

FRONTIERS OF THE ROMAN EMPIRE
WORLD HERITAGE SITE
PROPOSED EXTENSION

THE ANTONINE WALL

MANAGEMENT PLAN 2007-2012



The nomination documents for the proposed extension of the Frontiers of the Roman Empire World Heritage Site through the addition of the Antonine Wall (UK), including this Management Plan, are published in 2007 by Historic Scotland, Longmore House, Salisbury Place, Edinburgh EH9 1SH

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FOREWORD

by Ms Patricia Ferguson, MSP, Minister for Tourism, Culture and Sport

In January 2003 Scottish Ministers proposed that the Antonine Wall should go forward as a future UK World Heritage Site nomination. In January 2007, the nomination, supported by maps and this Management Plan, was submitted to UNESCO for consideration as an extension to the new World Heritage Site, Frontiers of the Roman Empire.

The preparation of a Management Plan for each World Heritage Site is not only a requirement stipulated by UNESCO but a sensible and necessary action. The nomination document must demonstrate how each potential site is protected by statute. The Management Plan must show in addition how that protected monument can be best managed to its long-term gain, and for the benefit of local, national and international communities, without compromising the World Heritage values of the monument and within a sustainable framework.

The Management Plan for the Antonine Wall which is presented here is the first such wide-ranging plan which has been prepared for the Antonine Wall. It therefore

marks the beginning of a new chapter in the history of the Wall and is necessarily focussed on work which lies ahead. Nevertheless, it builds on previous plans and upon the work and commitment of my officials in Historic Scotland and of that of colleagues in the five local authorities along the line of the Antonine Wall, East Dunbartonshire, Falkirk, Glasgow City, North Lanarkshire and West Dunbartonshire. The steering group for the nomination will form the core of the new body which I am establishing to oversee the implementation of the Management Plan.

The commitment of central and local government was underlined on 20 June 2006 when all six bodies signed a concordat of agreement confirming our intention to “work together to improve the protection, management, presentation and interpretation of the Antonine Wall”. I am in no doubt that the aims of the Management Plan can be achieved over the next five years to the considerable benefit not only of the monument itself but of the people of Scotland and the wider community who will come to see the most northerly frontier of the Roman empire.



A handwritten signature in purple ink, reading "Patricia Ferguson".

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LEFT: Matthew Paris' map of Britain, drawn in the 13th century, shows both the Antonine Wall and Hadrian's Wall.



INTRODUCTION

The Frontiers of the Roman Empire and the Antonine Wall

The Frontiers of the Roman Empire

The Roman empire was one of the greatest empires the world has ever seen. Even today, it fires the imagination. It has inspired great literature and amazing films. People from all over the world travel to see its great monuments. Many of these monuments, some of which have been protected for centuries, are World Heritage Sites. Most of these World Heritage Sites lie in the heart of the empire, in Italy, France, Spain and other countries around the Mediterranean Sea. That heartland was protected by frontiers, often of considerable complexity, stretching for 5000 km from the Atlantic along the Rhine and Danube, looping round the Carpathian mountains to the Black Sea. The Eastern frontier from the Black Sea to the Red Sea faced Rome's greatest enemy, Parthia. To the south, Rome's protective cordon embraced Egypt and then ran along the northern edge of the Sahara Desert to the Atlantic shore in Morocco. Rome's frontiers were therefore of equivalent importance to the great cities of the interior.

These frontiers were built in a great variety of materials – stone, earth, turf, clay, mud brick, timber, in short whatever was available locally – and in the type of installations constructed. In several countries there are several lines of frontier installations as the empire advanced and retreated: both Britain and Germany possess two great linear barriers. Elsewhere, rivers were used as borders, while the mountains formed a convenient boundary for Dacia in modern Romania.

Walls, ramparts, forts, fortlets and towers are the physical evidence for these

frontiers, and they were once were manned by soldiers whose duties were to protect the empire and implement the regulations which governed movement across the frontier, including collecting customs duties. Successive emperors sought to protect their empire not only by fighting wars but also by building new and more elaborate defensive structures. Occasionally, they explicitly stated their intent as is attested by a series of inscriptions in Pannonia (modern Hungary) which record that under the emperor Commodus (180–192) towers were erected along the banks of the Danube to prevent the incursions of brigands.

The Antonine Wall

The Antonine Wall was built by the Roman army on the orders of the Emperor Antoninus Pius (reigned 138–161) following the Roman victory over its northern enemies in 142, a victory celebrated in the unique distance slabs erected along the frontier. It stretched for 60 km (40 Roman miles) across the narrow waist of Scotland from Bo'ness on the River Forth to Old Kilpatrick on the River Clyde and consisted of a turf rampart perhaps 3–4 m high fronted by a great ditch. It was occupied for no more than a generation being abandoned in the 160s.

The Antonine Wall, in spite of its relatively short life, was the most developed frontier built by the Romans to protect and defend their empire. While its first plan was based on the earlier Hadrian's Wall to the south, during construction it was further developed in several ways. Yet, following its abandonment, these new elements were

LEFT: The Emperor Antoninus Pius.

not incorporated into later alterations to Hadrian's Wall, or the German frontier. In that way, the Antonine Wall sits at one end of a pendulum reflecting the development of Roman frontiers. Hadrian's Wall and the Antonine Wall were complementary and study of both allows the development of Roman frontiers to be better understood.

The Antonine Wall is the most complex of all Roman frontiers, even more complex than Hadrian's Wall. Its forts were closer together than on any frontier. They varied considerably in size, defensive arrangement and plan, unlike the forts on Hadrian's Wall. Many, perhaps most, had an annexe attached to one side: a feature not to be found in this form on any other Roman frontier line. Unlike on Hadrian's Wall, the forts were linked by a road from the beginning. The rampart itself was of an 'improved' type – certainly an improvement on the turf sector of Hadrian's Wall – with a stone base and culverts. The Antonine Wall also possessed other unique features in the expansions and small enclosures. The survival of many distance slabs provides information on the way the soldiers divided up the work of constructing the Wall. The known labour camps, uniquely identified on the Antonine Wall, help flesh out the details of the division of labour during its construction.

This coin records the victory in of the Emperor Antoninus Pius in Britain in 142.



The goddess Victory relaxes in front of her temple after granting the Roman army success in the field.

The Antonine Wall was an achievement of what the historian Edward Gibbon called the Roman Empire's "Golden Age". But that Age was not as peaceful as Gibbon believed and the Antonine Wall both reflects the disturbed state of the frontier regions and also the measures taken by the Romans to protect their empire and ensure peaceful lives for its inhabitants. These protective actions were acknowledged by writers of the reign of Antoninus Pius such as Aelius Aristides and Appian who described how the Romans protected their empire by camps and walls.

The Antonine Wall is also a physical manifestation of the change in frontier policy inaugurated by the Emperor

This distance slab from the Antonine Wall commemorates the Roman victory in graphic form and records the construction of 3 miles of the Wall by the Legion.





Antoninus Pius. Hadrian had clearly decided that his empire should have limits. His successor, Antoninus Pius, overturned his policy, expanding the empire in both Britain and Germany, where his frontier is already part of the Frontiers of the Roman Empire World Heritage Site. This decision probably reflects the weak position of Antoninus Pius when he succeeded Hadrian. He had no military experience and little of any other form of imperial service. His acclamation as Imperator, Conqueror, was the only such title he accepted in his long reign of 23 years in spite of waging wars on other frontiers and his extension of the empire in Germany. The special nature of the distance slabs which record the fighting, the Roman victory and the support of the gods is not only a testimony to the achievements of the Roman army but to the unique position of its commander-in-chief, the Emperor Antoninus Pius.

The Antonine Wall forms an important and visible feature in Scotland's countryside. It survives as a monumental testimony to the military power of one of the world's greatest states. Today, it is valued by its local community as an important historical monument, a powerful

educational tool and source of recreation.

The Antonine Wall divided Scotland between the south which was part of the Roman empire from the north which was never fully conquered. It thus not only represents a division still relevant in today's Scotland, but also a shared European heritage and accordingly has considerable potential to foster understanding of our past, present and future.

Today, the Antonine Wall is visible for over a third of its total length. Over 16 km of the 60 km length of the Antonine Wall are in public ownership or guardianship and open to the public. Elsewhere, old roads and tracks perpetuate the line of the Wall, their names, such as Grahamsdyke Road, acknowledging the mythical history of the monument, and now supplemented by names such as Roman Road and Antonine Court in modern housing developments.

Grahamsdyke Road and Dean Road in Bo'ness follow the line of the Antonine Wall.



Antonine Road in Bearsden



I INTRODUCTION

1.1 The purpose of the Antonine Wall Management Plan

A Management Plan is required by UNESCO for each World Heritage Site. UNESCO Operational Guidelines, paragraphs 108–118, stipulate the framework for the Management Plan. This should:

- ☞ specify how the outstanding universal value of a property should be preserved, preferably through participatory means;

and include:

- ☞ a thorough shared understanding of the property by all stakeholders;
- ☞ a cycle of planning, implementation, monitoring, evaluation and feedback;
- ☞ the involvement of partners and stakeholders;
- ☞ the allocation of necessary resources;
- ☞ capacity-building; and
- ☞ an accountable, transparent description of how the management system functions.

The Summary Nomination Statement for the Frontiers of the Roman Empire World Heritage Site (re-printed as Appendix III in the nomination document and with the relevant paragraphs recorded on page 67 below) states that “responsibility for the management of individual parts of the World Heritage Site must rest with the individual State Parties and be carried out by each in accordance with their legislative and management systems”.

This is the first Management Plan which has been prepared for the Antonine Wall.

It is based on discussions and consultations with a wide range of bodies in Scotland. It sets out the framework for what needs to be done in order to manage the monument in all its aspects. As the nomination of the Antonine Wall as a World Heritage Site is being considered by UNESCO, the Antonine Wall Management Plan Working Group will be implementing this Management Plan in cooperation with the stakeholders.

1.2 Importance of the proposed Antonine Wall World Heritage Site

The proposed Antonine Wall World Heritage Site is Scotland’s largest and most important Roman monument. In the middle of the second century AD, it was Rome’s most northerly frontier. It was the most developed of all the frontiers of the Roman empire. In January 2003 Scottish Ministers proposed that the Antonine Wall should go forward as a future UK World Heritage Site nomination. If successful, the Antonine Wall would form part of the Frontiers of the Roman Empire World Heritage Site, the over-arching name given to the new trans-national World Heritage Site created in 2005 when Hadrian’s Wall, a World Heritage Site since 1987, was joined by the German frontier, the Upper German-Raetian *Limes*.

1.3 Aims of the Management Plan

The Management Plan sets out the significance of the proposed Antonine Wall World Heritage Site, and provides a vision and a framework for an integrated and consensual approach to the management

LEFT: The Antonine Wall at Rough Castle looking west. The fort and its annexe lies in the centre of the photograph.

of the proposed Site while ensuring outstanding universal values are conserved.

The Plan's aims are:

- to review the importance of the Antonine Wall;
- to review its state of survival;
- to determine the requirements for its long-term protection and conservation;
- to establish its management requirements and set out policies to fulfil them;
- to review the requirements of a visitor strategy;
- to establish the importance of the Antonine Wall in modern Scotland;
- to provide the basis for an integrated and consensual approach to all activities on the Antonine Wall.

1.4 Status of the Management Plan

World Heritage Site status does not confer any further statutory controls. However, it is a key material factor in the determination of planning decisions by Scottish Ministers and local authorities as indicated by *National Planning Policy Guideline 18, Planning and the Historic Environment* (The Scottish Office Development Department 1999) (see page 35).

A comprehensive Management Plan and a clear policy framework is required to protect, conserve and enhance the Antonine Wall World Heritage Site.

The Antonine Wall is already fully protected under the *Ancient Monuments and Archaeological Areas Act 1979* and the *Town and Country Planning (Scotland) Act 1997*. Details of the protection afforded to the Antonine Wall are provided in the nomination document and in sections 3.1 and 3.2 below. As a step towards a more integrated approach, Historic Scotland and the five local authorities along the line of the Antonine Wall together have prepared new planning guidance which, in the future, should be viewed alongside Structure and Local Plans and national planning policy.

If the Antonine Wall is added to the Frontiers of the Roman Empire World Heritage Site, the Department for Culture, Media and Sport, informed by Historic Scotland, will regularly monitor the Site and submit reports to UNESCO recording the changing circumstance and state of its conservation.

1.5 Preparation of the Management Plan

The Antonine Wall World Heritage Site Management Group has been formed to develop and implement the Management Plan. The Plan has been prepared within the context of current legislative and planning frameworks and is informed by current cultural and natural heritage standards.

The preparation of the Plan has been informed by:

UNESCO Management Guidelines for World Heritage Sites (2005)

ICOMOS publications

UK World Heritage Site management plans, in particular those for Hadrian's Wall, New Lanark and Orkney

International charters, including Venice (1964), Nara (1994), Burra (1979; revised 1999)

UK charters, including Stirling (2000)
All are detailed in the bibliography.

1.6 Structure of the Management Plan

The Plan is not intended to provide a comprehensive contextual history of the proposed Antonine Wall World Heritage Site nor to set out a physical analysis which may be found in other documents.

The first part of the Plan provides a brief description of the site, its history, environmental background, interest, and its statement of significance. The second part identifies the major issues and management objectives with strategies for addressing the objectives and implementation of the Plan.

1.7 Sources of further information

In addition several websites include relevant information. These websites includes those of UNESCO, Historic Scotland, Royal Commission on the Ancient and Historical Monuments of Scotland, Scottish Natural Heritage, East Dunbartonshire Council, Falkirk Council, Glasgow City Council, North Lanarkshire Council and West Dunbartonshire Council.

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Hunterian Museum

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North Lanarkshire Council

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Department of Planning and Building Standards,
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West of Scotland Archaeological Service

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Map illustrating the boundary of the Roman empire during the reign of Antoninus Pius. Those sections of the frontier which are already part of the Frontiers of the Roman Empire World Heritage Site – Hadrian's Wall and the German *Limes* – are marked in red.

II THE PROPOSED WORLD HERITAGE SITE

2.1 Cultural background

2.1.1 The Roman empire and its legacy

The Roman empire was one of the greatest empires the world has seen. For over 2,000 years a Roman state existed, from the traditional foundation of the city of Rome in 753 BC to the fall of Constantinople in AD 1453. In western Europe, the Holy Roman Empire, founded in AD 800, continued the magical name for a thousand years. Even today, the Roman empire fires the imagination. It has led to great literature and amazing films. The foundation treaty of the European Union was consciously signed in Rome. People from all over the world travel to see its great monuments. Many of these monuments, some of which have been protected for centuries, are World Heritage Sites. Most of these World Heritage Sites lie in the heart of the empire, in Italy, France and Spain.

2.1.2 Roman frontiers

The Roman empire extended at its height into three continents. During the waxing and waning of Roman power over a period of more than a millennium, a number of different frontier lines were established. At its greatest extent, in the second century AD, the imperial frontier stretched for over 5000 km, starting on the western coast of northern Britain, which it divided into two parts. The frontier in Europe then ran along the rivers Rhine and Danube, looping round the Carpathian mountains to the Black Sea. The Eastern frontier, from the Black Sea to the Red Sea and running through mountains, great river valleys and the desert, faced Rome's greatest enemy,

Parthia. To the south, Rome's protective cordon embraced Egypt and then ran along the northern edge of the Sahara Desert to the Atlantic shore in Morocco.

There was considerable variety in the materials used to build these frontiers – stone, earth, turf, clay, mud brick, timber – and in the type of installations constructed. In several countries there are different lines of frontier installations as the empire advanced and retreated: both Britain and Germany possess two great linear barriers. Elsewhere, rivers were used as borders while the mountains formed a convenient boundary for Dacia in modern Romania. Walls, ramparts, forts, fortlets and towers are the physical evidence for these frontiers, but they were manned by soldiers whose duties were to protect the empire and implement the regulations which governed movement across the frontier. Successive emperors sought to protect their empire not only by fighting wars but also by building new and more elaborate defensive structures. Occasionally, they explicitly stated their intent as is attested by a series of inscriptions in Pannonia (modern Hungary) which record that under the emperor Commodus (180–192) towers were erected along the banks of the Danube to prevent the incursions of brigands, that is raiders from beyond the empire.

Remains of Roman frontier installations survive and can be seen in the United Kingdom, the Netherlands, Belgium, Germany, Switzerland, Austria, Slovakia, Hungary, Slovenia, Slovakia, Croatia, Serbia, Slovenia, Bulgaria and Romania. East and south of the Mediterranean, there are remains in Turkey, Syria, Jordan, Israel, Iraq, Egypt, Libya, Algeria, Tunisia and Morocco.

2.2 Environmental Background

The Roman army in the first century AD marched into a landscape which had largely been denuded of trees. Pollen analysis has demonstrated that the tree cover was about the same as today. The economic expansion in the region containing the Antonine Wall, which resulted in the removal of these trees, occurred in the later Iron Age, demonstrably before the Roman military occupation. This expansion developed from Bronze Age and earlier Iron Age small-scale farms and gathered pace in the last 300–200 years BC, for crop growing as well as for pasture, and was continued rather than intensified in the first two centuries AD. It is difficult to see differences in this economic expansion north and south of the Antonine Wall itself, or east and west of the Forth–Clyde isthmus, but it is tentatively suggested that in the foothills of the Southern Uplands the Romans entered a landscape already decaying.

