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“Where have all the (Martello) towers
gone”

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The Society publishes a wide range of books and booklets on historic OS map series and its journal, *Sheetlines*, is recognised internationally for its specialist articles on Ordnance Survey-related topics.

Where have all the (Martello) towers gone? ¹

New sources for investigating OS map redaction

Ifan DH Shepherd and Steve Chilton ²

One of the many uses of the first editions of the Ordnance Survey's national map series published in the nineteenth century is to help identify the origin of historic features still visible in the landscape today. One particularly distinctive landmark, which was built in considerable numbers along the south-east coast of England some two hundred years ago, is the Martello tower, several dozen of which still stand today (*figure 1*).³

In recent years, Martellos have become something of a regional tourist attraction, and are prominently marked on many present day maps, including the Ordnance Survey's 1:25,000 Explorer series (*figure 2*). Martello towers have also become a focus of 'collecting' behaviour among many outdoors enthusiasts, and are even being 'bagged', in much the same way as Munros⁴ and pillar trig stations have been in the recent past.



Figure 1

*Martello tower
28 at Rye
Harbour in
Sussex, showing
the original
brick cladding,
elevated
entrance, and
moat with
retaining wall
[photo: author]*

In this article, we will discuss why some published Ordnance Survey (OS) maps from the nineteenth century may not be as useful as we had originally thought in tracking down these historically significant landscape features. We will then report on our use of some relatively unexplored manuscript OS maps which

¹ With apologies to Pete Seeger.

² Middlesex University, London.

³ Except where otherwise stated, all illustrations are courtesy of the British Library.

⁴ Munros are mountains in Scotland that are over 3000 feet high.

reveal the locations of Martellos in the later nineteenth century, and which throw additional light on map redaction during the Victorian period.



Figure 2
Martello towers
on the
1:25,000 OS
Explorer map
(sheet 138)
Hythe in Kent

Our interest in Martello towers was piqued while undertaking the research for a forthcoming book on the first edition Ordnance Survey six-inch series. In particular, we wanted to illustrate the usefulness of these maps in providing historical background for relict features in the contemporary landscape, and Martello towers seemed to be an obvious case study. As many readers of this article will already know, Martello towers were erected in the early years of the nineteenth century to provide a line of defence against possible naval attack by Napoleonic France.⁵ Between 1805 and 1812, 74 of these towers were built along the southeast coast in Kent and Sussex, and a further 29 were added along the east coast, in Essex and Suffolk.⁶ Each tower was armed with a large bore howitzer, housed a garrison of 25 men, and stood some 500-600 metres from adjacent towers, thus providing a continuity of defence similar to that provided by the regularly spaced watchtowers and garrisons along Hadrian's Wall in northern England.

⁵ IV Hogg, *Coast Defences of England and Wales 1856-1956*, David & Charles, 1974; N Longmate, *Island Fortress: The defence of Great Britain 1606-1945*, Pimlico, 2001; KW Maurice-Jones, *History of Coast Artillery in the British Army*, Naval and Military Press, 2009.

⁶ P Hicks, 'Palmerston's follies': a reply to the French 'threat', 2009, www.napoleon.org/en/reading_room/articles/files/hicks_portsdown_forts.asp (accessed 16 April 2014).

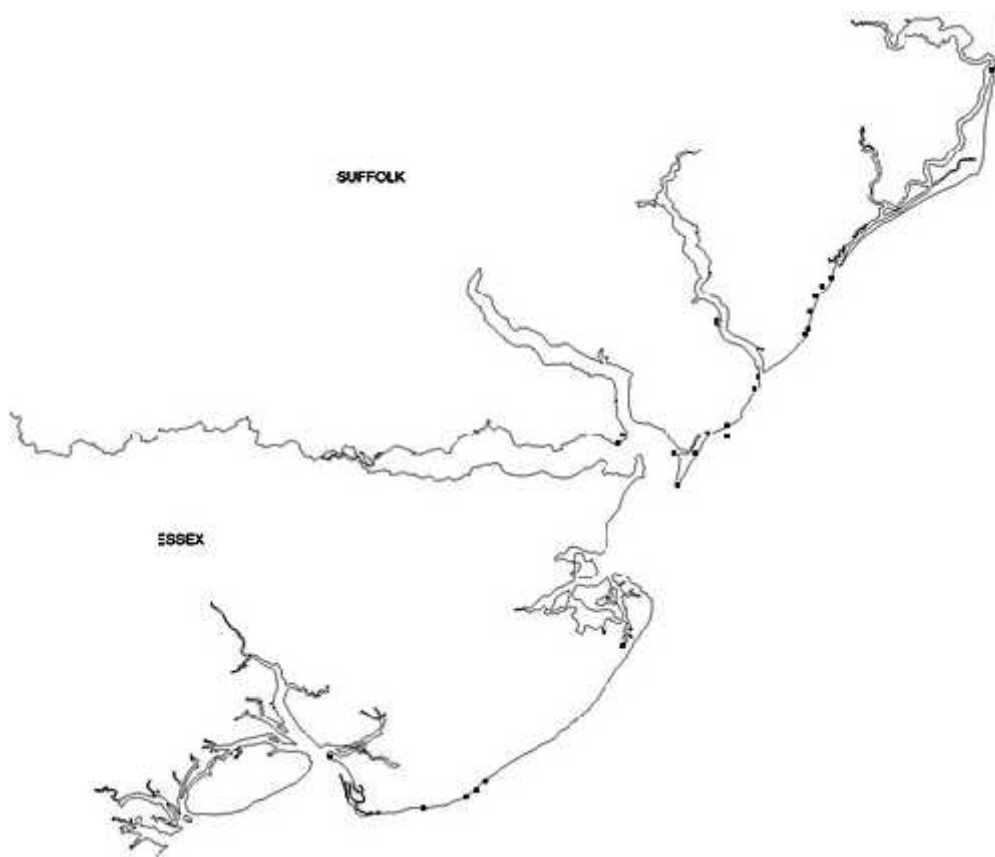


Figure 3
Location of
remaining
Martello towers
in Suffolk and
Essex (based on
data derived
from website
noted in footnote
8)

There have been a number of books⁷ published that contain a considerable amount of military, architectural and social information about these striking landscape features. Moreover, as a result of work undertaken by Martello tower enthusiasts,⁸ we know the locations and current state of the remaining Martello towers (*figures 3 and 4*). With this information in mind, we will address two questions in this article. First, what kind of additional information can the Old Series one-inch Ordnance Survey map and first edition six-inch map contribute to our existing knowledge of these features, such as their precise locations and layout? Secondly, how many towers survived into the later decades of the nineteenth century? For reasons that will be explained shortly, our original focus soon broadened to include first edition 1:2500 plans, and we added a third question: why are Martello towers not always included on some nineteenth-century OS maps?

A reasonable amount of information about the location and status of the Martello towers is available from other cartographic sources from the earlier years of the nineteenth century. For example, many of the towers are shown on the Old Series one-inch map published by the Ordnance Survey for the four coastal counties of south-east England in the early decades of the nineteenth century.

⁷ See, for example: S Sutcliffe, *Martello Towers*, David & Charles, 1972; G Hutchinson, *Martello Towers: a brief history*, Amberley Publishing, 1994; M Foley, *Martello Towers*, Amberley Publishing, 2013.

⁸ Anon, 'Martello Towers', 2009, www.geograph.org.uk/article/Martello-Towers (accessed 16 April 2014).

