

Comparing settlement histories in the Pontine Region (southern *Lazio*, central Italy): surveys in the coastal landscape near Nettuno

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Abstract

The article introduces a PhD project that as part of the long term Pontine Region Project studies the settlement history of the Pontine Region (southern *Lazio*, central Italy) from the 6th century BC into the Imperial period. The project uses an intra-regional comparative perspective to better understand how the region developed throughout this period, but also to see to what extent various landscape zones within the region show different socio-economic developments.

Based on data from previous surveys, new fieldwork and the study of available secondary literature, the project focuses on sample areas in the three major landscape zones of the region: the coastal landscape, the lower Pontine Plain and the Lepine Mountains. The settlement history and socio-economic developments of each of the sample areas is studied in relation to the landscape units within the three landscape zones; subsequently, the three landscape zones as a whole will be compared.

After a short introduction on the landscape and research history of the Pontine Region, the preliminary results of a study of the coastal landscape are discussed. The sample area in this landscape centres on the modern town of Nettuno, where surveys have been executed in the nearby Astura valley and the area of Campana; these two areas represent two of the main landscape units within the coastal

landscape zone and thus offer a possibility to study variations in local settlement history in relation to the landscape.

A discussion of the methods and results of these surveys shows how there were significant differences in the settlement history of both landscape units. A discussion of the data in a broader perspective shows that the coastal area as a whole flourished in the Archaic period, when at least two large settlements (Antium and Satricum) and many small rural sites were present. With the decline of these large settlements in the post-Archaic period, a reduction in rural settlement is noted. In the (late) Republican period, settlement once again intensified, especially in the area of Campana and directly on the coast. In the early and mid Imperial period, rural settlement gradually concentrated along one of the important roads in the area with good access to the flourishing city of Antium.

In the final section, the perspectives for an intra-regional comparison with the two other landscape zones are outlined. The current state of knowledge for these areas already hints at the variations in settlement history and the major role the landscape played in these variations. For a systematic study of these phenomena, however, further systematic research is crucial.

Keywords

Landscape archaeology; survey; central Italy; Latium; Archaic and Roman periods; Roman colonisation

Introduction

The Pontine Region is located on the Tyrrhenian coast in the province of Lazio in central Italy, directly south of the volcanic area of the Alban Hills (Figure 1). The region consists of various landscape zones: the Alban Hills and the limestone mountain ranges of the Lepine and Ausoni Mountains delimit a large coastal plain which, in its turn, consists of a series of fossil marine terraces

and, further inland, a filled-up and badly drained lagoon, the *graben*.

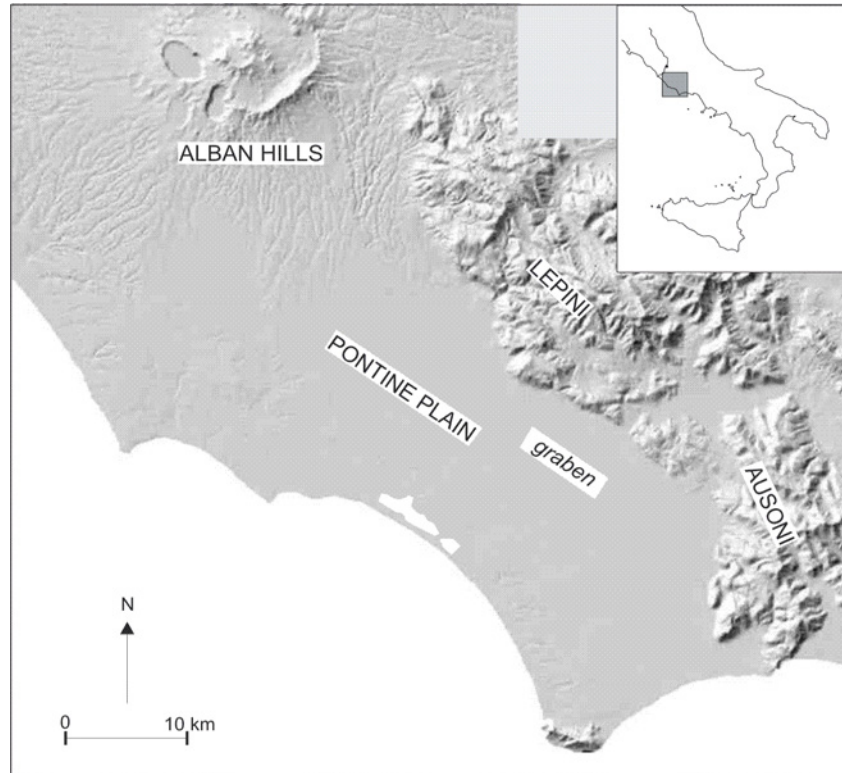


Figure 1: Location and main landscape zones of the Pontine Region

From an historical perspective, the Pontine Region forms the scene for many crucial events. It is located directly south of the city of Rome and the Alban Hills, which form the heart of the Latial Iron Age culture, from which many Archaic protourban centres arose. According to literary sources already in the 6th century BC colonies were founded in the area by Romans and Latins and in the 5th and 4th centuries BC Volscians and Romans struggled for control of it. From the mid 4th century BC on, when the Romans had finally gained permanent control of the region, archaeological

data indicate that the various colonies developed into regional economic and administrative centres that flourished during the Republican period. In the Imperial period, deteriorating environmental conditions reportedly led to the expansion of the infamous Pontine Marshes and the decline of the regional centres and their economy.¹

2 The Pontine Region Project

The Groningen Institute of Archaeology (GIA) has been involved in archaeological research in the Pontine Region from the late 1970s onwards (Figure 2). Excavations took place on the protohistoric settlement of Satricum from 1979 into the 1990s, and surveys were undertaken from 1987 onwards.² These surveys at first formed a side project to the excavations, but soon became an independent research project, the Pontine Region Project (PRP).³

¹ The article uses the following broad chronology: Iron Age (1000-700 BC); Orientalising (700-600 BC); Archaic (600-500 BC); post-Archaic (500-350 BC); Republican (350-30 BC); early Imperial (30 BC-AD 100); mid Imperial (AD 100-300).

² M. Maaskant Kleibrink (1987). *Settlement excavations at Borgo le Ferriere <Satricum> I the campaigns 1979, 1980, 1981*. (Groningen: Egbert Forsten); M. Maaskant Kleibrink (1992). *Settlement excavations at Borgo le Ferriere <Satricum> II the campaigns 1983, 1985 and 1987*. (Groningen: Egbert Forsten).

³ P. Attema (1993). *An archaeological survey in the Pontine Region. A contribution to the settlement history of south Lazio 900 - 100 BC*. (PhD thesis: Rijksuniversiteit Groningen).

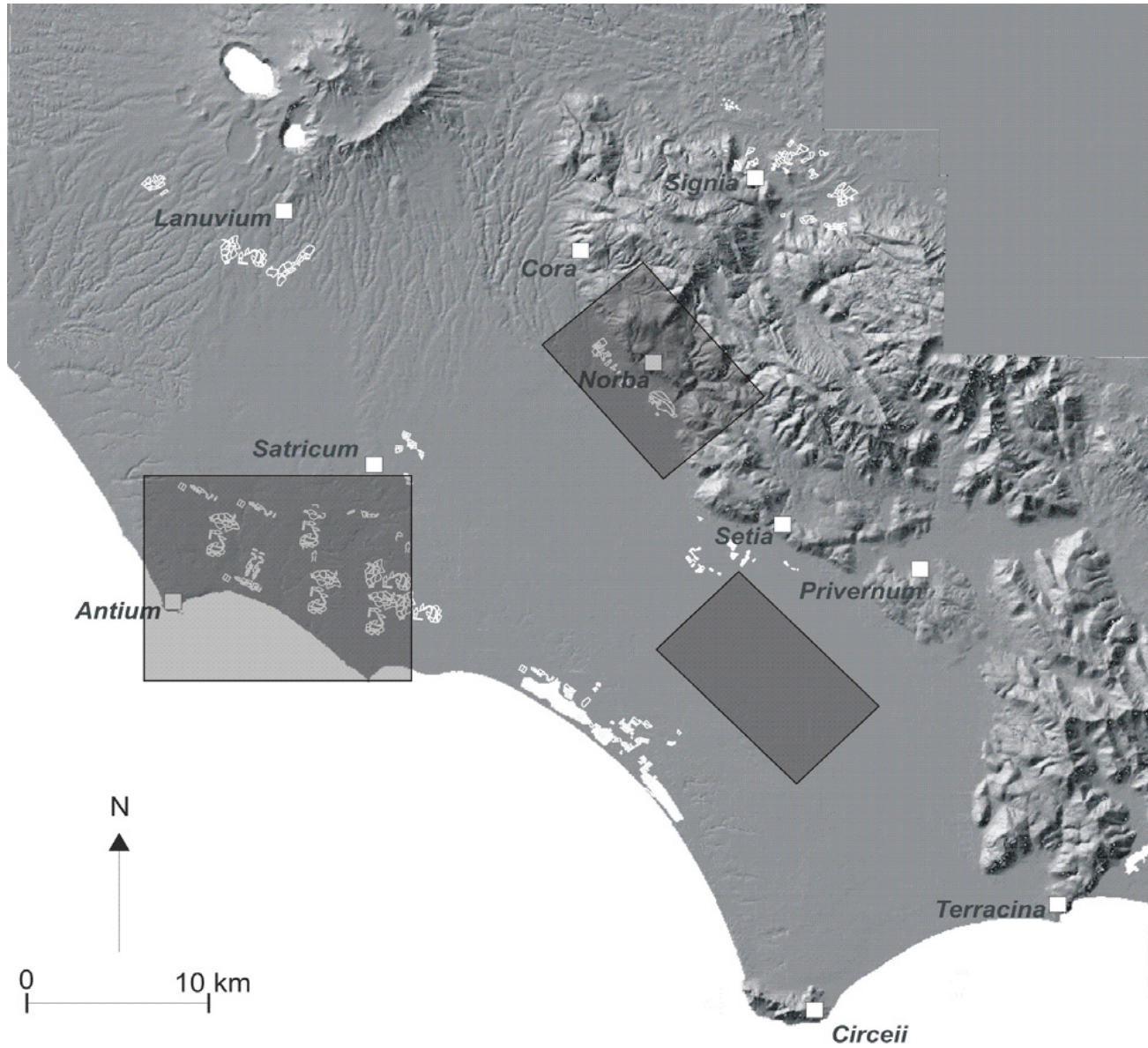


Figure 2: PRP survey areas (white outlines) and the three case study areas (black frames)

Since its inception, the PRP has shifted attention geographically, chronologically and methodologically several times. During the late 1980s and early 1990s, intensive site surveys and extensive field surveys were conducted on the edge of the Lepine Mountains and in the adjacent Pontine Plain, north of the Via Appia.⁴ This initial research addressed issues of centralisation in the late Iron Age and Archaic period, and (Roman) colonisation and urbanisation in the (early) Republican period.

