

Introduction

Forts are usually located on communication routes, though the road lines are not always known and rarely independently dated. Often forts are found at river crossings. They are generally about one day's march apart (15-20 miles), though distances vary. There has, however, been no systematic study of the location of forts in terms of their relationship with roads/rivers, orientation, tactical considerations, articulation with other installations, or relations to indigenous settlement patterns or landscape features.

ScARF 2012a:32-33

Spatial analysis, through the combining of archaeological and mapping data in a Geographical Information System (GIS) database, is a computational technique increasingly being applied to the study of archaeological features in the landscape, mainly due to an increase in the availability and accessibility of information, technologies and datasets gathered from LiDAR, satellite imagery, GIS, and remote sensing. Spatial analysis has the potential to indicate possible reasons for locating a fortification in a certain position in the landscape, why it is facing in a particular direction, and its relationship with other features or sites in the area. In recent years, there has been an increase in the application of spatial analysis, through GIS, to the study of fortifications in the landscape in various parts of the Roman Empire, such as the Dutch *limes* and the Southern Arabian Petraea, as well as in Roman Spain. The general conclusions, drawn from such analyses is that fortifications are placed in locations which allow them to control the immediate landscape, often with visible command of resources or movement routes, such as mountain passes or roads.

Studies of Roman fortifications have frequently focussed on physical structures rather than the wider topographical setting, although this is beginning to change, but as Costa-García writes, "... in order to understand the impact of the Roman military... it is necessary to better understand the surrounding archaeological landscapes through comprehensive, interdisciplinary studies" (2018: 993). This has also been observed by Graafstal in relation to the Antonine Wall, who notes, "it is striking to see how subordinate the place of terrain and topography has been in most discussions whether on a site or systematic level" (2020:143). This not only applies to the Antonine Wall, but can be seen in many studies of fortifications from other periods and geographical areas. GIS spatial analysis which has been undertaken in Scotland has mainly been restricted to the Antonine Wall, with the conclusions relating to the positioning of those fortifications have broadly been the same as those from elsewhere in the Empire; that the forts (on the Wall) are constructed to control the immediate landscape; this can be defined as fortifications located in positions which either give them a good view of the landscape, enabling them to react to any approaching threats, or help them to protect assets

or resources. In some instances, the fortifications were positioned on corridors or movement routes which were used by the indigenous population to move from one location to another, enabling the military to keep an eye on local traffic. A similar observation was made early in the 20th century by Abercromby (1902:196) who was the first to note that a number of forts, along the edge of the Scottish Highlands seemed to be deliberately positioned to block movement between Roman territory and the lands beyond. One of the most recent, comprehensive and systematic study of a group of fortifications in the Scottish landscape was undertaken by Woolliscroft and Hoffmann (2006), and who focus on 1st century sites north of the Forth-Clyde isthmus, although their work does not utilise GIS spatial analysis. More recently, Graafstal (2020) has undertaken a study of the spatial analysis of the Antonine Wall forts, demonstrating that each of these fortifications are intervisible with their adjacent neighbour; some also appear to be located at the entrances to valleys, suggesting that these are positioned in such locations as to oversee movement along these.

The research undertaken in *Facing the Enemy* contributes to the wider archaeological research agenda for Scotland. *ScARF: The Roman Presence* (2012) gives a comprehensive summary of the current knowledge of Roman activity in Scotland, covering the interaction with the indigenous population, supplying and resourcing the army, and looking at the wider impact of the Romans on the landscape, and remains relevant over a decade after its publication. While *Facing the Enemy* is not a direct response to the ScARF report, important areas of those research recommendations inform and influence the aims and objectives of this publication, and a summary of these are in Table 2 (ScARF 2012:IV). In Scotland, there has been limited application of GIS spatial analysis of Roman fortifications in their immediate and wider landscapes, something which has been recognised in *ScARF: The Roman Presence*.

Focussing on the areas outlined by ScARF, this monograph is an exploration of the relationship between Roman military structures in Scotland, and the landscape in which they are located. It primarily focusses on those fortifications dating to the Flavian period, defined as the

Table 2. Summary of the relevant ScARF: Roman Landscape Research Recommendations.