Roman influence in the area of the Antonine Wall is perhaps recognisable at some localities in a reduction of cereal production and the expansion of grazed pasture, assumed to represent a restructuring of the native economy to support the market represented by the Roman army. There is little evidence that this increased pastoral economy imposed stresses on soils or plant communities, and the market seems to have been readily supplied within the agricultural capacity of the landscape. It is presumed that the army also received imports of grain during the Antonine occupation. Roman harbours have not been located and possible reconstructions of the sediments in the Forth and Clyde estuaries suggest these may not have provided ideal locations for harbours.

It seems likely that the native economy was artificially buoyed by the Roman presence, and withdrawal of the Roman army eventually led to what is best described as an agricultural recession: there is no evidence for a population collapse.

2.3 Description of the proposed World Heritage Site

The Antonine Wall is the name given to the Roman frontier in Scotland/UK which crossed the narrowest part of Britain at the Forth–Clyde isthmus. It was built during the years following 142 AD on the orders of the Emperor Antoninus Pius (reigned 138–161) and survived as the north–west frontier of the Roman empire for a generation before being abandoned in the 160s in favour of a return to Hadrian's Wall. It stretched for nearly 60 km (40 Roman miles) across the narrow waist of Scotland from Bo'ness on the River Forth to Old Kilpatrick on the River Clyde and consisted of a turf rampart perhaps 3–4 m high fronted by a great ditch. The material from the ditch was tipped out onto the north side to form a wide, low mound or glacis. Forts were placed along the Wall at approximately 3 km intervals; many had annexes attached to one side. The forts were linked by a road, the Military Way. In between the forts sometimes lay a fortlet and in addition 3 pairs of expansions, possibly serving as beacon-platforms, have been found as well as small enclosures and other features. It was through the gates of these forts and fortlets that many Roman goods passed into the lands of Caledonia beyond. Some of the labour camps used by the soldiers building the Wall are known. Inscriptions demonstrate that the Antonine Wall was built by soldiers of the three legions of Britain, the Second, Sixth and Twentieth. Despite its short life, excavation has revealed a complicated building history for the Antonine Wall.

Rampart and ditch

The Antonine Wall was actually a rampart of turf, as stated by the *Historia Augusta*, *Life of Antoninus Pius* 5, 4. While turf was the most commonly used material in the construction of the rampart, sometimes the turf only formed the cheeks of a rampart of earth while several kilometres at the eastern end were of clay. The rampart was placed on a stone base probably intended to be 15 Roman feet wide (4.4 m). At various places



The rampart base in New Kilpatrick Cemetery, Bearsden

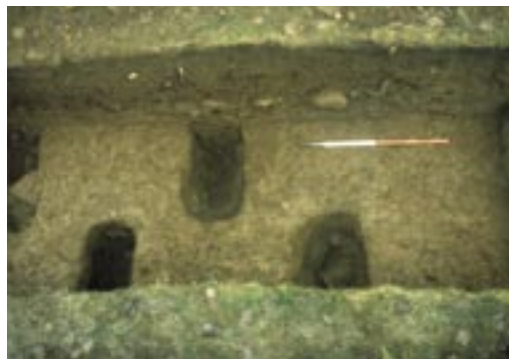


The ditch at Watling Lodge retains almost its original profile.

culverts have been recorded in the base: no regularity can be discerned. The highest surviving stretch of rampart is about 2 m high: its original height may have been 3 m. It is not known how the top of the rampart was finished off. In several places excavation has revealed evidence for repair of the rampart. In some instances this occurs beside culverts and suggests damage by water action. The rampart survives as a mound for about 6 km; several stretches of the stone base are visible.

In front of the rampart lay a wide and deep ditch. In the central sector it was 12 m wide and up to 3.6 m deep. To the east, however, it was no more than 9 m wide while in the western sector it rarely achieved a width of over 7.5 m. About 22 km of the ditch are still visible.

The material from the ditch was tipped out onto the north side to form a low mound or glacis, usually called the outer mound. This varies in width depending upon the size of the ditch. Measurements range from 9.5 m to 23 m. Where the ground sloped steeply to the north, the material was generally heaped higher into a sharply pointed mound. The space between the rampart and the ditch is known as the berm. It was 6 m wide in the central sector but broadened to east and west where the ditch narrowed. This suggests that the main fixed line was



Pits found on the berm immediately in front of the Antonine Wall rampart, in Falkirk.

the centre of the ditch and its relationship to the rampart. An important recent discovery has been pits on the berm in certain locations. These were arranged in rows, up to four in number, and staggered so as to help cause confusion to an attacker. They presumably held stakes or other such obstacles.

About one-third of the linear barrier is visible; about one third lies in open countryside but is not visible above ground, though its existence has often been tested through excavation; about one-third lies in urban areas, and is visible in some locations though elsewhere its survival has again been tested through excavation in many places. Only about 2 km of the Antonine Wall have been totally destroyed, though to this sum should be added minor cuttings for roads and railways.

Military Way

The final linear feature was the road, usually known as the Military Way, running long the whole length of the Wall. It was normally about 5.5 m wide and placed

The Military Way in Seabegs Wood.



about 50 m south of the rampart. It rarely survives as a visible feature, but two stretches are preserved running through Tentfield Plantation as far as the western side of the Rowan Tree Burn at Rough Castle and in Seabegs Wood. At the former site there are remarkable features: the quarry pits from which the gravel was extracted to build the road. A quarry pit was found, on excavation, to underlie the adjacent expansion indicating that the Military Way was constructed early in the building programme. In several places the line of the Military Way is utilised by modern tracks or roads, including Bearsden where the modern Roman Road lies on the Military Way.

Forts

Seventeen forts are known along the line of the Antonine Wall. They relate to the

The fort and annexe at Rough Castle looking north.



Wall in different ways. Some were built before or at the same time as the rampart; others are clearly secondary. There appears to have been an original plan to construct six forts at distances apart of about 13 km. Later, other forts were added to the frontier reducing the distance between the forts to 3.6 km. The decision to add these forts appears to have been taken before the completion of the building of the rampart as one secondary fort had been built before the rampart was brought up to its corners.

The forts generally had stone principal buildings (headquarters, commander's house and granaries) with timber barrack-blocks and store-houses. Otherwise they are noted for the diversity of their defensive arrangements and internal planning. The number of ditches varied from two to four; at some sites extra elements were provided at a gate or other weak point. Two forts had stone walls, the others turf ramparts.

Beside several forts, and attached to them, were defended enclosures known as annexes. These often contained the regimental bath-house.

Fortlets

Nine fortlets are known along the line of the Antonine Wall and there are hints at the location of at least five more. They measure 18–21 m internally, being protected by a rampart and, with one exception, either one or two ditches. The fortlets were either built before the rampart or were contemporary with it. The investigation of some sites has demonstrated the existence of internal timber buildings. In certain



The fortlet at Kinneil from the air:

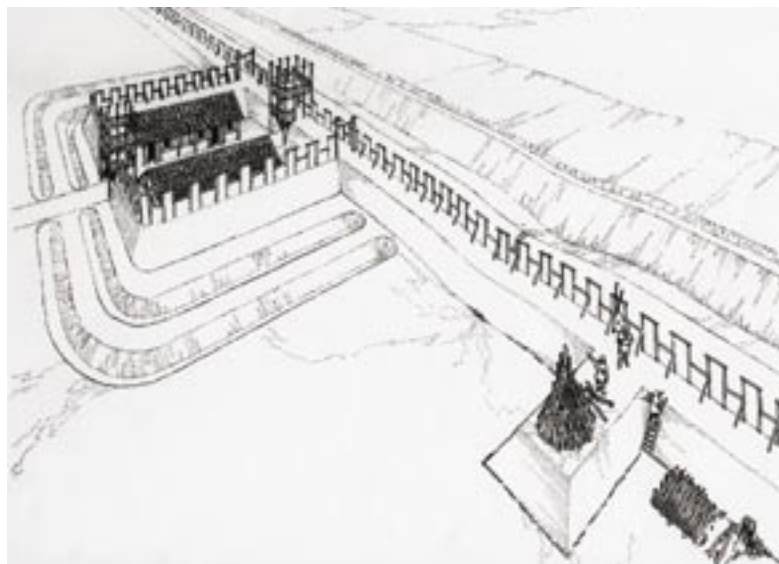
instances the buildings appear to have been subsequently demolished and gravel laid over the internal area of the fortlet. No clear evidence for a causeway over the Wall ditch in front of the north gates of the fortlets has been found, though it is possible that these were removed when the use of the fortlet was changed.

Expansions

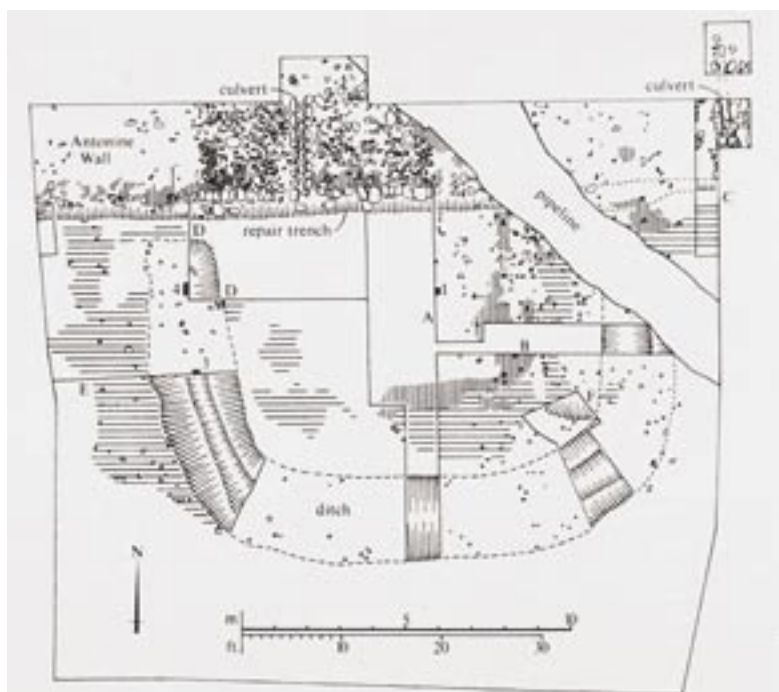
Six expansions have been discovered along the line of the Wall and a seventh claimed. The six were all located in the 1890s. They are so-called because they consist of a southern extension of the rampart. The term is usefully retained because their purpose is not clear. The six expansions always occur in pairs: one pair on each side of the fort at Rough Castle and one pair on the western slope of Croy Hill. It has been suggested that their purpose related to signalling, the easterly two pairs facing the outpost forts to the north, the western pair looking south to the fort at Bothwellhaugh in Clydesdale. An alternative explanation, that they were artillery platforms, is difficult to sustain as auxiliary units do not appear to have been issued with catapults at this time. The seventh possible expansion sits in an entirely different location by the River Avon. Only one side was discovered and other explanations for its use are possible.

Small enclosures

Only three of these are known, all discovered through aerial archaeology, in the vicinity of Wilderness Plantation. The distances between the three enclosures and the adjacent fortlet are about 260 m, 285 m and 295 m. These spaces are rather less than one-sixth of a Roman mile, but the variation was too great to confirm an intention for such a spacing. One enclosure has been excavated. It was contemporary with the rampart and found to consist of a single ditch surrounding a slight turf rampart and enclosing an area about 5.5 m square. No entrance was found and no structure within the enclosure, so its purpose remains a mystery. No small enclosure is visible above the ground.



An artist's impression of a fortlet and expansion on the Antonine Wall.
Drawn by Michael J. Moore.



Other structures

Several other structures have been recorded immediately to the south of the Antonine Wall rampart. These include: a hearth with associated pottery and burnt bones at the east end of Callendar Park, Falkirk; a building with a hypocausted room at the west end of Callendar Park; a platform attached to the rear of the Wall at Tollpark. Although Roman stones have been found in the River Kelvin at Balmuildy, the nature of the bridge there is not known and no evidence exists for the way in which the Wall was carried across streams and rivers.

Plan of the 1980 excavation of a small enclosure at Wilderness Plantation.

Camps

All the 20 camps along the Antonine Wall have been found through aerial survey and photography. None is visible today. The majority range in size from 2 to 2.5 ha and appear to relate to the construction of the frontier. At each end of the eastern $4\frac{2}{3}$ Roman miles of the Wall are two such camps. The four camps between them could have held a complete legion, depending on whether supplies were retained within the camps. At the eastern

end of the next length to the west are also two camps. It would appear that the soldiers in these two sectors worked from each end towards the middle as they built the Wall, but how they divided the work between them is not known: perhaps there was a rampart gang and a ditch gang. Two of the larger camps lie beside the forts of Castlecary and Balmuirdy and may have held the builders of these installations. The ditch of one of the camps at Castlecary butted up against the rear of the rampart.



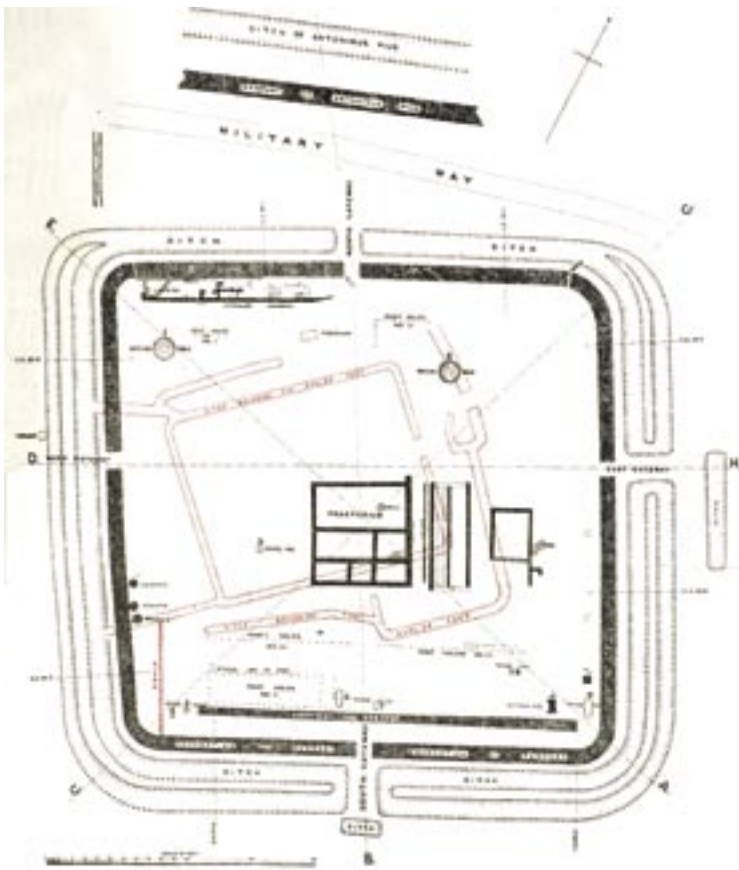
The labour camp at Tamfourhill from the air.

Other temporary enclosures

Excavation has revealed a small enclosure beneath each of the forts at Croy Hill and Bar Hill; both appear to have been of a temporary nature. They are smaller than normal temporary camps, containing a mere 0.4 ha and 0.2 ha respectively, each with an annexe to the side. A road was noted within the enclosure on Croy Hill and foundations for a building at Bar Hill. An even smaller enclosure lay beside the fort at Mumrills. The ditch of the enclosure on Bar Hill can still be traced around the headquarters building.

Civil settlements

Although earlier visitors to the Antonine Wall record the presence of buildings outside forts, modern excavation has failed to reveal much evidence of civil settlements. At Mumrills possible timber buildings, pits, a kiln and a hearth and a gully have been recorded. At Bearsden a single length of clay and cobble foundation with a pivot hole was recorded west of the fort. At Westerwood gullies were recorded west of the fort and south of the Military Way while on Croy Hill ditches were recorded to the south-west and to the east of the fort. Pottery and artefacts were also recovered, but no buildings, though a pottery kiln was located. Field systems of possible Roman date have also been recorded through aerial photography outside the fort at Carriden, while at Rough Castle a field system is still visible as a series of low banks to the south-east of the annexe.



Plan of the 1902-5 excavations of the fort at Bar Hill.

Non-Roman structures

Next to the fort at Bar Hill stands a rocky knoll surmounted by a pre-Roman hill fort. The ramparts and ditches of this fort survive as a series of shelves on the northern slopes of the hill. It is probable that this fort was long abandoned by the time the Roman army arrived. Its location and intractable nature forced the Roman army to swing the Wall round the northern flank of the hill.

Five medieval castles are known to have lain on the Antonine Wall, at Inveravon, Watling Lodge, Seabegs, Kirkintilloch and Cadder. The mottes at Seabegs and Kirkintilloch are still visible, and part of the tower at Inveravon. Immediately behind the rampart in Callendar Park, an early medieval timber hall was located through excavation in 1989-90. At Rough Castle, the low remains of three groups of late medieval or early modern houses are visible. Other medieval structures, in particular ecclesiastical in nature, survive in some of the towns along the line of the Wall.

History and Development of the Antonine Wall

The Antonine Wall was only occupied for a generation, from initial construction work which probably started in 142 until the 160s: the decision to abandon the Wall may have been taken as early as 158. Within that short time-span, there was much activity on the Antonine Wall.

The original plan was for a rampart of turf or clay, sitting behind a broad and deep ditch, with the material from the ditch tipped out onto the north side to form an outer mound or glacis. The construction of the Wall was assigned to soldiers of the three legions of Britain, who commemorated their work by the erection of distance slabs. Analysis of the measurements on these stones suggests that the central sector from Seabegs to Castlehill was constructed first, probably with the eastern sector next, and the western 6.4 km last. The distribution of labour camps indicates that the legions building the two eastern sectors divided their soldiers into



four gangs, two gangs working inwards from each end of their stretch.