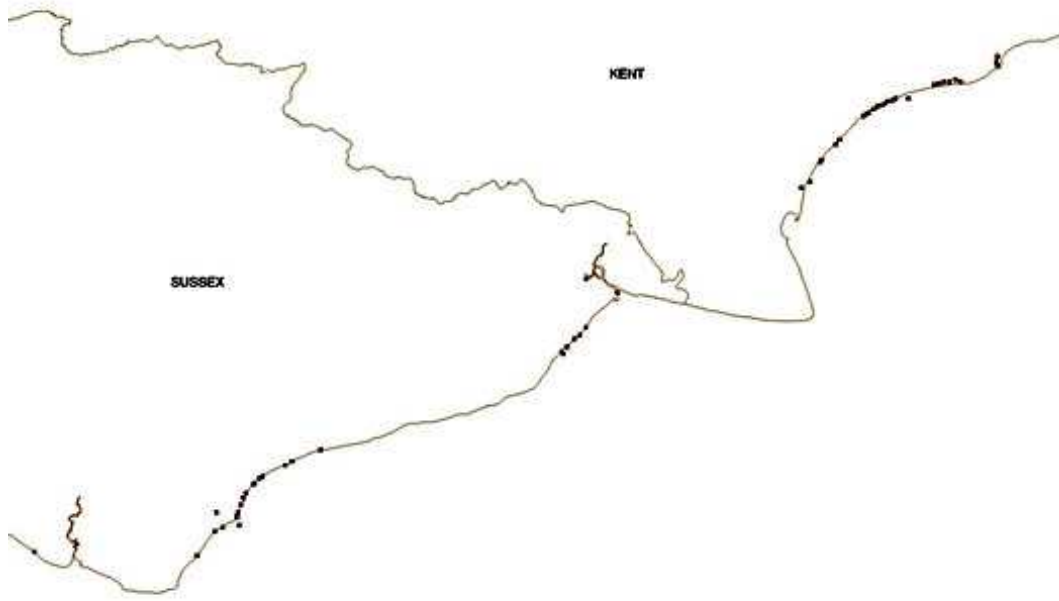


Figure 4
Location of
remaining
Martello towers
in Kent and
Sussex (based on
data derived
from website
noted in footnote
8)

In chronological order, sheet V was published in 1813, and shows 44 towers along the coast between Rye and Seaford in Sussex; sheet IV was published in 1816, and shows 21 towers along the coast between Folkestone and Dymchurch in Kent; and sheet XLIX.SW was published in 1837, and shows a single tower on the Suffolk coast at Aldborough (modern day Aldeburgh). Figures 5, 6 and 7 illustrate the locations of towers in these three areas.⁹ There are no Martello towers shown for Essex on sheets II and XLVIII, which were both published in 1805, just before the first Martellos were built.

The symbol used to signify the presence of a Martello tower on the Old Series maps is a small circle filled with diagonal ruled lines. Because the one-inch sheets did not include a key, the meaning of this point-located symbol would probably have been a mystery to many map purchasers. Indeed, some of them may have been mistaken for windmills, which are shown using a similar symbol on six-inch sheets from the 1840s onwards, but by more appropriate symbols on the one-inch sheets. Map readers' ignorance would not have been helped by the fact that on the original Old Series sheets, none of the towers had a text label. However, tower number labels appear on the later version of sheet V, published around 1849-51,¹⁰ and also to the later issue of sheet XLVIII.NE (resurveyed in 1835-36) which covers part of Suffolk north of the River Stour, and sheet XLIX.SW (surveyed in 1835) which covers the rest of Suffolk to the north. The latter sheet includes the northern-most Martello tower in Suffolk, along with its label (see figure 5).

⁹ We hope that readers will understand the variable quality of the map illustrations accompanying this article, which were captured using a handheld camera in less than ideal lighting conditions.

¹⁰ R Hellyer & R Oliver, *The first Ordnance Survey map*, London: Charles Close Society, 2015.

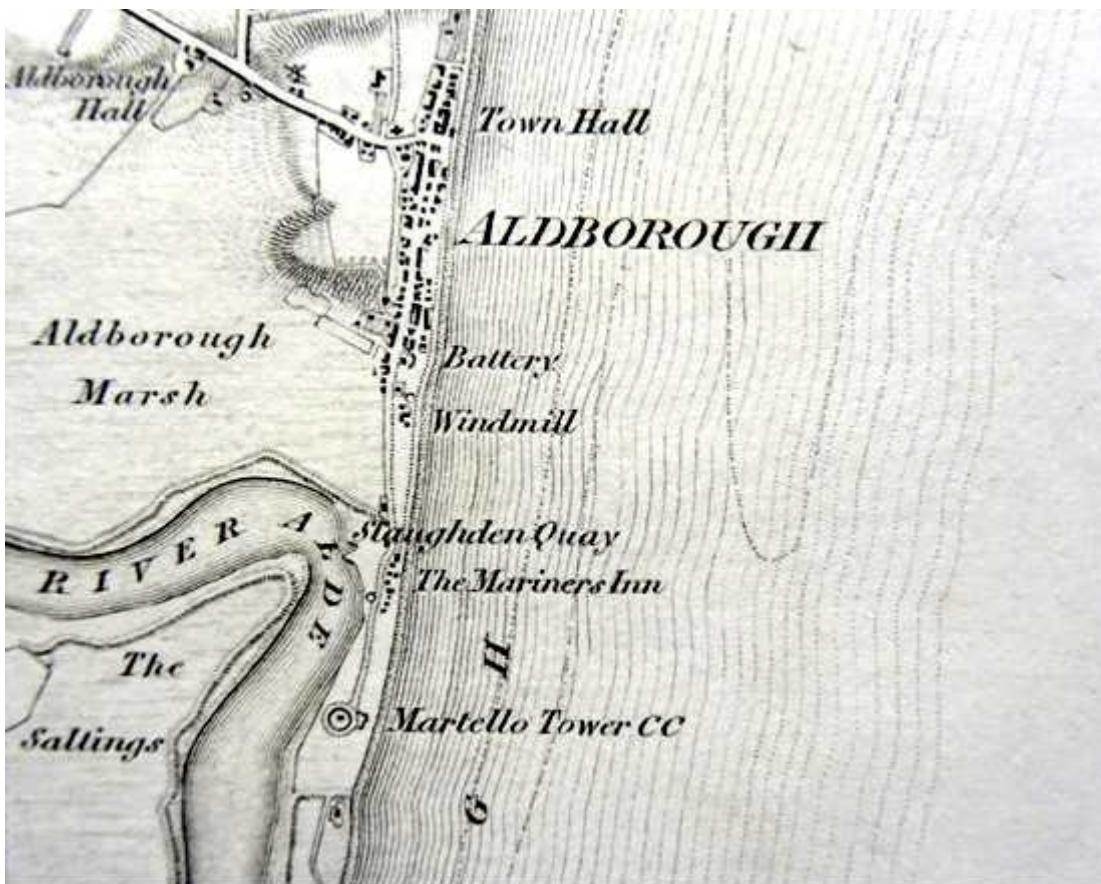


Figure 5
Martello tower
CC on the Old
Series one-
inch map
south of
Aldborough,
Suffolk (sheet
XLIX.SW)

The most obvious drawbacks of the one-inch map is that the scale is too small to provide any significant indication of local details, such as the presence of a moat or drawbridge, the altitude of a tower above sea level, or its relationship to smaller landscape features. As we will show below, the last two pieces of information are significant given the coastal location of the towers, and their exposure to storms in the North Sea and the Channel.

As for the role of the towers, it is reasonably well understood that none of them was ever used for their original defensive purpose.¹¹ Indeed, by the mid-nineteenth century, many of them had been transferred to the emerging national Coastguard Service, originally for the detection and prevention of smuggling along the southeast coast of England.¹² Information recorded in the enumeration schedules for the 1851 population census in Sussex provides hard evidence for this change of function, in the form of personal details of over 200 coastguard staff occupying 21 Martello towers, three other related towers, and a cottage associated with Martello tower 42.¹³

¹¹ S Sutcliffe, *Martello Towers*, David & Charles, 1972.

¹² See: Anon, 'Hastings Coastguards' 2004, www.rootschat.com/history/hastings/content/view/74/26/ (accessed 8 May 2014).

¹³ See: Anon, 'Migration patterns of HM Coastguards in to Sussex from the 1851 Census Enumerators Returns', 2004, www.rootschat.com/history/hastings/content/view/75/26/ (accessed 8 May 2014).



Figure 6
Sequence of
Martello towers
along the Kent
coast southwest of
Hythe, as shown
on Old Series one-
inch sheet IV

Evidence from larger-scale maps and plans

For the four English counties in which Martello towers were originally erected, the relevant sheets of the first edition six-inch map were published during the 1860s, 1870s and 1880s. It is therefore not unreasonable to assume that the majority of the towers, except for those deliberately demolished or swept away by the sea during their early years, would show up on the relevant sheets.

However, after an exhaustive search of all coastal six-inch sheets in the four counties, we were unable to find a single Martello tower. Indeed, except for the rather indirect evidence of a Tower Street and a Tower Place in Eastbourne (Sussex sheet LXXX) and both a Martello Road and Martello Hotel in Folkestone (Kent sheet LXXV), there was no other indication that these towers had ever been built along the south-east English coast during the Napoleonic Wars. Something was seriously amiss here.

At first, we thought the Ordnance Survey's field surveyors might have considered these features to be too minor to be worthy of special attention. However, given their considerable size – typically 13.5 metres across by 12 metres high – this seemed extremely doubtful, particularly since they had already been included on the Old Series one-inch sheets. Indeed, far smaller structures along the coast, including marshland sheepfolds and cliff-top flagstaffs, were all faithfully recorded on six-inch sheets during this period. The same goes for the hundreds of tower windmills which graced the English landscape throughout the nineteenth century. While most of these buildings were significantly taller and slimmer than the Martello towers, large numbers of them were shown and often named on the six-inch map, along with an indication of the produce they handled.