ScARF: Roman Presence Research Recommendation	
3.8	A systematic overview of the road network in Scotland, considering all lines claimed as Roman, from aerial and ground survey and excavation evidence, is required.
	The Gask Ridge road requires further assessment – can the current known road be dated? If it is 2 nd century in date, there is still likely to have been a road between the 1 st century fortifications and, as these have their entrances oriented on the known line, this may prove to overlie a Flavian predecessor.
3.11	An understanding of the fortress of Inchtuthil in its wider landscape would be of broad and substantial benefit to international scholars of Roman frontiers.
	Knowledge of the road network is very poor. Critical appraisal and targeted fieldwork are needed to clarify it.
	Any chance to investigate the maritime context, especially in terms of wrecks or water-front structures, should be seized.
4.2	The systematic study of forts within their wider landscapes should be encouraged.
4.7	The need to look beyond the fort for other aspects of its landscape...

period CE 77-86/90 (ScARF 2012a). This period has been selected for three reasons:

- The classical literary text, *Agricola*, gives a historical account of Roman activity and the strategy of the army in the period and geographic location covered by *Facing the Enemy*;
- With the most extensive period of military activity in Scotland dating to the 1st century, there is a large evidence base of around 120 different fortifications from across Scotland, many of which have not subsequently been altered or destroyed by later Roman activity. Therefore, there are enough early sites to include in a spatial analysis, and to be able to identify any trends in the positioning, intervisibility, orientation, and interconnectivity of fortifications in this territory and in this period;
- This period represents the earliest large-scale and organised incursion into Scotland, with the army positioning fortifications in locations for the first time which allows us to draw conclusions regarding their approach and strategy; during later invasions, the army tend to reoccupy earlier sites, making it less clear to discern if they have their own strategy for fortification positioning, or are following that of the 1st century military.

Facing the Enemy therefore focuses on the positioning, the intervisibility, the orientation, and the interconnectivity of fortifications which are dated to, or likely to have been established in the 1st century. For clarity, these four elements can be defined as follows:

- Positioning - the immediate location in the landscape where a fortification has been constructed. Fortifications in Scotland, are usually located on a plain, a slope or on a hill to give them a strategic advantage;
- Intervisibility - the ability to see and/or signal from one fortification to another;
- Orientation - the direction which a fortification is facing;
- Interconnectivity - the physical link (through road and/or coastal and river networks) between a series of fortification sites.

In this investigation, I refer to fortifications as being linked through interconnected networks, defined as multiple points (the fortifications) linked together by pathways (roads or coastal and inland waterways). Using terminology such as connectivity, suggests that two points are connected by a single pathway, but this does not reflect our knowledge of these networks in Flavian Scotland; it is not always clear if pathways are linking just two sites, or even if these are contemporaneous with the fortifications which they are alleged to connect; the term interconnectivity may better represent those fortifications which are linked by being located on the coast and on rivers because of the extensive network of waterways as most fortifications are on the major rivers, or tributaries of these.

Scotland was chosen as the main geographic focus for this research because of its almost unique position in the Roman world as a territory which was never fully or permanently occupied on a long-term basis in any period. As Roman fortifications have not been found in all geographic areas of Scotland, the area covered by this research can further be defined as being bordered by the Solway Firth and the River Tweed in the south, and the Highland Faultline in the north. References to Northern Scotland, generally refer to the area north of the Forth-Clyde isthmus, or what becomes the line of the Antonine Wall; the term Northern Britain refers to the territories above the Stanegate/Tyne-Solway area (which itself becomes the location of Hadrian's Wall in the 2nd century). There are a significant number of fortifications in Scotland which originate in the 1st century, many of which have not shown evidence of reoccupation in a later period; for those which were used again, the original orientation of the site is clear. Where this is not clear, this has been noted in the text. As a general rule, sites in Northern England have not been included here as the chronology of these fortifications is often less clear, making it more challenging to draw conclusions about the Flavian military strategies in these areas. As will be shown, the Antonine military strategy in Scotland has many similarities to the 1st century approach, and could be applicable to sites of other periods in Northern Britain.