In the mid 1990s, the project widened its geographical scope to parts of the Alban Hills and the Sacco valley to the north.⁵ Surveys were aimed specifically at the issue of early Roman colonisation: three colonies (*Setia*, *Lanuvium* and *Signia*) and their rural hinterland were investigated to assess whether they had been the result of different colonisation strategies. The surveys used a further developed, more intensive method that accommodated comparative analysis. At the same time, surveys on the edge of the Lepini Mountains near ancient Norba and in the catchment of Satricum continued.⁶

Since the late 1990s, the project has again shifted its focus, now to the coastal area of the Pontine Plain. Surveys in the 'marginal' area near Lake Fogliano used a new, even more intensive method.⁷ Between 2001 and 2003, several protohistoric and Roman sites were excavated, mapped and sampled on the coast south of

⁴ *Ibid.*

⁵ P. Attema & M. Van Leusen (2004a). "The early Roman colonization of South Lazio; a survey of three landscapes". In: P. Attema (ed.). *Centralization, early urbanization and colonization in first millennium BC Italy and Greece. part 1: Italy*. (Leuven: Peeters) 157-195.

⁶ M. van Leusen (1998). "Archaic settlement and early Roman colonisation of the Lepine foothills" *Assemblage 4* [online] Available from: <http://www.shef.ac.uk/assem/4/4vanleus.html>

⁷ P. Attema, E. van Joolen & M. van Leusen (2002). "A marginal landscape: field work on the beach ridge complex near Fogliano (South Lazio)" *Palaeohistoria* 41/42 [1999/2000]: 149-162.

Nettuno;⁸ intensive field surveys in the territory of this municipality and in the adjacent Astura valley followed in 2003, 2004 and 2005.

3 A comparative and integrated approach to intra-regional settlement histories

From this short overview it is clear that the PRP has yielded a wealth of information on the archaeology of various landscapes of the Pontine Region, complemented by a considerable body of environmental studies including palynological research, soil studies and land evaluation.⁹ The dataset as a whole offers great potential for a new and detailed analysis of the settlement history of the region as a whole, a project that the author is currently undertaking as part of the continuing research of the PRP (Figure 3). The following four considerations form the starting points for this project:

1) most data of individual surveys (although still not all) has been studied and published. A comparative perspective on these surveys, however, can offer many new insights, as some recent studies have shown;¹⁰

⁸ P. Attema, T. de Haas & A. Nijboer (2003). "The Astura project, interim report of the 2001 and 2002 campaigns of the Groningen Institute of Archaeology along the coast between Nettuno and Torre Astura (Lazio, Italy)". *BABesch* 78: 107-140.

⁹ for an extensive bibliography, see P. Attema & T. de Haas (2005). "Villas and farmsteads in the Pontine Region between 300 BC and 300 AD: a landscape archaeological approach". In: B. Santillo Frizzel & A. Klynne (eds.), *Roman villas around the Urbs. Interaction with landscape and environment. Proceedings of the conference at the Swedish Institute in Rome, September 17-18, 2004*. (Rome: Swedish Institute in Rome) 97-112.

¹⁰ Attema & van Leusen (2004a); P. Attema & M. van Leusen (2004b). "Intra-regional and inter-regional comparison of occupation histories in three Italian regions: the RPC project". In: S. Alcock & J. Cherry (eds.), *Side by side survey. Comparative regional studies in the Mediterranean world*. (Oxford: Oxbow) 86-100; Attema & de Haas (2005). For comparable research on a larger scale, see also Witcher (2006). "Settlement and Society in Early Imperial Etruria". *JRS* 96: 88-123.

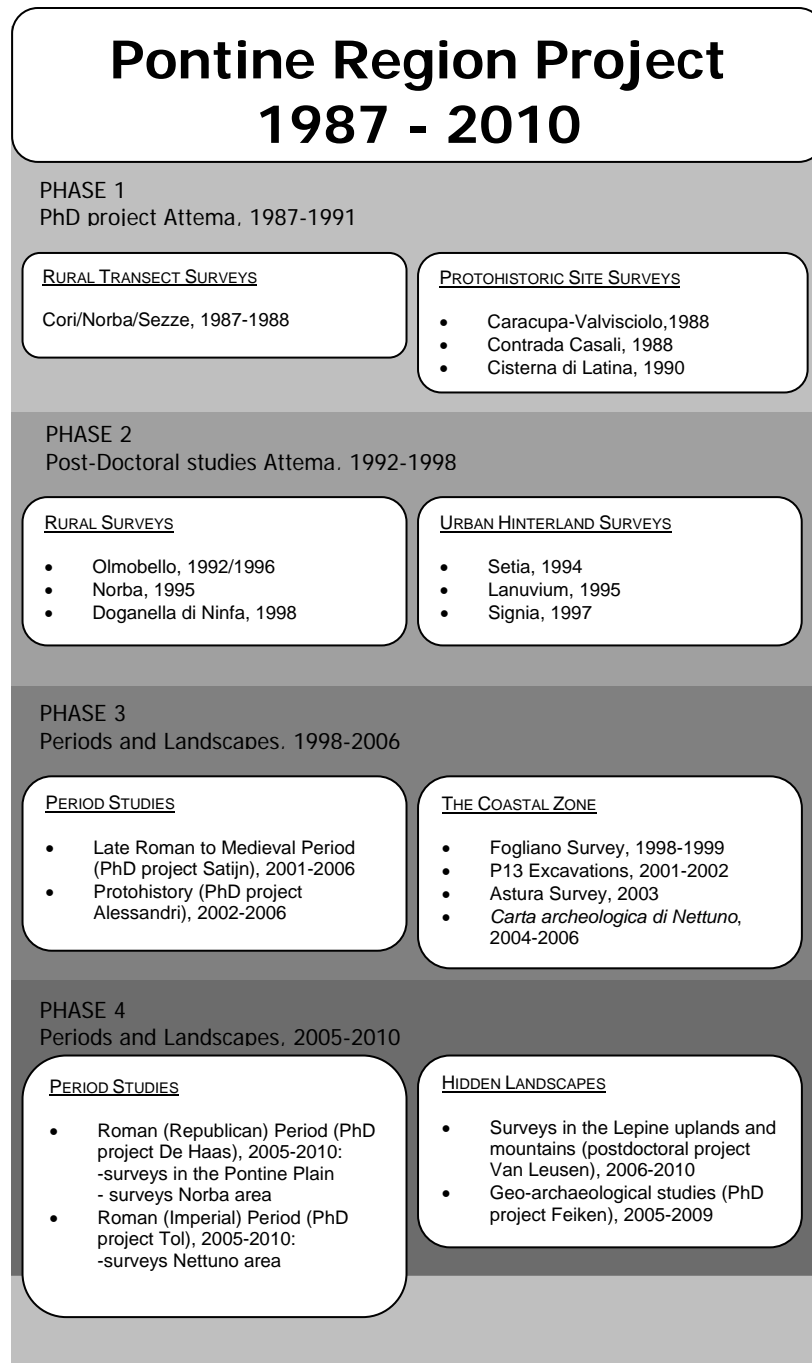


Figure 3: Schematic overview of the research history of the PRP

2) the overview shows that surveys have concentrated especially on the mountainous and coastal landscapes and, to a lesser extent, the volcanic hills. The landscape zone of the lower Pontine plain, which is traditionally known as the Pontine Marshes, has not received as much attention;

3) further study of the survey data in the light of excavations of urban and rural settlements, cultic sites and cemeteries in the region as well as epigraphic data will put these survey data in a wider social context. Such an integration will enable a better understanding of, for example, the relations between rural and urban sites;

4) once these various sources have been integrated, economic and demographic models (devised by both archaeologists and ancient historians) will contribute to an understanding of the regional socio-economic history. Conversely, the data will also prove valuable for evaluating current economic and demographic models.¹¹

The study focuses specifically on the settlement history from the 6th century BC into the Imperial period, in historical terms from the start of Roman colonisation to the disappearance of Roman settlement systems. To accommodate the intra-regional comparison, three case study areas have been selected that represent the most important *landscape zones*: the surroundings of the Latin colony *Norba* on the edge of the Lepini mountains, where various surveys have already been undertaken and are currently being undertaken; the coastal area near the maritime colony of *Antium*, where fieldwork is being concluded at the moment; and the lower part of the Pontine plain that has so far not been investigated (Figure 2). The survey data available for each of these

¹¹ The various surveys may offer useful contributions in debates on both the decline of free peasants and the rise of large, slave-based villas, and the High Count versus Low Count demographic models.

sample areas will be integrated with data from other sources and studied in relation to the *landscape units* that constitute the landscape zone as a whole; subsequently, the three landscape zones as a whole will be compared.

In the following, I will present the first results of the research in the coastal landscape. The results of fieldwork in the coastal sample area will be discussed and reviewed in the light of other archaeological data for this area. I will subsequently introduce the other two sample areas and explore some potential points of comparison between the three areas.

