

## SILIVRI – HLC TYPES

### *Fields*

#### **Strip fields**

- Strip fields – modern
- Strip fields – post-medieval
- Strip fields – medieval

#### **Coaxial fields**

- Coaxial fields – post medieval

#### **Fields**

- Modern fields
- Modern fields (grid)
- Modern fields based on post-medieval fields
- Modern fields based on post-medieval coaxial fields
- Modern fields based on strip fields
- Post-medieval fields
- Post-medieval fields based on strip fields
- Post-medieval fields based on coaxial fields

#### **Meadow**

#### **Orchard**

#### **Horticulture**

### *Woodland and rough ground*

#### **Thracian forest**

#### **Other woodland**

#### **Rough ground**

### *Settlement*

#### **Villas**

#### **Village**

#### **Urban**

### *Industrial*

#### **Industrial**

#### **Quarry**

## SILIVRI – HLC TYPES: DISCUSSION

### *Fields HLC Types*

Most of the land in the Silivri study area is agricultural. The fields lie in a broad, largely uninterrupted band between the Sea of Marmara to the south, and the Thracian Forest (see below) to the north. The only significant urban development lies in the south, along the coast and around the town of Silivri.

The boundaries between the fields are in general marked only by low baulks topped with long grass or weedy vegetation, and sometimes (especially, but not exclusively, on the hillsides) by earthworks. The earthwork banks or lynchets can range from less than 0.10m high to over 1m. The baulks between the fields appear fragile and impermanent, but it is clear that in many parts of the study area they are of considerable antiquity. In places, for example, the line of the Anastasian Wall still acts as the boundary between fields, even though the monument itself has been completely destroyed and levelled (these subjects are discussed further below).

Less frequently, modern wire fences have been put up around individual fields. The most common reason for this appears to be to enclose land before and after building new villas, which are increasingly frequent in this landscape (see below). However, some agricultural fields have been enclosed in this way too. These are not single-strand barbed wire fences, but instead concrete post and mesh fences commonly over 2m high.

There are also occasional hedges that have developed along the boundaries between fields. In the Silivri hinterland, these are clearly not part of the pattern of the traditional historic landscape, although they occur more frequently along the edges of roads and tracks in the northern part of the study area close to the edge of the Thracian Forest. Satellite imagery, air photos and field visits show that more established hedges are slightly more common around the villages to the north in the Thracian Forest and towards the Black Sea, for example around Çiftliköy.

### **STRIP FIELDS**

As defined for the purposes of this project, strip fields are long, narrow fields that normally lie side-by-side in extensive blocks. Sometimes, individual strip fields or bundles of a few strips lie isolated where other strips that were once around them have been amalgamated into bigger fields through the removal of their boundaries subdivisions. This normally shows where one owner has acquired several contiguous strips and begun to farm them as one unit.

It has been possible to identify several different types of strip fields for this project. They may have their origins in different periods.

#### **Strip fields – modern**

In certain places, there are very long, narrow fields that lie in blocks like strip fields but have ruler-straight, surveyed boundaries. These probably represent older fields

that have been reorganised in the 20th century. A good example is visible on the slopes of the Çavuş Mezar Tepe at 609740 4559300.



Fig. 1. Modern strip fields at Çavuş Mezar Tepe (IKONOS)

In Fig. 1, the modern strip fields lie in the centre of the image. It can be seen that whilst they are perfectly parallel, the outer boundaries of the block of fields respects the sinuous boundaries to the north-east (neighbouring fields) and south-west (a seasonal stream). On the north-western boundary they also respect *old* line of the road from Fener to Akveren, which has been straightened in the 20th century. This is an area with many strip field systems, but one that borders an area to the south with many large 20th century fields industrialised arable fields. It seems likely that strip fields like these represent modern re-interpretations of a traditional landholding pattern.

### Strip fields – post-medieval

This is one of the categories mapped for this project whose suggested date range has rather poor chronological resolution. Most strip fields mapped in this category occur in the south of the study area, in the immediate hinterland of Silivri. Whilst post-medieval is suggested as their date, they might well in fact have medieval or even earlier origins.

Several factors suggest a long history.

Firstly, the boundaries of many of these fields are not straight, but gently sinuous. Although this cannot, of course, be taken as a definitive indicator of date on its own, it tends to be typical of older fields with origins before mid-nineteenth century.

Secondly, these strip fields ‘fit’ into the pattern of historic roads radiating out from Silivri; that is to say, the strips are commonly at approximately 90° to the radiating roads, and normally about them ([65], [67]).

Thirdly, newer roads and short-cuts across corners appear quite often to cut through the pattern of strip fields. Modern fields of the 20th century also intrude in a few places, with ruler-straight boundaries on different alignments to the older fields.



Fig. 2. Possibly post-medieval strip fields *c.* 3 km to the NE of Silivri (IKONOS).

### **Strip fields – medieval**

In the northern part of the study area, great swathes of territory are covered with narrow strip fields, and larger fields that are clearly derived from the amalgamation of two or more strips. The strips are often put to different uses, so that on neighbouring strips lie intermixed different crops, sunflowers on one, wheat on the next, vegetables on the next and so on. This creates a distinctive and colourful landscape that is full of variety (fig. 3).