Kirkintilloch motte

Forts were placed about 13 km apart, connected by a road, with fortlets at about 1.8 km intervals between. The expansions/ beacon platforms and the small enclosures also date to this phase. The work of erecting the primary forts started at about the same time as the construction of the rampart. An inscription demonstrates that Balmuilty was erected while the governor Lollius Urbicus was still in Britain, probably in 142.

Not all the rampart was constructed before it was decided to add more forts to the Wall. The spacing between the forts was reduced to about 3.5 km. It was probably at this time that the internal arrangements in some, possibly all, fortlets were changed, with the internal buildings being demolished and the area covered by cobbles or gravel. Subsequently, and also before the whole of the rampart had been built, it was decided to provide annexes at some, possibly all, forts. There is some evidence that this stage of the building programme was not completed until after about 150.

A lost building inscription of 158 refers to the rebuilding of Hadrian's Wall and is a likely date for the decision to re-commission that frontier and abandon

the Antonine Wall. However, a worn coin of the Empress Lucilla and dating to 164–9 found in a granary of the fort at Old Kilpatrick indicates that the process of withdrawal may have been protracted, probably because of the considerable building work required on Hadrian's Wall.

There are later coins from the Antonine Wall and an altar recording the erection of a shrine which ought to date to 180–90, so it is possible that some sort of military presence was retained at certain sites even after the abandonment of the Antonine Wall as a frontier.

The Function of the Antonine Wall

Two functions were associated with the Antonine Wall: frontier control and military defence. The linear barrier served to enforce the first purpose. Here the regulations governing entry to the empire were enforced: that travellers could only enter at designated points, unarmed and travel under military escort to specified markets or meeting places. The purpose of the soldiers in the forts on, in front of and behind the Wall, was military defence.

The line of the Wall, however demonstrates that it was not primarily about military defence. At Kinneil the Wall lay some distance behind the forward edge of the slope. On Croy Hill a nose of land was left to the north, with a sharp northern slope which could give shelter to would-be attackers. At the west end of the Wall, the land rose up to the Kilpatrick Hills from immediately in front of the Wall.

If the Wall was not primarily defensive, the position at the forts was, however, different. These were heavily defended, with more ditches than usual and extra defences in the form of the *lilia* at Rough Castle. It is as if the fort commanders knew that the Wall itself was not defensive and therefore took measures to protect their own men and forts.

The Later History of the Antonine Wall

The first certain reference to the Antonine Wall after the end of Roman Britain was by the Venerable Bede. Writing at the

twin monastery of Jarrow/Wearmouth in about 730, he stated that in the fifth century a Roman army returned to Britain to deal with an invasion of the Picts and Scots and advised the Britons to build a Wall for protection. 'The islanders built this wall as they had been instructed, but having no engineers capable of so great an undertaking, they built it of turf and not stone, so that it was of small value. However, they built it for many miles between the two estuaries, hoping that where the sea provided no protection, they might use the rampart to preserve their borders from hostile attack. Clear traces of this wide and lofty earthwork can be seen to this day. It begins about two miles west of the monastery of Aebbercurnig [Abercorn] at a place which the Picts call Peanfahel and the English Penneltun, and runs westward to the vicinity of the city of Alcluith [Dumbarton].'

It is doubtful if Bede ever saw the Antonine Wall – the furthest north he is known to have travelled is Lindisfarne – but his testimony that it survived to his day is valuable. Indeed, the Wall survived for another 800 years and was visible to Timothy Pont who included it on his map of Scotland in the sixteenth century. In 1755 William Roy could still map it from end to end, observe the Military Way and prepare plans of ten forts. It was not just villages which had obscured or damaged the Wall, but agriculture too. Roy had such a good eye for the ground that his surmise at the location of the Wall even when nothing was visible was usually correct. The eastern end of the Wall had already been lost to knowledge, but Roy assumed that it ended at Carriden.

To date, damage had been piecemeal. The forts certainly provided a useful source of building stone, but elsewhere the Wall was utilised in different ways. An underground passage (souterrain) using Roman stones was built within the ditch at Shirva: it may have been used for storage by the occupants of an adjacent farm. In the Middle Ages those concerned with defence erected castle mounds on the Wall, at Watling Lodge, Seabegs, Kirkintilloch and



Cadder: those at Kirkintilloch and Seabegs still survive.

The Agricultural Revolution and the Industrial Revolution both affected the Antonine Wall. The late eighteenth century witnessed serious damage to the Roman earthworks in the face of improved methods of ploughing, and this continued well into the twentieth century. In the later nineteenth century, central Scotland became the scene of considerable industrial activity. Coal mining intensified. Many of the pits were small and have now disappeared, but pit heaps remain, many lying close to the line of the Wall and in its buffer zone. One of the two forts at Camelon immediately north of the Wall succumbed to a series of iron furnaces; other furnaces were built at Bonnybridge. One reason for this activity was that the area was found to be rich in the kind of clay required to make the bricks for the furnaces. Mining extended under and around the Wall and resulted in subsidence which can still be seen at Rough Castle. Brickworks were required: one was built on the Wall to the west of Castlecary in 1886. Water was important in several

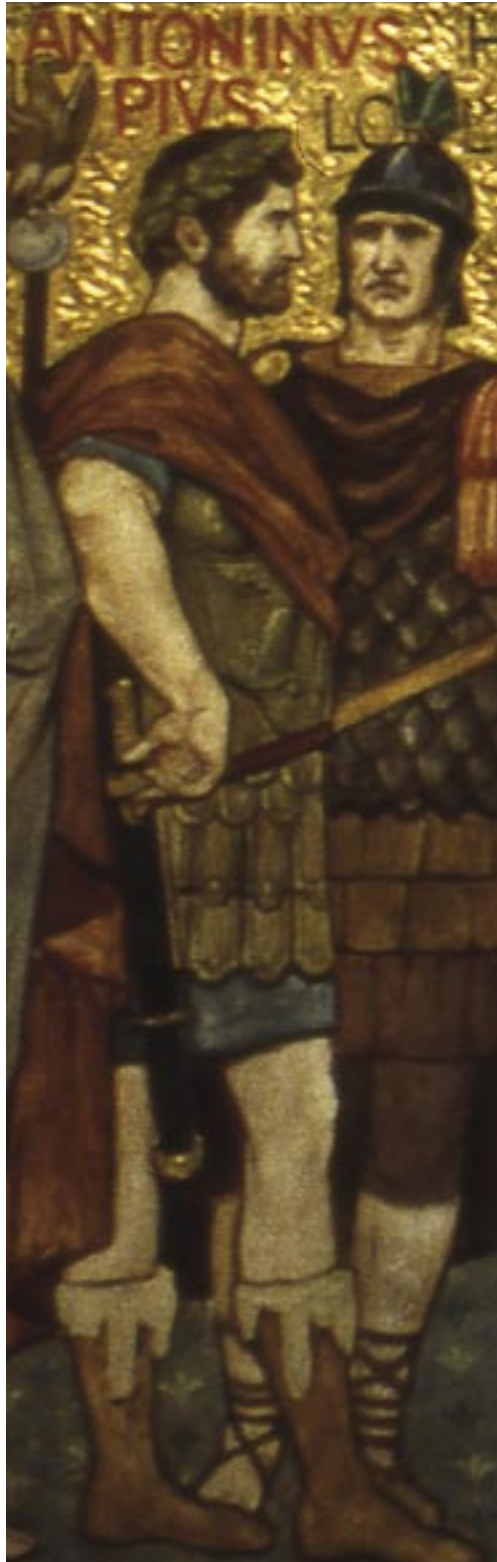
industrial processes. In 1743 Arthur's O'on was demolished to provide stone for the mill dam of the Carron ironworks, while a small reservoir (now removed) was created within the ditch between Westerwood and Dullatur.

Industrial workers required housing and the small towns and villages along the Wall recorded by Roy expanded accordingly. By 1910, Bo'ness had still not extended onto the ridge to the south along which the Wall ran. Laurieston remained a village while the growth of Falkirk was restricted to the east by the policies of Callendar House and to the west by those of Bantaskine House, both estates containing the visible remains of the ditch. Bonnybridge lay wholly north of the Wall, but Twechar sat astride the frontier and the long history of Kirkintilloch had led to much damage. Bearsden, clustering round the railway station, was already threatening the Wall, and Duntocher likewise, while Old Kilpatrick had rendered the western end of the Wall invisible even to Roy.

Building has continued apace. Housing of the 1960s occupies most of the area between the forts of Bearsden

William Roy's map of the Antonine Wall, 1755. This section illustrates the central sector to each side of Castlecary.

and Castlehill, except where the Wall or its line has been preserved. High-rise towers were erected in Callendar Park. The spread of Cumbernauld has brought it to the southern edge of the Wall's amenity zone. Further, today's workers require places for leisure. Three golf courses and a ski slope lie on or beside the Wall. Death, too, affects the Wall, with cemeteries at various locations along its line.



A section of the frieze in the Scottish National Portrait Gallery showing the Emperor Antoninus Pius and his general Lollius Urbicus

Buildings require stone, roads need an even harder stone. Thus, geology is another potent force amongst the agents of destruction. Until the twentieth century, quarries were relatively small. A quarry lay towards the west end of Bo'ness, two small sand pits are recorded on the Wall at Adamslee to the west of Kirkintilloch. In the 1930s the fort at Cadder was lost to gravel quarrying and in the 1960s part of the Wall at Wilderness Plantation.

The Antonine Wall was constructed along a line of strategic importance for communications within Central Scotland. As Scotland expanded, better communication was required: the line of the Wall was often chosen. From 1768 to 1790, the Forth–Clyde Canal was cut across the isthmus. Its excavation immediately south of the fort at Auchendavy led to the discovery of several Roman altars. The canal was followed by the railway in the nineteenth century and motorways and other major roads in the twentieth century.

Although the line of the Antonine Wall was known at this time, and its importance understood, there was also an appreciation that it was difficult – and perhaps wrong – to stop the march of progress. Excavation of the remains were normally seen as a substitute for preservation. Yet, at times there were protests, not least when Arthur's O'on was demolished in 1743; Sir John Clerk of Penicuik erected a replica over the entrance to his stables at Penicuik House.

Public knowledge of and interest in the Romans grew too. The frieze in the Scottish National Portrait Gallery, created in the 1880s, included a depiction of several Romans, including the Emperor Antoninus Pius. A stained glass window of a Roman soldier adorned Kirkintilloch Town Hall throughout most of the twentieth century, while the town's coat-of-arms depicts the gate of the Roman fort. Bars along the line of the Wall commemorated its former existence, and street names perpetuated its memory. Grahamsdyke Road was supplemented by Roman Road and Antonine Court.

Sometime in the Middle Ages, the Antonine Wall acquired a new name. John of Fordun, writing in the fourteenth century stated that it was called 'Grymysdyke' because it had been destroyed by Gryme, grandfather of King Eugenius, himself a mythical figure. George Buchanan, traducer of Mary Queen of Scots and tutor to the young James VI, offered another story. Graeme was a leader of the Picts and Scots who broke down the Wall from the south so that his countrymen could invade the Roman province. The name survives today in Grahamsdyke Road and Grahamsdyke Lane in Bo'ness and Grahamsdyke Street in Laurieston. Its origin is probably more prosaic than either of our stories. It has been suggested that it derives from the Gaelic word *grym* meaning strong.

If the name Grim's Dyke has survived down to the present century, the Antonine Wall has had many different names in the meantime. To George Buchanan writing in the sixteenth century it was the *vallum Severi*, the Wall of Severus. The discovery of an inscription of Lollius Urbicus at Balmuildy in 1699 confirmed that the earthworks across the Forth–Clyde isthmus were the remains of the Wall known to have been built by the Emperor Antoninus Pius in Britain. John Horsley correctly ascribed its construction to the Emperor Antoninus Pius in his *Britannia Romana* published in 1732, but called it the Roman Wall in Scotland. William Roy in his *The Military Antiquities of the Roman in Britain*, published in 1793, offered as many as three names. On the title page appears 'The Wall of Antoninus Pius commonly called Grime's Dyke', both names being used inside. However, the heading of Chapter 4 is 'The Roman Wall in Scotland called Grime's Dyke'. Sometimes the two frontiers, the Antonine Wall and Hadrian's Wall, were differentiated as 'the barrier of the upper isthmus' and 'the barrier of the lower isthmus'. The Caledonian Wall was also occasionally used to distinguish the Antonine Wall from Hadrian's Wall, misleadingly termed the Picts Wall from the sixteenth through to the nineteenth



century. Robert Stuart in his *Caledonia Romana*, published in 1852, called it the Wall of Antoninus Pius. This was amended to the Wall of Antonine in the Antonine Wall report published in 1899, but the name on the book's cover was *The Antonine Wall*. The Society of Antiquaries of Scotland preferred the name the Antonine *vallum* in the reports on its excavations at Castlecary and Rough Castle and Sir George Macdonald entitled his magisterial survey, first published in 1911, *The Roman Wall in Scotland*, although he generally called it the Antonine Wall in the papers recording his work along its line in the *Proceedings of the Society of Antiquaries of Scotland*. It is by that name we now know the frontier constructed by the Romans over 1800 years ago.

This stained glass window of a Roman soldier standing beside the Antonine Wall adorned the former Town Hall of Kirkintilloch throughout most of the nineteenth century.

2.4 Location and boundaries of the proposed World Heritage Site

Geographical co-ordinates to the nearest second

The west end of the Antonine Wall lies at a latitude of 55° 55' 32" north and a longitude of 4° 28' 4" west (National Grid Reference NS 458 730).

The east end of the Antonine Wall lies at latitude of 56° 00' 35" north and a longitude of 3° 33' 8" west (National Grid Reference NT 032 807).

Textual description of the boundaries of the nominated Property

The proposed World Heritage Site consists of the entire length of the Antonine Wall, 60 km/40 Roman miles/37 statute miles long, from Bridgeness at Bo'ness on the Firth of Forth to Old Kilpatrick on the River Clyde. It includes the main linear elements: the rampart, ditch and outer mound, and also the Military Way where it is known. The proposed Site also includes the remains of the 16 surviving forts together with their accompanying annexes and civil settlements and other external features where known, 9 fortlets, 6 expansions, 2 smaller enclosures, and part or all of the 16 surviving labour camps in the vicinity of the Wall. The proposed World Heritage Site does not include those parts of the Antonine Wall which are known to have been destroyed. These sections include small lengths quarried away and narrow sectors removed

in the cuttings for canals, railways and roads. These total only 2 km of the whole length of the Antonine Wall. These stretches are included in the buffer zone.

The World Heritage Site has been defined in the following way. Along the line of the Wall the southern boundary of the World Heritage Site has been placed 5 m to the south of the rampart and then projected 50 m to the north of this line creating a corridor 50 m wide. This corridor includes the three main linear features together with other elements that are likely to lie immediately beyond the known archaeology. The corridor is widened where necessary to include forts, fortlets, the Military Way and other elements of the frontier which are attached to the linear barrier. Camps, usually placed at some distance from the Wall, are defined separately as parts of the proposed Site. The corridor is also widened to incorporate within the proposed World Heritage Site areas protected through scheduling under the *Ancient Monuments and Archaeological Areas Act 1979*: in such circumstances the proposed Site extends to the whole size of the scheduled area except where that area relates to a monument of a different period. The proposed World Heritage Site does not include the modern buildings which lie within its boundaries, but only the underlying Roman archaeology. Volume II of the Nomination Document provides a series of maps of the proposed World Heritage Site at different scales.

The proposed World Heritage Site is protected through two primary UK

Map of the Antonine Wall showing the known forts and fortlets.



items of legislation: the *Ancient Monuments and Archaeological Areas Act 1979* and the *Town and Country Planning (Scotland) Act 1997*. The former Act in the main protects those parts of the Antonine Wall sitting in countryside or within open ground in urban settings. All sections of the Antonine Wall scheduled under the 1979 Act, including its associated camps, form part of the proposed World Heritage Site. Within urban contexts, the five local authorities along the line of the Antonine Wall all have policies which protect the Antonine Wall under the provisions of the *Town and Country Planning (Scotland) Act 1997*.

Through the use of these two pieces of primary legislation the surviving 58 km of the original total length of 60 km of the Antonine Wall are provided with robust legal protection for their inclusion in the proposed World Heritage Site. The 2 km of the Wall which have been destroyed, mainly through quarrying, canals, roads and railways, are included in the buffer zone. In this way, the linear integrity of the monument will be maintained. This approach is in keeping with the definition of the German section of the Frontiers of the Roman Empire World Heritage Site. The Hadrian's Wall part of the Frontiers of the Roman Empire World Heritage Site, however, consists only of the scheduled sections of the monument. As a result, much of the Wall in urban areas is excluded from the Site. This reflects the conditions pertaining in the early 1990s when its boundary was defined. Since then protection of archaeological remains through the spatial planning system has become an integral part of the UK approach to conservation. The current Hadrian's Wall World Heritage Site Management Plan states that it is the intention to seek to extend the boundaries of the Site to include surviving but unscheduled stretches in the urban areas on the same basis as is proposed for the Antonine Wall part of the World Heritage Site.

The proposed World Heritage Site is defined in relation to existing information. As knowledge about the Antonine Wall grows, the areas of protection will change

and, as past experience demonstrates, may be expanded. This, in turn, may lead to small-scale amendments to the boundaries of the proposed World Heritage Site.

The boundaries of the buffer zones

The buffer zone along the Antonine Wall has been defined in relation to local circumstances, including the landscape and modern features such as towns and villages, roads and railways. The aim, as with all buffer zones, is to protect the setting of the monument and, in this case, continue to allow understanding of why the Antonine Wall was erected in a particular location. The protection of amenity zones to each side of the Wall has been an important element of central government's protection for the monument for the last 50 years. These amenity zones, already incorporated into the development control strategies of the five local authorities along the line of the Antonine Wall, form the basis of the buffer zones now proposed.