4 The coastal area

The coastal case study centres on the municipality of Nettuno, in the central part of the Pontine coastal strip (Figure 4). Physiographically, this area belongs to the system of sandy-clayey marine terraces.¹² These have been covered by sand deposits that originally formed the beach ridges but were also deposited on top of the lagoonal clays during the last Ice Age. Several rivers have formed wide valleys with fluvicolluvial deposits cutting through these ancient terraces; the most important of these rivers are (from west to east) the *Fosso Loricina*, the *Fiume Astura* and the *Fosso Moscarello*. Finally, both river and sea erosion have exposed several tuff banks.

The area has been subject to a range of archaeological studies, most of which deal with the site of *Antium*. Both topographic studies and excavations have taken place here, most importantly on the protohistoric settlement, the Roman harbour and the Imperial

¹² H. Kamermans (1991). "Faulted land: the geology of the Agro Pontino". In: A. Voorrips, S. Loving & H. Kamermans (eds.), *The Agro Pontino Survey Project*. (Amsterdam: Universiteit van Amsterdam) 21-30, Fig. 1.

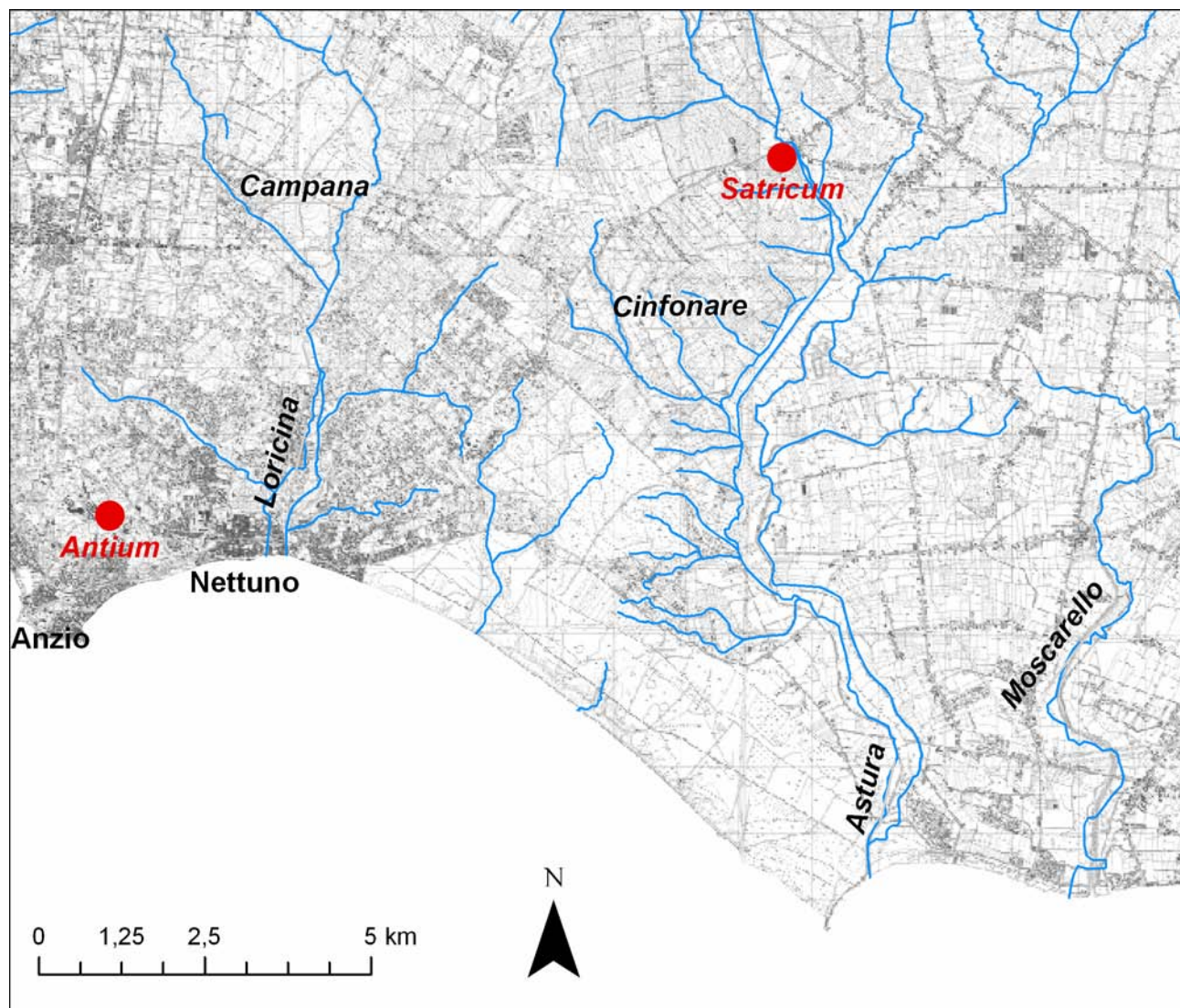


Figure 4: The coastal sample area with main present-day towns and ancient sites

villa.¹³ Several other topographers have studied the Roman road system in the area.¹⁴ A *Forma Italiae* volume deals with the rural occupation in the lower part of the Astura valley, focussing on sites of the Roman period with architectural remains.¹⁵ Further site-oriented survey work has been done by Arnaldo Liboni, the director of the *antiquario* of Nettuno, but his work has not been published so far. Systematic field surveys using a more detailed chronology (based on typochronological ceramic studies) were, however, lacking until recently.

Ongoing archaeological research conducted by the Groningen Institute of Archaeology (GIA) in the territory of Nettuno, is filling this *lacuna*. GIA's research project combines these previous archaeological studies with small-scale excavations, a study of the unpublished data collected by the director of the local *antiquario* and new intensive rural surveys.¹⁶

¹³ G. Lugli (1940). "Saggio sulla topografia dell'antica Antium" *Rivista del R.Istituto d'archeologia e storia dell'arte* 7: 153-188; P. Chiarucci (1989). *Anzio archeologica*. (Roma: International Max Press); P. Brandizzi Vittucci (2000). *Antium. Anzio e Nettuno in epoca romana*. (Roma: Bardi Editore); G. Caneva & C. Travaglini (2003). *Atlante Storico-ambientale Anzio e Nettuno*. (Roma: De Luca Editori d'Arte).

¹⁴ G. De Rossi (1981). "La via da Lanuvio al litorale di Anzio". In: *Ricognizione archeologica: nuove ricerche nel Lazio*. (Roma) 89-103; P. Brandizzi Vittucci (1998). "Considerazioni sulla via severiana e sulla tabula Peutingeriana" *MEFRA antiquité* 110: 929-993; A. Cassatella (2004). "La questione della via severiana e le nuove ricerche". In: C. Belardelli, L. De Maria, F. Fei & A. Toro (eds.), *Vie Romane del Lazio*. (Roma: Palombi Editori) 79-94.

¹⁵ F. Piccarreta (1977). *Astura*. (Firenze: Leo S. Olschki Editore)

¹⁶ The research in the coastal area was initiated as a mapping project by order of the municipality of Nettuno. The data is being elaborated within the PhD study of the present author (specifically the surveys) and a second PhD study by G. Tol (the publication of data gathered by the museum director Arnaldo Liboni).

5 Surveys in the coastal area

5.1 Methodology

As stated above, surveys took place from 2003 to 2005 and entailed both site and non-site oriented surveys. The non-site surveys followed the methodology developed during previous GIA surveys in the Fogliano area and the Sibaritide in Calabria, southern Italy.¹⁷ Arable and fallow fields were divided into units of 50 by 50 meters, which were sampled through 20 percent coverage line walking. If find densities were high or the nature of the finds was very specific, additional samples were taken: where modest amounts of protohistoric material had been found, all material was collected (at 100% coverage, total samples); where large amounts of (generally Roman) material were found, a diagnostic sample was taken (including rims, bases, handles, decorated fragments and specific fabrics). Occasional finds were collected as grab samples. The method used for the site oriented surveys was less standardised: if visibility conditions were reasonably well, sites were surveyed in regular grids of 30 by 30 meters taking diagnostic samples. However, survey conditions were often very poor; in such circumstances, sites could only be located imprecisely, taking small grab samples. In this way, both sites found during the non-site oriented surveys and sites already known from topographic studies were revisited.

5.2 Results

The main results of the survey have been summarised in Table 1 (see also Figure 5). In total, over 8 square kilometres has been covered by intensive surveys, yielding some 44.000 finds (more than 1100 kg). During these surveys, 44 new sites were discovered, while about 75 previously known sites were revisited (either during the site-oriented or the non-site oriented surveys). The

¹⁷ Attema *et al.* (2002); M. van Leusen & P. Attema (2003). "Regional archaeological patterns in the Sibaritide: preliminary results of the RPC field survey campaign 2000" *Palaeohistoria* 43/44 [2001/2002]: 397-416.

summary data clearly show that systematic and intensive surveys complement previous surveys by Liboni and Piccarreta.

Campaign	Area	N units surveyed	N hectares surveyed	N new sites found	N sites revisited
<i>Summer 2003</i>	Astura valley	559	155,3	6	48
<i>Summer 2004</i>	Nettuno municipality	1008	227,1	11	25
<i>February 2005</i>	Nettuno municipality	281	68,4	11	10
<i>Summer 2005</i>	Nettuno municipality and Astura valley	888	365	14	5
Total		2737	815,8	44	Ca 75*

Table 1: Summary results of the surveys in the coastal zone.

***several sites have been revisited more than once**

The surveyed fields are unfortunately not evenly spread over the whole area: the area near the coast line, largely taken up by the urban zones of Anzio and Nettuno and an inaccessible military base, is underrepresented in the sample. Further inland, the survey covered substantial parts of both the marine terraces and the river valleys. Two areas were investigated relatively intensively: the Astura valley (especially at *Quarto delle Cinfonare*) to the east and the marine terraces in the area of *Campana* to the west (see Figure 5). The studies in these two areas give us the opportunity to compare settlement histories of two landscape units within the coastal zone.