Fig. 3. Strip fields on Hasırcı Düzliği, 2 km SE of Bekirli, viewed from the road between Akveren and Bekirli.

These strips often share certain characteristics:

**Width.** Where single strips survive and can be distinguished, they are often of regular widths. On level ground, these are most commonly *c.* 16-20m wide, although this does vary. On slopes, there seems to be slightly more variation with single strips up to *c.* 25 m wide. The width of strips also varies along their course. The strip fields at below Çilingir Tepe on Kurfallı Sırtı were visited by Jim Crow and Sam Turner on July 2007. Here field measurement confirmed the observation from the satellite imagery that the strips were 16m in width at the south (uphill) end, where they met the boundary of the neighbouring strip field, whose strips lie perpendicular to them. However, the satellite image (figs 4 & 5) clearly shows that the widths change as they progress to the north. It is very common for existing strips to be wider than this, probably (though not necessarily) because two or more strips have been amalgamated. Topography is also influential, and many strips have sides that prefer to follow the contour rather than maintain parallel sides. These often have visible lynchets.

**Length.** The length of strips in strip fields varies considerably. In the study area they are rarely less than 175m or more than 650m.

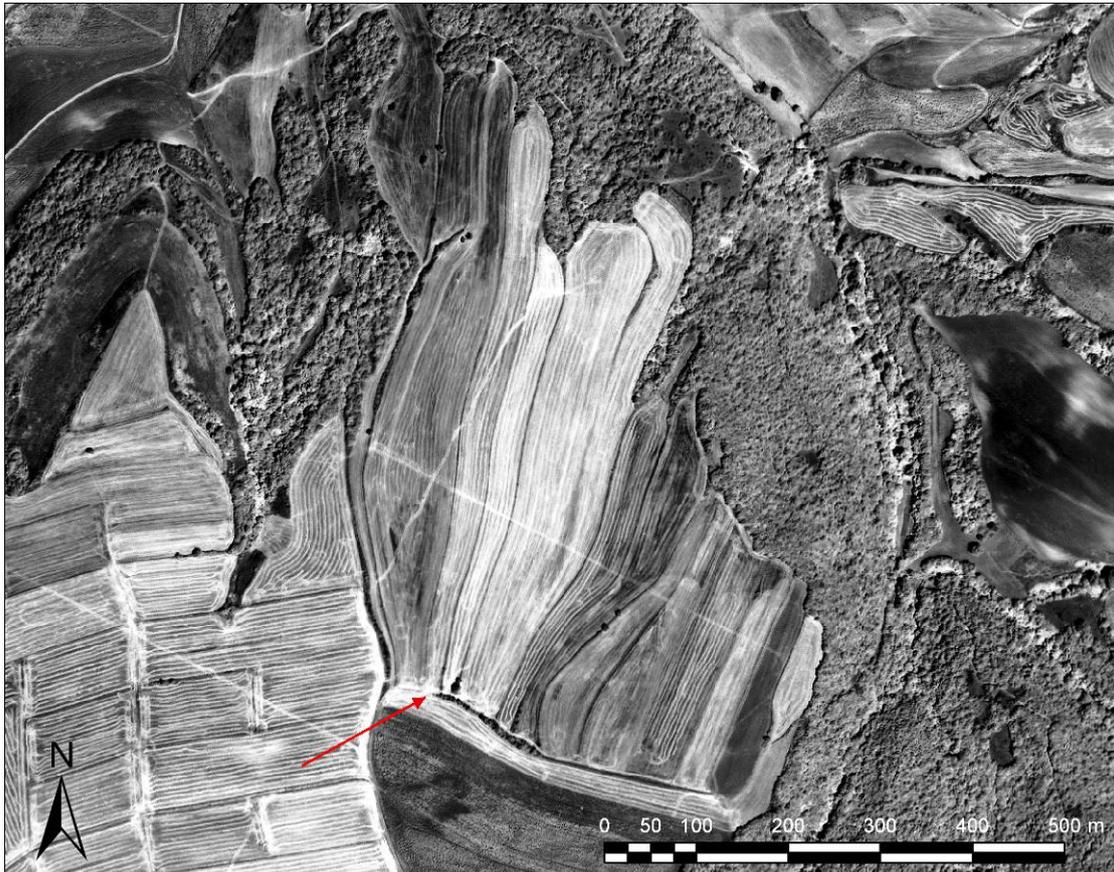


Fig. 4. Strip fields on Kurfalli Sirti. The arrow indicates the location of the photographer of Fig. 5, and the boundary where the strips originate with widths of 16m (IKONOS).

**Boundaries.** Despite being on fairly level ground, these strips are also bounded by considerable earthworks (fig. 6). These earthworks are less banks and more like great waves of earth, averaging just under 1m high. The exact boundary between strips was marked by weedy vegetation growing along the top of each bank (Fig. 5).



Fig. 5. Thistles growing on a strip boundary at 611603 4564933.

