed towards the water body of Lake Ladoga. The most common background type is a gently rising and a relatively protective slope. Of special interest are the steep shore formations underneath most of the extended activity sites: they seem to have been generally placed next to relatively deep shore waters. The soil type is sand, except at Kuuppala Kalmistomäki where it is clayey loam. The different environmental setting of the potentially extended activity Kalmistomäki site, far from the eskers and on a less favourable soil, is discussed more closely below.

Most of the sites situated in the center of the study area are interpreted as (potentially less sedentary) limited activity sites, excluding the above-mentioned Kalmistomäki site. The placing of the limited activity sites into the landscape is more varied than is the case for the extended activity sites. Most of the limited activity sites are situated at the ends of capes, mouths of bays, on small islands or on a straight shoreline. Their prevailing water body type is over 200 m and less than 1 km wide but several of them are also next to less than 200 m wide passages. Only a cou-

	Turf (L1)	Illuviation (L2)	L3	L4	L5	L6	L7	S1	S2	S3	C	N
Ceramics	29	14	26	18	3	1	1					92
Stone tool preform				1		1			1	1		4
Stone flake				2		3						5
Flint artefact				1	3	1						5
Quartz scraper				1			1					2
Quartz core					1							1
Quartz artefact	16	5	14	51	23	71	14	4	4		11	213
Fragment of bone artefact				1								1
Burnt bone	22	2	35	277	73	169	74	43	31		23	749
Red ochre				5		1						6
N	67	21	75	357	103	247	90	47	36	1	34	1078

L= layer

S= structure

C= cleaning of profiles

Layers 3–7: c. 5 cm technical spits.

Table 8.2 Finds from Kurkijoki 35 Vätikkä Lahdenryhmä excavations.

ple of the limited activity sites are situated on the shores of wider bodies of water. Generally most of the limited activity sites seem to be situated by the potential low water fishing areas.

The protectiveness of the background follows the variables of the sedentary sites but a slightly larger number is situated at the base of steep slopes (Fig. 8.13). The most common soil type is clayey loam. The general placement of the limited activity sites supports the interpretation that they were of a more temporary character, for example hunting, fishing or other exploitation stations.

The direction of the slope of the limited activity sites is more varied which is probably due to their more temporary character. However, the majority of these sites are also directed towards Lake Ladoga. This probably reflects the importance of Lake Ladoga for the ancient inhabitants of the area, both as a transportation route and as a resource base. Sealing was probably of major importance for the inhabitants of the study area as well as in the other parts of Lake

Ladoga. Phocidae fragments form the majority of the refuse fauna at the sites where osteological analyses have been conducted. In this sense the habitation on the shores of Lake Ladoga seems to be more comparable with the Baltic Sea shore than with the inland lake region. (Puttonen 2003; Seitsonen 2008; this volume.)

Generally the variables defined for studying the hunter-gatherer settlement patterns in the Lake Saimaa area (e.g. Vikkula 1994; Mökkönen 2000; Pesonen 1995; 1996) seem to work well also in a different kind of environment, in this case on the shores of the large, almost sea like waterbody of Lake Ladoga. However, in the future some of the variables could be defined more fine grained than what they are presently; then again this brings up the question of the resolution of our archaeological observations and meaningfulness of more detailed analyses.



Figure 8.13 Kurkijoki 7 Päijälä Jeysseinmäki (Hiitola) site exhibiting typical topography of sites in Kurkijoki area. Picture taken from west. (Photo: O. Seitsonen 2001)

8.6 Observations and interpretations

The analysis of the environmental variables of the sites in Kurkijoki support the division of the sites into relatively sedentary extended activity sites and less sedentary limited activity locations on the basis of the find material and the observed structures. The sedentary, base-camp-like sites are situated at the ends of the major Hiitola and Vätikkä eskers running along the eastern and western fringes of the area. They are situated in the absorbent sandy soils on the even pine barren which enabled also easy overland travel. The overland travel is also hinted by the presence of a couple of sites by small ponds with no outlet channel (Kurkijoki 44 Vätikkä Kangaslampi 1, Kurkijoki 45 Vätikkä Kangaslampi 2, Kurkijoki 47 Soskua Tauriinlampi). The extended activity sites are consistently oriented towards the sunnier directions.