The size and location of the buffer zones have been considered as part of the exercise of preparing this nomination document. These horizontal buffer zones have been defined only in relation to the archaeological remains in the countryside: within urban areas vertical buffer zones have been defined (see below). Those sections of the Wall which have been destroyed are included in the buffer zone even where they occur in urban areas in order to maintain the linearity of the monument. The buffer zones surrounding the Antonine Wall are protected through UK legislation. All separate parts of the proposed World Heritage Site buffer zone are already zoned under the *Town and Country Planning (Scotland) Act 1997* as countryside or green belt by the five local authorities along the line of the Antonine Wall. Within the terms of the World Heritage Committee 2005 decision concerning the nature of the Frontiers of the Roman Empire (Germany) World Heritage Site, medieval and modern buildings within the proposed World Heritage Site serve as an overlying or vertical buffer zone.

2.5 Proposed Statement of Outstanding Universal Significance of the proposed World Heritage Site

The Antonine Wall is a physical and visual testimony to the former extent of one of the world's greatest states, the Roman empire. It formed part of a frontier system which surrounded and protected that empire.

The Antonine Wall has a particular value in being the most highly developed frontier of the Roman empire: it stands at the end of a long period of development over the previous hundred years and therefore facilitates a better understanding of the development of Roman frontiers in Britain and beyond. It is one of only three artificial barriers along the 5000 km European, North African and Middle Eastern frontiers of the Roman empire. These systems are unique to Britain and Germany, though more fragmentary linear barriers are known in Algeria and Romania. Built following an invasion of what is now Scotland during 139-142 and occupied for possibly only 20 years, it served as the most northerly frontier

of the Roman empire at the high point of its power and influence in the ancient world. It has many unique features which demonstrate the versatility of the Roman army, while its short life is of considerable value in offering a snap-shot of a Roman frontier in its most advanced state.

The Antonine Wall has a distinctive value as a unique physical testimony to the nature of the constitution of the Roman empire and the requirement of the emperor for military prestige. The abandonment of Hadrian's Wall and the construction of a new northern frontier at the behest of a new emperor reflects the realities of power politics in Rome during Edward Gibbon's "Golden Age". It also stands as a physical manifestation of the statements of writers flourishing during the reign of Antoninus Pius about the measures which Rome took to protect its inhabitants, even those living in its most distant province.

The Antonine Wall is of significant value in terms of its rarity, scale, preservation, and historical and archaeological value; the engineering and planning skills of its builders; the understanding of Roman frontier policy and management, and its influence on

The temple erected in the forum in Rome to the Emperor Antoninus Pius and his wife Faustina.



the landscape and history of local peoples during the Roman period and beyond; and also in terms of its contribution to the economic, educational and social values of today's society.

2.5.1 Archaeological and Historical Values

Historical values

The Antonine Wall displays the power and influence of the Roman empire when it was at the height of its civilisation as recognised by its own citizens. The monument is the most important and distinctive feature of the Roman presence in Scotland and is significant as the last to be constructed, most advanced and northernmost of the linear frontier systems of the empire. It represents a key period in the history of Scotland and elsewhere when the peripheries of northern Europe were directly linked into a Mediterranean based world-power. The response of local Iron Age peoples to this process ultimately led to formation of the large kingdom of the Picts which is the acknowledged forerunner of the modern state of Scotland.

Archaeological values

This monument is unique in the archaeological resource of Scotland. Academic investigation of this monument

over the last 100 years and more has demonstrated the vast logistical, engineering and surveying feat involved in the construction of the frontier system. Moreover, excavations of the forts, annexes and other military installations have provided a wealth of information on the design, function and organisation of the Roman army at the height of its power. In addition, the evidence from the investigation of bath-houses, finds such as dedicatory altars, combined with other artefacts, provide data on the cultural lifestyles of the Roman officers and soldiers.

Therefore, the monument has excellent potential to provide high quality archaeological evidence for the structure, function, management and development of Roman frontier systems. The value of this archaeological resource is enhanced by its good preservation and known historical period of use.

The Antonine Wall has a major significance as an eco-monument. The environmental history contained its structures forms a dated horizon across Scotland against which events before and after can be measured. This is clearly demonstrated by the environmental survey of the Antonine Wall corridor commissioned in relation to this Management Plan (see Tipping and Tinsdale 2005 cited in the bibliography).



The base of the Column of Antoninus Pius erected in the Campus Martius in Rome: it shows Antoninus and Faustina ascending into heaven.

The particular role of the Antonine Wall as a dated horizon helps us understand the development of the Scottish landscape, and also the monuments within it.

2.5.2 Natural Values

The Antonine Wall sits within an open landscape with spectacular views to the north throughout much of its length. Its central sector uses the Midland Valley of Scotland, a rift valley between two parallel fault lines, now occupied by tributaries of the River Forth to the east and the River Clyde to the west. The Wall follows the south slope of this valley, overlooking the Rivers Carron and Kelvin. The view to the north is enclosed by the range of hills which are known generically as the Campsie Fells. They comprise a line of rugged moorland, completely uninhabited, and unbroken by hedges and walls stretching as far west as the Blane Gap. They are rendered more imposing by their steep southern escarpment. Within the strong landscape formed by this valley and framed by the Campsie Fells, modern buildings, whether towns, villages, or farms, all blend into the background.

Through its eastern 7 km the Wall runs along the northern edge of the Bo'ness Coastal Hills overlooking the Bo'ness Flats, now partly occupied by the petro-chemical works at Grangemouth. The views here are so extensive at this point that the modern industry is over-shadowed by the wide vistas and further mountains.

At Balmuildy, the River Kelvin crosses the Wall and moves into a different landscape, of particular geomorphological interest. This is a landscape dominated by drumlins, formed by glacial deposition during the last ice age. In the absence of stronger topographical features, the Wall utilises the drumlins, jumping from one high point to another.

The western 4 km of the Wall are dominated by another range of hills, the Kilpatrick Hills. Here the steep south-facing slopes of these hills to the north of the Wall create a unique landscape setting for the frontier, the lie of the land being against the Romans.

2.5.3 Contemporary Values

Economic

The central belt of Scotland is one of the most industrialised parts of the UK. This area is now undergoing a process of regeneration. The Antonine Wall adds to the tourist value, to the cultural diversity of the area and enhances and deepens understanding the heritage of the area. In particular, it can be an excellent foil to the modern attractions such as the Falkirk Wheel.

The existence of the Antonine Wall has helped secure the openness of the landscape in its vicinity and this wider area in the vicinity of the Wall is now used for a variety of purposes including forestry and golf courses in addition to the traditional pursuits of agriculture.

Recreational and educational value

The educational value of the Antonine Wall is high. Among its value as an educational tool are:

- the monument itself
- its place within the historical, cultural and landscape change of central Scotland
- its international status which is a spring-board for the teaching and discussion of heritage values
- the history and role of world empires
- culture change
- heritage and general environmental conservation

These values are enhanced by its accessible location, all parts of the monument being within one hour's reach of the two largest conurbations within Scotland which together contain about 80% of the population of Scotland.

The proposed World Heritage Site has a high recreational value:

- as area of green space and trees close to urban areas

- 🌀 a leisure area for walkers with linkages to access routes, waterways such as the Forth and Clyde Canal and parks in towns
- 🌀 it provides areas to act as green gyms
- 🌀 it furnishes the open land for golf courses

These activities are enhanced by a good combination of pleasant woodland settings usually with striking views to the north.

Social and political values

Local communities place great value on the location of sections of an internationally important Roman monument within their own town or its vicinity and take great pride in the existence of the Antonine Wall. It is recognised as adding value to the wider cultural and historical interest of the area. Communities also value the added benefits that designation such as its protection through national legislation and World Heritage Site status can bring. Its integration into developed areas creates a close daily relationship with communities, with several clearly visible stretches in urban areas. The Wall is therefore very much a living monument.

Its place in history is recognised through its appearance on the coat-of-arms of Kirkintilloch, its preservation in street names such as Grahamsdyke Road and Grahamsdyke Lane in Bo'ness, Grahamsdyke Street in Laurieston, Roman Road in Bearsden and in more modern developments such as Antonine Court and Antonine Road in Bearsden and in the names of hotels and pubs such as the Roman Bar in Falkirk.

The Antonine Wall is also an evocative reminder of Scotland's long relationship to Europe as well as to its split inheritance lying, as it does, astride the frontier, one part of the country never conquered by Rome.

The Antonine Wall thus forms a powerful education tool, not just for local communities but also for all Scots.

2.5.4 World Heritage Values

World Heritage Sites are inscribed under the 1972 Convention concerning the Protection of the World Cultural and Natural Heritage because they are recognised to be of 'outstanding universal value'. The Antonine Wall is proposed as a World Heritage Site under three different criteria:

(ii) exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town planning or landscape design

The Summary Nomination Statement for the Frontiers of the Roman Empire World Heritage Site states: "taken as a whole, the frontiers of the Roman Empire show the development of Roman military architecture from temporary camps through winter quarters for whole armies to the establishment of permanent forts and fortresses. These show through time a development from simple defences to much more complex arrangements."

The Antonine Wall is the most complex and developed of all Roman frontiers: it marks the apogee of Roman frontier construction, and, as the most developed Roman frontier, is a unique example of this type of ensemble. It is therefore an exceptional testimony to the monumental arts of one of the world's greatest states.

The short span of occupation allows significant conclusions to be reached about the nature of Roman frontiers. This is of especial importance as the Antonine Wall can be compared to Hadrian's Wall as well as to the German *Limes*. The Antonine Wall appears to have been planned as a replica of Hadrian's Wall, with some minor changes. At least two significant amendments to the Antonine Wall during its construction resulted in a very different frontier, with a density of structures – and soldiers – not paralleled on any other Roman frontier. The Antonine Wall marks a particular limit in the development of Roman frontiers and was not repeated on any later frontier:

certainly not on Hadrian's Wall re-occupied on the abandonment of the Antonine Wall. The short life of the Antonine Wall allows this particular stage in frontier development, by one of the world's greatest armies, to be studied more cogently than on longer-occupied frontiers where all the evidence cannot be so sifted out from the hundred or more years of continuous occupation.

(iii) bear a unique or at least exceptional testimony to a cultural tradition or to a civilisation which is living or which has disappeared

The Summary Nomination Statement for the Frontiers of the Roman Empire World Heritage Site states: "the Roman frontier is the largest monument of the Roman Empire, one of the greatest of the world's pre-industrial empires. The physical remains of the frontier line, of the forts and fortresses along it, as well as of the cities, towns and settlements associated with it, and dependent upon it, demonstrate the complexities of Roman culture and the spread of Roman culture across Europe and the Mediterranean world. Unlike the great monuments from the urban centres around the Mediterranean already inscribed as World Heritage Sites, the frontiers show a more mundane aspect of Roman culture, both military and civilian. As such they are evidence of the spread of Roman culture and its adoption by the Empire's subject peoples. Inscriptions and other evidence demonstrate the extent to which the frontier led to an interchange of peoples across the Empire. To a large extent, this was the result of the movement of military units (e.g. British units in Romania, or Iraqi boatmen in northern Britain) but there is also strong evidence of civilian movement (e.g. merchants from the Middle East who settled in Britain, Germany and Hungary). The frontiers also acted as the base for the movement of Roman goods (and presumably ideas) to pass well beyond the Empire."

As the most northerly frontier of the Roman empire, the Antonine Wall reflects the wish of Rome to rule the world, as Virgil and other Augustan poets stated. Yet, at the same time, it has mundane features in that many of the elements which made up the frontier can be found elsewhere. Inscriptions and sculpture from the Antonine Wall both emphasise its links to the rest of the empire and, at the same time, underline its unique qualities. These include the distance slabs found along this frontier.

Scotland lay on the edge of the Roman empire and most of the Roman remains within the country, and certainly all visible remains, are military in origin. They include camps, fortresses, forts, fortlets, towers, and the largest of all, the Antonine Wall. This frontier is the physical manifestation of this phenomenon, the edge of empire.

The erection of the Antonine Wall is also a physical manifestation of a change in Roman imperial foreign policy following the death of the emperor Hadrian in 138. Almost immediately, his successor determined on a new frontier policy, abandoning Hadrian's Wall, moving northwards into Scotland and building a new Wall, this time of turf (Historia Augusta, *Life of Antoninus Pius*). The distance slabs found on the Antonine Wall underline the significance of this event. They all bear the name of the emperor who ordered the advance of the frontier in Britain and display the events of the campaign: the sacrifice to Roman gods, fighting, the defeat and submission of the enemy, the Roman victory blessed by the gods. These items of sculpture are unique to the Antonine Wall and are not replicated on any other Roman frontier.

(iv) be an outstanding example of a type of building or architectural or technological ensemble or landscape which illustrates a significant stage in human history

The Summary Nomination Statement for the Frontiers of the Roman Empire World Heritage Site states: "the physical remains of the frontiers of the Roman Empire demonstrate the power and might

and civilization of the Romans. As such they are evidence of the development of the Roman Empire and its spread across much of Europe and parts of Asia and Africa. They therefore illustrate the spread of classical culture and of Romanisation which shaped much of the subsequent development of Europe.”

The Antonine Wall was constructed at the time when writers were extolling the virtues of Roman frontiers. During the reign of Antoninus, Appian started to write his History of Rome. He wrote, “... in general, possessing by good government the most important parts of land and sea, they prefer to preserve their empire rather than extend it indefinitely to poor and profitless barbarian peoples. I have seen embassies from some of these in Rome offering themselves as subjects, and the emperor refusing them, on the grounds that they would be of no use to him. For other peoples, limitless in number, the emperors appoint the kings, not requiring them for the empire.... They surround the empire with a circle of great camps and guard so great an area of land and sea like an estate.” The Antonine Wall was the physical manifestation of that statement.

The Antonine Wall also bears an exceptional testimony to the military traditions of Rome which helped the empire survive so long. It demonstrates the flexibility of the Roman military mind in the complicated history of its construction, indicating how the army responded to problems as they developed. It is an exceptional example of the methods developed by the Roman to protect their empire and of the methods of frontier control deployed by the Roman empire to enforce the regulations which it imposed on those who wished to enter their empire.

In itself, the Antonine Wall forms a historical landscape and bears witness to the imposition of a Roman protective system upon the landscape of the Midland Valley of Scotland. In that way, it also represents the triumph of human endeavour over the landscape. Many parts of the Wall are visible today as testimony to this triumph.



The Antonine Wall was built by legionaries such as this soldier: Drawn by Peter Connolly.

THE ANTONINE WALL

The North-West Frontier of the Roman Empire



Ms Patricia Ferguson, MSP, Minister for Tourism, Culture and Sport, signs a joint concordat for the better protection of the Antonine Wall together with colleagues from the five local authorities along the line of the Antonine Wall, East Dunbartonshire, Falkirk, Glasgow City, North Lanarkshire and West Dunbartonshire.

III BODIES INVOLVED IN THE ANTONINE WALL

Central and local government

Central and local government – in this case East Dunbartonshire, Falkirk, Glasgow City, North Lanarkshire and West Dunbartonshire Councils – work together to protect the historic environment. They utilise UK and Scottish legislation together with Guidelines issued by central government and Supplementary Planning Guidelines prepared by local government to protect all ancient monuments, including the Antonine Wall. Below, the main distinction made is between the proposed World Heritage Site and its buffer zones rather than the agency of protection as these elements are so inter-twinned.

3.1 The proposed World Heritage Site

National Planning Policy Guideline 18, Planning and the Historic Environment (The Scottish Office Development Department 1999)

acknowledges the significance of World Heritage Sites: “The World Heritage Convention, adopted by UNESCO in 1972 and ratified by the United Kingdom, provides for the identification, conservation and preservation of cultural and natural sites of outstanding universal value for inclusion in a world heritage list. Historic Scotland provides the Secretary of State with advice, on which cultural sites should be included from Scotland on the UK’s tentative list, which is the first step in the nomination procedure. ... Responsibility for the nomination and subsequent protection and management of sites lies with national governments. No additional statutory

controls result from designation but a combination of a clear policy framework and comprehensive management plan should be established to assist in maintaining and enhancing the quality of these areas. The impact of proposed development upon a World Heritage Site will be a key material consideration in determining planning applications.”

All the archaeological remains, the line and the setting of the Antonine Wall forming the proposed World Heritage Site and its buffer zone are protected by UK national statutes, supplemented by National Planning Policy Guidelines, which together form a coherent framework for the protection of the whole of the proposed World Heritage Site and its buffer zone. These laws and guidelines are operated by both central and local government bodies who co-operate through formal mechanisms to ensure that all laws and regulations are correctly administered. In general, those parts of the Wall and its associated features which lie in the countryside are protected by the statutes administered by central government while those sections in urban environments together with the buffer zones are protected by the five local authorities along the line of the Antonine Wall.

The principal national statutes providing protective measure are:

- **Ancient Monuments and Archaeological Areas Act 1979**

This Act provides the statutory framework under which a Schedule (i.e. a list) of ancient monuments deemed to be of national importance is created and

maintained, as well as forming the basis for protecting these monuments and controlling works to them through the formal system of Scheduled Monument Consent. The Act is administered in Scotland by Historic Scotland acting on behalf of Scottish Ministers.

- **Town and Country Planning (Scotland) Act 1997**

This Act provides the legislative framework for development control throughout Scotland. Through Structure and Local Plans provision is made for the protection of ancient monuments and archaeological sites, including the Antonine Wall.