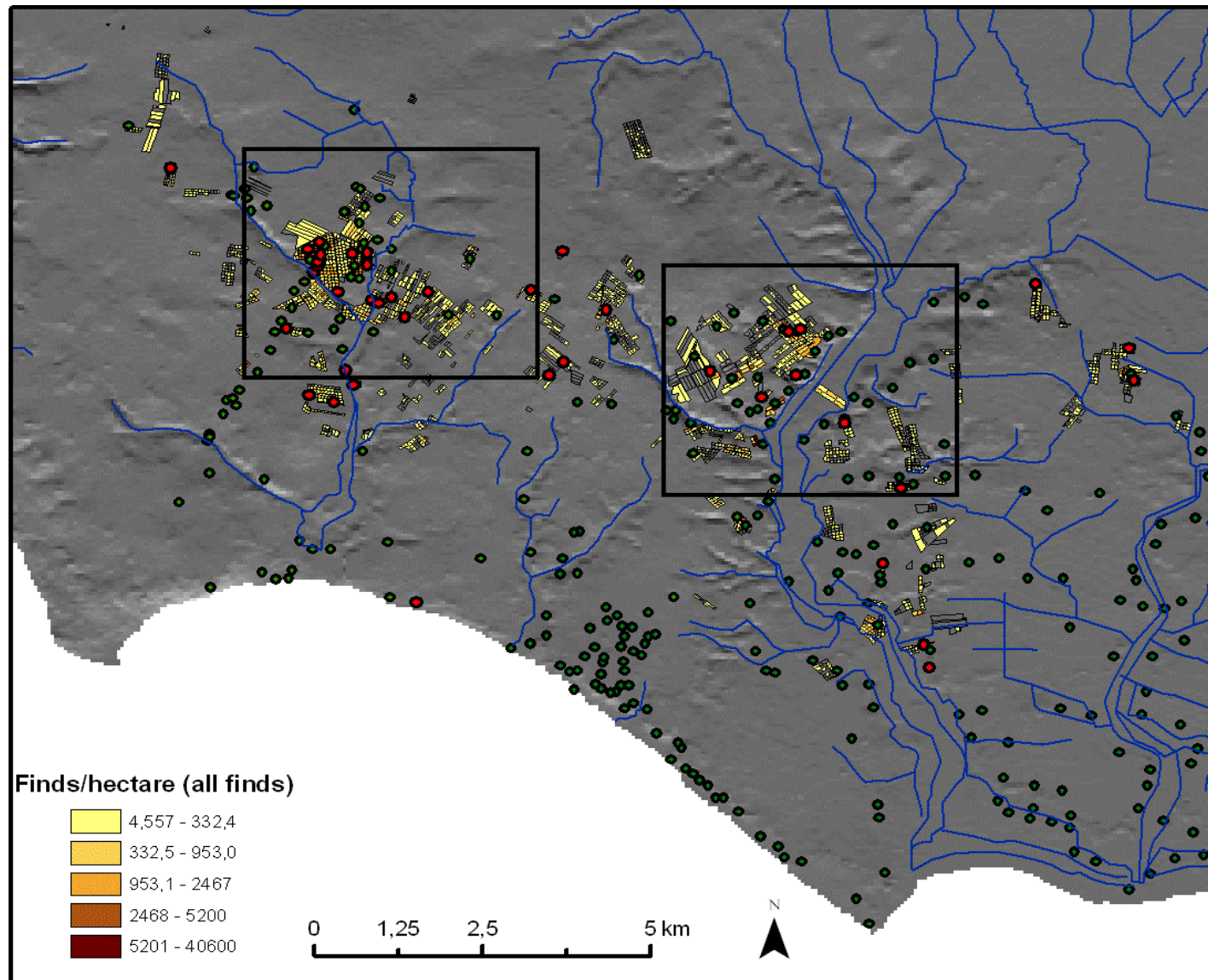


Figure 5: Surveyed fields and sites (red: found during surveys; green: mapped by Liboni and Piccarreta). Frames indicate areas of Campania (left) and Quarto delle Cintonare (right).

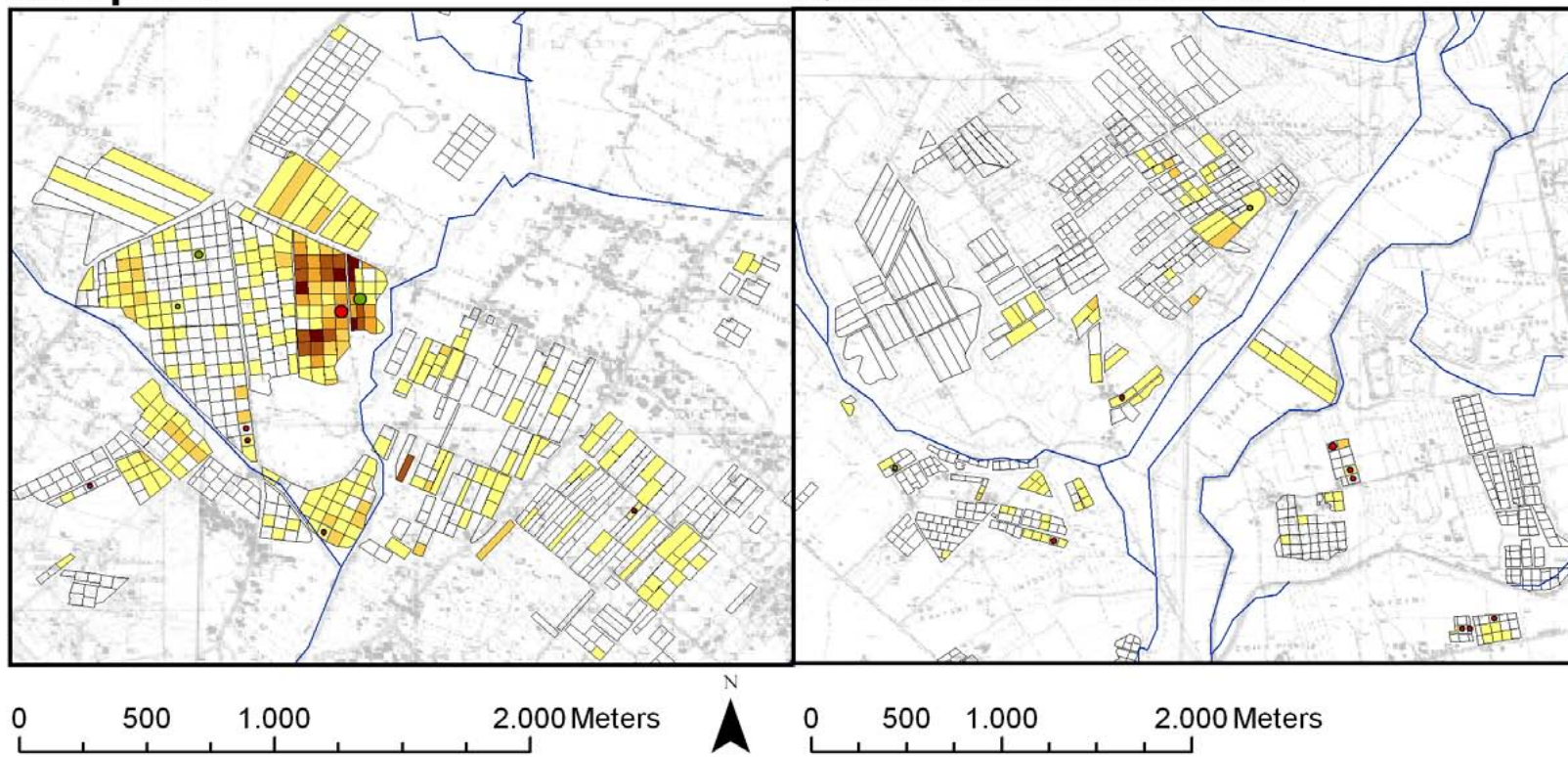
Figure 6 shows the distribution of protohistoric and archaic finds in these two areas. The distribution of protohistoric and archaic pottery is particularly dense in the central part of the Campana area, while in other areas material (with a few exceptions) only occurs in low densities. The high-density areas in Campana probably present several large (middle) Bronze Age sites.¹⁸ Diagnostic Orientalising and Archaic material (*impasto rosso* and *bucchero*, archaic tile) occurs throughout both survey areas, also in the zones with lower find densities. Since these finds seldom occur in off-site contexts, small Orientalising and Archaic sites are probably widespread. The fact that find densities are very low is partly due to the nature of protohistoric ceramics: they are generally very abraded and fragmented and therefore hard to find in the field.

The following post-Archaic period also suffers from visibility problems, because there are no indicative fine wares for this period. Moreover, the fabrics of coarse wares and tiles are generally long-lasting and continue into the Republican period. The map (Figure 7) therefore shows the distribution of a relatively small group of wares (tile and coarse wares) that also includes Republican material. Nonetheless, the distribution of post-Archaic and early Republican coarse wares and tiles shows some changes in comparison with that of the previous period: occasional finds still occur in large parts of the survey area, but sites now occur in both central and western Campana and throughout the Quarto delle Cintonare, areas that had relatively little evidence for archaic occupation. This shift is also clear when we look at the distribution of Republican black gloss. Many fragments were found in the eastern part of Campana, but at least three sites were inhabited to the west. Similarly, at least five sites can be discerned in the area of Quarto delle Cintonare.

¹⁸ See also L. Alessandri (2007). *L'occupazione costiera protostorica del Lazio centromeridionale*. (Oxford: Archaeopress): 65.