First century Flavian fortifications are found in southern, central and northern Scotland, except for the Scottish Islands, Argyll and Bute, and the Highlands. Despite three major invasions, and potentially some additional incursions, the north of Britain was never fully integrated into the Roman Empire, while arguably, it was during the 1st century that the Roman military made the most successful inroads into Northern Britain, with the army reaching Aberdeenshire as confirmed through radiocarbon dating at the camps of Kintore and Milltimber (Cook and Dunbar 2008; Cook, Dunbar, and Heawood 2009; Cook 2018; Dingwall and Shepherd 2018); the assumption is that most of the camps in the northeast and Moray coast have their foundation in this period. There are even some indications that the army in the 1st century went beyond the Moray coast (e.g. Tibbs 2019:193), although the full extent of Roman activity in 1st century Scotland remains unknown. Towards the end of the 1st century, fortifications in Scotland appear to have been abandoned and most are not reoccupied in later periods; there are a small number of possible exceptions, including the forts at Ardoch (Breeze 1970), Birrens (Robertson 1975), Strageath (Frere and Wilkes 1989), Bertha (Woolliscroft and Hoffmann 2006), and Newstead (J. Curle 1911; Hunter 2015; Hanson 2015).

To date, there has been no systematic spatial analysis of 1st century fortifications from across Scotland using GIS, therefore *Facing the Enemy* explores the hypothesis that the positioning, intervisibility, orientation and interconnectivity of early Roman fortifications in the landscape was essential to secure and control the local environment, and asks if spatial analysis of the early sites can tell us anything about the approach of the Roman military in Scotland during the 1st century.

1.1. Aims and Objectives

By creating a comprehensive GIS database of early Roman fortifications in Scotland, and synthesising satellite and mapping data with additional layers of evidence, such as the findings of historical archaeological research, this investigation examines the strategic intentions of the military in the north in the Flavian period. It does this primarily through a quantitative investigation into spatial arrangements of fortifications in both their immediate setting, and the wider landscape to discern possible reasons for constructing military structures in particular locations. The spatial analysis of these sites focusses on the positioning, the intervisibility, the orientation, and the interconnectivity of these fortifications, comparing them with similar arrangements from elsewhere in the Roman Empire. Therefore, the overall research aim of this investigation seeks to profile fortification sites, and to understand the intentions of the army in selecting locations for military structures in the landscape. Additionally, *Facing the Enemy* aims to:

- Identify any trends in where fortifications are located in the landscape

- Is there a strategic significance (if any) of the site chosen for early fortifications?
- Is there a common pattern of topography which explain the locations selected to place a fortifications?
- Are fortifications positioned with an offensive or defensive capability?
- Determine the extent to which military sites could exercise control of the local area through surveillance and visual communication
 - Were the fortifications able to control local settlements, movement routes or roads?
 - Is the function of a site discernable through its positioning and intervisibility?
- Examine the interconnectivity between Flavian sites, through the road and river networks
 - Are fortifications intervisible and is there a purpose to this?
 - Is the location of a fortification dependent on its proximity to the road, river crossings and/or watercourses?
 - What is the archaeological evidence for the use of waterways by the Flavian army?

In the process of examining the 1st century sites in Scotland, this research will also:

- Examine the dating evidence for Flavian fortifications, and the impact of this on interpreting such sites
 - How secure is the dating for individual sites labelled as 'Flavian'?
 - Are there any challenges in interpreting camp sequences?