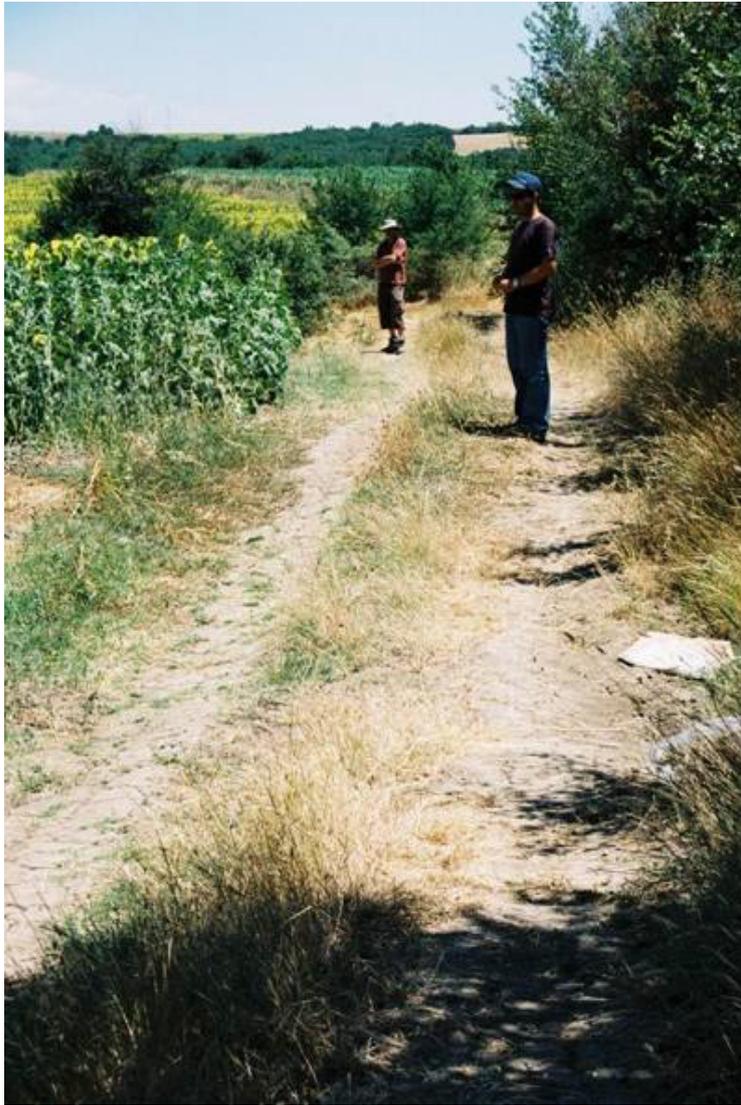


Fig. 6. The two figures are standing on earthworks that mark the boundaries between the strips in the strip field system on Kurfallı Sırtı (see figs 4, 7 and 8). The photographer is standing on the next boundary bank along.

One bank appeared to have the vestiges of a hedge growing along its beginning, although it was unclear how far this had ever extended (fig. 7). The surviving earthworks of now lost strip divisions were still visible in the sunflower crop to the north (fig. 8).

Fig. 7. Trees and bushes growing on the beginnings of a strip boundary (now lost amongst the sunflowers) on Kurfallı Sırtı.





Fig. 8. Lost strip divisions visible as earthworks on Kurfallı Sirtı. The same field is visible in the centre of the strip field system in fig. 4, though it now includes one more strip to the west.

**Date.** The description of these strips as ‘medieval’ is very tentative. It is based on the following suggestive factors:

Firstly, strip fields of this sort were very common in similar arable areas in medieval Europe. The sinuous form of the strips and the frequent lynchets suggest considerable antiquity.

Secondly, there is some evidence of stratigraphical relationships between the post-medieval coaxial field systems around Fener (discussed below), and the strip field systems to the north east. The evidence of satellite imagery and field observation suggests that strip fields on the southern slopes of the Eski Fener Tepesi have at some time been overlain by the coaxial field system (field visit by Jim Crow and Sam Turner, July 2007). In figs 9 and 10 (annotated), curving cropmarks very similar in form to the surviving strip fields on the other side of the ridge (fig. 12) can be seen to underlie the pattern of coaxial fields (fig. 11). This shows they antedate it, strongly suggesting a medieval or very early modern date. By analogy, other strip fields with similar morphology are probably to be dated to the same period.

There are other, similar examples of parallel, gently curving linear cropmarks around the site of Eski Fener itself (604752 4558245), and on the hillside opposite this deserted settlement across the Fener Dere to the east. These may also indicate the lynchets of former strip fields that have been overlain with post-medieval coaxial field systems.



Fig. 9. Probable post-medieval coaxial fields overlying probable medieval strip fields on the southern slopes of the Eski Fener Tepesi at 606360 4557965 (IKONOS).