The whole of the Antonine Wall where unencumbered by modern development or not destroyed is protected under the **Ancient Monuments and Archaeological Areas Act 1979**. About two-thirds of the original length of the Wall is protected in this way.

Historic Scotland and its predecessors have sought to ensure the survival of the Antonine Wall through scheduling the monument under the provisions of the Ancient Monuments Acts over the past 80 years. The first sections of the Antonine Wall were scheduled in the 1920s. Following the preparation of an internal report in 1957, a scheduling programme was undertaken to embrace all these parts of the frontier which were considered worthy of protection. The Antonine Wall was re-scheduled in the 1970s and again in the 1990s. These successive programmes of work have been undertaken to ensure that the Antonine Wall is as fully protected as possible through the use of the *Ancient Monuments and Archaeological Areas Act 1979*. These actions have also been undertaken to reflect changing views on the nature of the protective measures. Before 1957, 12 km of the Wall were either scheduled or in state care. Following 1957, this was increased to 30 km. The total length protected now stands at 40 km. The scheduling of the Antonine Wall continues to be revised as new information comes to light.

The Ancient Monuments and Archaeological Areas Act 1979 also provides for the control of works affecting scheduled monuments. Historic Scotland would normally refuse scheduled monument consent for any actions which were inimical to the Antonine Wall. It supports any actions which lead to the enhancement and improved presentation and interpretation of the Antonine Wall.

Over the last 50 years Historic Scotland and its predecessors have opposed proposals which would have had an adverse effect on the Antonine Wall or its buffer zone, up to and including public enquiries, normally with success. As a result a range of precedents for the protection of the monument have been built up and these underpin the policies and procedures which protect the monument. These are also supported through various National Planning Policy Guidelines and Policy Advice Notes. The relevant documents are **Planning Advice Note 42, Archaeology – the Planning Process and Scheduled Monument Procedures (The Scottish Office Development Department 1994)**, and **National Planning Policy Guideline 5, Archaeology and Planning (The Scottish Office Development Department 1994)**.

NPPG 5 states that the Government seeks to encourage the preservation of our heritage of sites and landscapes of archaeological and historic interest *in situ*, so that they may be enjoyed today and passed on in good order to future generations; to accommodate development without eroding environmental assets, and this includes Scotland's archaeological heritage; that it is important that the integrity of the setting of archaeological sites should be safeguarded; that planning authorities should ensure that archaeological factors are as thoroughly considered as any other material factor in both the development planning and the development control processes; that structure plans should include relevant general protection policies for nationally important remains and their settings; for unscheduled sites of regional and local

importance and their settings, and also for landscapes of historic importance.

PAN 42 states that well-publicised, successful prosecutions of those who carry out unauthorised work to scheduled monuments can provide a valuable deterrent to the wilful damage or destruction of monuments and it is Historic Scotland's policy to encourage proceedings where it is considered that a good case can be sustained. Historic Scotland keeps a record of reported incidents, and carries out a preliminary investigation, often with police assistance. If there does appear to be a case for prosecution, Historic Scotland will encourage the police to present a case for prosecution to the Procurator Fiscal. The necessity for such legal actions has not arisen to date in relationship to the Antonine Wall.

The **Town and Country Planning (Scotland) Act 1997** is the primary legislation for spatial planning. It provides for the zoning of the landscape into different activities and provides mechanisms for development control. Within the framework of this Act, the five local authorities along the line of the Antonine Wall – East Dunbartonshire, Falkirk, Glasgow City, North Lanarkshire and West Dunbartonshire – protect nearly 20 km of the proposed World Heritage Site, primarily those sections which lie within urban environments, together with the buffer zones, while also providing additional protection for those sections which are scheduled under the *Ancient Monuments and Archaeological Areas Act 1979*. All five local authorities have policies with a presumption against any development which would have an adverse impact on the proposed World Heritage Site (these are detailed in the nomination document). In addition, all five authorities have agreed uniform planning policies in relation to the Antonine Wall and are in the process of implementing these policies. These policies are:

The Council will seek to retain, protect, preserve and enhance the Antonine Wall, its associated archaeology, character and setting. Accordingly:

Antonine Wall Policy 1

There will be a presumption against development which would have an adverse impact on the *Frontiers of the Roman Empire (Antonine Wall) World Heritage Site* as defined on the Proposals Map.

Antonine Wall Policy 2

There will be a presumption against development within the *Frontiers of the Roman Empire (Antonine Wall) World Heritage Site* buffer zones which would have an adverse impact on the Site and its setting, unless:

- ✎ mitigating action to the satisfaction of the Council in consultation with Historic Scotland can be taken to redress the adverse impact;
- ✎ and there is no conflict with other Local Plan policies.

Antonine Wall Policy 3

The Council, in association with partner Councils and Historic Scotland, will prepare Supplementary Planning Guidance on the criteria which will be applied in determining planning applications for development along the line or within the setting of the Antonine Wall, as defined on the Proposals Map.

Reasoned Justification

These policies have the intention of protecting the archaeological remains, the line and the setting of the Antonine Wall, an ancient monument of international importance and proposed as a World Heritage Site under the UNESCO *Convention Concerning the Protection of the World Cultural and Natural Heritage* (1972).

The Council is committed to working with the other four local authorities along the line of the Antonine Wall and with the Scottish Executive, in particular Historic Scotland, in order to achieve the appropriate level of protection for the Antonine Wall.

In urban contexts, the Wall is offered some further protection where it lies within conservation areas, such as at

Falkirk, and when its line is overlain by listed buildings, which occurs in several of the towns and villages along the Wall.

3.2 The Buffer Zone

The purpose of the buffer zone is to protect the landscape setting of the proposed World Heritage Site (see Volume II of the nomination document for maps of the buffer zone). It is recognised that the definition of a buffer zone around a World Heritage Site is particularly important where there is a significant threat of inappropriate development encroaching upon the Site, and affecting the character of the setting within the wider landscape. A buffer zone may also be used more proactively to define where landscape management schemes might be introduced, to improve the setting of the World Heritage Site and to facilitate appreciation and understanding by the public.

The necessity of protecting the setting of the Antonine Wall has long been acknowledged. Historic Scotland's predecessor, the Ministry of Public Building and Works, first initiated a study of amenity zones for the Antonine Wall nearly 50 years ago. The purpose of these zones is not just to protect the amenity of the Antonine Wall, but to preserve, so far as is possible, this unique linear monument within swathes of undeveloped countryside so that it could be better understood. If the ground were to be developed up to the limits of the protected archaeology, it would become impossible to view the monument as a whole or to gain any understanding of the topographical appreciation made by the Roman surveyors. Indeed, the very purpose of the frontier can only properly be understood by appreciating its location within its wider landscape setting. This has been a central plank of the protection policies for the Antonine Wall since 1957. In the 1960s, the necessity for amenity areas, as they were then called, were discussed with the local authorities along the line of the Antonine Wall and they were published in D. N.

Skinner, *The Countryside of the Antonine Wall* (Perth 1973). These amenity zones were incorporated into the designation of the countryside surrounding the Antonine Wall: the amenity zones coincided with land designated as countryside or green belt. Historic Scotland has successfully used this element of protection for the Antonine Wall to oppose developments which would have had an adverse impact on the setting of the Antonine Wall on several occasions over the last 40 years.

As part of the process of defining the buffer zones which should protect the proposed World Heritage Site, Historic Scotland employed Land Use Consultants to advise on their location and extent. The following section is based upon their report.

There is no single established methodology for the definition of buffer zones for World Heritage Sites, particularly as the setting, circumstances and extent of sites is very variable. The Antonine Wall is a linear site, and in a lowland, largely settled, setting. The buffer zone has been identified as "the physical extent of the landscape that is visually and perceptibly linked to the perception of the World Heritage Site and that can still be practically protected or managed". Definition of the buffer zone has therefore been based on visibility to and from the proposed Site, and analysis of the land use setting, including urbanised areas. This has been carried out using available data relating to the proposed World Heritage Site and its surroundings, Geographical Information System (GIS) inter-visibility analysis with the surrounding landscape, and site survey work. The proposed World Heritage Site, taken as the baseline for the study, has been defined elsewhere in this nomination document as the Antonine Wall and associated Roman forts and camps. The visual relationship of the landscape with the proposed World Heritage Site varies according to the land use, topography and also with distance. For the purposes of identifying a buffer zone, three types of visual relationship between the Wall and surrounding areas have been identified:

- ❧ firstly, the area of almost continuous inter-visibility, identified as being generally up to 2 to 3 km from the monument but of differing extents to the north and south depending upon the local topography;
- ❧ secondly, a zone of discontinuous inter-visibility reflecting the fragmenting of views caused by intervening topography – exemplified by the drumlin landscapes around Bearsden; and
- ❧ thirdly, longer distance views to and from key hill areas which are visible from large sections of the Wall or from which extensive sections of the Wall are, in theory at least, visible, for example the Campsie Fells.

The first category has been used as a basis for defining the buffer zone immediately adjacent to the proposed World Heritage Site; the second category has influenced the boundaries of the buffer zones in specific areas; while the third of these categories has also been considered (see below), as these locations aid the understanding of the context of the frontier as an extensive linear feature across the landscape, and allow for greater interpretation of the line for the Antonine Wall chosen by the Romans. The buffer zones are detailed on the maps which accompany the nomination document.

Once these principles had been applied, a draft buffer zone was drawn up, following permanent and defensible boundaries in the landscape, such as roads, railways and established field boundaries. This is necessary to ensure that the boundaries of the buffer zone are easy to define on the ground and will endure, but also means that some areas with no visibility of the Antonine Wall were included. Where defensible man-made boundaries were not available, other readily recognisable features such as streams and rivers were used.

Understanding of the landscape in which the Antonine Wall sits is aided by two landscape projects; the landscape

characterisation assessment undertaken by Scottish Natural Heritage and the Historic Landuse Assessment undertaken by Historic Scotland and the Royal Commission on the Ancient and Historical Monuments of Scotland. Both are crucially important to understanding the land forms and development of the countryside and therefore inform any future development and management strategies.

A review of Local Plan maps and policies was used to take into account existing proposals for development and boundaries for policies such as greenbelt, nature conservation sites and open space. The boundaries of the buffer area were then refined where appropriate to follow other existing boundaries that would offer additional policy support, and to exclude areas marked for urban expansion. The final boundaries were then confirmed through fieldwork along the length of the Wall.

In addition to the buffer zone, a number of more distant areas were identified as being important for the perception of the wider setting and route of the frontier, and prominent landmarks when viewed from the Wall itself. These viewpoints, identified through inter-visibility analysis and fieldwork, represent the third category of visual relationship discussed above, with long distance views to and from the proposed World Heritage Site.

Following the methodology described above, the buffer zone has been defined as a series of zones along the Wall, up to approximately 1–1.5 km from the Wall to the north and south. These areas are fragmented by existing settlements, roads, and areas marked for urban expansion. Fourteen zones have been described, including small parks or open spaces within settlements, to extensive strips of land between settlements. In order to maintain a general constancy of width, and to create a robust planning boundary that can be more strongly defended, the buffer zones have been defined as tight areas around the archaeological remains, and boundary features include roads, railways and the Forth and Clyde Canal.

The Kelvin Valley and the Campsie Fells from Dullatur looking west.



The main landform features that have influenced the buffer zone definition are the escarpment slope that runs between Bo'ness and Falkirk, the Carron and Kelvin valleys, the drumlin landscape around Bearsden, and the south facing slopes of the Kilpatrick Hills. The main landform feature not encompassed by the buffer zone is the range of hills to the north of the Wall, the Campsie Fells. At over 7 km away, these hills are too far from the Wall to be covered by the focused planning protection measures proposed for the buffer zone.

As a result, fourteen areas of buffer zone have been defined to protect the setting and amenity of the Antonine Wall within the highly developed central belt of Scotland. The definition of each area of buffer zone is based upon the relationship of the archaeological remains to the landform, existing and proposed settlements and built developments and to the existing protection policies along the Antonine Wall. In all cases, these buffer zones conform to existing countryside and greenbelt designations and are therefore already protected against inimical developments. These policies are all listed in the nomination document and enshrined in the new, over-arching

Policy 2 for the protection of the proposed World Heritage Site and its buffer zones. Furthermore, the buffer zones conform closely to the amenity areas for the protection of the environs of the Antonine Wall first published over 30 years ago. The newly defined buffer zones take forward and strengthen the existing protective framework for the setting of the Antonine Wall in the light of new legislation.

It is not practical to define horizontal buffer zones for the urban areas through which the Antonine Wall passes. Nevertheless, the environs of the Antonine Wall, that is to say, its setting, in these sectors receive some protection through the planning policies of the five local authorities along the line of the Wall which seek to prevent any developments which would have an adverse impact on the monument. Further, as noted above, the existing conservation areas and listed historic buildings along the line of the Antonine Wall provide an additional level of protection for the area of the monument in urban areas. The archaeological remains themselves also are protected by the vertical buffer zone provided by the overlying medieval and modern buildings and their associated features.

3.3 Ownership and management

3.3.1 Ownership

Most of the Antonine Wall is in private ownership; this includes these sections in the ownership of corporate bodies such as public utilities and golf clubs. All owners of scheduled sections of the Antonine Wall have been informed of the intention to nominate it as a World Heritage Site, and questions arising from this consultation have been answered.

Nearly 7.7 km of the Wall, totalling 72 ha, are in state care being managed by Historic Scotland. The first stretches were taken into care in 1953 and the holding now includes the best stretches of the rampart and ditch, the two visible sections of the Military Way, the four forts which have elements visible, a bath house and latrine, three expansions and the site of one fortlet. All these elements are actively managed and conserved by Historic Scotland mainly through its own monument conservation team.

- 🌀 Kinneil House, Bo'ness: line of Wall and ditch: not visible
- 🌀 Bantaskin, Falkirk: ditch and outer mound
- 🌀 Watling Lodge, Falkirk: best surviving length of ditch
- 🌀 Rough Castle fort, Bonnybridge: best surviving fort earthworks together with annexe; expansion; rampart, ditch and outer mound; Military Way and quarry pits
- 🌀 Seabegs Wood, Bonnybridge: rampart, ditch, outer mound and Military Way
- 🌀 Castlecary fort and annexe
- 🌀 Garnhall: rampart, ditch, outer mound and Military Way: only the ditch is visible
- 🌀 Tollpark: ditch and outer mound
- 🌀 Dullatur: rampart, ditch and Military Way: only the ditch is visible

- 🌀 Croy Hill: rampart, ditch, outer mound, Military Way, fort, fortlet and two expansions and the presumed location of the civil settlement: the main visible features are the ditch and outer mound
- 🌀 Bar Hill, Twechar: fort, rampart, ditch, outer mound, Military Way, Iron Age hill-fort, and the probable location of the civil settlement: the fort, ditch and Iron Age hill-fort are the main visible features
- 🌀 Hillhead, Kirkintilloch: rampart, ditch and outer mound, but none is visible
- 🌀 Bearsden bath-house, latrine, and part of annexe rampart base

Falkirk Council owns 5.4 km/40 ha including the only visible fortlet:

- 🌀 Kinneil House and Country Park, Dean Burn to Upper Kinneil: rampart, ditch and outer mound, fortlet and Military Way: the fortlet and the faint hollow of the ditch are visible
- 🌀 Polmont, River Avon to Millhall Burn, rampart, ditch and upcast mound: a section of the ditch is visible in Polmont Woods
- 🌀 Callendar Park: rampart, ditch, outer mound: the latter two elements are particularly clear



The bath-house at Bar Hill looking west.



The ditch survives well in Callendar Park, Falkirk.

- 🌀 Kemper Avenue: short length of rampart base
- 🌀 Watling Lodge: fortlet
- 🌀 Tamfourhill Road: rampart, ditch and outer mound
- 🌀 Elf Hill: rampart, ditch and outer mound
- 🌀 Seabegs: rampart and ditch; medieval motte
- 🌀 Kinglass: camp
- 🌀 Polmonthill: camp
- 🌀 Little Kerse: camp

North Lanarkshire Council owns 0.6 km/12.5 ha comprising:

- 🌀 Garnhall: rampart, ditch and Military Way (this is in the care of Historic Scotland)

East Dunbartonshire Council owns 2.2 km/17 ha including:

- 🌀 Hillhead, Kirkintilloch: rampart and ditch but not visible
- 🌀 Kirkintilloch: part of the fort; medieval motte
- 🌀 New Kilpatrick Cemetery: two stretches of the stone base
- 🌀 Bearsden: part of fort
- 🌀 Iain Road: length of base, ditch and outer mound

- 🌀 Antonine Road: rampart and ditch, but not visible
- 🌀 Hutcheson Hill: rampart, ditch and outer mound
- 🌀 Twechar: camp

Glasgow City Council owns 0.07 km/0.16 ha at Cleddans Burn

West Dunbartonshire Council owns 0.8 km/4.8 ha including:

- 🌀 Duntocher: rampart and ditch, fort, annexe and fortlet
- 🌀 Beeches Avenue: line of ditch but not visible
- 🌀 Carleith: rampart and ditch but not visible

The total length of the Antonine Wall in the public ownership or guardianship of either central or local government bodies is just over 16 km (bearing in mind that some sections are owned by a local authority and in the care of Historic Scotland) out of a total length for the frontier of 60 km. The remaining 44 km are in private ownership, only one body owning more than 1.5 km length of the Wall.

RIGHT: Map showing those parts of the proposed World Heritage Site in public ownership or care.