Although there have been previous spatial studies of Roman sites in Northern Britain, only a few have used GIS modelling (studies include Hanson and Maxwell 1986; Hanson 1991; Breeze 1993; 2017; Breeze and Dobson 2000; Woolliscroft and Hoffmann 2006; Hannon 2018; Hannon, Wilson, and Rohl 2020; Murphy, Gittings, and Crow 2018; Symonds 2018; 2020; E. Graafstal 2020; 2021; Breeze 2011; E. Graafstal et al. 2015). These studies have shown that there can be differences between fortifications constructed on a road, such as the Stanegate and those on the Gask Ridge in Perthshire, and those built on a linear barrier such as the Antonine Wall, the latter developing after the 1st century (Symonds 2018:72). Recent work analysing the positioning of forts on the Antonine Wall, has indicated that intervisibility between each site was important, along with a requirement for the fort to have visual control of adjacent valleys, and for the site to be located on a plain where available. An objective of this research is to undertake a similar study of all of the known and likely Flavian fortifications, rather than just the forts, to see if they are located in similar positions, and additionally, to see if they are making use of the natural topography for defence. Furthermore, the outcomes of this research will test the argument by Abercromby regarding whether or not the forts on the Highland-line are deliberately positioned to block the glens.

As noted above, Graafstal recorded that intervisibility between sites on the Antonine Wall appears to have been a consideration when selecting where to build the forts. This has also been noted elsewhere in Britain, particularly by Woolliscroft who has analysed signalling (which requires an element of intervisibility) capabilities on various frontiers, including the Flavian sites in central Scotland (e.g. 1989; 1993; 1994; 1996; 2009; 2010; Woolliscroft and Hoffmann 2006; Woolliscroft, Swain, and Lockett 1992). Although Woolliscroft's signalling modelling considered the Flavian fortifications north of the Antonine Wall, his experiments involving replicating signalling between sites, did not include camps. There have been few attempts to examine the extent of visibility from 1st century sites in Scotland, and developing this type of analysis is another of the objectives of this work; to build on the original signalling work of Woolliscroft on the 1st century sites in Scotland by utilising GIS analysis to test and enhance his original approach and develop this through the inclusion of camps. Developing this methodology using GIS viewshed and line-of-sight modelling, has the potential to increase accuracy, extend the geographical coverage of the analysis, incorporate the camps into the modelling, and also enable variation of the different parameters used by Woolliscroft, to see if this makes a difference to the potential relationships which he previously identified; this is particularly important given that the original height of fortifications in Flavian Scotland remains speculative.

Roman literary sources state that there are certain directions in which fortifications should face, with the indication being that this is for both practical and symbolic purposes. While those sources are generally post-Flavian, little research has been undertaken exploring this aspect of fortification design, and how strategically important it was to orientate a site in a particular direction, although it does seem likely that if a fort had a front or main entrance, then there would have been some importance attached to the direction it faced. With the evidence from other frontiers suggesting that fortifications were positioned to control resources and the landscape, sites in Northern Britain may have been orientated to reflect this. *Facing the Enemy* investigates the orientation of fortifications in the landscape within the geographical and temporal scope of this work, but it will also look beyond Flavian Scotland for comparative insights.

While there have been significant amounts of research into military networks, particularly in the Roman period, there has been little analysis of this in the context of 1st century Scotland. The connectivity of sites through the road network is important, particularly as it enables movement of supplies and troops through the landscape, but knowledge of this in Scotland is fragmented and there is even some indication that some sites were not connected by roads (Maxwell 1989). The importance of river networks in the 1st century to move troops and scope enemy territories was noted by the Roman writer Tacitus, and given that a significant number of Flavian

and post-Flavian sites were built next to bodies of water, such positioning had significant importance to the military. A systematic GIS analysis of the relationship between roads, coastal areas and waterways, and fortifications, in Scotland, has not previously been undertaken, and *Facing the Enemy* reappraises our knowledge of the river network using case studies, to see if we can postulate how these were used in the Roman period.