Campana

Quarto delle Cintonare



protohistoric and Archaic pottery

Archaic tile

- 5,278 - 224,6
- 224,7 - 784,7
- 784,8 - 2770

Orientalising/Archaic pottery

- 16,81 - 57,24
- 57,25 - 115,9
- 116,0 - 362,1

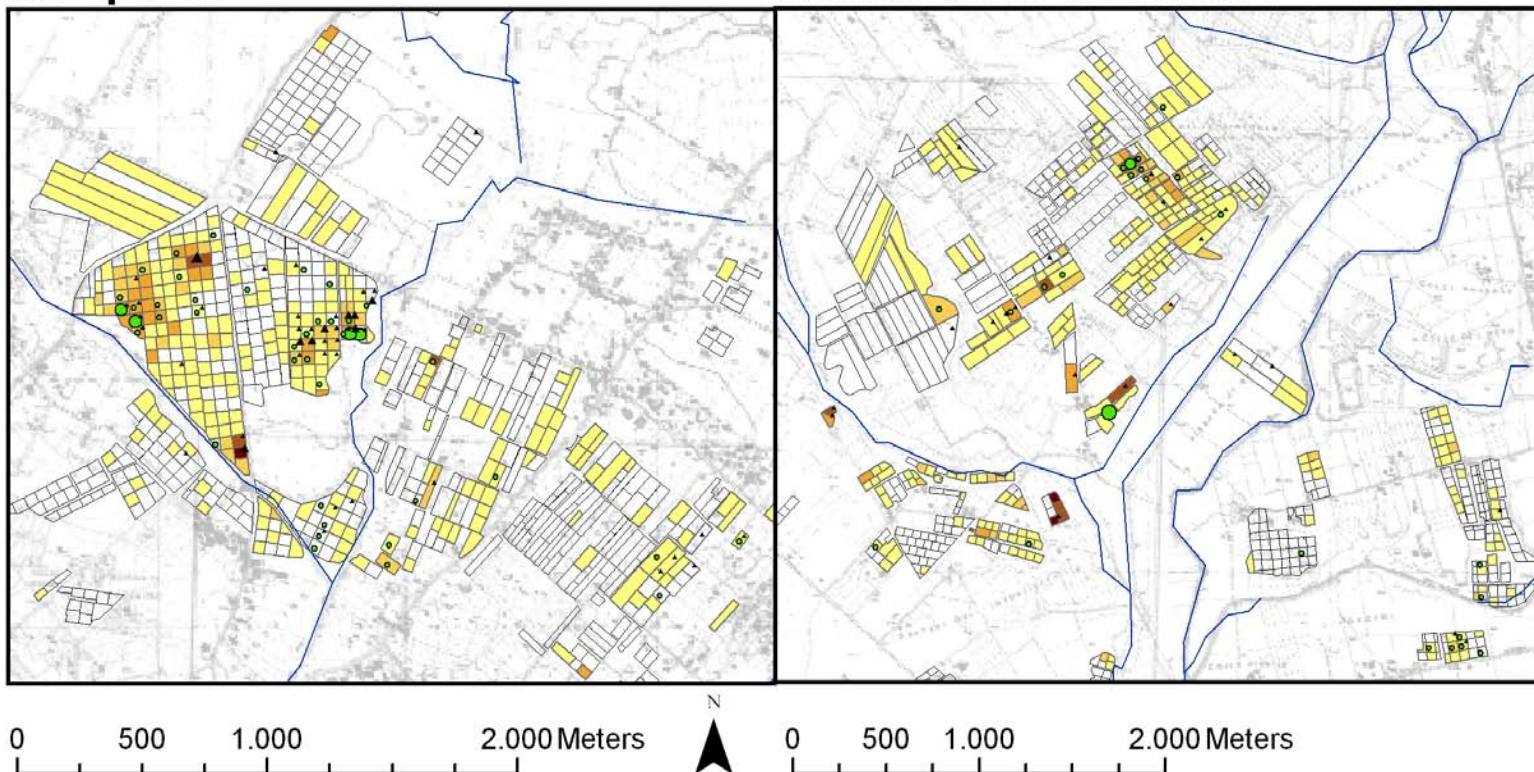
all protohistoric and Archaic pottery

- 3,284 - 210,6
- 210,7 - 546,7
- 546,8 - 1063
- 1064 - 2147
- 2148 - 6354

Figure 6: Protohistoric and Archaic finds (corrected for coverage and varying visibility) at Campana and at Quarto delle Cintonare

Campana

Quarto delle Cintonare



post-Archaic and Republican pottery

post-Archaic/early Republican coarse wares post-Archaic/Republican tile

- 7,857 - 207,5
- 207,6 - 548,3
- 548,4 - 8686

black gloss

- ▲ 8,106 - 155,3
- ▲ 155,4 - 397,4
- ▲ 397,5 - 971,4

- 6,764 - 391,0
- 391,1 - 1219
- 1220 - 3097
- 3098 - 6726
- 6727 - 15260

Figure 7: Post-Archaic and Republican finds (corrected for coverage and varying visibility) at Campana and at Quarto delle Cintonare

The distribution of Imperial tile and fine wares shows that occupation of the survey areas decreased significantly after the Republican period (Figure 8). In the area of Quarto delle Cintonare, there are hardly any off-site finds and few sites live on. Off-site densities are similarly low in most of the Campana area; the only area with abundant Imperial material is the western part of Campana. The presence of 'luxury'-indicators (mosaic *tesserae*, painted wall plaster, marble) in this area clearly indicates that a number of villas were located here (see also below). During the survey, a number of small scatters were noted near these areas with luxury material; these small scatters probably indicate storage areas or outbuildings belonging to such villas.

6 The settlement history of the coastal area

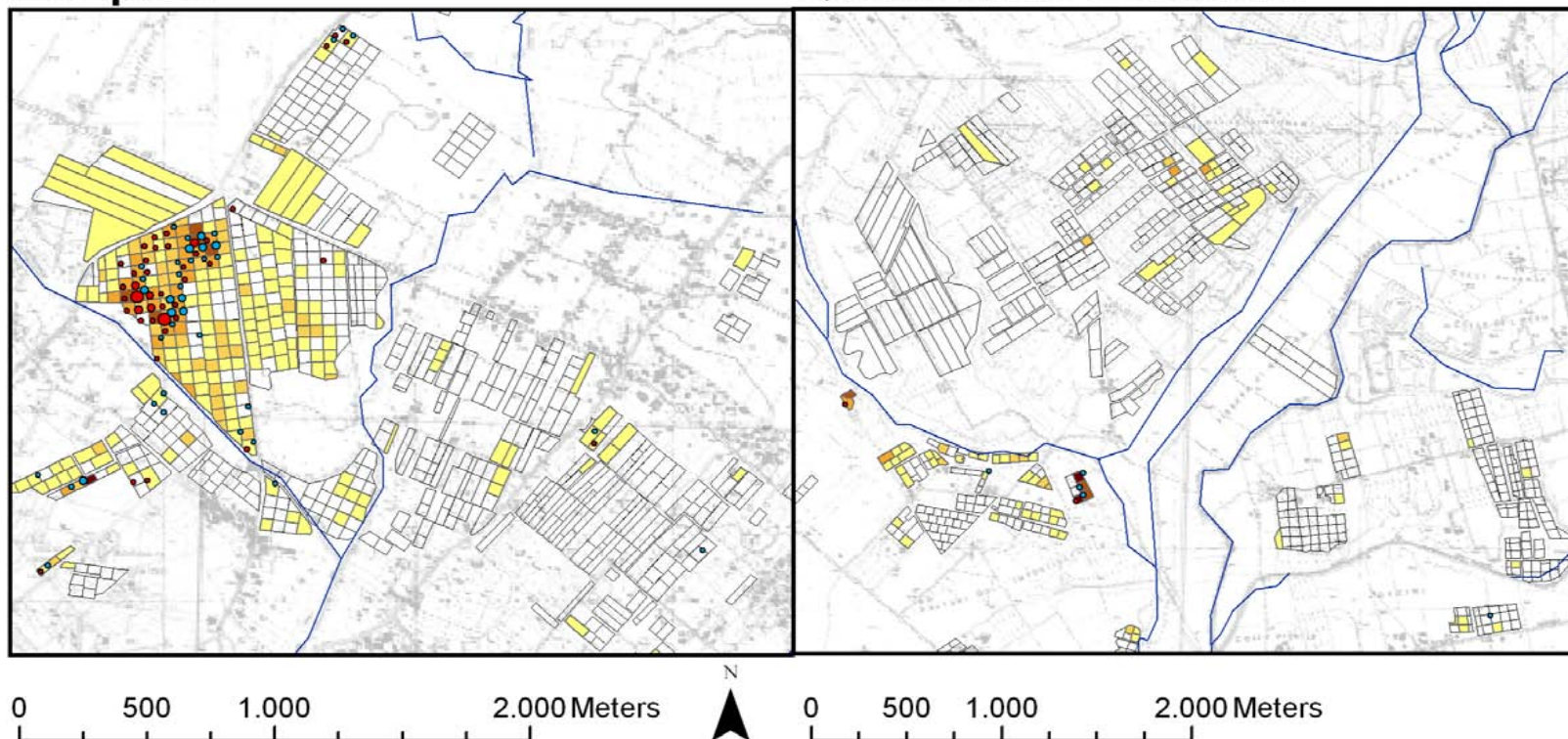
The shifts in settlement patterns described above can be understood better if we look at the wider geographical context of these finds (Figure 9, Figure 10, Figure 11, Figure 12 and Figure 13). Although the patterns shown on these maps are partly a consequence of varying research intensity, a few long-term settlement developments in the coastal area can be deduced from them.

At least two large Archaic sites with urban characteristics (large sanctuaries, defensive structures, large size) are located in the area: Antium and Satricum (Figure 9).¹⁹ Agricultural products must have been supplied from farms in their immediate surroundings, but sites also occur further away from them. These sites (probably subsistence farms) are primarily located near the three main rivers. On the mouth of the river Astura, the settlement of Astura is thought to have been the harbour of Satricum, although as yet there is not much archaeological evidence for this.

¹⁹ For Antium, see Lugli (1940); for Satricum see Maaskant Kleibrink (1987) and Maaskant Kleibrink (1992).