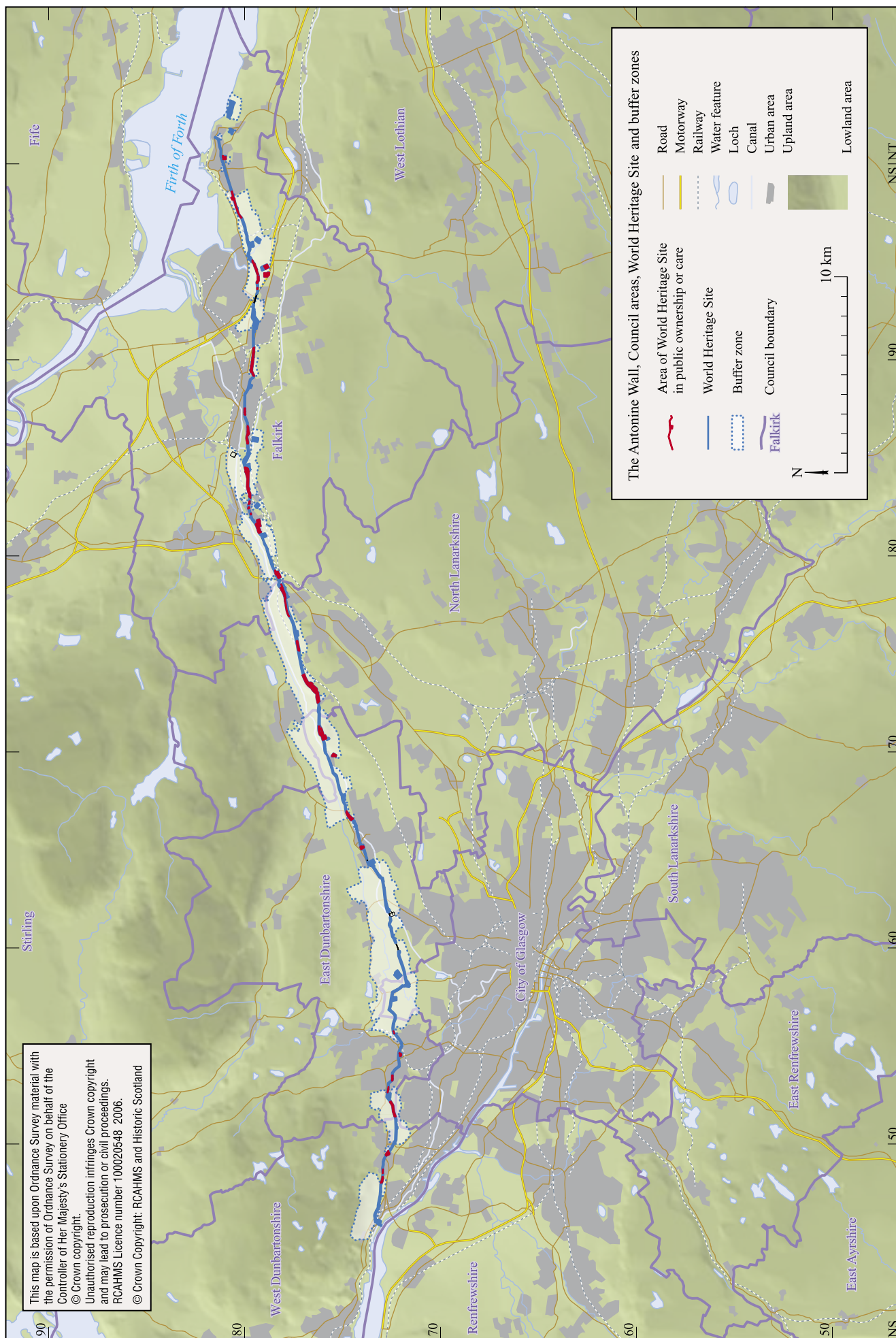
The fort and fortlet on Golden Hill, Duntocher, is faintly visible towards the top of the park.



The stand of trees at Tollpark is a notable landmark. They march along the upcast mound to the north of the ditch.

A section of the Antonine Wall at Iain Road in Bearsden survives within the modern town.





3.3.2 Management

Publicly owned sections

Those parts of the Antonine Wall which are in state care are managed by Historic Scotland on behalf of Scottish Ministers. This work is carried out by a dedicated monument conservation team based at Falkirk. They control the vegetation, maintain the fences, and undertake any necessary repairs. Falkirk, East Dunbartonshire and West Dunbartonshire Councils maintain the sections of the Antonine Wall which they own through a land management regime under the direction of their Parks Departments.

Historic Scotland has erected interpretation panels at all its sites. It has also erected simpler notice boards at other sectors in the care of local authorities. Falkirk Museum has erected notice boards at the sections of the Antonine Wall in its ownership. In addition, Falkirk Museum has published a guide-book to the Antonine Wall, while Historic Scotland has supported the publication of the main guide-book to the Antonine Wall by Anne S. Robertson, edited by Lawrence Keppie. It also features the Wall in its own publications as appropriate.

Private sectors

Most of the Antonine Wall in the countryside lies in farmland; these sections are all scheduled as ancient monuments under the *Ancient Monuments and Archaeological Areas Act 1979*. The state of these scheduled sectors is monitored by Historic Scotland's Monument Wardens as part of their rolling programme of visiting all scheduled monuments whether in public or private ownership and they

are regularly visited by Inspectors of Ancient Monuments. All proposals which might affect the scheduled parts of the Antonine Wall are the subject of Scheduled Monument Consent, administered by Historic Scotland.

Historic Scotland officials participate in many schemes to improve the management of the Antonine Wall. These include removing vegetation, in particular trees and scrub, which grow on the monument and whose roots could damage the underlying archaeology, as well as discouraging ploughing which might disturb the archaeological remains.

Historic Scotland officials work closely with local authorities and with the West of Scotland Archaeology Service which provides advice and information to three of the local authorities along the line of the Wall to improve the protection, management and interpretation of the Antonine Wall.

Information

In order to improve the provision of information which will aid decisions to be taken on all proposals which might affect the protection, management, conservation, presentation and interpretation of the Antonine Wall, the mapping of the monument has been upgraded. The latest complete survey of the Antonine Wall, undertaken by the Ordnance Survey in 1980, has been up-graded and digitised by the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS). In a separate exercise, undertaken by RCAHMS in conjunction with Historic Scotland, all post-1980 interventions along the line of the Antonine Wall have been digitised, together with all pre-1980 interventions where sufficient information is available to allow the action to be mapped. The map, which will be made available on line, will lead the enquirer through to the RCAHMS on-line data base which will furnish information about each intervention and a bibliography on each site. Further information on the mapping of the Antonine Wall is available in the Appendix.

Historic Scotland employs a team to maintain those sections of the Antonine Wall which are in state care.



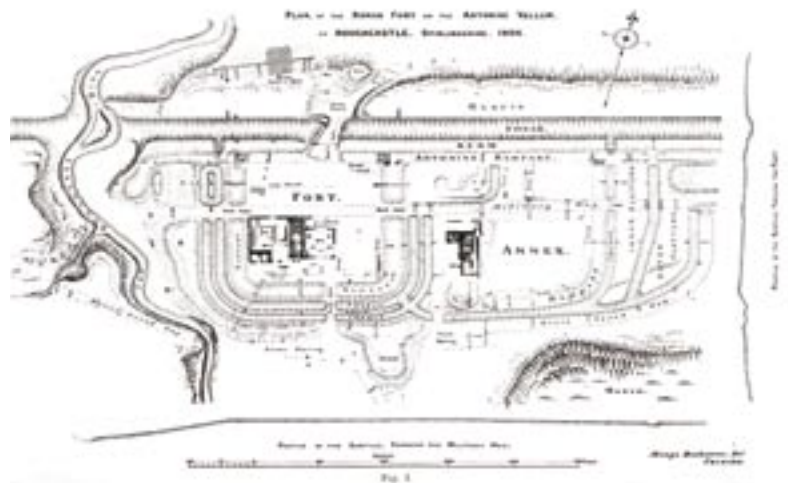
3.4 Research and Scholarship on the Antonine Wall

The Antonine Wall has excited the interest of surveys and antiquarians for many centuries. In the 13th century, Matthew Paris marked the Wall on his map of Britain, and its location was delineated on Timothy Pont's 16th century map of Scotland. It was about the same time that historians started to write about the Wall. Some visited the remains themselves. The most important of these was William Roy. A Scot, born in Carluke in Lanarkshire, Roy was sent to survey Scotland in the aftermath of the 1745/6 Jacobite Uprising. His interest in the Romans led him to survey the Antonine Wall in 1755. This was eventually published, posthumously, in his *The Military Antiquities of the Romans in Britain* (1793). His map remained the best record of the Wall until the first Ordnance Survey maps were published in the 1860s and it is still a most valuable source of information.

Since then, the Antonine Wall has been the subject of several mapping exercises by the Ordnance Survey, the latest in 1980, and today such records are managed by the Royal Commission on the Ancient and Historical Monuments of Scotland which adds new information as it becomes available.

The era of modern excavation started on the Antonine Wall in the 1890s, as in much of Europe. In 1890 the Glasgow Archaeological Society set out to discover if the Antonine Wall really was of turf and they succeeded, probably beyond their wildest expectations. At the same time, the Society of Antiquaries of Scotland commenced a campaign of excavations on Roman military sites, examining Castlecary in 1902 and Rough Castle in 1903. The Glasgow Society continued in the west with Bar Hill from 1902 to 1905, Balmuildy ten years later and Old Kilpatrick and Cadder between the two World Wars.

Most of these sites were excavated in order to learn more about the Antonine Wall, but others were examined as a result

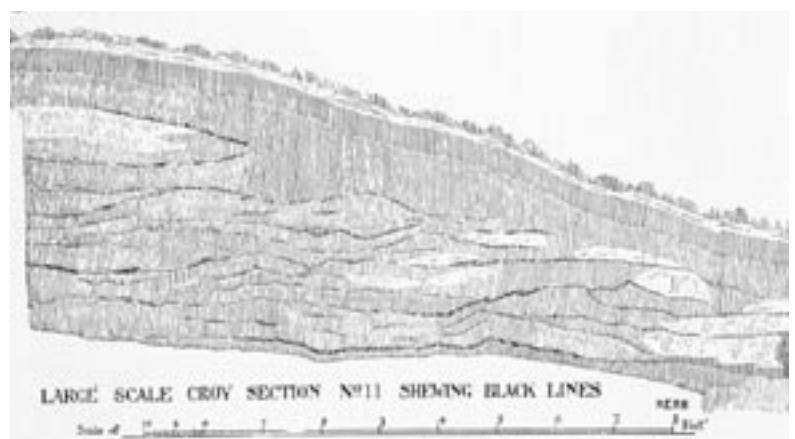


of development pressure arising from the location of the Antonine Wall within the industrial heartland of Scotland. Old Kilpatrick was investigated in advance of the construction of houses while gravel quarrying was the impetus for work at Cadder. This has continued to be the pattern with the fort at Duntocher examined in 1948–51, the annexe at Mumrills shortly after, and the fort and annexe at Bearsden in 1973–82. The Wall was also clipped by roads and pipe-trenches. All are excavated archaeologically with resulting information about the structure and building history of the Wall.

1911 marked a significant year in the study of the Antonine Wall for it saw the publication of George Macdonald's *The Roman Wall in Scotland*. Here, in a monumental work, he brought together all the evidence for the Wall, the testimony of antiquarians and earlier visitors, the physical evidence of the remains themselves and the results of excavations and other studies of the frontier. It has only been surpassed by his own second edition published in 1934.

Plan of the 1903 excavations of the fort at Rough Castle.

A section through the Antonine Wall cut in the 1890s.



To prepare for both editions – and as a result of the thoughts arising from publishing them – Sir George, as he became, carried out excavations all along the Wall aimed at determining its location: this work is still one of the main bases of our mapping of the Antonine Wall. Macdonald also investigated several forts. These included Old Kilpatrick and Rough Castle where he was not content with the conclusions reached by earlier excavators, and Mumrills in advance of the construction of houses, most of which, as it happens, were not built.

New methods of research have proved to be of major benefit to Wall studies. Aerial survey and photography shortly after the Second World War led to the discovery of a new type of structure on the Wall: the fortlet. Although one had been discovered at Watling Lodge in 1894, it was thought to be unique having the specific function of protecting the gate through which the road passed leading north. The new fortlets changed that perception. A suggestion by John Gillam in 1975 that the few known sites were part of a larger plan led to the location of several more.

Aerial survey also led to the discovery of even smaller enclosures on the line of the Wall. “Expansions” – literally small expansions to the rear of the Wall – had long been known and interpreted as beacon-platforms. The new discoveries were entirely different. They are small protected areas attached to the rear of the

Wall. Only one has been excavated to date and it obstinately refused to reveal its function.

The third type of site to have been discovered on the Wall through aerial survey and archaeology is the temporary camp. Many temporary camps are now known along the line of the Antonine Wall, all located as a result of aerial photography over the last 60 years, and none visible today. The fact that we appear to be able to relate the camps to the construction of the Wall, especially when combined with the evidence of the Distance Slabs and the differences in the structure of the Wall itself, is a unique element of the Antonine Wall. The application of various new scientific tools has also helped us understand the Antonine Wall better. Natural sciences, such as botany, enable us to understand the vegetation history of the area, and the diet of the soldiers as well as adding another dimension to our appreciation of the supply logistics of the frontier army. Geophysical and magnetometer survey helps locate the Wall and its structures.

Archaeological research has continued. Perseverance has finally led to the location of the long-lost fort in Falkirk. Sometimes wholly new and unexpected discoveries are made. One of these has been the location of pits on the berm, the space between the rampart and the ditch. These indicate that the Wall was more complex than hitherto understood and, perhaps, they help us understand its function better.

Geophysical survey has revealed new details of the fort plan and annexe at Balmuilley.

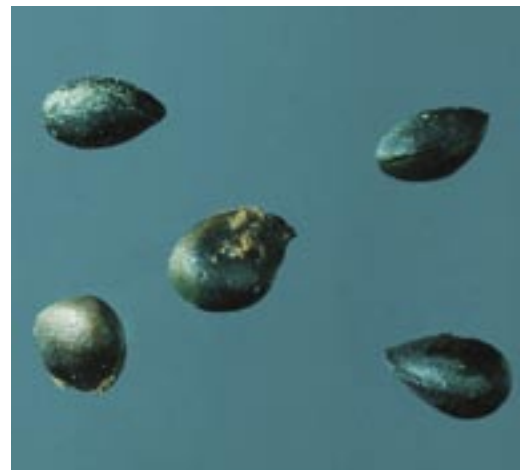
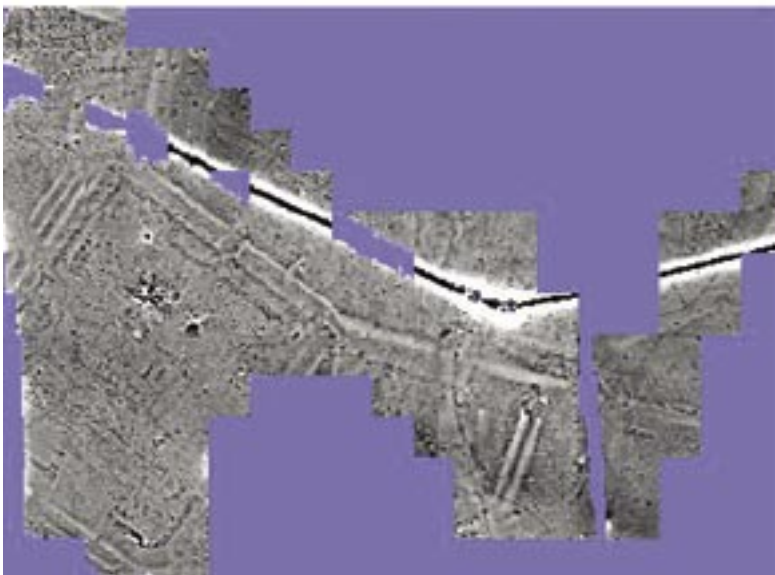


Fig seeds found in the sewage of the latrine at Bearsden: the figs were probably imported from the continent.

The finds from these excavations have been housed in the museums along the line of the Antonine Wall. The Society of Antiquaries founded a museum in Edinburgh in 1783 and has collected material from the eastern sector of the Wall. The Hunterian Museum, established by the University of Glasgow in 1807, is the natural repository for material from the western half of the Wall. Here are housed most of the surviving distance slabs. More recently museums have been formed in Falkirk and Kirkintilloch, housing and displaying material from the Antonine Wall. The artefacts – sculpture, coins, weapons, brooches, pottery, and so on – recovered during excavations have long been studied. The earliest reports from the 1890s contain accounts of these items. The pottery from the Antonine Wall has a particular interest as it is dated to such a short period, the relatively brief life of the Wall. However, pottery can provide other insights as well. It can, for example, inform us about supply too and about the cooking methods of the soldiers and it has thus been realised that some vessels indicate that cooking was undertaken in an African style, with important implications for several different aspects of the occupation of the Antonine Wall.

Two of the major archaeological societies have long shown an interest in research and publication concerning the Antonine Wall. The Society of Antiquaries of Scotland was founded in 1780 and the Glasgow Archaeological Society in 1856. Both societies have conducted many excavations on the frontier and its ancillary works and their journals are the main repository for both excavation reports and discussion articles on the Antonine Wall. Both societies included lectures on the Wall and visits to it in their programmes of activities.

In addition, there are other local societies along the line of the Wall such as the Falkirk Archaeological and Natural History Society, the Falkirk Local History Society, the Bearsden and Milngavie Archaeological and Historical Society, Lanark and District Archaeological Society all of which encourage interest in the Antonine Wall.