All the extended activity sites are in the relatively protected bay heads or bay shores but with a clear visibility over wider water bodies that open towards Lake Ladoga. It might be of importance that the residential sites are situated by the less sheltered water bodies and not on the

shores of narrower waterways. Locations with a wider visibility range provided the inhabitants of the sites a clear line of sight to the waterways. The inner archipelago was apparently the most important transportation route in Stone Age times on the basis of the quantitative distribution of the stray finds and the sites (Seitsonen 2003; 2004). The placement of the extended activity sites could suggest that there possibly was a need to observe traffic on the open waters. The reasons behind this are impossible to answer using the current material but possibilities may include observing and/or controlling the traffic or being aware of intruders (see e.g. Lahelma & Sipilä 2004; Mökkönen 2000; 2002; Seitsonen 2005).

The area between the eskers is characterised by the numerous small, potentially less sedentary limited activity sites situated in the broken inner archipelago and along the winding fjords on small islands and at the ends of capes. They were possibly used for various logistical purposes: hunting, fishing, gathering and exploitation of the environment in other ways. Especially fishing seems to have been important for the livelihood on the basis of the placement of the sites by low and narrow straits. As noted earlier, these kinds of single purpose sites can

be situated based on a single variable which is essential for its specific function (e.g. Kvamme 1985). At the moment, as none of the small activity sites have been excavated, it is impossible to make any further division into sites used for varying activities. Some functions could be inferred from the environmental data but these would remain purely hypothetical as we have no knowledge of the find material, structures or the nature of the specific sites.

The only extended activity site that has a somewhat different environmental setting than the rest is Kuuppala Kalmistomäki. This site is in the broken archipelago situated between the Hiitola and Vätikkä eskers, on clayey loam and closer to the mouth of a shallow bay than is typical for the other known sites with find material suggesting sedentariness. The ceramic finds made at Kalmistomäki, all styles of Combed Ware, Asbestos Ware and Early Metal Period ceramic types Sarsa-Tomitsa Ware and Lovozero Ware (Uino 1997: 246), hint the long use life of the site and its possible sedentary character (e.g. Nuñez 1990; Siiriäinen 1981). The site is about halfway between the eskers on which the other sites of a sedentary nature are situated. If the habitation on both of the eskers was contemporary and the occupants moved in the area between the eskers on their logistical trips, it would be tempting to assume an aggregation character for the Kalmistomäki site: its central position could have made it for example a seasonal gathering point for the inhabitants of the area. This idea is at the moment purely hypothetical but worth further research.

The trial excavations conducted in 2003 and 2005 and the excavated sites in Hiitola Tiurula show that at least all the sites excavated so far have been used in several phases of the Stone Age (I. F. Vitenkova 24.7.2005 pers. comm.; Gerasimov 2003; Nordqvist & Seitsonen 2004). At the moment it is not known whether these

sites were used continuously or recurrently, and whether the habitation was year round or seasonal. Without doubt there have been differences in this through time, and hopefully some of these can be revealed by future excavations.

The long use life of the sites suggests that the settlement pattern might have remained roughly similar at least throughout the whole Neolithic Stone Age, maybe up to the Early Metal Period times. On the other hand, the details of the settlement pattern most probably changed countless times through the millennia. The final blow to the enduring settlement system might have been the swift regression and major environmental changes caused by the formation of the River Neva.

Kuuppala Kalmistomäki is up till now the only Early Metal Period dwelling site known within the study area. However, this is most probably skewed by the concentration of research on the Stone Age shorelines as well as by the more extensive contemporary land use, e.g. building activity, on the Early Metal Period shorelines. The Early Metal Period shorelines in Kurkijoki remain virtually unsurveyed, but the occurrences of possible so called Lapp cairns dated to the Early Metal Period suggest the presence of wider remains also from that period (Timofeev *et al.* 2002; Uino 1997: 247, 256–257).

8.7 Summary

The archaeological studies conducted in the Kurkijoki area in 2001 and 2003 are presented in the article. The settlement patterns of Stone Age habitation in the study area are examined by analyzing environmental variables connected to the sites. From these analyses rises a picture of a settlement pattern, where base-camp -like extended activity sites are situated at the ends

of the eskers bordering the study area. These sites typically have ceramic finds and sedentary structures such as dwelling depressions. Ancient inhabitants seem to have moved from these base camps on their various logistical trips in the area between the eskers. The area between the eskers is characterised by an inner archipelago dotted with numerous small find locations interpreted to be less sedentary limited activity sites. These were probably used for specific functions such as hunting, fishing, butchering and so on. Especially fishing seems to have been of importance when placing these activity sites, as several of them lie on the shores of narrow and shallow straits suitable for this. The analysis of the quantitative distribution of stray finds also supports this picture (Seitsonen 2004).