1.2. Method and Approach

At the core of this research is the analysis of legacy archaeological data through quantitative analysis. This data has initially been gathered from Canmore.org.uk, the national record of the historic environment in Scotland, and expanded upon using excavation reports, maps, site analyses by other authors, and aerial imagery. Mapping data was extracted from Edina Digimap (originating from Ordnance Survey) and processed in an extensive Geographic Information System database. As Jones and Leslie (2015) have stated, there is a need to integrate different data sets such as geophysical surveys, aerial photographs, laser scanning, and topographical data to achieve an integrated site profile, which would enable a better understanding of Roman frontiers, and a GIS database is the ideal vehicle to achieve this with. GIS has been successfully and extensively used in the analysis of the distribution of archaeological sites in the landscape, particularly in relation to Roman activity (Komoróczy and Vlach 2009; e.g. Chapman 2006; Verhagen 2010; Verhagen and Jeneson 2012; Verhagen et al. 2012; Foglia 2014; Hannon 2018; Bachagha, Wang, et al. 2020; Bachagha, Luo, et al. 2020; Hannon, Wilson, and Rohl 2020; J. Lewis 2020; Blanco et al. 2020)¹. As noted previously, Graafstal argues, in relation to the Antonine Wall, that various factors such as planning order, alignment, spacing, operational requisites and intervisibility need to be considered together when undertaking analyses of frontiers, an approach described by the author as sequential stratigraphy (2020:143-144). There are some clear parallels with the approach adopted in *Facing the Enemy*. The application of such analyses, through a GIS, enables not only interpretation of the spatial (and where relevant, temporal) distribution of sites, but of their setting in the immediate topography of a location, as well as the wider landscape². The application of a systematic approach to all of the 1st century fortifications in Scotland in their geographic setting has not previously been undertaken, yet this type of analysis is vital for identifying common patterns and trends in the data and drawing valid conclusions in respect of the research questions.

There are around 300 Roman fortifications in Scotland (Tibbs 2019), with a general consensus that most date to one of the three major invasions of North Britain;

¹ A similar approach has been undertaken using LiDAR to identify medieval sites in Italy (Lasaponara et al. 2010; Masini et al. 2018)

² A discussion of some of the criticisms and challenges relating to GIS-based viewshed analysis can be found in Chapter Three.

Flavian (c. CE 77-86/90), Antonine (c. 139-165), or Severan (c. 208-211). However, there are a substantial number of fortifications which remain undated, and the further possibility that some date to pre-Flavian or post-Severan periods of activity (ScARF 2012a:25). Despite this, there is no single list of fortifications and foundation dates which is commonly accepted, so for this research, I have compiled a list of Roman fortification which are either confirmed as dating to the 1st century through datable evidence, as well as those considered likely to originate in this period, but where there is a lack of datable evidence; approaches to the dating of Roman sites in Scotland is discussed in more depth later. The list of just under 130 fortifications are outlined in Appendix One, and includes five different types of military structures; a legionary fortress, camps, forts, fortlets and towers. Some of these sites consist of multiple fortifications of the same type constructed in close proximity, or on top of each other. In addition to these, there is also the road network, most of which remains undated and unconfirmed.

The list of sites comes with a caveat; much of the evidence used to assign an origin date to many of these is limited, but rather than limiting this study to the few sites with robust evidence supporting Flavian dating, I have widened the scope to include fortifications which are likely to date to the 1st century, despite dating evidence being inconclusive. I have also included some sites which may not be Flavian (such as the camps at Bankhead (Carnwath) II, Bellie, Lochlands, Logie Durno and Ythan Wells I). These locations have multiple fortifications overlaying each other, and as most remain unexcavated, it is difficult to discern which camp or fort was constructed first and when; however, as there is some indication of Flavian activity at each site, I have erred on the side of caution and included them in some of the analysis. Sites such as Bar Hill and Cramond have not been included because there has been no evidence of 1st century occupation, and they are not in close proximity to other fortifications of this period, and therefore early activity at these places remains speculative. The inclusion and exclusion of such sites is not a comment or judgement on the dating methods, excavation techniques, or subsequent analysis, but particular caution needs to be exercised in interpreting findings and attributing a date of origin to these sites, particularly when considering interrelationships between sites that are assumed to be contemporary.

The primary sources for compiling the list of sites examined in this research has primarily drawn on the data contained within Canmore.org.uk (the National Record of the Historic Environment in Scotland), as well as from *ScARF: The Roman Presence* (ScARF 2012a), *Roman Camps in Scotland* (R. H. Jones 2011), and *Rome's First Frontier* (Woolliscroft and Hoffmann 2006). The list of Flavian sites analysed in this research can be seen in Figure 1.1.