Research on the Antonine Wall is also reported in wider fora, to the Society of Antiquaries of London and the Royal Archaeological Institute, for example, and also at the regular meetings of the International Congress of Roman Frontier Studies.

The University of Glasgow has a long interest in the Antonine Wall. It has been collecting inscriptions and sculpture from the frontier since the seventeenth century, maintains the largest museum collection of material culture relating to the frontier in the Hunterian Museum, while its staff include teaching about the Wall in their undergraduate and post-graduate courses. University staff not only teach about the Antonine Wall and direct post-graduate research (in 2006 Rebecca Jones was awarded a PhD by the University of Glasgow for her thesis on Roman camps in Scotland, including a detailed case study of those on the Antonine Wall) but also undertake excavations themselves on the frontier. The university also has a strong interest in botanical sciences and undertaken much research on the material acquired through excavations on the Wall leading to new perspectives on the vegetational history of the area in the Roman period. The University of Stirling has been at the fore-front of research on the environmental history of the Antonine Wall and its environs, publishing important papers which place the monument in its wider environmental setting.

The excavation of the recently located fort at Falkirk.



Pottery found at the fort of Bearsden illustrates the long supply lines which kept the soldiers based there fed and watered.

3.5 The International Community

There has long been an important international dimension to the Antonine Wall. Scholars studying this Scottish frontier have communicated their results and discussed their findings with archaeologists and historians beyond the borders of Scotland. Scottish archaeologists took part in the first International Congress of Roman Frontiers Studies held in 1949 and have participated in every meeting since: the current chairman of the Congress is the author of the nomination document and management plan.

The Bratislava Group

The decision of Scottish Ministers in 2003 to propose the Antonine Wall as a World Heritage Site led to detailed discussions with the UK Government, UNESCO and ICOMOS about the best way forward. It was decided to nominate the Antonine Wall within the framework of the Frontiers of the Roman Empire World Heritage Site created in 2005 as a result of the extension of the existing Hadrian's Wall World Heritage Site to include the German *Limes*. In order to provide specialist advice to the states parties which manage this World Heritage Site, a UK-German inter-governmental committee and a scientific committee were established. Membership of the scientific committee, known as the Bratislava Group, consists of the archaeological co-ordinators of the existing elements of the Frontiers of the Roman Empire World Heritage and those sections which are on their country's Tentative List, and which are therefore potential additions to the Site. To date, the Bratislava Group has met in France, Germany, Hungary, The Netherlands, Slovakia and the UK.

The European Archaeological Association

In 2002 the European Archaeological Association established a Working Party on Roman Frontiers following a round-table discussion at its annual conference held at Thessaloniki that year. The aim of the working party is to create a research

strategy for the Roman frontiers in Europe. The working party formulated 6 modules for action:

- ✎ the creation of an international data base for the European frontiers of the Roman empire;
- ✎ the creation of basic standards of management for the sites on the frontier;
- ✎ the definition of gaps in basic information about the frontiers;
- ✎ the definition of frontier zones;
- ✎ the identification of other potential World Heritage Sites within the European over-arching framework;
- ✎ improved public access to information about Roman frontiers.

The Culture 2000 programme

In 2005 a consortium of bodies in Scotland (Historic Scotland), Germany, Austria, Slovakia, Hungary and Poland was awarded 800,000 euros by the European Union's Culture 2000 programme for the project, The Frontiers of the Roman Empire; the total expenditure of the project is 1.35 m euros. The project has four main tasks:

- ✎ the establishment of a web site for the frontiers of the Roman empire in Europe and the linking of national and local data bases;
- ✎ the creation of an exhibition on Roman frontiers;
- ✎ the improved documentation of Roman frontiers in Europe;
- ✎ the preparation of guide-lines for the protection, management, presentation and interpretation of Roman frontiers.

Work is in progress on all these tasks. The web site is under preparation. A portal has been created and a trial exercise has been undertaken whereby a link is provided through the portal to the National Monuments Record of Scotland housed in the Royal Commission on the Ancient and Historical Monuments of Scotland. In order to aid access to relevant information, the Record has been sifted so that only



Members of the Culture 2000 group meeting in Scotland in 2006.

the Roman material is accessible through the link. The portal is currently being developed, with basic information about the Antonine Wall being provided through the link. The link will also connect the portal to the Hunterian Museum's web-site and to web-sites providing information about tourism.

The exhibition will operate at two levels. A series of panels about all the frontiers of the Roman empire are in the process of preparation. These will be made available to museums, which can then add their own material to render the exhibition relevant in a local context.

Boundary Films have been commissioned to prepare a DVD of the frontiers of the Roman empire in Europe which will be made available through museums along the frontiers and other outlets. This DVD will build on their existing DVDs and videos which focus on the frontiers in Britain and Germany.

The long-term aim of the Roman archaeologists working within this programme is the harmonisation of information. A first step is improved documentation of the military installations along the frontier. This is being undertaken in a variety of ways including the acquisition of new information as well as the improved recording of additional information. An important element is the mapping of the frontier. With harmonisation in mind, guidelines for mapping are being prepared and a thesaurus of military terms is being

created which will also be of use in relation to the web-site.

One important element of the project is the improved protection, preservation, conservation, management, presentation and interpretation of Roman frontiers. Guidelines for the presentation of Roman military sites in Germany have already been published. Attention has now been transferred to the sites themselves where experimental work is underway to improve the marking out of the frontier remains. Guidelines for the improved management and presentation of sites is planned as part of the Culture 2000 programme.

The Culture 2000 programme is important for the Antonine Wall in that the third and fourth elements of the programme will be of material benefit to the better management of the Antonine Wall while the first two tasks will lead to the provision of more and better information about Roman frontiers which should lead, though better public knowledge, to the improved protection of the Antonine Wall.

The project is to run for three years, and already has had considerable success in publishing articles and books, such as *Frontiers of the Roman Empire* by David Breeze, Sonja Jilek and Andreas Thiel, establishing a proto web site, creating a draft thesaurus of Roman military terms as well as funding new research to help document Roman frontiers such as the geophysical surveys undertaken along the Antonine Wall.

3.6 How the Antonine Wall is used and the benefits it offers

Agriculture and forestry

Two-thirds of the Antonine Wall lies in countryside. Here the main activity is agriculture, though there is a significant woodland component to the land use of the Antonine Wall corridor. Most of the land holdings are relatively small. Amongst the farmers and forestry officials knowledge about the Antonine Wall is high. Some small farms are no longer economically viable and there has been an increase in the amount of land abandoned to agriculture: care will have to be taken that such land does not revert to uncontrolled 'natural' woodland. Close relations exist between Historic Scotland and the Forestry Commission over the management of state-owned woodland along the frontier.

No part of the Antonine Wall falls within a Site of Special Scientific Interest, though several sites of significant nature conservation history lie close to the monument, such as Inveravon gorge, Wilderness Plantation and Garscadden Wood.

Recreation

The area of the Antonine Wall forms an important component in the recreational framework of central Scotland. Those sections in public care or ownership are generally treated as public parks used for walking and running; indeed the forts at Kirkintilloch and Duntocher lie within public parks in the centre of towns. There are golf courses along its line at Polmont, Cumbernauld and Bearsden and a ski-slope at Inveravon. The sections of the Wall in public ownership provide well-used areas for walking. There is certainly an opportunity to make more use of the Antonine Wall in this way – in effect forming a green gym. A network of linked paths is being created (see section on Access) and could be extended. In particular, walks along the Wall could be closer associated with the adjacent canal. The Wall and the canal form two linear features which complement each other. The use of the two for walking is already advertised, but more could be done to form an integrated facility. Discussions on this possibility have already taken place between British Waterways and Historic Scotland.

The Antonine Wall at Balmuldy looking east towards Wilderness Plantation. The River Kelvin is visible to the left. The road to the right follows the line of the Antonine Wall.



Tourism

There is a steady flow of visitors to the better known sites along the Antonine Wall such as Rough Castle fort and Bearsden bath-house. Information about the Wall appears in guide-books and other relevant academic publications, and the interlinking of sites is promoted locally through leaflets and information boards: that at Bearsden bath-houses encourages visitors to continue to see the sections of the stone base of the Antonine Wall to the east at New Kilpatrick Cemetery and the ditch and stone base to the west on Iain Road.

Museums along the Antonine Wall contain displays about the monument. Two museums, the Hunterian Museum in the University of Glasgow and Falkirk Museum, both announced plans in 2006 to upgrade their displays and provide more articulation with the remains of the Antonine Wall on the ground. This will be an exciting new development in Falkirk as the Council itself owns several adjacent stretches of the monument.

In 2005 Glasgow University announced that it will create a new Antonine Wall Interpretation Centre at the Hunterian Museum. This will incorporate computer enquiry/study stations to allow scholars, schoolchildren and recreational visitors to access information and images

on the Antonine Wall and other Roman frontiers. Interactive displays will allow any fort site on the Wall to be viewed through QuickTime Virtual Reality, enabling visitors to discover the sites on the Wall where objects on display in the Centre originally came from, thus helping to place the artefacts in context. The Centre will provide audio-guides for exhibition interpretation along with downloadable pod-casts and updated news of site information, events and travel routes etc to assist visitors planning their exploration of the Antonine Wall and associated sites and museums.

Over the last few years many new tourism developments have taken place in Scotland. One of these lies beside the Antonine Wall at Rough Castle: the Falkirk Wheel linking the Forth and Clyde Canal with the Union Canal. There is an existing visitor centre at the Falkirk Wheel and British Waterways, its owner, is in discussions with Historic Scotland about improving the facilities and in particular linking the canals and the Wall both here and at Auchenstarkey next to Kilsyth, beside the visually attractive sections of the Wall at Croy Hill and Bar Hill. Integrated information arrangements for visitors will be an important part of these developments.



Jim Devine introduces a group of school children to one of the distance slabs from the Antonine Wall on display in the Hunterian Museum.



Children try on Roman dress at the Hunterian Museum.

Local communities and education

The Antonine Wall crosses one of the most densely settled parts of Scotland. Today, it runs through several towns and villages: Bo'ness, Polmont, Laurieston, Falkirk, Bonny-side, Seabegs, Castlecary, Allandale, Dullatur, Croy, Twechar, Kirkintilloch, Bishopbriggs, Bearsden, Hardgate, Duntocher and Old Kilpatrick. A checkerboard of community councils therefore exists along the line of the Antonine Wall. Many of the inhabitants of these towns and villages use the Antonine Wall for recreation in one form or another. Schools teach the history of the Antonine Wall and undertake visits to its remains.



The Millennium Wheel beside the Antonine Wall is an important visitor attraction in the area.



The coat-of-arms of Kirkintilloch depicts the gate of the fort at this place.

The Wall features in their street names, pub names, and even coats-of-arms.

Looking beyond the line of the Antonine Wall itself, 80% of the population of Scotland live within 30 km of the monument. There is a great opportunity to engage with this public through encouraging more visits to the monument and to the museums which tell its history.

A large number of local schools use the Antonine Wall and the Romans as a focus of classroom-based learning followed up by site and museum visits. For example, in school year 2002/03, the Hunterian Museum received visits from 395 primary and secondary school classes for formal taught sessions; about 60% of the pupils were studying the Romans in Scotland. This pattern is reflected across the museums in Scotland's central belt, clearly indicating the importance of the Antonine Wall as a major schools' curricular learning resource.

3.7 Public Consultation

All local authorities who administer the planning laws affecting the remaining sections of the Wall have advertised the level of protection they provide and the intention to nominate the Wall as a World Heritage Site. A booklet on the proposals was published in 2004 and reprinted in 2005. Over 4,000 copies of the booklet have been distributed along the Wall and beyond. A similar number of copies

of the booklet on the Frontiers of the Roman Empire have also been distributed in Scotland and beyond. Copies of both booklets have been placed in local libraries and museums.

Several research projects on the Antonine Wall have been initiated over the last four years. Two papers have been published in the *Proceedings of the Society of Antiquaries of Scotland* (Linge on mapping and Tipping and Tinsdale on the environment), while a new book has been published on the frontier (Breeze 2006).

Scottish Ministers have hosted several high-profile events about the proposals since 2003. These include:

- public announcement of the intention to nominate the Antonine Wall as a World Heritage Site
- launch of the Antonine Wall booklet
- launch of the Historic Scotland education initiative
- launch of the Frontiers of the Roman Empire booklet
- signing of the concordat between the Scottish Executive and the five local authorities on the Antonine Wall.

All these events have been reported widely in Scottish newspapers, particularly those along the line of the Antonine Wall.

Other interviews have been given to newspapers and to radio.

In addition, lectures have been given at many locations along the Wall and in its vicinity about the proposals over the last 4 years. The bodies spoken to include:

- Society of Antiquaries of Scotland
- Glasgow Archaeological Society
- Falkirk Archaeological and Local History Society
- Falkirk Natural History Society
- Cramond Local History Association
- Drymen Historical Society
- Friends of Kinneil

Further afield, lectures have been given, for example, to the Hadrianic Society and the Royal Archaeological Institute.

The Culture 2000 project, noted above, contains a project which will lead to the creation of a website for Roman frontiers. This will include the Antonine Wall. The National Monuments Record for Scotland was used for the prototype for this project. The website will be launched in 2007 and information on the Antonine Wall, including the new GIS map for the frontier, will then be made available to the general public.



Some of the national and local newspaper coverage of the proposals to nominate the Antonine Wall as a World Heritage Site.



IV MANAGEMENT ISSUES AND ACTIONS

4.1 Identification and Assessment of Key Management Issues

The objective of the Management Plan is to achieve an appropriate balance between conservation, access, sustainable economic development and the interests of the local community.

For the Management Plan to succeed in its objectives, it must sit firmly within the framework of existing protection policies and guidelines for the management of the landscape and activities within it. It should also have cognisance of all other plans and proposals for the nominated World Heritage Site so that an integrated management package is provided and can be better implemented, and should take cognisance of the management requirements and principles set down in the Summary Nomination Statement for the Frontiers of the Roman Empire World Heritage Site (re-printed as Appendix III in the nomination document and with the relevant paragraphs recorded on page 67 below). The Management Plan must also take account of predicted changes in society and the economy and of government policy.

The Antonine Wall is well protected by the actions of both central and local government operating through existing national legislation and guidelines. The proposed World Heritage Site is protected by scheduling under the *Ancient Monuments and Archaeological Areas Act (1979)* and through the *Town and Country Planning (Scotland) Act 1997*; its buffer zones have long been protected through their designation as countryside or green belt land by the local authorities, operating

within the framework of the Structure and Local Plans as laid down in the *Town and Country Planning (Scotland) Act 1997*.

This Management Plan prepared for the Antonine Wall, the first such Plan, is based on the long experience of Historic Scotland and its predecessors with the Antonine Wall, its knowledge of plans prepared by such as the previous regional authorities, Central Region and Strathclyde Region, the work of central government over the last 50 years in particular, and the involvement of the five local authorities – East Dunbartonshire, Falkirk, Glasgow City, North Lanarkshire and West Dunbartonshire – in the protection and management of the Antonine Wall over a similar period. Although prepared by Historic Scotland, the Plan is the result of the active involvement of all parties. The Management Plan seeks to identify all the issues, and the methods by which they might be addressed. In doing so, it is acknowledged that this is but the first step on a long journey.

4.2 Protecting the proposed World Heritage Site

Issue 1: The boundaries of the World Heritage Site and its buffer zones.

The boundary of the proposed World Heritage Site was defined as part of the nomination process. It was determined that the Site should be a corridor 50 m wide, except where those scheduled parts of the monument extended beyond this corridor and at such points the boundaries of the Site should be coeval with the limits of the scheduled areas. Included within the boundaries of the proposed World

LEFT: The Antonine Wall survives in the former Bantaskin Estate (marked by trees in the foreground) and reappears on the far side of the two tower blocks at Watling Lodge (also in the trees), before running into the open countryside of Tentfield Plantation.

Heritage Site are: the rampart, ditch and upcast mound forming the linear barrier; the Military Way; forts, fortlets, expansions and small enclosures; civil settlements; and labour camps.

Amenity zones to protect the environs of the Antonine Wall were formulated nearly 50 years ago and published in D. Skinner, *The Countryside of the Antonine Wall* (Perth, 1973). As part of the process of nominating the Antonine Wall as part of the Frontiers of the Roman Empire World Heritage Site, Historic Scotland employed Land Use Consultants to advise on the location and extent of the buffer zone required by UNESCO in order to protect the amenity and setting of the monument.

In the case of both the proposed Site and the buffer zone, existing mapped features were used to define all boundaries. Nevertheless, new research and other developments are bound to affect the proposed Site and its buffer zone and accordingly it is necessary to monitor all such developments and amend the boundaries when and where necessary. In particular, the programme of research initiated by the decision to nominate the Antonine Wall as a World Heritage Site may provide additional information on the scale of civil settlements outside forts and location of the Military Way, in addition to the information continually being accrued as a result of archaeological investigations along the line of the Wall. However, it is envisaged that any future amendments to the boundaries of the proposed World Heritage Site would be minor in scale.

Action 1

The boundary of the World Heritage Site and its buffer zone will be kept under review to ensure that its outstanding universal significance is adequately protected.

Issue 2: The legislative and regulatory process of protection of the proposed World Heritage Site and its buffer zone.

The proposed World Heritage Site is protected by a combination of two existing mechanisms:

- scheduling of all known archaeological remains under the *Ancient Monuments and Archaeological Areas Act 1979*; and
- the *Town and Country Planning (Scotland) Act 1997* which protects the remaining sections of the Antonine Wall and its buffer zone.