The Kuuppala Kalmistomäki site, situated almost in the middle of the study area contains find materials typical for an extended activity sites but is in a differing environmental setting than the rest of the known sedentary sites. It has yielded finds from all the phases of the Neolithic Stone Age and also from the Early Metal Period. Its special location and the long use life might suggest a different function from the other extended activity sites. One possibility might be that it served as an aggregation site where the inhabitants of the larger area gathered seasonally for feasting, trading and socialising.

The importance of Lake Ladoga for the inhabitants is hinted by the orientation of the extended activity sites towards it and the important water courses in the sheltered inner archipelago. Sealing was of great importance for the Stone Age inhabitants in the whole Lake Ladoga region, and Lake Ladoga, being an extensive water body, still today carries a much higher population of seals than for example the Lake Saimaa water system. (Puttonen 2003; Seitsonen 2008, this volume)

It is important to continue the research in the

area in order to obtain more material concerning the age relations, nature and function of specific sites. By excavating and dating various extended and limited activity sites in the area it becomes possible to build further hypotheses of their relations with each other. It is also important to extend the study area beyond the eskers which border it now, in order to examine whether the same settlement pattern was in use over a wider area and whether the current results are valid only within this specific area or maybe even caused by the focus of the research. However, preliminary observations made in the summer 2006 in the Hiitola Kylälahti area suggest a roughly similar settlement pattern at least for the eastern part of the Hiitola municipality. Also in the ancient archipelago west of the Hiitola esker the small quartz find locations situated on small islands and at the ends of capes seem to be the prevailing site type.

Acknowledgements

The authors wish to thank the numerous Finnish and Russian archaeologists and other people who have helped in the fieldwork and analyses of the Kurkijoki survey and excavation material, especially Stanislav V. Bel'skij, Mikko Keränen, Sergej N. Lisicyn, Kerkko Nordqvist, Sanna Seitsonen and the late Vladimir I. Timofeev. The local volunteers and home district researchers Igor V. Petrov and Marina I. Petrova (Kurkiëskij Kraevedčeskij centr, Kir'jaž / the Kurkijoki centre of home district studies, Kir'jaž) deserve compliments for their co-operation and valuable work in studying the past of Kurkijoki area. Also the Žohov Island helped a fair deal in the preparation of this paper. Thanks go also to the anonymous referees kindly giving their comments on an earlier draft of this paper.

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1:20 000, Helsinki 1939, Military Topographic Survey. Finnish Topographic Map Sheet 4114 12 Kurkijoki, scale

1:20 000, Helsinki 1931, Military Topographic Survey.

Finnish Topographic Map Sheet 4123 07 Alho, scale 1:20 000, Helsinki 1939, Military Topographic Survey.

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Finnish Topographic Map Sheet 4123 10 Aromäki, scale 1:20 000, Helsinki 1930, Military Topographic Survey.

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Endnotes

- 1 Survey members from Helsinki were Doc. Pirjo Uino, PhD Mika Lavento, Lic.Phil. Petri Halinen and archaeology students Mikko Keränen, Kerkko Nordqvist, Sanna Puttonen (Seitsonen) and Oula Seitsonen. The participants from St. Petersburg were Dr. Vladimir I. Timofeev, Dr. Sergej N. Astahov, M.A. Dmitrij V. Gerasimov, and for two days PhD Aleksandr I. Saksä.
- 2 This article was originally written in 2003; however, due to insufficient funding its publication was delayed. Thus it deals mostly with the material available in 2003 and only our own later observations are included in the analyses.
- 3 All the datings of geological and hydrological events are given as calendar years and follow the ones given by Saarnisto (2008, this volume).
- 4 Participants of the 2005 visit from the University of Helsinki were: the first of the current authors, Teemu Mökkönen, Kerkko Nordqvist and Sanna Puttonen (Seitsonen); from the Kunstkamera Museum, St. Petersburg: the second of the current authors and Boris G. Lyč; and from the University of Tartu, Estonia PhD Aivar Kriiska and Kristel Külljastinen.
- 5 Radiocarbon dates calibrated using the OxCal v. 3.10 (Bronk Ramsey 2005).