Campana

Quarto delle Cintonare



late Republican and Imperial pottery

African red slip wares late Republican - Imperial tile

- | | |
|-----------------|---------------|
| • 17,07 - 400,1 | 0,01 - 256,5 |
| • 400,2 - 1880 | 256,6 - 827,6 |
| • 1881 - 5973 | 827,7 - 2826 |

terra sigillata

- | | |
|-----------------|--------------|
| • 16,64 - 191,4 | 2827 - 4183 |
| • 191,5 - 519,4 | 4184 - 29190 |
| • 519,5 - 1051 | |

Figure 8: Late Republican and Imperial finds (corrected for coverage and varying visibility) at Campana and at Quarto delle Cintonare

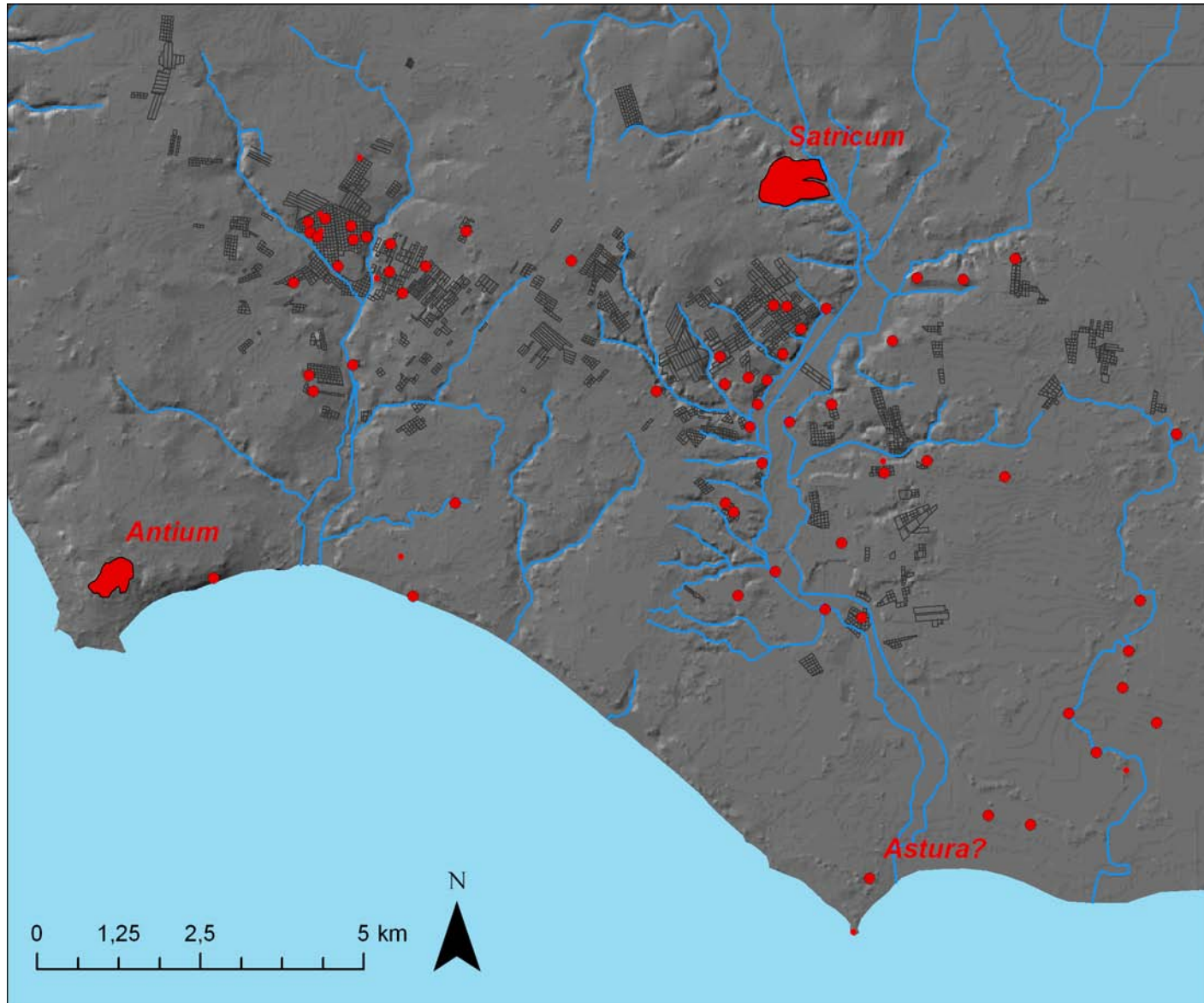


Figure 9: Archaic settlement in the coastal area (small dots: date uncertain)

In the post-Archaic period settlement density clearly declines, especially along the Fosso Moscarello to the southeast and at Campana (Figure 10); the Astura valley is the only area where site density remains relatively high. Perhaps this area maintained its importance as a supply route along the Astura from the coast to Satricum. The defended sites of Satricum and Antium continue to be occupied, although perhaps their population was reduced.²⁰ The reduction of these central sites is often related to events recorded by historical sources for this period: struggles between Latins and Romans and invading Volscians supposedly caused a period of 'crisis'. Several modest defended sites in adjacent areas are similarly placed in the context of these struggles.²¹ The nature of these struggles is unclear, but they probably entailed military campaigns during which central settlements could change hands and the countryside was raided.

However, the long term effects of these struggles are less clear, especially in survey contexts: a reduction in rural settlement is noted, but our limited knowledge of ceramics may account for part of this reduction. The lack of - imported - fine wares may in itself also be seen as an indication of economic changes. However, warfare in itself may only have had a short-term effect on rural settlement that does not show in our survey data.²² More in general, we can say that it remains problematic to link this kind of historically attested phenomenon to archaeological data.

²⁰ For Satricum: J. Bouma (1996). *Religio Votiva: The archaeology of Italic votive religion. The 5th - 3rd century BC votive deposit south west of the main temple at 'Satricum' Borgo le Ferriere.* (PhD thesis. Rijksuniversiteit Groningen) and M. Gnade (2000). *Satricum in the Post-Archaic period. A case study of the interpretation of archaeological remains as indicators of ethno-cultural identity.* (PhD thesis. Universiteit van Amsterdam); for Antium: M. Guaitoli (1984). "Urbanistica" *Archeologia Laziale* 6: 364-381.

²¹ L. Quilici & S. Quilici-Gigli (1984). "Longula e Polusca" *Archeologia Laziale* 6: 107-132.

²² For a discussion, see P. Attema (2000) "Landscape archaeology and Livy: Warfare, colonial expansion and town and country in Central Italy of the 7th to 4th c. BC." *Babesch* 75: 122/123.

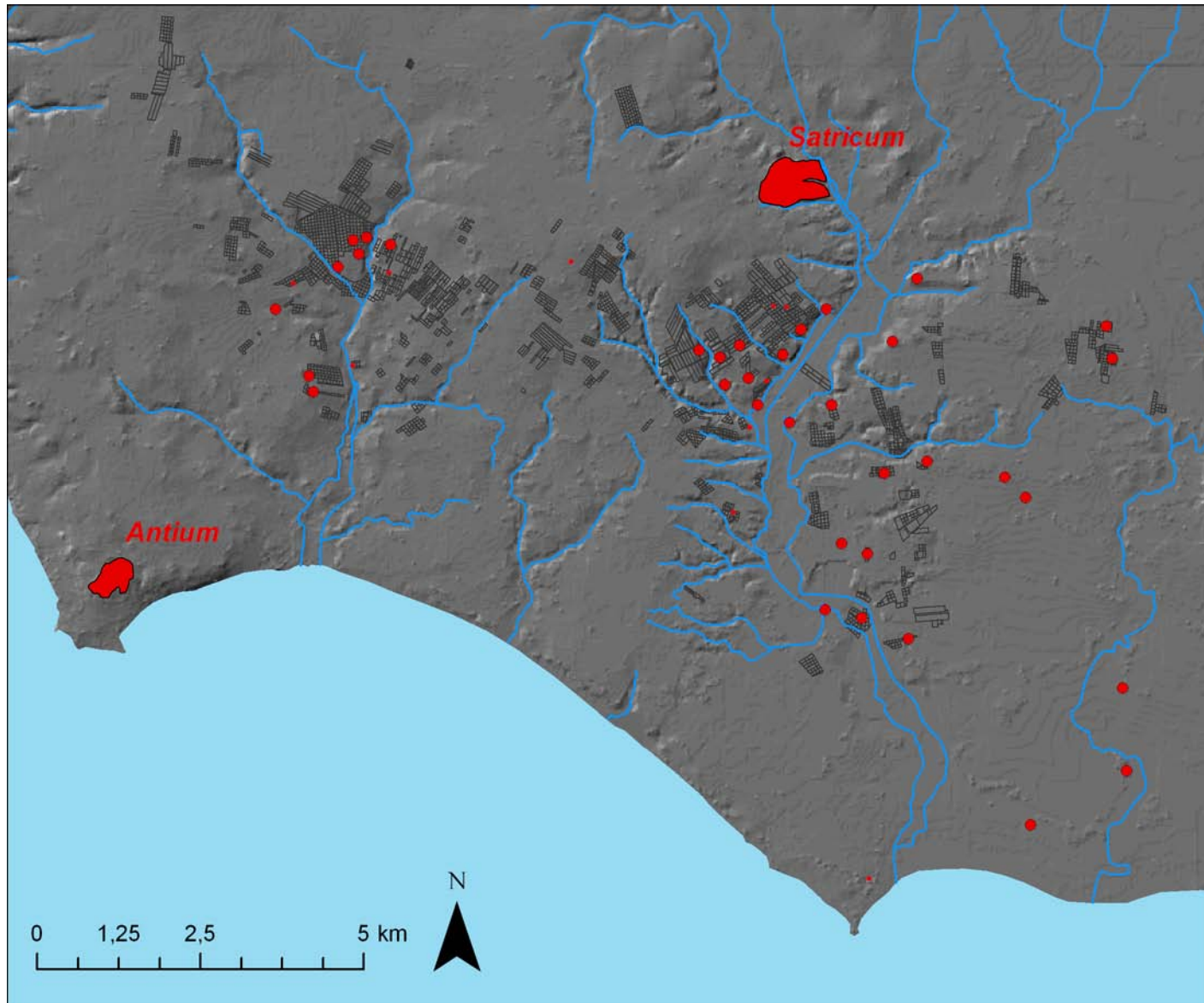


Figure 10: Post-Archaic settlement in the coastal area (small dots: date uncertain)

According to ancient sources the struggles came to an end in 338 BC with the defeat of the Volscians of Antium. After this, Satricum gradually ceased to exist and the Romans established a new colony at Antium. The exact location of this Republican colony is still debated²³, but finds of 4th to 2nd century BC votive materials at several locations and the presence of several early Republican *hypogeum* tombs may indicate that the location of Archaic and post-Archaic Antium remained in use.²⁴ The decline of Satricum and the growing importance of Antium is reflected in the rural settlement pattern of the early and mid Republican period (Figure 11): in the Campana area the number of rural sites grows in the course of the Republican period, whereas the number of sites in the Astura valley clearly declines; new sites also appear along the coast and the settlement of Astura may have grown in importance.²⁵ Several important roads were probably established in this period: a coastal route later known as the *Via Severiana*, and a north-south road connecting Antium to the *Via Appia* and Lanuvium.