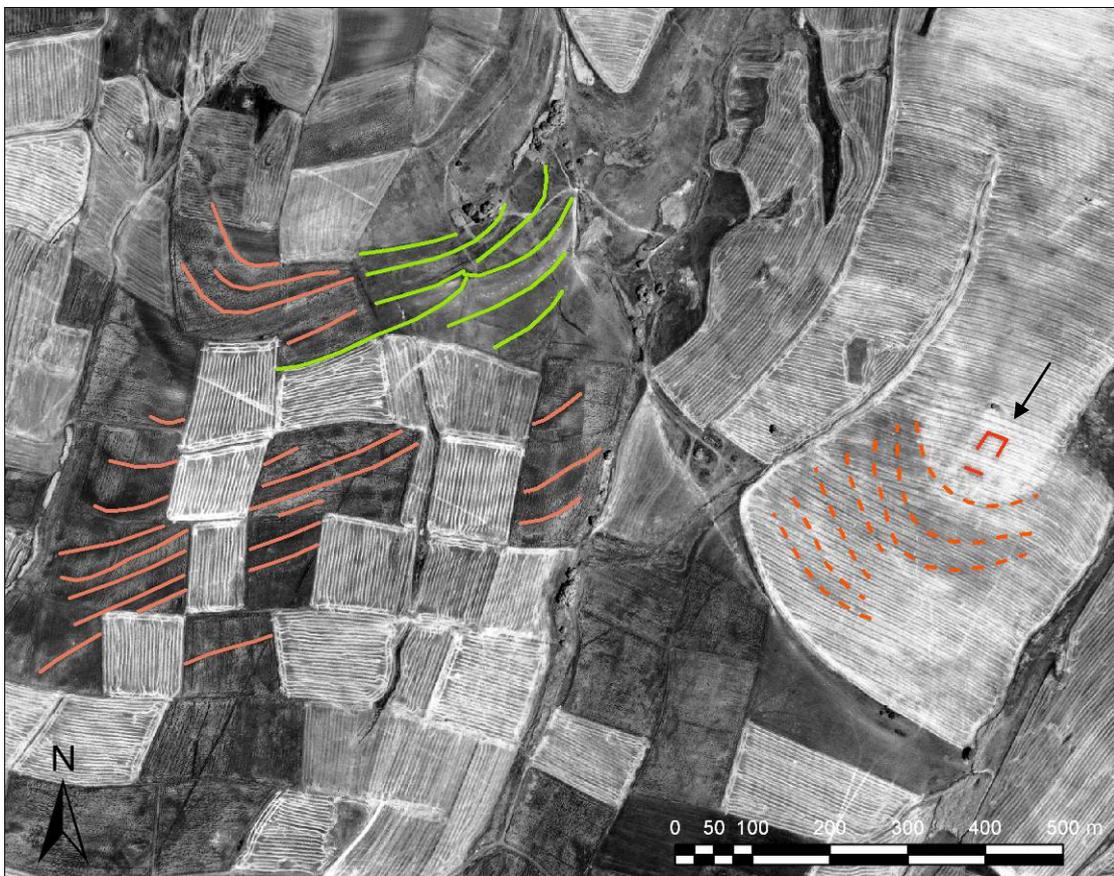


Fig. 10. As fig. 9, with selected features highlighted (green = lynchets, red = cropmarks). The arrowed feature represents a probable Roman farmstead/villa.



Fig. 11. Photo showing the lynchets visible in Figs 10, 11 and 12 to the south of the settlement (hidden in the trees) marked with an arrow in fig. 12. Looking north-west across the Kara Mastos Dere.