1.3. Research Limitations and Implications

To date, there has been very few wide-ranging and systematic investigation of Flavian fortifications in Scotland, and none which have simultaneously considered the location, positioning and orientation of fortifications, intervisibility between these, interconnectivity with roads and rivers, and the relationship with the indigenous population. Those studies that exist have focused on one or two, or occasionally, a group of fortifications focussed around a limited geographical area. There are a small but increasing number of studies, most of which focus on frontiers beyond Scotland and northern England, which utilise modern analytical techniques, involving the application of GIS to examining fortifications in a landscape setting, as well as in the wider context of a frontier.

There are several limitations which have the potential to affect some of the findings and results within *Facing the Enemy*. This includes the quality and accuracy of the data³, much of which is legacy, and therefore lacking in the essential detail to confirm various characteristics of the sites, such as the extent of the fortification defences, internal structures, or even the orientation. The dating, or establishment of fortifications in Scotland is significantly limited, with a relatively small number of sites subjected to scientific dating. Most are dated through morphology as well as sequencing, but as I have indicated, this is often flawed because we do not know enough about the sequencing of such locations; dating of sites from artefacts is often reliant on small fragments of pottery uncovered on sites, often from fieldwalking or from trial trenching of ditches. Not that we should entirely dismiss the dating framework for Roman Scotland, but we must be much more cautious and prioritise revision of this to ensure more accuracy when determining chronology. Concerns over the reliability of dating has meant I have had to be particularly cautious when drawing conclusions about the relationships between sites as intervisibility and interconnectivity between these is not possible if they are not contemporary.

When analysing Roman fortifications, either individually, part of a system, or even focussing on them as a product of one period, we must consider all elements, the fortress, forts, camps, fortlets, and towers, together to make sense of their overall and co-dependent functions. For too long fortifications have been examined individually on their own, and discussed as separate and independent entities. The evidence presented here indicates that we should also think of the fortifications as having an interconnected relationship within a wider landscape system. If some camps are fortifying the landscape (as opposed to being temporarily occupied), then they are working in partnership with other fortifications, and this can be missed if these sites are not considered in a wider, militarised setting.

³ Limitations relating to the GIS processing and modelling, as well as the site data, are outlined in Chapter Three.