In the first centuries BC and AD, some major developments take place. First of all, there is a clear peak in settlement in the area (Figure 12). Although the number of sites in the Quarto delle Cintonare area decreases, sites are now evenly spread throughout the Astura valley and the valley of the Moscarello is resettled. In both areas rural sites can probably be interpreted as farms. The number of sites in the Campana area increases considerably, especially near the main roads. Part of the sites in this area can

²³ Brandizzi Vittucci (2000).

²⁴ A. Jaia (2004). "I Luoghi di culto del territorio di Anzio". In: G. Ghini (ed.), *Lazio e Sabina 2*. (Roma: De Luca Editore) 255-264; L. Morpurgo (1946). "Anzio. Sepolcreto sotterraneo pagano rinvenuto in contrada "Riserva di Camposanto" o "Perpenda"" *Notizie degli Scavi* 6/7 [1944/1945]: 105-126.

²⁵ Admittedly, the Republican period is considerably longer than previous periods. However, considering that the amount of Republican material generally occurring on sites is also much larger, I argue that they were also occupied during most of the period. More detailed studies of the ceramic assemblages will have to prove whether this is true.

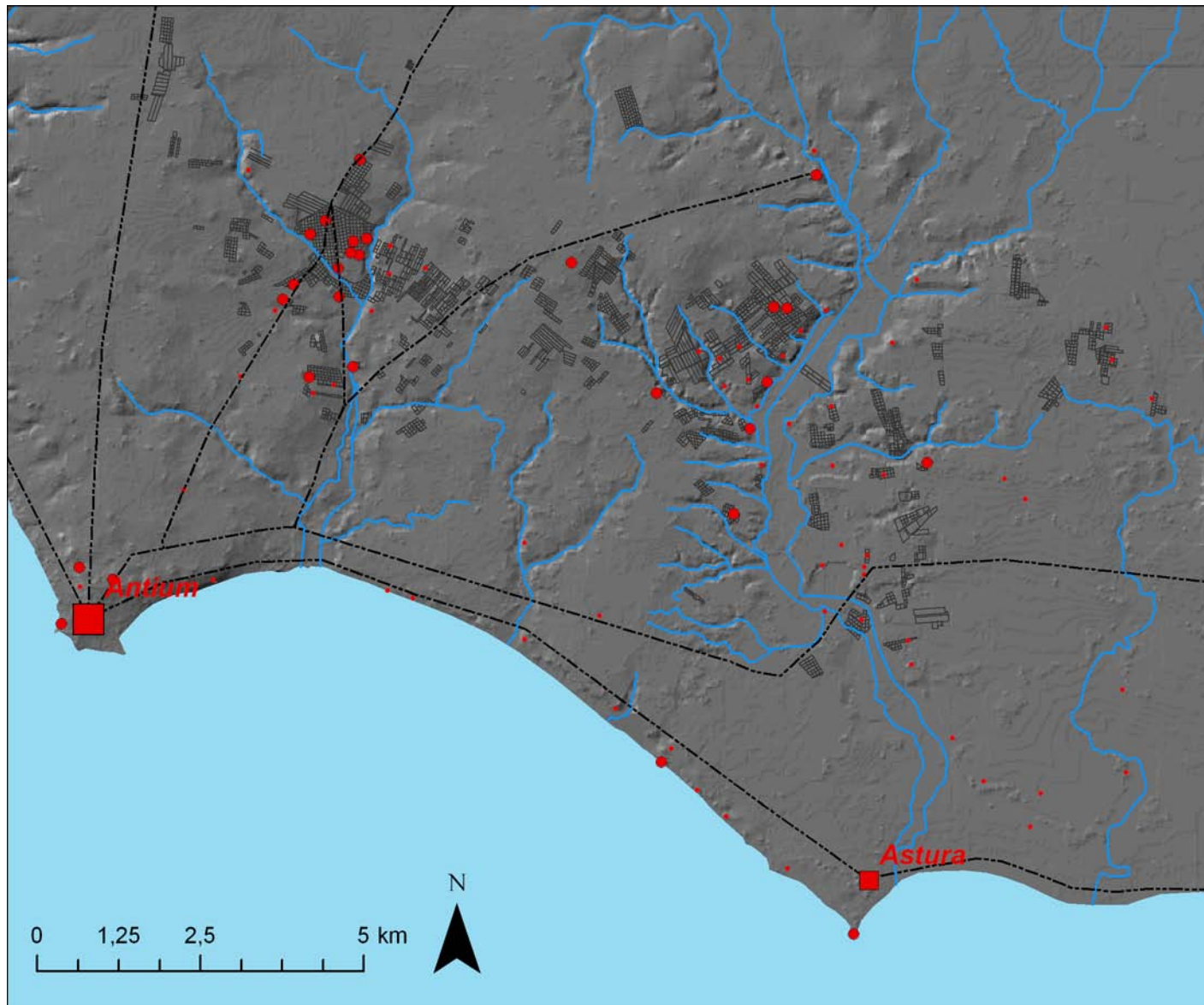


Figure 11: Republican settlement in the coastal area (small dots: date uncertain; black dotted lines: roads)

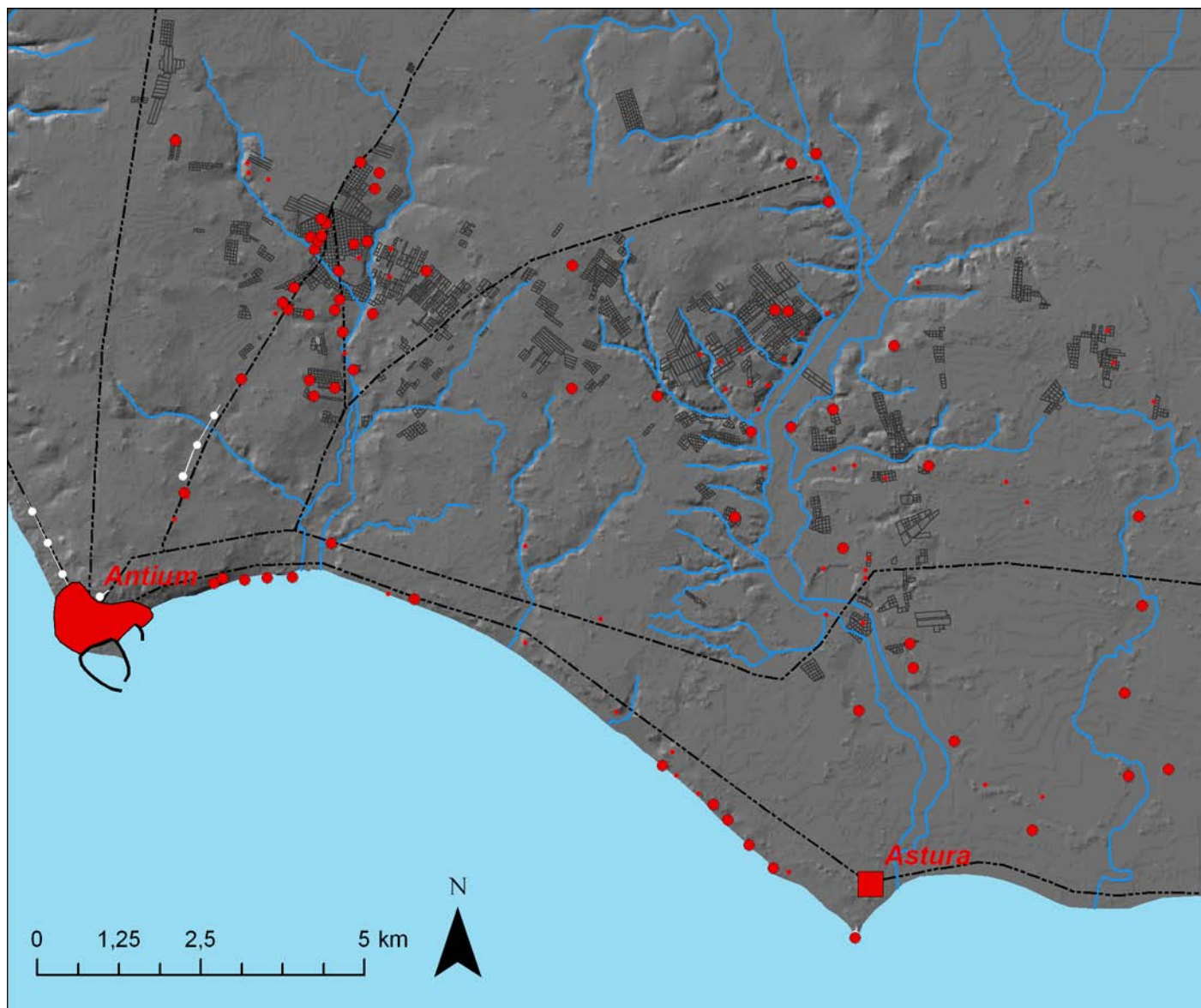


Figure 12: Late Republican and early Imperial settlement in the coastal area (small dots: date uncertain; black dotted lines: roads; white lines: aqueducts; black lines: harbours)

now be interpreted as proper villas, but smaller sites (farms) continue to exist alongside these larger estates.