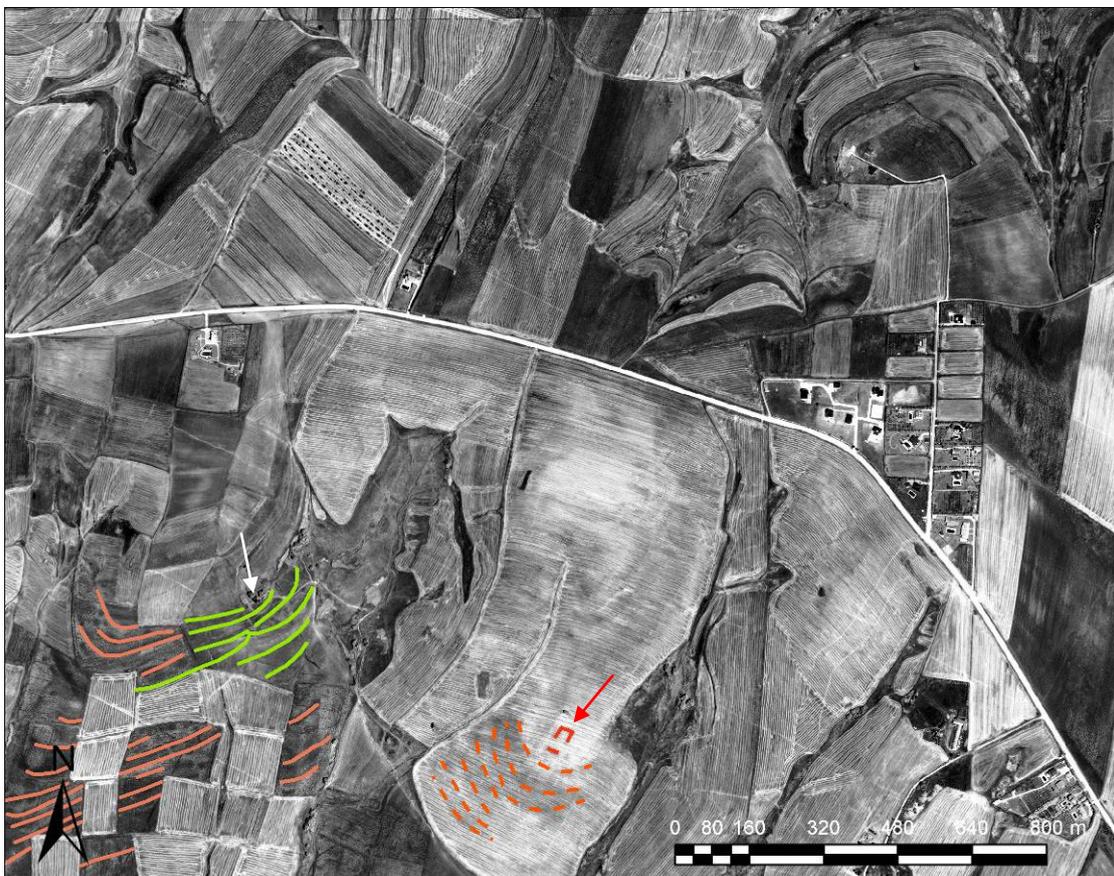


Fig. 12. The ridge of Eski Fener Tepesi, showing probable medieval strip fields to the south west (as earthworks and cropmarks), and to the north east (surviving fields). Considerable areas of modern change, including modern strip fields, large modern arable prairies, and modern villas occupy the rest of the area (with at least one Roman villa! – indicated by the red arrow). The white arrow on this fig. indicates the location of the settlement hidden by the trees in fig. 11 (IKONOS).

## COAXIAL FIELDS

This HLC type describes field systems with long, roughly parallel boundaries. The fields tend to be rectangular, but their boundaries and those of the wider field system are generally sinuous. They occur particularly around the village of Fener (fig. 13).



Fig. 13. Looking west from Kara Mastus Tepe towards Fener, across the probably post-medieval coaxial field system [214] lying between the Lutru Dere and the Fener Dere.

### Dimensions

Most commonly, these fields tend to be rectangular or nearly square, typically 100m x 140m. Individual fields are rarely (if ever) as big as 200m across. Some, particularly immediately to the north, south and east of Fener, are smaller, with sides of around 70m.

### Date

Certain fields have clearly been derived from the coaxial fields, for example the block that runs along the east bank of the Fener Dere [218] (fig. 14). It seems likely that these were once orchards or horticultural plots, based on the Ottoman/OS map and the much more frequent than average occurrence of trees in their boundaries.

In some places, the stratigraphic evidence suggests that certain roads present on the Ottoman/OS map post-date the coaxial fields, which strongly suggests a post-medieval date at the latest (e.g. [218]; [237] twice, fig. 15). Elsewhere, though, the road system either provided preexisting long boundaries for these field systems, or else was reorganised when the fields were laid out.

In addition, the probable medieval strip fields discussed above clearly underlie the pattern of coaxial fields on the slopes of the Kara Mastus Tepe/Eski Fener Tepesi (fig. 9).



Fig. 14. In the middle distance, the band of trees marks the coaxial field system [218] probably divided into orchards in the later post-medieval period.