Figure 7
Martello tower
74 on the Old
Series one-inch
map (sheet V) at
Seaford, Sussex
(image courtesy
of the British
Library)

The curious absence of Martello towers led us to surmise that although the Ordnance Survey might have surveyed them, they may not have regarded them as visually distinctive enough in relation to other brick buildings to merit being separately identified. Again, this seemed rather unlikely, given that numerous individual detached residential villas were named on six-inch sheets, whether in fast-growing coastal resorts or in more genteel suburbs of larger inland towns. So we returned to the six-inch sheets, and looked this time for signs of large, unnamed circular buildings along the south-east coast. Again, apart from the occasional (and rather obvious) windmill, nothing seemed to fit the bill. There simply are no Martello towers shown on first edition six-inch sheets.

It soon dawned on us that there was another possible explanation for this absence. The Martello towers may well have been surveyed for the 1:2500 plans, which were used from the mid-1850s to derive the smaller-scale six-inch sheets, and these were typically sold in the form of zincographs made from fair drawings. However, when these plans were photo-reduced for engraving onto copper plates at the six-inch scale,¹⁴ the towers may have been omitted for reasons best known to the Survey. We therefore examined the published 1:2500 plans along the coast of each county to see whether any towers had been recorded at this

¹⁴ Ever since the mid-1850s, when it was first decided to derive six-inch sheets from the newly introduced 1:2500 plans, photo-reduction followed by engraving became the standard way of producing the derived-scale map.

scale. Again, we drew a blank. Just about everything that was recorded on the 1:2500 plans during this period (the 1870s and 1880s) was faithfully transferred onto the six-inch sheets, albeit with some necessary building generalisation, some repositioning of place names, and some pruning of over-numerous elements (eg vegetation symbols, place names, and levels). However, Martello towers appear not to have been among the features that were originally captured on the 1:2500 plans. It seems that, despite their commanding local presence, Martello towers had mysteriously fallen through the net of the Ordnance Survey's comprehensive national cartographic survey.

Readers familiar with the tensions that persisted between Britain and France for much of the nineteenth century¹⁵ will be well aware of the Ordnance Survey's suppression of detail relating to military installations in maps and plans of coastal areas where major naval defences were located. For example, if you turn to the six-inch sheets for places such as Sheerness, Chatham, Dartford, Dover, Folkestone, Portsmouth, Plymouth, and Milford Haven, you will find empty spaces where naval installations existed at the time when the relevant sheets were being surveyed. So, we wondered whether the typically standalone Martello towers were treated in the same way as the major batteries, naval dockyards and army camps around the south-east coast at this time, in that their depiction was suppressed from both the six-inch map and 1:2500 plans for national security reasons? If so, we hypothesised that the Ordnance Survey might have adopted one of three possible approaches. First, they might not have surveyed these sensitive features at all, which might explain why the details do not appear on the published 1:2500 plans, and therefore why they were subsequently not transferred to six-inch sheets. Secondly, the Ordnance Survey might have surveyed these installations, but for security reasons withheld them from the standard 1:2500 plans, compiling them instead on separate plans restricted to military use. And thirdly, the Ordnance Survey might have surveyed the towers, included them on their standard 1:2500 plans, but then withheld them when transferring detail to the six-inch sheets.

It would have been ideal if we could have tested the first of these possible hypotheses by examining the list of instructions issued periodically to field surveyors by the Ordnance Survey. Unfortunately, no surveyors' instructions are known to have survived from this period.¹⁶ As for the third of these approaches, this has already been discounted, because Martello towers are absent from both 1:2500 plans and the six-inch map. This leaves us with the second hypothesis as being the only one that is directly testable: that a clandestine set of military plans was created that included the Martello towers, but these never entered the public

¹⁵ See: IV Hogg, *Coast Defences of England and Wales 1856-1956*, David & Charles, 1974; and KW Maurice-Jones, *History of Coast Artillery in the British Army*, Naval and Military Press, 2009.

¹⁶ According to Richard Oliver, the first Instructions to Surveyors known to have survived date from 1905 – See: R Oliver, *Ordnance Survey Maps. A concise guide for historians*, Third edition, The Charles Close Society, 2013, p.305.

domain. This, it turns out, is pretty close to the truth. To tell this story, we will now describe what we have been able to find from two sets of manuscript OS maps held at the British Library that have not previously been used for cartographic research.

OS hill sketches

The first of our manuscript map sources at the British Library consists of an extensive collection of Ordnance Survey hill sketches.¹⁷ These sketches, which consist of horizontal hachures hand drawn onto printed six-inch sheets, were produced by draughtsmen (mainly civil assistants) in divisional offices, and were meant to provide a reasonably objective basis for the hachuring on the New Series one-inch maps.¹⁸ For the purposes of this article, we are less interested in the hill sketching itself than in the six-inch base maps on which they were drawn. The reason why they are of interest is that, in many cases, the hill-sketchers were supplied with proofs of incompletely engraved six-inch sheets.¹⁹ Where these proofs were taken just before the sheets were redacted for publication, they retain details of Martello towers.²⁰

Martello towers are shown on three hill-sketched sheets in Kent and five more in Sussex, before they were redacted in readiness for publication. On the Kent sheets we have been able to identify 24 towers, and on the Sussex sheets a further 19 towers. (A complete list is provided in the appendix at the end of this paper). Unfortunately, because much of the hill sketching was undertaken on published six-inch sheets, from which the towers had already been removed prior to publication, the pre-redacted sheets provide only a subset of the towers that can be assumed to have survived into the 1860s and 1870s.

So, do these six-inch sheets provide a significant increase in information about Martello towers, especially in comparison with the earlier Old Series one-inch maps? One of the useful features of the small-scale representation of Martello towers on the Old Series one-inch sheets is that they provide an at-a-glance appreciation of the close spacing between adjacent towers, especially along those open beach foreshores where a seaborne invasion would have been most likely to have occurred.²¹ (Figure 6 provides a good example of this). However, some

¹⁷ These are available at the Maps OSHS shelfmark, and are described by the authors in a forthcoming article provisionally entitled: *The Green Box Hoard: An unexplored collection of Ordnance Survey manuscript maps at the British Library* (in preparation).

¹⁸ For a brief account, see Henry James, *Account of the Methods and Processes Adopted for the Production of the Maps of the Ordnance Survey of the United Kingdom*, Her Majesty's Stationery Office, 1875, pp.99-101.

¹⁹ When copper-plate engraving was replaced by photo-zincography during the early 1880s, such proofs gradually disappeared, and with them the evidence that some provide for Martello towers.

²⁰ A detailed study is currently being undertaken of the evidence that these pre-publication proofs provide for the engraving sequence adopted by draughtsmen working on the first edition OS six-inch map.

²¹ By examining the complete sequence of Martello towers along the Kent and Sussex coasts, it can be seen that most were located on the more exposed sandy beaches, and very few were

tower sequences can also be seen on single hill-sketched six-inch sheets. Towers 13 to 18 to the south-west of Hythe in Kent, for example, all appear on pre-redacted six-inch sheet LXXIV (*figure 8*).

Further details about the Martello towers are also shown at this scale, as illustrated in figure 9. These include: the tower numbers; their location on what appears to be a beach berm just above the tide line; the altitude of some of the towers; and their association with other coastal defences, which in this example included Fort Sutherland at the foreshore and multiple rifle ranges located just inland. (Figure 8 also shows the Royal Military Canal to the north.) A noteworthy feature of this arrangement is that the regular spacing between towers 14 and 15 has not been changed to accommodate Fort Sutherland.



Figure 8

Martello towers to the southwest of Hythe as they appear on a pre-redacted six-inch sheet (Kent, LXXIV)

Taken at face value, this seems to suggest that the fort was built after the towers rather than before them, thus representing an ‘insertion’ of a later defence installation (maybe a ‘Palmerston folly’?) into the evenly spaced earlier Martellos. However, a visit to the web ²² reveals that this assumption is unfounded, because Fort Sutherland was constructed in 1798, during the Napoleonic Wars, a decade or so before the adjacent Martellos were built. Readers better versed in the history of the Martello towers might wish to suggest why the towers maintained their spacing regardless of the presence of earlier major defences.

located on cliffs. The latter were evidently deemed to be naturally defensive landscape features compared with the former.

²² M Easdown & L Sage, *Hythe Through Time*, Amberley Publishing, 2010.