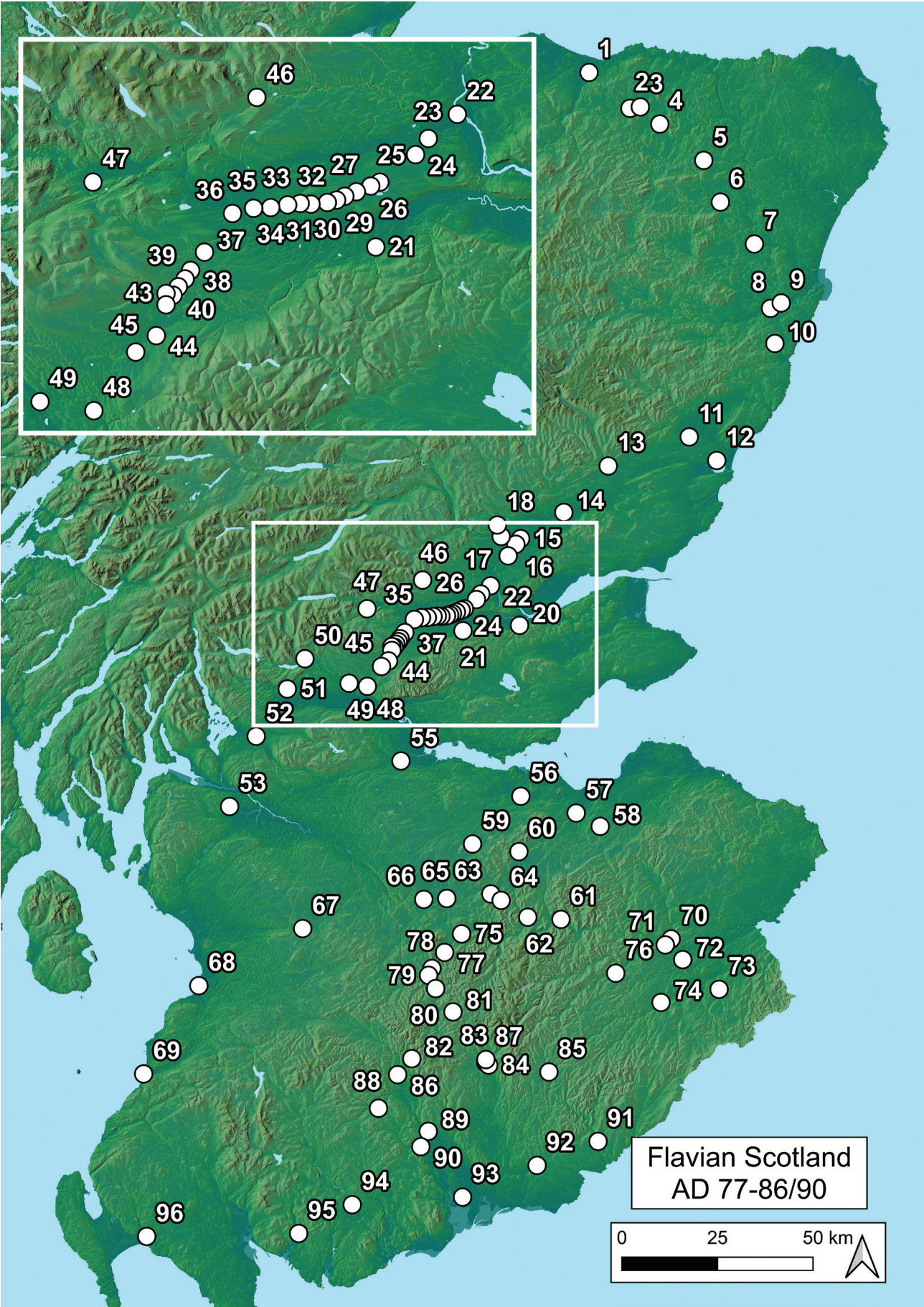


Figure 1.1. Flavian fortification sites covered in the text.

Key to sites in Figure 1.1

1	Bellie (Camp)	49	Doune (Fort)
2	Auchinhove (Camp)	50	Bochastle (Fort, Camp)
3	Muiryfold (Camp)	51	Malling (Fort, Camps)
4	Burnfield (Camp)	52	Drumquhassle (Fort)
5	Glenmailen (Ythan Wells) (Camps)	53	Barochan Hill (Fort)
6	Logie Durno (Camp)	54	Lochlands (Camps)
7	Kintore (Camp)	55	Camelon (Forts)
8	Normandykes (Camp)	56	Gogar Green (Camp)
9	Milltimber (Camp)	57	Elginhaugh (Fort)
10	Raedykes (Camp)	58	Woodhead (Camp)
11	Stracathro (Fort, Camp)	59	Castle Greg (Fortlet)
12	Dun (Camp)	60	Carlops Spittal (Camp)
13	Inverquharity (Camp, Fortlet)	61	Eshiels (Camp)
14	Cardean (Fort)	62	Easter Happrew (Fort)
15	Black Hill (Tower)	63	Kirkhouse (Camp)
16	Cargill (Fort, Fortlet)	64	Castle Craig (Camp)
17	Inchtuthil (Fortress, Camps)	65	Bankhead (Camp, Fortlet)
18	Gourdie, Steeds Stalls (Camp)	66	Castledykes (Fort, Camps)
19	Woodhead (Tower)	67	Loudoun Hill (Fort)
20	Abernethy (Carey) (Camp)	68	Ayr (Camp)
21	Dunning (Camp)	69	Girvan Mains (Camps)
22	Bertha (Fort)	70	Newstead (Fort, Camps)
23	West Mains of Huntingtower (Tower)	71	Eildon Hill North (Tower)
24	Peel (Tower)	72	Hiltonshill (Camp)
25	Westmuir (Tower)	73	Cappuck (Fort)
26	Thorny Hill (Tower)	74	Denholm (Eastcote) (Camp)
27	Moss Side (Tower)	75	Cornhill (Camp)
28	Witch Knowe (Tower)	76	Oakwood (Fort & Camp)
29	Gask House (Tower)	77	Lamington (Camp)
30	Muir O' Fauld (Tower)	78	Wandel (Camp)
31	Kirkhill (Tower)	79	Cold Chapel (Camp)
32	Roundlaw (Tower)	80	Crawford (Fort)
33	Ardunie (Tower)	81	Beattock Summit (Tower)
34	Raith (Tower)	82	Durisdeer (Camp)
35	Parkneuk (Tower)	83	Beattock: Barnhill (Fortlet), Bankend (Camp)
36	Strageath (Fort)	84	Milton (Fort, Camp)
37	Westerton (Tower)	85	Raeburnfoot (Camp)
38	Kaims Castle (Fortlet)	86	Drumlanrig (Fort), Islafoot (Camp)
39	Shielhill North (Tower)	87	Beattock, Barnhill (Fortlet)
40	Shielhill South (Tower)	88	Kirkland (Fortlet)
41	Black Hill (Tower)	89	Dalswinton: Bankhead (Fort), Bankfoot (Fort, Camps)
42	Ardoch II & V (Camps)	90	Fourmerkland (Camp)
43	Ardoch (Fort)	91	Broomholm (Fort)
44	Woodlea (Greenloaning) (Tower)	92	Birrens (Fort, Camp)
45	Glenbank (Fortlet)	93	Ward Law (Fort)
46	Fendoch (Fort)	94	Glenlochar (Fort, Camp)
47	Dalginross (Fort, Camp)	95	Gatehouse of Fleet (Fortlet)
48	Hillside, Dunblane (Camps)	96	Glenluce (Camp)