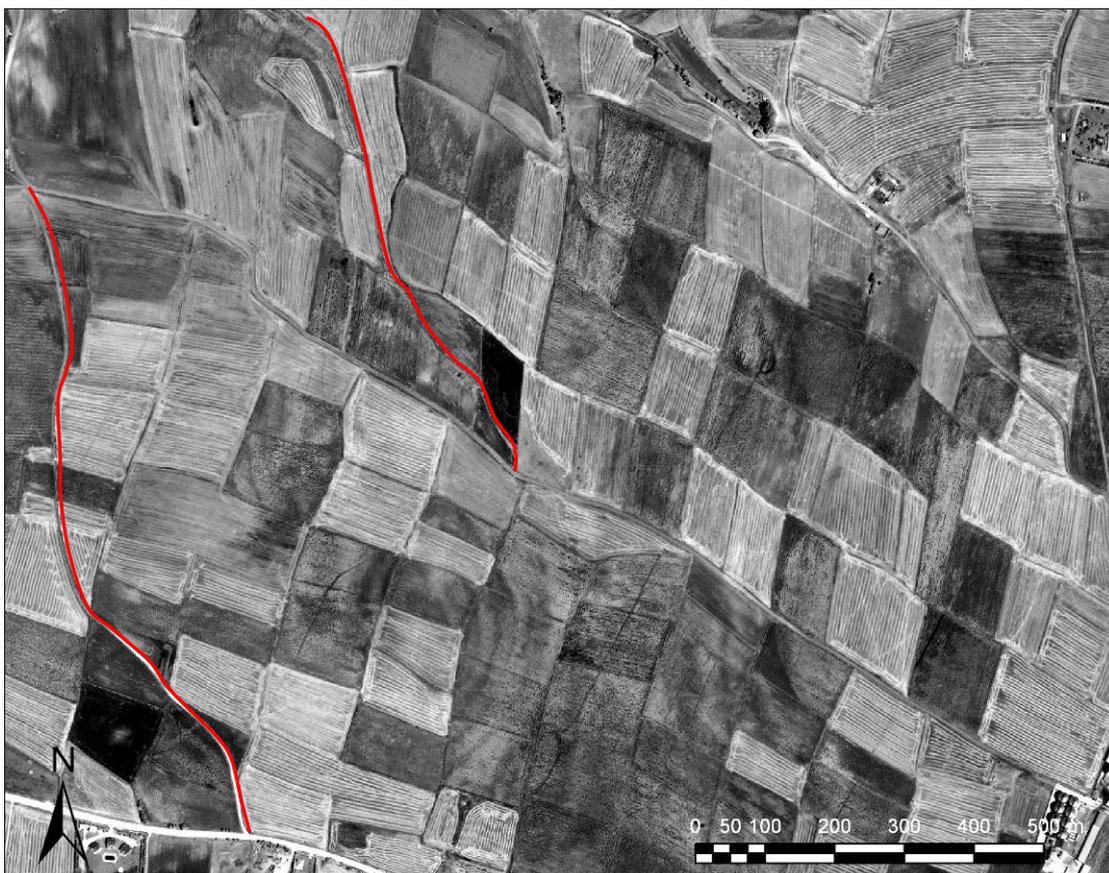


Fig. 15. Coaxial fields to the west of Fener [237]. Two of the roads (highlighted with red lines) appear to overlie the pattern of fields. These roads must date to the later 19th century (at the latest) since they appear on the Ottoman/OS map. Cropmarks of possible medieval strip fields are visible in the bottom half of the image. The origins of the coaxial field systems therefore probably lie in the early modern period.

## FIELDS

### Modern fields

‘Modern’ fields are those whose dominant character clearly derives from 20th century reforms of the farming landscape. Most modern fields in the study have been created by re-shaping earlier field patterns. However, fields have been mapped in this category where not enough evidence survives clearly in the sources used for this project for the nature of the previous character types. However, some of the boundaries within such field systems may well be historic.

There are two clearly definable sub-types within this character type. Most ‘Modern fields’ are arable prairies. These have apparently been created both by the removal of earlier boundaries, and by the enclosure of rough ground or pasture (fig. 16). They occur particularly frequently in the south and east of the study area and tend to comprise very large fields with few internal divisions.



Fig. 16. Fields – modern (here, arable prairies – highlighted in a green wash) in ?former pasture land on Mal Tepe and Davutca Merasi.

Secondly, in the north of the study area, there are smaller, more irregular fields that appear to be cut from the Thracian forest. The date of these is hard to determine: similar clearings are marked on the Ottoman/OS map in places, and the possibility remains that these fields have longer histories.

### **Modern fields (grid)**

These fields are indicated in the database by the boundary characteristic ‘grid’. They are very regular, surveyed fields that have clearly been laid out on a regular grid. They occur in the east part of the study area. This has almost totally restructured the previous landscape, often including the straightening and/or removal of historic roads, creating an extensive 20th century farming landscape. Nevertheless, the boundaries between the fields are still of the characteristic local type, very low baulks topped with grass or weedy vegetation.

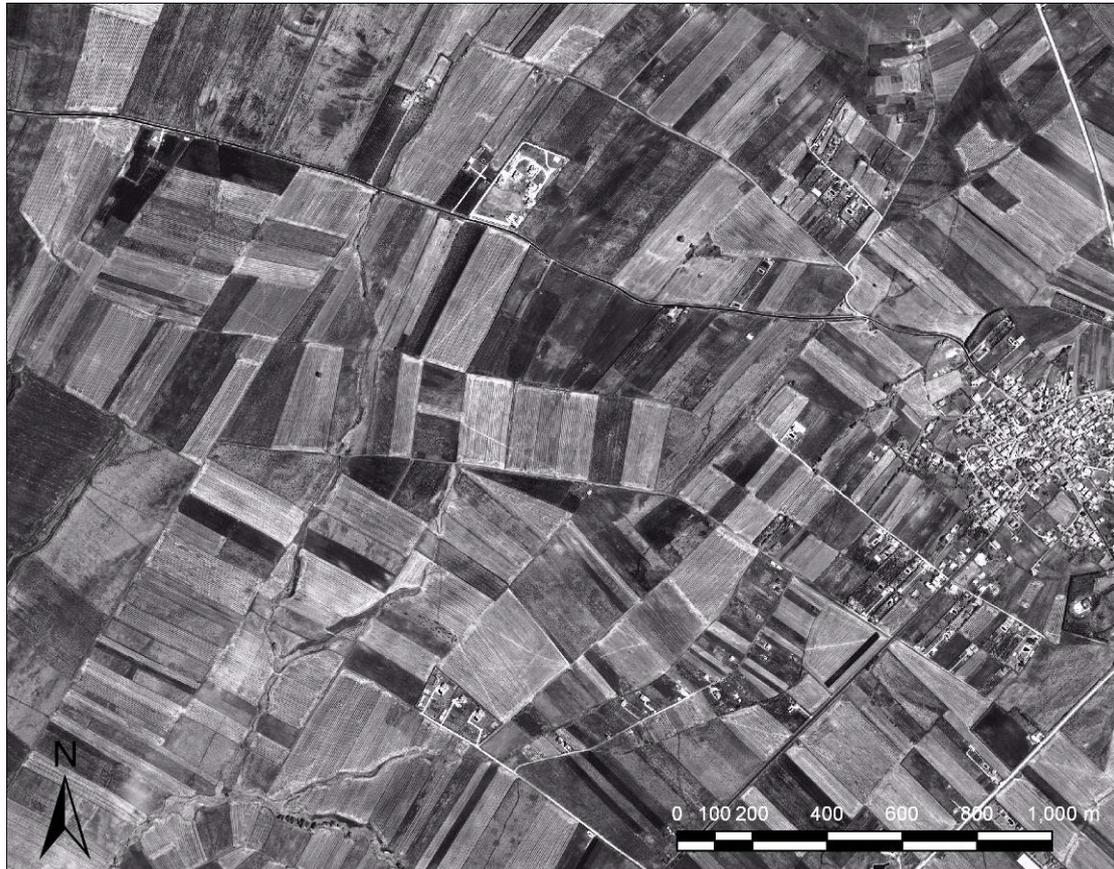


Fig. 17. Modern fields (grid), in the east of the study area around the modern settlement of Gazitepe.