Since many of these coastal towers, and others along low-lying stretches of coasts in Sussex, Kent and Essex have been lost to the sea since they were built, their existence on dateable hill-sketched six-inch sheets provides useful survival evidence that can help to establish their earliest possible destruction dates. Despite this additional information, however, only a small proportion of the pre-redacted six-inch sheets show additional plan detail for individual towers. For this kind of information, we need access to larger-scale plans.

OS contour photographs

We now turn our attention to a second manuscript map source at the British Library: an extensive collection of Ordnance Survey contour photographs.²³ From 1856, the Ordnance Survey began producing photographic prints of individual 1:2500 plans, reduced to the six-inch scale for use by the contouring teams.²⁴ On these photos the contourers manually added contour lines, drawn in ink, which were constructed from field survey data recorded in levelling books.²⁵ Many thousands of these contour photographs survive for post-1854 counties of England and Wales.²⁶ Where these photos were taken from pre-redacted 1:2500 plans (as with the hill sketches drawn on pre-redacted six-inch impressions), it is possible to see on those for Essex, Kent and Sussex many of the Martello towers

²³ These items are variously referred to as contour plots (Richard Oliver, *The Ordnance Survey in the Nineteenth Century: Maps, money and the growth of government*, The Charles Close Society, 2014, caption to Plate 6), contour field prints (British Library catalogue) or simply 'photographs' or 'prints' (Henry James, *Account of the Methods and Processes Adopted for the Production of the Maps of the Ordnance Survey of the United Kingdom*, Her Majesty's Stationery Office, 1875, pp.97-98). We have adopted the phrase 'contour photographs' to refer to those used for the four counties being investigated here, which is the phrase that commonly appears on the envelopes in which these items were kept at the OS. However, during the 1880s, the OS contourers began using printed copies of the without-contours edition of the six-inch sheets rather than photo-reduced photos of 1:2500 plans. These quarter-size sheets were cut up into four overlapping cards, which was a convenient size for insertion in sketch cases that could be carried around in the field. These are usually referred to on the OS's storage envelopes as 'contour prints' or 'contour field prints'.

²⁴ Field surveying for 1:2500 plans had begun in 1853 in Durham, Ayrshire and Dumfriesshire, before the 'battle of the scales' put a temporary stop to the work. See: Richard Oliver, *The Ordnance Survey in the Nineteenth Century: Maps, money and the growth of government*, The Charles Close Society, 2014. The first contour photographs for Durham are dated 1856.

²⁵ The contour photographs are available at the Maps OSCP shelfmark at the British Library, and are described in a paper by the authors provisionally entitled: 'The Green Box Hoard: An unexplored collection of Ordnance Survey manuscript maps at the British Library' (in preparation). We are also currently preparing a separate article on the finer details of the six-inch contouring process as revealed by the contour photographs. Very few of the original field levelling books completed as part of the contouring process are known to survive.

²⁶ Contours on Lancashire and Yorkshire six-inch sheets were produced before the introduction of the 1:2500 plans, so no contour photographs are available for those counties. In Scotland, except for the earliest six counties and the Isle of Lewis, six-inch contouring was also based on 1:2500 plans. However, while contour photographs must have been used in producing these contours, none appear to have survived.

which were absent from the subsequently published 1:2500 and six-inch sheets.²⁷ (No contour photographs survive for the relevant coastal areas of Suffolk). Figure 10 provides an example of a cluster of these towers to the west of Folkestone in Kent, on the coastal fringes of Shorncliffe military camp.²⁸

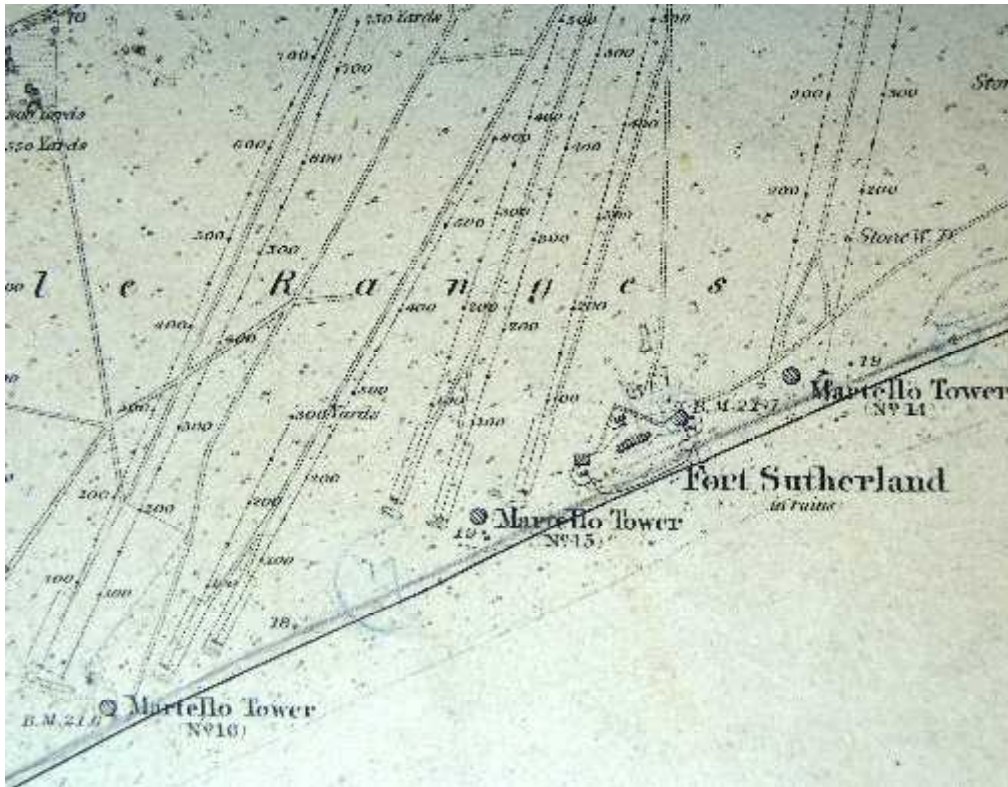


Figure 9

Local detail at Martello towers 14, 15 and 16 to the southwest of Hythe, as they appear on pre-redacted six-inch sheet (Kent, LXXIV)

Martello towers appear on three contour photographs in Essex (six towers), six photos in Kent (18 towers) and 17 photos in Sussex (31 towers). Although 18 towers were built in Suffolk, none of them are recorded on the contour prints that survive for that quarter-sheet county. Despite this blind spot, the set of 55 towers is a reasonably large sample (53.4%) of the 103 towers that were originally built along the south and east coast of England. It is an even larger sample of the 44 towers that Sutcliffe notes as having survived into the late twentieth century. Among the lost towers are 48 of those in Kent and Sussex which were demolished or destroyed by marine erosion,²⁹ and a further nine of those in Essex

²⁷ Interestingly, these prints also reveal other military installations (eg batteries, barracks, dockyards, rifle ranges, etc.) many – but not all -- of which were also removed from the published 1:2500 and six-inch sheets. This is a story for another day.

²⁸ It is somewhat curious that while the Martello towers were redacted from the published 1:2500 plan and the derived six-inch sheet, the major military camp was left intact on both. The reasons for this will be explored in a separate article we are currently preparing.

²⁹ Contemporary local newspapers reported the demise of towers 41 and 42 in the 1840s. See also: Anon, 'Migration patterns of MH Coastguards in to Sussex from the 1851 Census Enumerators Returns', 2004, www.rootschat.com/history/bastings/content/view/75/26/ (accessed 8 May 2014).

and Suffolk.³⁰ The identifying number of the Martello towers that have been found on contour photographs are provided in an appendix to this article, along with the matching photograph number.