Determining the interconnectivity of sites has been limited by our partial understandings of the road network, as well as coastal sites and near-coastal riverside sites. *Facing the Enemy* has not set out to study the entire road network in Scotland, but it has led to a series of questions about what this looked like, how far it extended, whether there is evidence

of pre-Roman routes and, if so, when these got 'upgraded' to Roman roads, and how much more confident can we become in dating the network? We also need to consider the limitation of our knowledge surrounding the coastal and river networks, including the archaeological evidence. As I demonstrate in this investigation, these networks are

more complex than we currently assume, but again, we are limited by a lack of confirmation for some sites, as well as little or no chronological referencing for many of these, making it much more difficult to place some fortifications into the wider military strategy for each period.

A final key area where our knowledge is limited and which impacts on this study, is the relationship between the Romans and the indigenous population. A lack of Late Iron Age population centres, and insignificantly small promontory and hillforts, make it difficult to establish who the ‘enemy’ was, and the threat they posed to the army, while some evidence suggests a symbiotic relationship between the Romans and the indigenous population. However, Tacitus indicates that it was not an entirely peaceful relationship, with several attacks on the army, as well as the battle at *Mons Graupius*. Despite recent work, there is still a gap in our knowledge of Late Iron Age (LIA) sites and their relationship to Roman fortifications, and further research may alter our limited understanding and the interpretation of the relationship between the indigenous population and the army.

1.4. Summary

This research investigates the statement outlined at the beginning of the chapter, by *ScARF: The Roman Presence*, that forts are located on communication routes and at river crossings. *Facing the Enemy* is a systematic study, the like of which has not previously been undertaken, into fortification locations and their relationship with roads and rivers, but also expands this to incorporate all types of Flavian military structures found across Scotland. It demonstrates that these fortifications are, like sites on other frontiers, located in strategic positions with the overall purpose of controlling movement through the immediate landscape. It also demonstrates that most fortifications are located next to, and often facing water, and argues that this was deliberate, and an attempt to secure these routes and possibly river crossings. The investigation also argues that some camps are also located in strategic positions, essentially copying the role of forts, which suggests that these do not fit in with the typology of camps outlined above; furthermore, some camps are located on the coast, suggesting that they are securing both coastal routes, as well as the entrances to rivers, with fortifications often positioned further upstream of these. It goes on to conclude that based on the findings presented in this investigation, it is possible to create a set of criteria for fortification positioning which could be used to identify additional sites.