### **Modern fields based on post-medieval fields**

These modern fields preserve evidence in the character of their boundaries to suggest that their origins lie in the post-medieval period (see below). They have been re-shaped in the 20th century principally by the removal of old field boundaries. Whilst some of the boundaries will be new, most probably date to the 19th or earlier.

### **Modern fields based on post-medieval coaxial fields**

These modern fields preserve evidence in the character of their boundaries to suggest that their origins lie in coaxial fields of the post-medieval period (see above). They have been re-shaped in the 20th century principally by the removal of old field boundaries. Most occur in the study area around the village of Fener.

### **Modern fields based on strip fields**

These modern fields preserve evidence in the character of their boundaries to suggest that their origins lie in strip fields of the medieval or post-medieval periods (see above). They have been re-shaped in the 20th century principally by the removal of old field boundaries. They are most common in the northern part of the study area (where they seem to be based on medieval strip fields), and in the south around the town of Silivri. The evidence for former strips normally comprises occasional surviving boundaries, but sometimes also either lynchets or cropmarks (for which see figs 9-12).

### **Post-medieval fields**

This HLC type represents a rather miscellaneous field type, commonly having sinuous and irregular patterns, whose origins appear to lie before the twentieth century. However, fields included in this type do not preserve enough evidence of other characteristics – e.g. strip field divisions or coaxiality – to fit clearly into any of the other pre-modern HLC types. There are numerous examples at the forest edge north of Bekirli, and some of these - including examples entirely surrounded but the Forset - are indicated on the Ottoman/OS map. They could be older, but for the sake of caution have been mapped here as ‘post-medieval’.

### **Post-medieval fields based on strip fields**

These fields preserve evidence in the character of their boundaries to suggest that their origins lie in strip fields of the medieval or post-medieval periods (see above). They appear to have lost some boundaries, but not to the same extent as ‘Modern fields based on strip fields’. They are most common in the northern part of the study area to the south of Bekirli (where they tend to be rather irregular), and in the south around the town of Silivri.

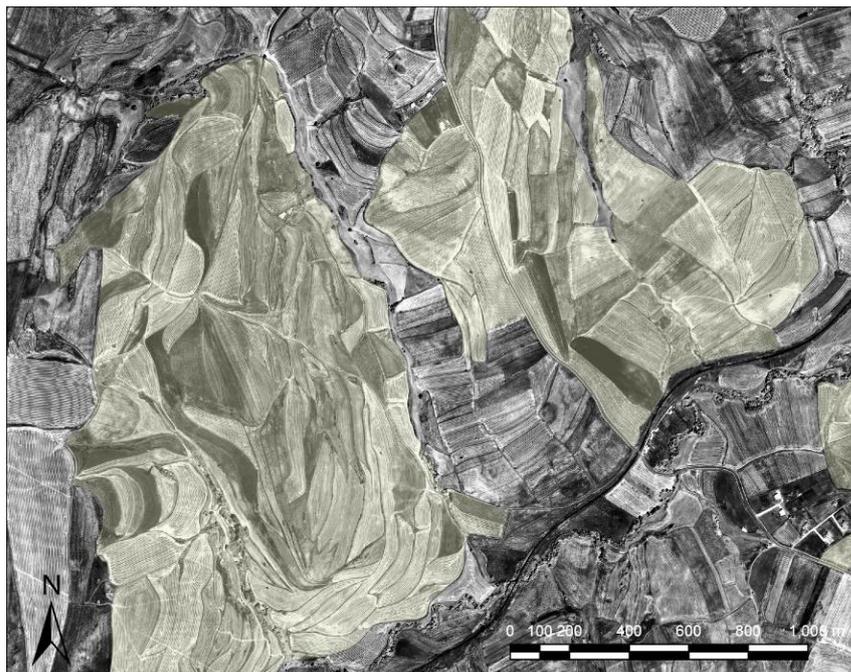


Fig. 18. Post-medieval fields based on strip fields to the south of Bekirli (highlighted with a yellow wash).

## **Meadow**

Areas of meadowland are still preserved along the course of many of the small rivers and streams in the study area (fig. 19).



Fig. 19. Cows graze the riverside meadows along the course of the Delice Dere south of Bekirli at 610079 4562499.

In common with other parts of Europe, much of this land is losing its traditional use in the study area and is either being sown with arable crops, or is becoming overgrown with scrubby vegetation and woodland.

## **Orchard**

Where orchards occur, they are largely in gardens and small paddocks within the villages, and are therefore included in the ‘village’ HLC type. However, small areas of orchard – apparently modern commercial orchards – were identifiable elsewhere from the IKONOS images.