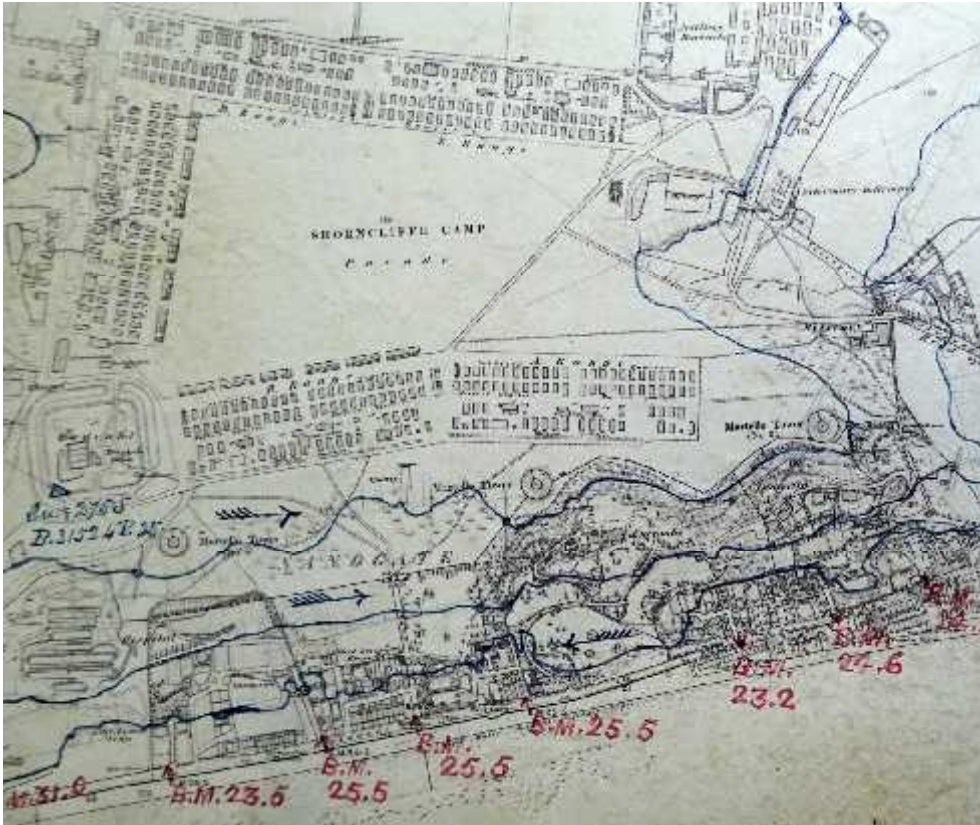


Figure 10
Martello towers 6,
7 and 8 in
Sandgate, just west
of Folkestone in
Kent, as shown on
contour
photograph
LXXV.9

One of the first uses for these contour photographs is that they enable us to check whether more recent claims about the survival and destruction of specific Martello towers are valid. For example, tower G in the Holland Marshes of Essex is recorded as having been demolished in 1819.³¹ This appears to be confirmed by contour photograph XXXIX.7&8 in that county, which shows the sequence of Martello towers to the southwest of Clacton on Sea (D, E and F), with photo XLVIII.10 showing tower C further down the coast. There is, however, no indication of tower G at or near Clacton. As with pre-redacted six-inch sheets, pre-redacted 1:2500 plans in the form of contour photographs provide survival evidence that can help to establish the earliest possible destruction dates of selected Martello towers. Beyond this, however, the photographs provide considerably more local detail than the pre-redacted six-inch sheets.

Figure 11 shows Martello tower B at St Osyth in Essex, which is now a listed building.³² The contour photograph indicates the raised mound on which the

³⁰ Anon, 'Martello Towers', 2009, www.geograph.org.uk/article/Martello-Towers (accessed 16 April 2014). Only a few of the destructive events are dated.

³¹ S Sutcliffe, *Martello Towers*, David & Charles, 1972.

³² <http://www.britishlistedbuildings.co.uk/en-119984-martello-tower-st-osyth-essex> (accessed 20 January 2015).

tower was erected, with its freshly levelled contour, bench mark and triangulation station. It also indicates the drawbridge on the east side of the tower and, like several other towers along the Essex coast, a dismantled battery on its seaward flank. (A similar set of features is also shown on contour photograph XLVIII.7 for Martello tower F just south of Clacton on Sea, further along the Essex coast.) The content of this photo-reduction from a pre-redacted 1:2500 plan, contrasts with the published six-inch sheet of this part of the Essex coast (*figure 12*), in which all of the sensitive military detail has been removed from within the rectangular enclosure. This redaction process can also be seen a little further along the Essex coast from Beacon Hill, on six-inch sheet XLVIII, on which four other Martello towers (C, D, E and F) also sat within square-shaped boundaries and. As with Beacon Hill, the towers have been removed from these areas on the published six-inch sheet, leaving the geometrical boundary shapes entirely empty.

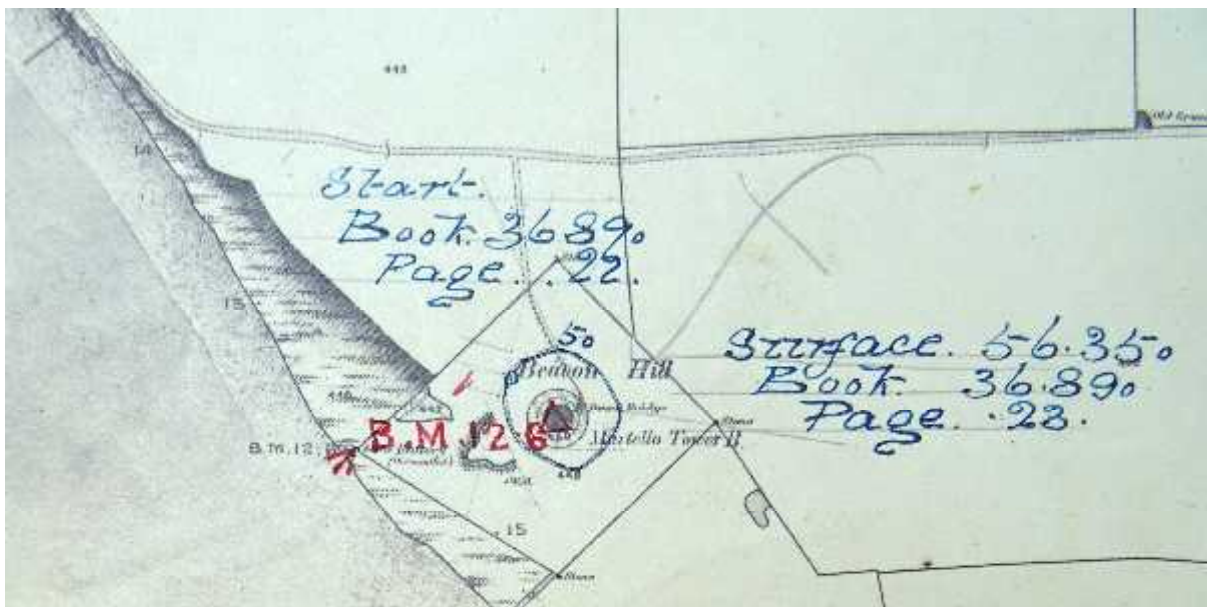


Figure 11 Martello tower B at St Osyth in Essex, as shown on contour photo derived from 1:2500 plan XLVII.4

Although the tower on Beacon Hill was located safely above high tide level, many other Martello towers were built directly on foreshore sand and shingle, and were lost to the sea during the course of the nineteenth century. For example, towers 31 to 34 along the low-lying sand coast at Pett Level just south of Rye in Sussex have all been destroyed by coastal storms since they were built. Several Martello towers originally built on offshore sandbanks along the Suffolk coast (eg towers S and V) were also reportedly destroyed due to shifting water channels and storms. Whether the Essex towers had been washed away earlier in the nineteenth century, as might be inferred from their absence from the one-inch maps of the area, is unclear.



Figure 12 Site of Martello tower B at St Osyth in Essex as shown on published six-inch sheet XLVII

Even towers located above the high water mark of ordinary tides have not always fared well. About half of Martello tower 44, for example, had already been claimed by the sea through cliff erosion by the time it was surveyed for Sussex sheet LXX in 1873 (*figure 13*). It is interesting that the partly destroyed condition of this tower apparently excused the OS draughtsmen from completely redacting it from the six-inch sheet published in 1878, as shown on *figure 14*. A further two towers (numbers 68 and 69) are also shown on Sussex contour photo LXXX.7, with the words “Remains of” printed below the tower number. (This part of the coastline was surveyed in 1875-76.) The fact that these towers more or less straddle the high water mark of ordinary tides provides sufficient explanation for their recent erosion and impending disappearance. Unlike tower 44, however, their remains do not appear on the published six-inch sheet.

Despite the widespread evidence of coastal loss, other contour photographs provide evidence for some exceptions to this tale of coastal loss. The westernmost Martello tower on the south coast of England, tower 74 at Seaford in Sussex, was built on the foreshore just south of the town. Between its construction, sometime between 1806 and 1810,³³ and the date it was surveyed by the Ordnance Survey in 1873, the area around the tower was repeatedly inundated by the sea.³⁴ The tower appears on contour photograph LXXVIII.12 (*figure 15*) which was printed around 1878, but it was redacted from the first edition six-inch sheet published in 1879 (*figure 16*), and had not been reinstated when the second edition six-inch sheet appeared in 1899. However, it finally reappeared on the 1911 edition, which was revised in 1908. This sheet gives the tower number, and also indicates a Martello Road nearby, which must have been recently built.