A second major change is the growing importance of the zone directly on the coast. A number of large coastal villas are established and the colony of Antium grows in importance with the construction of an Imperial residence and a large harbour in the 1st century AD. The concentration of rural sites close to and with easy access to Antium indicates that agricultural production was mainly intended for the local market and for transshipment to Rome or elsewhere. Production of amphorae on one of the coastal villas indicates that these were involved in agricultural production, possibly specialised in olive oil production.²⁶

After the 1st century AD, the total number of sites in the area gradually declines (Figure 13). This is especially true for the Astura valley, whereas the villas along the coast and the area closer to Antium remain intensively settled. A second harbour was built at the large villa of *Torre Astura*. Ceramic finds indicate that this settlement- and production system functioned at least into the mid 3rd century AD. After the mid 3rd century, the number of rural sites rapidly declines.

In summary, several important shifts can be observed in the settlement history of the coastal area. In the Archaic period the towns of Antium and Satricum flourished and areas along the main rivers in the area were densely settled with farms. In the post-Archaic period the number of sites decreases, while the large settlements gradually lost their importance. Rural occupation once again expands in the Republican period with a clear peak in the late Republican and early Imperial period. In this period, rural settlement is concentrated in the western part of the area and along the coast; Antium formed the local market and possibly a

²⁶ Attema & de Haas (2005): 106.

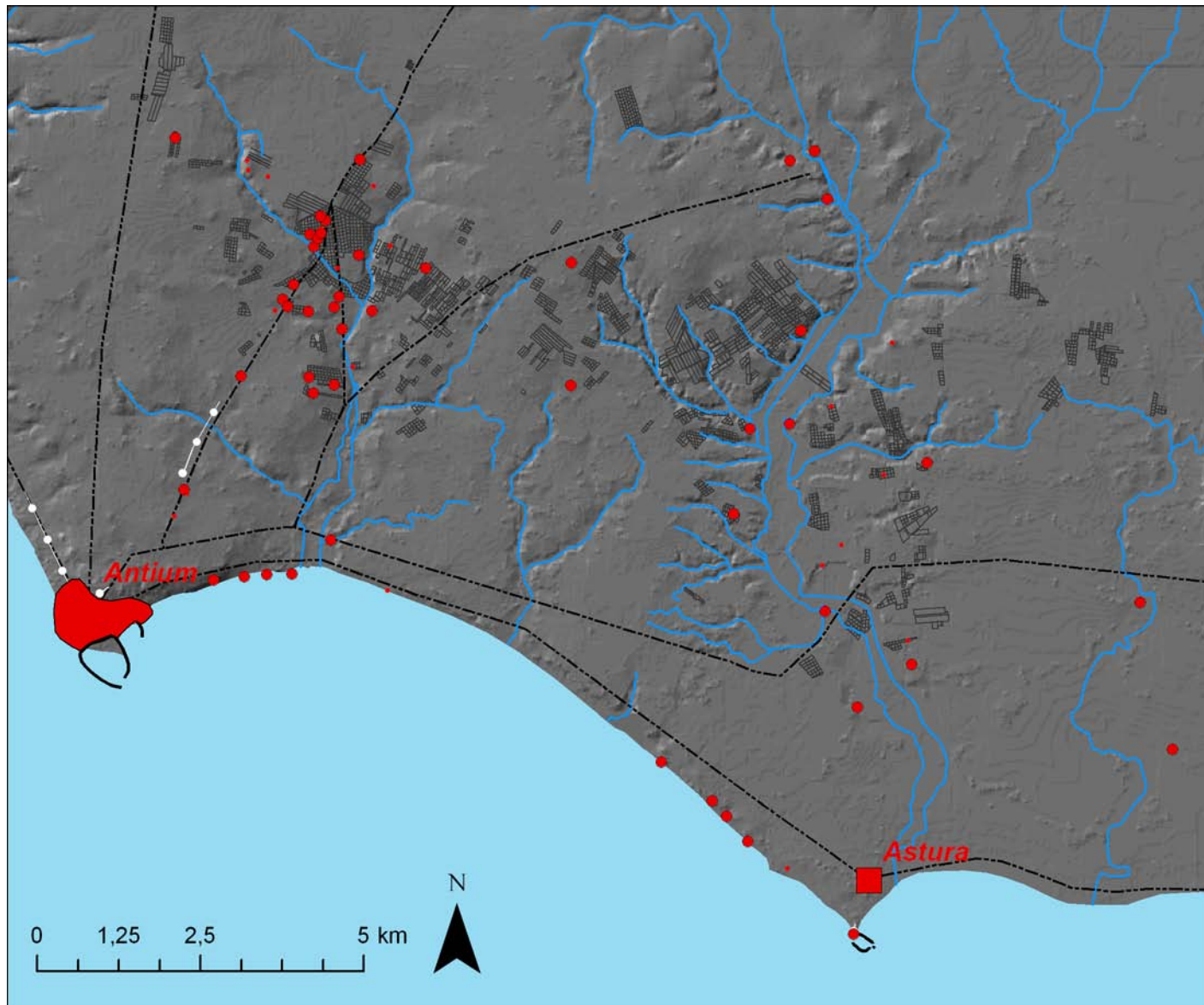


Figure 13: Mid and late Imperial settlement in the coastal area (small dots: date uncertain; black dotted lines: roads; white lines: aqueducts; black lines: harbours)

transshipment place for agricultural produce from these rural settlements.

7 Perspectives for intra-regional comparison

On a regional level, various interesting points of comparison can already be observed with the case study areas in the Lepine mountains and the lower plain (Figure 2). In the Lepine Mountains for example, like in the coastal area, large central settlements arise in the Archaic and post-Archaic periods, surrounded by a large number of small rural sites.²⁷ From the Republican period onwards, settlement in the Lepine mountains developed along different lines than in the coastal area: Norba (one of the Roman colonies in this area), had already developed into a sizeable city in the mid 4th century BC, flourished during most of the Republican period until it was destroyed in the 1st century BC.²⁸ In contrast, the colony of Antium had its prime in the Imperial period. Apparently, varying access to marine transport routes was crucial to the development of urban centres in the coastal landscape and their decline in the mountainous landscape. Changes in rural settlement patterns, however, are far less marked: in both areas many sites show continuity into the mid Imperial period.

Settlement in the third landscape zone - the lower Pontine Plain - may have developed along yet different lines. The area is often considered unfit for occupation because of its bad hydrological situation. No Archaic centres or Roman colonies are known in this area, and perhaps settlement started with Roman infrastructural interventions, especially with the establishment of a centuriation system and the subsequent construction of the Via Appia in the late

²⁷ M. van Leusen,, T. de Haas, S. Pomicino & P. Attema (2005). "Protohistoric to Roman settlement on the Lepine margins near Ninfa (south Lazio, Italy)" *Palaeohistoria* 45/46 [2003-2004]: 301-346.

²⁸ S. Quilici Gigli (1996). "Appunti di topografia per la storia di Norba" *Atti della Pontificia accademia romana di archeologia Rendiconti* 66 [1993-1994]: 285-301.

4th century BC.²⁹ On the other hand, alluviation may have covered parts of the archaeological landscape in the area³⁰ and a lack of systematic (survey) research limits our knowledge of rural occupation. To counter this problem field surveys are currently being undertaken. Preliminary visits to the area have already yielded evidence for rural occupation starting in the Archaic period.³¹

These brief notes on the comparison of the three landscape zones are the result of a preliminary study of previous surveys and available literature. Obviously, several issues need further study to provide us with comparable data:

- 1) First of all, for a better understanding of socio-economic developments, we need more knowledge of site types. An elaboration of the data for all three regions will have to provide the basis for a standardized site classification.
- 2) Secondly, developments can at the moment only be described with a limited chronological resolution. To refine our understanding of the processes at work in the post-Archaic and Republican periods, a more detailed study of the chronology of sites based on the ceramic data is planned.
- 3) A third issue for further study is the relation between settlement and landscape. A standardized method is currently being developed within the Hidden Landscapes project (see Figure 3) to

²⁹ M. Cancellieri (1990). "Il territorio Pontino e la Via Appia" *Archeologia Laziale* X: 61-72.

³⁰ P. Attema, B.-J. Haagsma & J. Delvigne (1996). "Survey and sediment in the *ager* of ancient *Setia* (Lazio, central Italy). The Dark Age concept from a landscape perspective" *Caeculus* III: 113-121.

³¹ A first small scale systematic survey undertaken in October 2006 yielded at least three small rural sites. A full scale block survey in October 2007 shows that rural occupation may also have been more widespread than previously thought. The data of these surveys is currently being elaborated and will be published in 2009.

create a landscape classification based on geomorphological criteria for the whole Pontine Region. Relating such a classification to agricultural potential will enable a more detailed study of changes in agriculture and economy.

4) A fourth perspective is the use of the survey data for demographic studies. The dataset from the coastal area is currently being used to attempt reconstructing the size of the local rural population by attributing a hypothetical number of inhabitants to various site types (small farms, large farms, villas). Such calculations will help us study the relations between different rural site types and urban settlements and may contribute to the wider debate on the demography of Roman Italy.

8 Concluding remarks

In this article I have introduced the rich landscape archaeological tradition of the Pontine Region. I have explored the potential this tradition offers for a better understanding of local and regional variations in settlement history. The research in the coastal area may serve as an example of how these local variations can be analyzed on the level of landscape units. This local study will serve as an example for a second research stage, in which the other landscape zones that have been introduced briefly will be studied. Studying sample areas of these three landscape zones will give us the opportunity to better understand the settlement history of the Pontine Region as a whole.

Some issues concerning such an intra-regional comparative study have been highlighted in this article. The comparability of data will in my view be crucial. A critical review of the survey data available for the case study area in the Lepini Mountains forms a first step in this, and complementary fieldwork using the same methodology as the surveys in the coastal area is planned for 2008. For the case study in the lower Pontine Plain, similar surveys have recently been undertaken with very promising results.

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