## **Horticulture**

A few small areas of modern horticulture were identifiable from the IKONOS images, apparently fruit bushes, vines or small trees.

## WOODLAND AND ROUGH GROUND HLC TYPES

### Thracian Forest

In the north part of the study area, the ‘Thracian Forest’ lies densely across the landscape (fig. 20). It is penetrated by certain roads and tracks – including modern logging tracks – but elsewhere has reclaimed extensive stretches of earlier features like the Anastasian Wall and its forts.



Fig. 20. A Thracian Forest view. Looking north towards the hills beyond Karamandara.

Without detailed ground survey, historic maps and air photography, the Thracian Forest is hard to characterise. Its basic composition is scrubby oak woodland. This is cut on a rotation of about twenty years, so the trees tend to reach no more than 3 or 4 metres in height. After cutting, the wood is taken to charcoal burning stations like the one just to the north of Bekirli to produce charcoal (fig. 21). Rights over different areas of the forest and its tree crops are held by people from the settlements to the south.

On its southern edge, the boundary between the forest and the fields is not totally stable, and some strip fields appear to have become overgrown. On the other hand, many fields seem to have been cut out of the forest, so that they look like the medieval assarts of western Europe. The date these fields were created is unknown, but as noted above many such clearings are recorded on the Ottoman/OS map, suggesting they are post-medieval or earlier.

Also in the forest – particularly within a kilometre or so of the forest edge - are clearings used as pastures by grazing animals. Domesticated buffalo (which produce the famous Silivri yoghurt) and other cattle are grazed in the forests by villagers who bring their animals from the settlements to the south.



Fig. 21. Charcoal-burning enclosure, with finished product stacked and ready for transport, just north of Bekirli on the edge of the Thracian Forest (608332 4565375).

### Other woodland

Beyond the Thracian Forest, most other woodland in the study area grows in small woods along valley bottoms and in steep-sided combs. It seems likely that much of this is recent growth on former meadow or pasture land, though larger areas to the west and north of Kurfalli are marked on the Ottoman/OS map (fig. 22). It is possible that some of the ‘other woodland’ bordering the ‘Thracian Forest’ should in fact be in the latter category, but it was not clear from the IKONOS imagery whether this was cut for charcoal.



Fig. 22. Historic ‘other woodland’ in the steep valley of the Lala Dere, looking west from the summit of Cilingir Tepe (605104 4560126).

## **Rough ground**

The ‘rough ground’ mapped in this HLC falls into five main categories.

1. Small areas of coastal rough ground on the cliffs above the Sea of Mamara.
2. Many patches of land are mapped as rough ground in valley bottoms and on steeper valley sides. It seems likely that such land used to be managed as meadow, but has become increasingly overgrown with the decline of traditional management and husbandry practices. It is characterised by grassland with bushy vegetation.
3. There are still some hilltops in the study area that seem to be managed as open pasture grassland (e.g. at Gazigayır, 610351 4555210 and to a lesser extent around Cilingir Tepe (605104 4560126)). Place-names indicated on the Ottoman/OS map such as Kara Sinan Merâsı and Davutca Merâsı (merâsı = grasslands, pasture for grazing animals) suggest that many hilltops now occupied by large modern fields and cropped for arable were formerly grazing grounds for stock.
4. The Thracian Forest contains occasional grassy clearings, especially close to the forest edge. These are still used for grazing buffalo and other cattle.
5. Rough ground occurs along the corridor of the Istanbul railway, and as patches of waste ground adjacent to industrial developments.

With the exception of (5), it seems likely that the principal historic use for this land will have been as grazing for livestock.

## **SETTLEMENT HLC TYPES**

### **Villas**

Modern villas and their associated features – in particular concrete post and wire fences, and high walls – continue to be developed all over the study area. Development is particularly dense in designated villa development zones in the south and east. They occur singly, in small groups and in large developments. Their impact on both the visual quality of the landscape and its historic grain is considerable.

There are some pre-20th century settlements surviving in the wider landscape (e.g. at 611532 4564981, fig. 23), but not many.

Fig. 23  
Historic farmstead nestling  
on the Forest edge  
west of Bekirli



## Villages

The historic settlement pattern of the area is dominated by villages. Most of the villages, however, were located in their current locations and basically had their present plan forms in the early 20th century. Despite this, buildings dating to before the 20th century are relatively rare (fig. 24). Most villages have seen some substantial growth in the 20 century, with new villas and houses added to the earlier village cores.



Fig. 24. Former village church, now a barn, at Fener.

## Urban

This HLC type is used for the town of Silivri, an urban centre since Antiquity. Like the villages, the town has not been characterised in detail, since this is not possible using the IKONOS images.

## Transport

Characterises the route and associated elements (filling stations, etc) of the two major roads that pass through the study area in the south, the E80/O3 motorway and E84/100 dual carriageway.

## Recreation

Sports facilities in and around Silivri.

## Water

There are no natural lakes in the study area. 'Water' HLC type represents the artificially canalised course of the dere that reaches the sea at Silivri, and ponds created for irrigation and fish.

## **INDUSTRIAL HLC TYPES**

### **Industrial**

Mainly used to map modern industrial developments, which cluster around Silivri in the south.

### **Quarry**

There are several aggregate quarries in the study area, particularly around Bekirli in the north, and on the hills north-east of Silivri.