³³ www.seafordmuseum.co.uk/the-tower.htm (accessed 28 April 2014).

³⁴ There is a vivid contemporary print of the floodwaters having entered the main streets of the town in Seaford Museum, which is currently located in the renovated Martello tower.



Figure 13
Remains of
Martello
tower 44
on the
south
coast, as
shown on
Sussex
contour
photograph
LXX.8

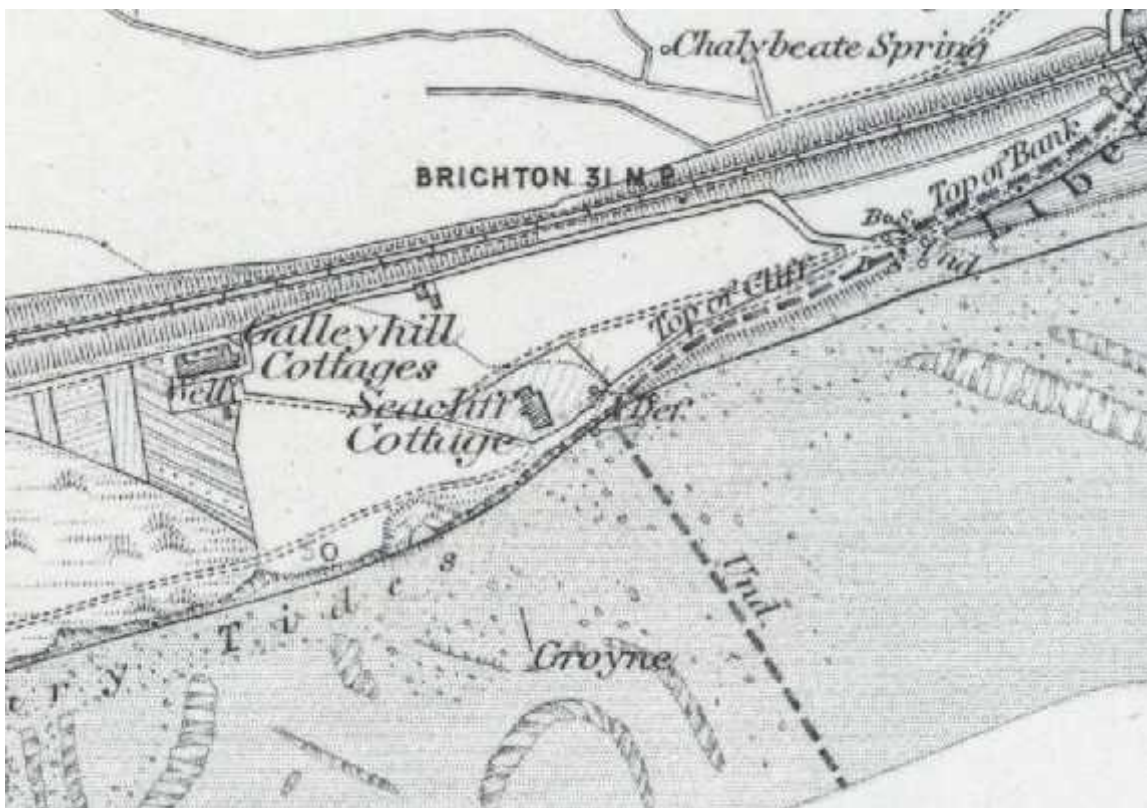


Figure 14
Remains of
Martello tower
44 on the
south coast,
as shown on
published
Sussex six-
inch sheet
LXX



Figure 15 Martello tower 74 on the Sussex coast at Seaford, as shown on contour photograph LXXVIII.12



Figure 16

Site of redacted
Martello tower 74
on the Sussex coast
at Seaford, on six-
inch published sheet
LXXVIII – contrast
with Figures 7 and
15

Map redaction and Martello towers

In addition to providing evidence for the existence and nature of Martello towers in the later nineteenth century, the hill sketches and the contour photographs provide an additional source of information for understanding the strategy adopted by the Ordnance Survey in suppressing sensitive information from its first edition maps and plans.³⁵ While the Ordnance Survey was preparing its first edition 1:2500 plans and six-inch sheets for publication, it appears that it received a directive that sensitive military detail had to be removed from both the 1:2500 zincographs and the six-inch copper plates.³⁶ It is clear that this redaction was applied to all 1:2500 plans and six-inch sheets because, as previously discussed, no towers appear on any sheets issued at either scale for the four counties of south-east England. The cartographic impact of redaction can be illustrated at a local level by considering Martello tower 5, located at Sandgate, just to the west of Folkestone in Kent. This appears on both a contour photograph taken from an early 1:2500 zincograph (Kent sheet LXXV.9, *figure 17*) and also on a hill sketch included on a pre-publication six-inch sheet (Kent sheet LXXV, *figure 18*). From this evidence, it can be inferred that the redaction directive must have been received rather late in the day, some time after the Martello tower had already been included on the 1:2500 plan, and therefore on the pre-publication six-inch proof³⁷.

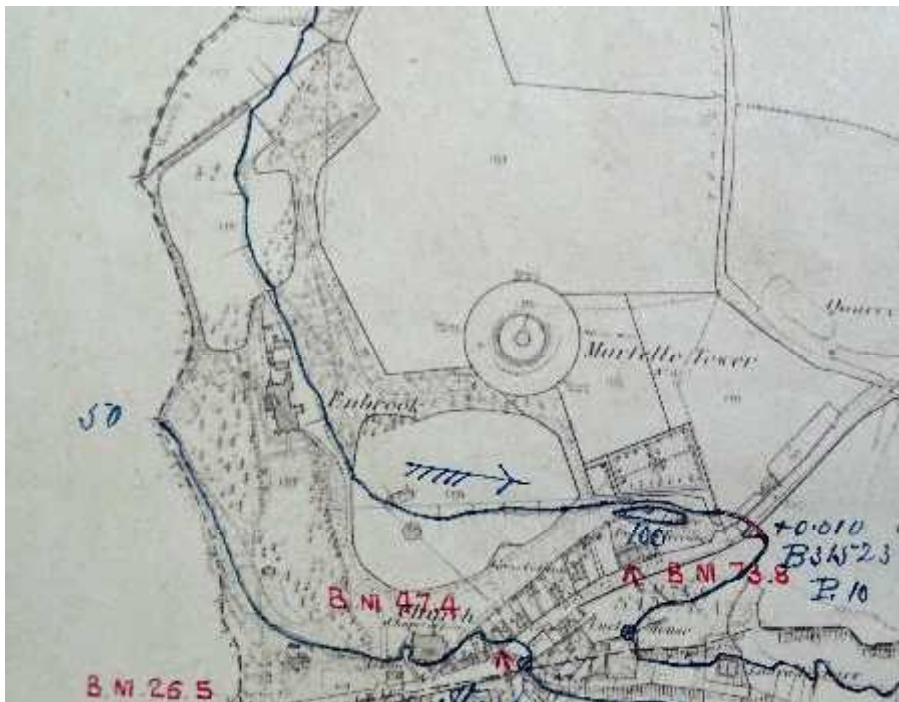


Figure 17
Martello tower
No. 5 in
Folkestone, as it
appeared on pre-
redacted 1:2500
plan (Kent
LXXV.9), as
captured on
contour
photograph

³⁵ We are currently preparing a separate article that provides a fuller account of OS map redaction activities in southern England and Wales.

³⁶ We have been unable to identify any record of this directive.

³⁷ Rob Wheeler (2015, pers. comm., 14 April) has pointed out that the redaction process for the second edition 1:2500 sheets may be complicated by the fact that the Ordnance Survey maintained separate classified and releasable versions of 1:2500 drawings.

By comparing these pre-redacted sheets with the eventually published sheets, it can also be inferred that map redaction was undertaken separately for the first edition 1:2500 plan and the derived six-inch sheet. When tower 5 was removed from the published 1:2500 plan (Kent sheet LXXV.9), an arc was inserted to join the existing field boundaries either side of the removed tower (*figure 19*). However, when the same tower was removed from the published six-inch sheet, part of the boundary line it had shared with the adjoining property was left unclosed (*figure 20*). This suggests that the six-inch redaction may have been something of a ‘rushed job’ on the six-inch sheet, because the boundary detail for features adjacent to several Folkestone towers was similarly not restored when the towers themselves were removed.

If evidence is needed to indicate why the War Office might have had qualms about the presence of Martello towers on the First Edition six-inch maps, figure 21³⁸ provides a salutary reminder that almost all of the details present on the 1:500 War Office plans of Martello towers and other defensive installations along the coast were also shown on the six-inch sheets (see figure 17 for comparison). This was particularly likely where six-inch sheets were photo-reduced directly from 1:2500 plans, which in turn contained detail that had been reduced from 1:500 plans, as was often the case in urban areas.

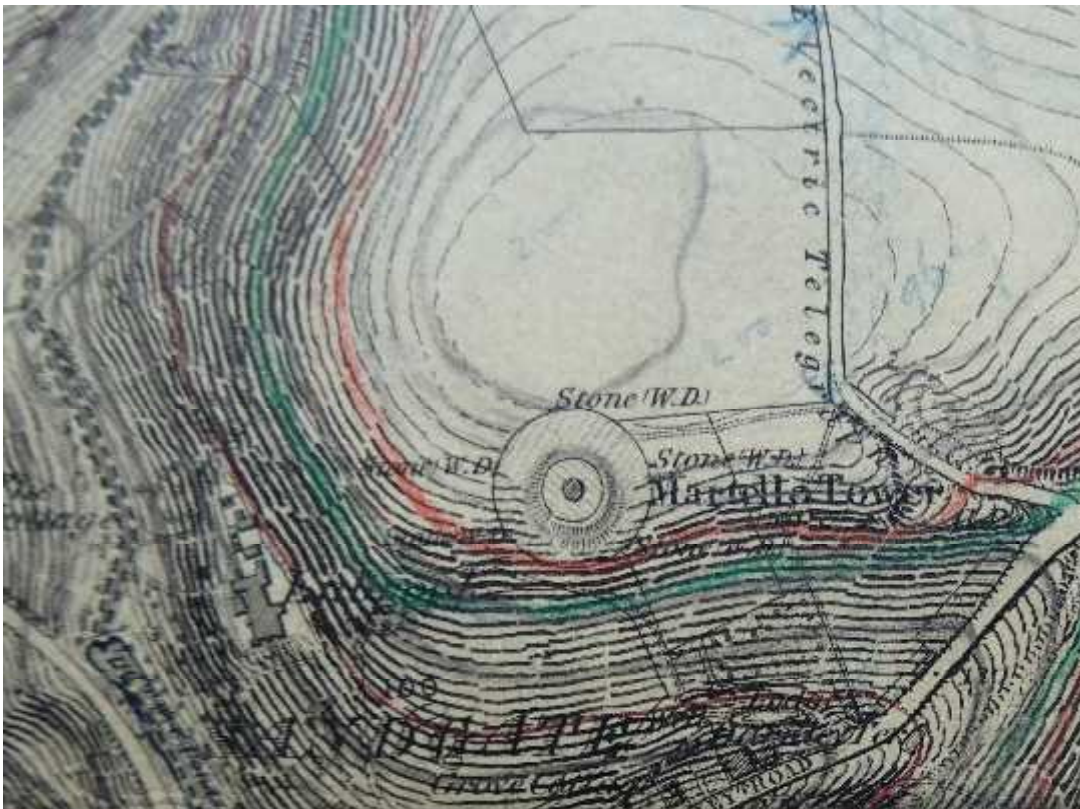


Figure 18
Martello tower
5 in Folkestone
as it appears
on pre-
redacted six-
inch sheet
(Kent LXXV)

³⁸ Henry James (1866) England. Plans of the Barracks &c. in the Shorncliffe Division of the South Eastern District, British Library shelfmark: Maps 150.d.3.

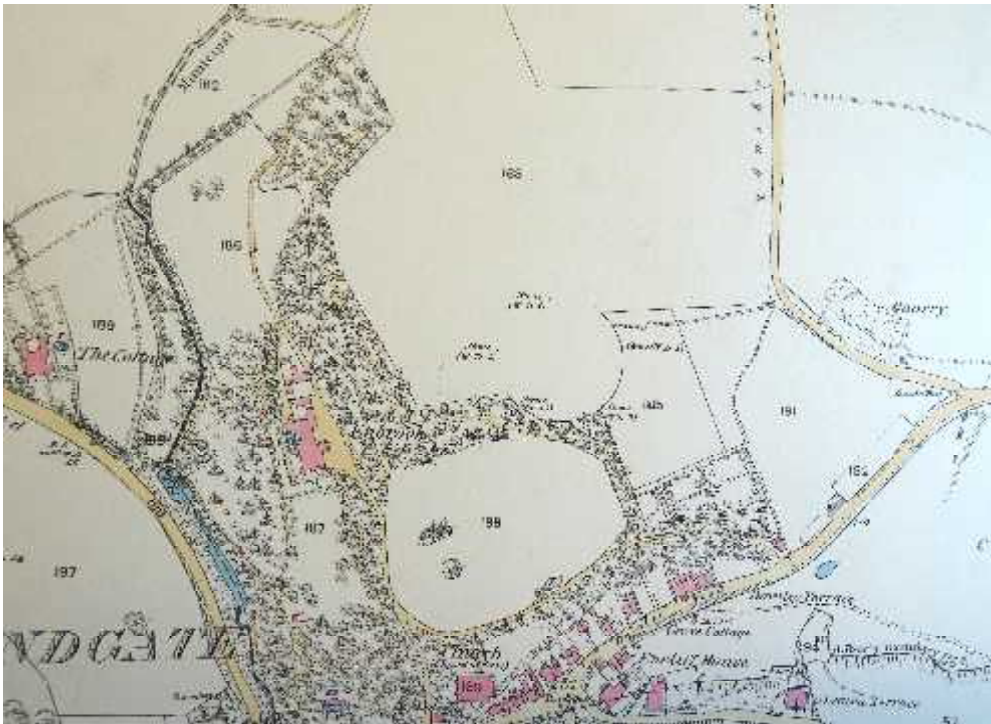


Figure 19
Published
1:2500 plan
LXXV.9 (Kent)
showing
cartographic
adjustment
following
removal of
Martello tower
5 in Folkestone

As a footnote to this story, this and several other Folkestone Martello towers were still absent from sheet LXXV.SW of the second edition of 1899 (revised in 1897). However, they reappeared in full detail on the subsequent Third Edition of 1908 (revised in 1906, as shown in figure 22), and were still present on the Revision of 1931. On the basis of this evidence, government policy towards the redaction of sensitive military installations on OS maps seems to have changed between 1899 and 1908³⁹, and this was reflected in the Ordnance Survey's restoration of Martello towers to the six-inch maps of the south and east coast of England.



Figure 20
Published six-
inch sheet LXXV
(First Edition)
showing
cartographic
effect of
removing
Martello tower 5
in Folkestone

³⁹ This change in policy can be dated to 1907. See: R Oliver, *Ordnance Survey Maps. A concise guide for historians*, Third edition, The Charles Close Society, 2013, p.305.

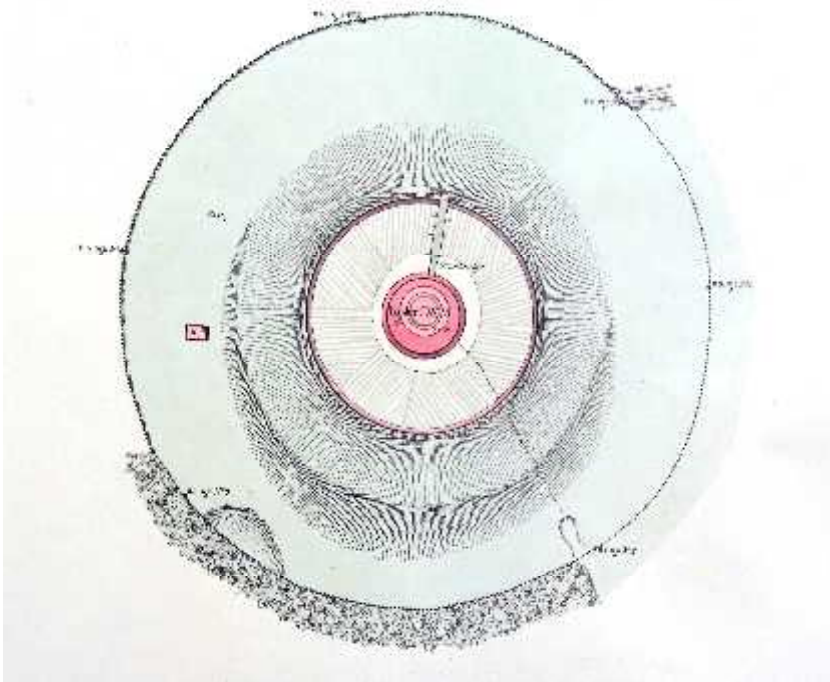


Figure 21

Extract from War Office 1:500 plan showing Martello tower 5 in Folkestone. Surveyed in 1861, this plan was zincographed and printed in 1864. (British Library shelfmark: Maps 150.d.3)

Conclusions

By combining the Martello towers found on the hill sketches and contour photographs at the British Library, our overall sample has grown substantially, though it still does not provide complete coverage of all towers in south-east England. The geographical locations of the two new sources of evidence is summarised in figure 23. This clearly shows those coastal areas for which Martello towers are shown on both scales of map and those where they are shown on only one scale of map. As the appendix reveals, out of the total of 61 towers we have located on pre-redacted maps and plans, 37 appear on both map sources, while the other 24 are present on only a single map source, with six of these being on hill sketches and 18 on contour photographs.

In most cases where Martello towers were redacted from OS maps and plans, it is difficult to tell from the published sheets alone that these imposing structures once graced the coasts of south-east England. It is also difficult to tell from the published 1:2500 plans and six-inch maps that the towers were deliberately removed from the published maps, unless you know in advance what you are looking for. The hill-sketched maps and contour photographs at the British Library therefore provide a fleeting glimpse of a striking landscape feature during the later years of the nineteenth century which, for military reasons, was denied to the map-buying public of the time



Figure 22
Published six-inch Kent sheet LXXV.SW (Third Edition) showing restored Martello tower 5 in Folkestone

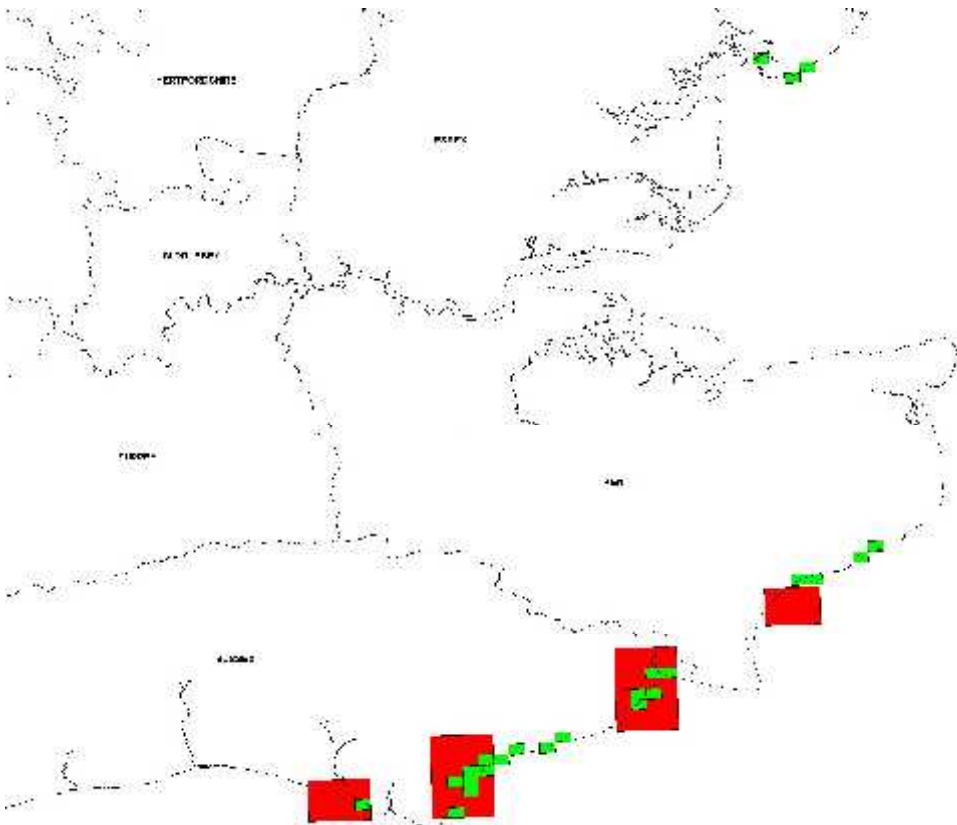


Figure 23
Distribution of contour plots (small green rectangles) and hill sketches (large red rectangles) which show Martello towers in Essex, Kent and Sussex

Acknowledgements

We are extremely grateful to staff at the British Library for providing access to the manuscript map materials described in this article. Thanks are also due to Richard Oliver and Rob Wheeler for providing expert critical comments on our original draft.

Appendix

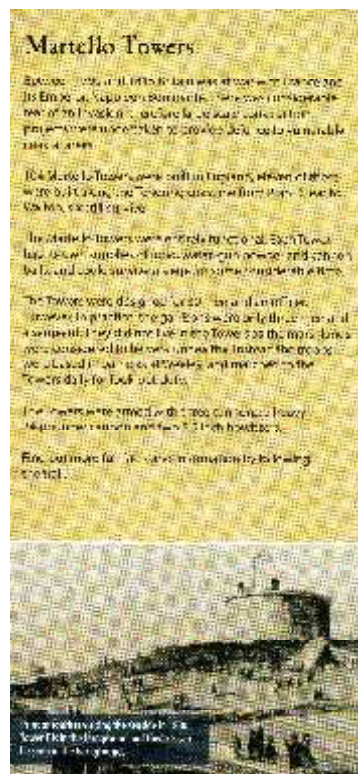
OS contour photographs and hill-sketched sheets which show Martello towers.

Tower ID	Contour photograph 1:2500 number	Hill-sketched six-inch sheet number	Tower ID	Contour photograph 1:2500 number	Hill-sketched six-inch sheet number
Essex			Sussex		
Tower A	XLVII.4		Tower 28 *	XLV.12	XLV
Tower B	XLVII.4		Tower 30 *	XLV.11	XLV
Tower C	XLVIII.10		Tower 31	LIX.3	LIX
Tower D	XLVIII.7 & 8		Tower 32	LIX.2	LIX
Tower E	XLVIII.7 & 8		Tower 33	LIX.2	LIX
Tower F	XLVIII.7 & 8		Tower 34	LIX.6	LIX
Kent			Tower 40	LXXI.1	
Tower 1	LXXV.7	LXXV	Tower 43	LXX.8	
Tower 2	LXXV.7	LXXV	Tower 44	LXX.8	
Tower 3		LXXV	Tower 49 †	LXX.6	
Tower 4	LXXV.4 & 9	LXXV	Tower 52	LXX.9	
Tower 5	LXXV.4 & 9	LXXV	Tower 53	LXX.9	
Tower 6		LXXV	Tower 54	LXX.9	
Tower 7		LXXV	Tower 55	LXX.9	
Tower 8		LXXV	Tower 56	LXIX.12	LXIX
Tower 10	LXXIV.16	LXXIV	Tower 57	LXIX.16	LXIX
Tower 11	LXXIV.15	LXXIV	Tower 58	LXIX.16	LXIX
Tower 12	LXXIV.15	LXXIV	Tower 59	LXIX.16	LXIX
Tower 13	LXXIV.15	LXXIV	Tower 60	LXIX.16	LXIX
Tower 14	LXXIV.15	LXXIV	Tower 61	LXIX.15	LXIX
Tower 15	LXXIV.15	LXXIV	Tower 62	LXXX.3	LXXX
Tower 16	LXXIV.15	LXXIV	Tower 63	LXXX.3	LXXX
Tower 17	LXXIV.15	LXXIV	Tower 64	LXXX.3	LXXX
Tower 18		LXXIV	Tower 65	LXXX.3	LXXX

Tower 19		LXXXII	Tower 66	LXXX.7	LXXX
Tower 20	LXXXII.2 & 6	LXXXII	Tower 67	LXXX.7	LXXX
Tower 21	LXXXII.2 & 6	LXXXII	Tower 68	LXXX.2	
Tower 22	LXXXII.5	LXXXII	Tower 69	LXXX.7	
Tower 23	LXXXII.5	LXXXII	Tower 70	LXXX.7	
Tower 24	LXXXII.9	LXXXII	Tower 73	LXXX.14	
Tower 25	LXXXII.9	LXXXII	Tower 74	LXXVIII.12	LXXVIII

Notes:

There are no contour photographs or hill sketches for Suffolk, and no hill sketches for Essex. Empty cells indicate absence of contour photograph or hill-sketched sheet. An asterisk indicates the presence of a bench mark at or near the tower. A cross indicates that the tower is not shown on the contour photograph.



This attractive leaflet, produced by the EU-funded Walls and Gardens project and available from Essex Records Office provides a trail route and brief guide to the six Martello Towers in Tendring, Essex, three of which are open to the public.