The first mechanism is administered by central government, represented, on behalf of Scottish Ministers, by Historic Scotland. The second mechanism is administered by the five local authorities along the line of the Antonine Wall. The Acts and supporting guidance are discussed above in sections 3.1 and 3.2. An important step forward has been the decision of all five local authorities to standardise their planning policies for the protection of the Antonine Wall.

It is essential that the protection of the proposed World Heritage Site is kept under review. The scheduling of the Antonine Wall has been re-assessed by every generation over the last 50 years – in the late 1950s, the 1970s and again in the 1990s – to take account of increasing knowledge about the Roman frontier and changes in the approach to cultural resource management. Planning policies are generally reviewed every five years.

All these mechanisms operate on the basis of a presumption against proposals which would have a deleterious affect on the Antonine Wall. Historic Scotland and its predecessors have a long history of opposition to proposals which would affect both the monument itself and its environs and has pursued its objections to the open court of public local enquiries for the last 50 years, usually in conjunction with the relevant local authority, and usually with success.

Where there is a possibility that a development might affect the Antonine Wall, an evaluation must be undertaken within the framework of the *National Planning Policy Guideline 5 for Archaeology and Planning* before any decision is taken. If the proposed development is likely to have a significant affect, it must now be subject to an assessment under the Strategic Planning Review framework.

Historic Scotland have recently undertaken a project to review all historic buildings within the proposed World Heritage Site and its buffer zone and list historic buildings which it is now considered are worthy of protection.

Action 2

The World Heritage Site will be taken into account in the preparation and implementation of all planning, regulatory and policy documents, whether by central or local government, which might affect it.

Action 3

Supplementary Planning Guidance for the Antonine Wall will be prepared to support the uniform planning policies formulated for the Antonine Wall.

Issue 3: The need for risk preparedness

The Antonine Wall is an earthwork monument and is relatively robust. Historic Scotland is undertaking a review to assess the possible threat from agricultural activities and if necessary take action to seek to restrict the damage caused by such activities. The grass cover which protects the visible remains could also be affected by over-visiting. A visitor plan is being prepared to provide a framework for managing visitors. Both aspects will be monitored by a combination of Historic Scotland's monument conservation staff, inspectors and monument wardens in co-operation with landowners and occupiers along the Wall.

The very location of the Antonine Wall in central Scotland, a heavily populated area, is, in many ways, the greatest threat. Roads and other forms of transport communications, pipelines and overhead cables, and other such facilities of modern life, often have to cross the Antonine Wall. Steps are taken to ensure that appropriate mitigatory measures are in place to ensure that as little as possible, or no, damage takes place. The very proximity of the Antonine Wall to several towns and villages ensures that it will remain under threat from new housing. However, new

housing developments are now placed at some distance from the Wall.

A major new tool in the protection and management of the Antonine Wall is the new GIS-based map and record of the Antonine Wall which has been created by the Royal Commission on the Ancient and Historical Monuments of Scotland (see Appendix).

The Antonine Wall does not lie in an area which suffers from earthquakes or other natural disasters such as flooding and erosion.

Action 4

All site managers will continue to monitor their sites, consider potential risks and maintain appropriate plans to counter these.

4.3 Conserving the proposed World Heritage Site

Issue 4: The conservation of the landscape character of the proposed World Heritage Site and its buffer zones while managing change.

The Antonine Wall crosses central Scotland from the modern town of Bo'ness on the Firth of Forth to Old Kilpatrick on the River Clyde. Approximately 35 km of the total 60 km length of the Antonine Wall, including 11 forts, seven fortlets and six expansions, lie on farmland in the countryside, and are protected through scheduling. With the exception of two consolidated buildings at Bar Hill, the Antonine Wall survives as an earthwork.

The remainder of the Antonine Wall is in urban environments. This includes the several visible sections of the stone base, the bath-house and latrine at Bearsden, five forts and two fortlets. Five km of the Antonine Wall in urban areas are scheduled.

Excavation over the last 120 years has demonstrated the good state of preservation of the archaeological remains of the Antonine Wall even where nothing is visible on the surface today. This has been underlined by both aerial survey and geophysical survey, both of which have revealed many new sites since 1945 or provided new information on known

elements of the frontier. The various elements which make up the Antonine Wall can survive in the most unlikely and unpropitious circumstances. The ditch is obviously the most difficult feature to destroy. Elsewhere the stone rampart base, often surmounted by some turf or clay, is preserved. Excavation too has indicated the survival of the slighter Military Way in many areas. The excavation of forts where there is no visible above ground trace today has furnished proof of internal buildings, in the case of the bath-house at Bearsden remaining up to eight courses high below the lawn of a nineteenth century villa. The fortlets and small enclosures, none visible and many revealed originally through aerial survey and photography, have, where excavated, provided considerable evidence of planning, chronology and history as well as environmental evidence.

Remarkably, the Antonine Wall continues to reveal new information. Since 1945, 20 labour camps have been located, a sequence of fortlets recognised, small enclosures discovered, pits on the berm found, field systems planned, an altar recording the name of a fort uncovered and various other features revealed. The existence of none of these was appreciated earlier. There can be no doubt that other features remain to be discovered and that these will change our perception of the Antonine Wall. It is therefore essential that the surviving remains are properly conserved, whether they survive in urban or rural environments.

The present state of knowledge

Considerable information exists about the state of survival of the Antonine Wall. The Royal Commission on the Ancient and Historical Monuments of Scotland maintains the national archaeological data-base for Scotland and within that all national records relating to the Antonine Wall, all now GIS based. The last state-funded full terrestrial survey of the Antonine Wall in 1980 has been digitised and up-dated. All interventions on the line of the Antonine Wall, whether survey, evaluation or excavation, have

been digitised and related to the map. It is now possible to use the map as a tool for investigating the location of all such interventions and capturing basic textual information about each intervention. A bibliography provides access to more detailed sources of information.

This is already an invaluable tool for archaeological heritage management and for research on the monument. Consideration is being given to extending the information embedded in this GIS based record through, for example, the provision of details about the depth of top soil which will improve the predictive modelling of all possible actions which might affect underlying archaeological deposits.

A second archive exists in the Hunterian Museum of the University of Glasgow. This includes the records of excavations and surveys on the line of the Antonine Wall supported by a library. The museum also contains artefacts from the frontier, as do other museums along the Wall.

The landscape through which the Antonine Wall runs has been subject to landscape characterisation assessment by Scottish Natural Heritage (the reports are listed in the bibliography). This work provides a valuable framework for assessing the conservation of the general landscape setting of the Wall and in particular the buffer zones. Landscape characterisation assessment has been complemented by the Historic Landuse Assessment project undertaken by Historic Scotland and the Royal Commission on the Ancient and Historical Monuments of Scotland. The project places the current landuse within an historical perspective and is an important tool for detailing the landuse history of the Antonine Wall which is the essential precursor of planning its management in the future. In addition, the ancient town of Kirkintilloch, which sits astride the Antonine Wall has been the subject of a detailed historical assessment which will be published in the Burgh Survey series.

The Antonine Wall passes through a varied landscape. Through the eastern

7.5 km, the modern town of Bo'ness largely obscures the location of the frontier on the former raised beach overlooking the Firth of Forth. The sector from Kinneil House to Inveravon is, however, free of modern development and the position of the Antonine Wall can be readily appreciated. From Falkirk to the crossing of the River Kelvin at Balmuildy the Wall lies towards the front of the southern slope of the Midland Valley of Scotland. In two locations in particular, over Croy Hill and Bar Hill, the Wall passes through particularly attractive scenery, with spectacular views towards the Campsie Fells to the north. The countryside of the western 13 km is very different being a combination of well-cultivated farmland and small towns.

In general, modern developments within the countryside through which the Antonine Wall runs are relatively small-scale and do not intrude into views from the Wall. This open outlook is protected through the application of the *Town and Country Planning Act (Scotland) 1997*. Under this Act, the buffer zones are designated as countryside or green belt land.

Three main activities have affected the landscape of the Antonine Wall in the countryside: the traditional rural activities of agriculture and forestry and the peri-urban golf courses.

As farming is no longer so financially viable, some fields along the line of the Antonine Wall have fallen out of cultivation. This is one aspect of the management and conservation of the monument and its landscape which needs to be taken into consideration by Historic Scotland together with Scottish Natural Heritage and the Scottish Executive. Uncontrolled growth of scrub and the spread of bracken would have a serious affect on the buried archaeological deposits through the actions of roots and rhizomes, as well as both obscuring the monument and therefore making it prey to accidental damage. Changes in the Common Agricultural Policy will also have an effect on the countryside through which the Antonine Wall passes and will have to be kept under review.

Most of the forestry along the line of the Antonine Wall was planted about 50 years ago and is now nearing the end of its life. Historic Scotland and the Forestry Commission, together with significant private owners, are discussing the future of this woodland in order to ensure an integrated and consensual approach. One element of this programme already underway is the thinning of woodland along the Wall in order to open out views from the monument. As other woodland is being considered along the line of the Wall, a landscape strategy which would take account of tree planting is required and manage change while preserving the World Heritage values of the Antonine Wall.

Golf courses provide an additional protection against urban growth. However, they restrict access to the monument and minor amendments to the courses, such as the creation of bunkers and paths, can be damaging. Continual discourse with the managers of the golf courses seek to prevent accidental and un-thinking damage.

In towns, the relationship between the Wall and its landscape is not so clear. In some locations, such as Bo'ness, Kirkintilloch and Duntocher, views from the frontier are still striking and could be maintained through the lack of large modern buildings. In several locations, for example, Bo'ness, Laurieston and Duntocher, modern roads lie on or beside the Wall and these modern linear features should be retained.

The conservation of individual elements of the proposed World Heritage Site

About 8 km of the Antonine Wall, parts of five forts, a fortlet and three expansions are in state care, looked after by Historic Scotland on behalf of Scottish Ministers. Falkirk Council owns about 4 km and a fortlet, while East Dunbartonshire Council owns 2 km including most of Kirkintilloch fort, North Lanarkshire 0.6 km, West Dunbartonshire Council 0.5 km including Duntocher fort and Glasgow City a sliver at Cleddans Burn.

Each body undertakes direct action to manage the earthworks. Historic Scotland

maintains a monument conservation unit to maintain the sections in its care. It also provides support for the preparation and publication of information on the management of earthwork monuments and seeks to act as an exemplar of best practice.

Those sections of the Antonine Wall which are owned by local authorities are generally maintained by their parks authorities. Nothing is visible above ground at Duntocher, but West Dunbartonshire Council have adopted a mowing regime to pick out the ramparts of the fort and fortlet. This offers an example for the display of the monument even when no features are visible on the ground.

Elsewhere, the state of conservation of the scheduled sections of the Antonine Wall is monitored by Historic Scotland's monument wardens. Reports are made to head office on a regular basis and the appropriate inspector of ancient monuments then undertakes the appropriate action. An important element is the continual and sustained contact between Historic Scotland and the owners and occupiers of the Antonine Wall. Casework relating to individual sites forms a large part of the work-load of the inspector.

Action 5

The conservation of the landscape of the proposed World Heritage Site and its Buffer Zones should be guided by an overall conservation framework which should be developed to assist in the management of change in the landscape to the benefit to the long-term conservation of the Antonine Wall and its setting; this could be undertaken within the current frameworks for managing change in the countryside including the Rural Stewardship Scheme administered by the Scottish Executive.

Action 6

The Antonine Wall Management Plan Working Group will ensure that the state of the Antonine Wall and its land use is adequately conserved and regularly monitored; this will entail the development of appropriate monitoring indicators.

Action 7

Woodland and trees form an important part of the landscape of the Antonine Wall and guidance will be developed for the maintenance of this woodland and its enhancement in conjunction with the Forestry Commission.

Action 8

The Antonine Wall Management Plan Working Group will consider whether the level of skills available in central and local government is adequate for the proper management of the Antonine Wall and whether further skills and training are required.

4.4 Using and Enjoying the proposed World Heritage Site

Issue 5: The contribution which the Antonine Wall can make to the local economy.

The Antonine Wall is an important local resource, enjoyed by the communities along its length for its recreational as well as its historical value. It attracts visitors from within Scotland, the remainder of Britain and from abroad. In order to improve visitor numbers, and thereby benefit the local economy, various actions have to be undertaken.

Action 9

A strategy will be developed to improve the tourist potential of the Antonine Wall in a sustainable manner and without compromising its integrity.

Issue 6: Improved visitor facilities within the proposed World Heritage Site.

There is a guide-book to the Antonine Wall and other publications offer historical accounts of the frontier. The Antonine Wall appears in much tourist literature and those sections in state care are advertised by Historic Scotland. Sign-posting tends to be restricted to those roads closest to the frontier.

Interpretative panels are provided at all sections of the Antonine Wall in the care of Historic Scotland and at most of those in the care of Falkirk Council. Elsewhere, simpler metal plates provide basic information. There are no custodians or rangers permanently based on the Antonine Wall. Car parking is available at some sites, for example, Rough Castle, but elsewhere visitors must park in lay-bys, public open ground or on the public highway.

Information about the Antonine Wall is provided at the museums which hold and display artefacts from the frontier:

- 📍 the Museum of Scotland in Edinburgh
- 📍 Kinneil Museum in Bo'ness, Falkirk
- 📍 Callendar House Museum, Falkirk
- 📍 the Auld Kirk Museum in Kirkintilloch
- 📍 Kelvingrove Museum in Glasgow
- 📍 the Hunterian Museum in the University of Glasgow.

The Hunterian Museum provides intellectual access to the Antonine Wall through its website. This will be extended, with the assistance of the Culture 2000 programme, and through its new Antonine Wall Interpretation Centre at the Hunterian Museum, announced by Glasgow University in 2006, and detailed above. In addition, the Antonine Wall also appears in many entries in SCRAN (the Scottish Cultural Resources Access Network), which is based on museum collections and the National Monuments Record of Scotland (part of the Royal Commission on the Ancient and Historical Monuments of Scotland).

The national archaeological database within RCAHMS is available on-line through the programmes CANMORE and CANMAP. In addition, a new web-site is being developed as part of the Culture 2000 programme. A portal offering a link to the Roman entries in the RCAHMS national archaeological data-base has been tested and will go live in 2007.



The policies of the state agencies in the UK are not in favour of reconstruction *in situ*. At present, no elements of the Antonine Wall have been reconstructed; there is no intention to undertake the reconstruction of any element of the Antonine Wall *in situ*.

The interpretative panel to the bath-house and latrine at Bearsden.

Action 10

Visitor facilities and the interpretation of the proposed World Heritage Site will be developed over the next five years at all levels to meet visitor expectations as a means of improving the enjoyment and understanding of visitors and local people and their appreciation of the universal significance and status of the proposed World Heritage Site and its setting within a strategic and sustained approach.

Action 11

Interpretation at individual sites will be enhanced. Appreciation of the linear nature of the monument and its links to other sites, in particular the Forth and Clyde Canal, will be emphasised.

Action 12

Museum authorities with collections relating to the proposed World Heritage Site will consider opportunities for further co-operation and for improving access to their collections. The existing Antonine Wall museum archaeologists forum would provide an appropriate body to initiate such action.

Action 13

Visitor awareness of conservation issues on the Antonine Wall will be raised, in particular in relation to the fragile nature of the monument.

Action 14

Facilities for remote access and interpretation of the Antonine Wall will be enhanced and developed, preferably building on the facilities provided by existing bodies such as the Royal Commission on the Ancient and Historical Monuments of Scotland, the Hunterian Museum and SCRAN.

Issue 7: The improvement of access to the Antonine Wall.

New legislation in the form of the *Land Reform (Scotland) Act 2003* charges local authorities in Scotland to record and extend the network of footpaths in their area. Many footpaths cross or run along the Antonine Wall. The access officers appointed by the local authorities under the new legislation are recording such footpaths and considering where new footpaths are required. The Royal Commission on the Ancient and Historical Monuments of Scotland intend, in conjunction with the Ordnance Survey and Historic Scotland, to publish a map of the Antonine Wall

which, *inter alia*, will record these footpaths. This will draw on the work of the local authorities along the Wall to produce an integrated and consensual approach.

Improved provision of car parks is essential. This will take some time to achieve not least because it will require the acquisition of new land. Historic Scotland is discussing the way forward with the local authorities along the line of the Wall.

Substantially larger numbers of visitors could have a deleterious affect on the earthworks which are vulnerable to over-use. The Scottish Outdoor Access Code (Section 3), which encourages responsible behaviour in relation to the cultural heritage, will be a help in developing a strategy. The Antonine Wall presents a particular challenge in relation to disabled access. Nevertheless, access is possible along much of the Wall and must be developed.

Action 15

A route-way will be created along the Antonine Wall through an enhanced landscape for visitors with signposts, interpretative panels, directions to local museums, car parking, and information on tourist facilities for those who wish to come and explore the Wall without compromising the historical integrity of this potential World Heritage Site linking to other visitor attractions such as the Forth and Clyde Canal.

Action 16

A visitor profile will be developed for each section of the Antonine Wall where public access is permitted in order to ensure the sustainable future of the monument.

Action 17

A disabled access strategy will be developed.

Issue 8: Links between the World Heritage Site and local communities.

There is a strong relationship between the local communities and the Antonine Wall. There are several archaeological and



Local school children are introduced to the Hunterian Museum's web site and computer programmes.

historical societies along the line of the frontier whose activities relate to the Wall through lectures, visits and publications. The Antonine Wall features in the coat-of-arms of the Burgh of Kirkintilloch. Many householders in the various towns and villages along the Wall are proud of their location and some display Roman remains in their gardens. The Antonine Wall is commemorated in many street names, both old and new, along its line. Many sections of the Antonine Wall are used for recreation, including dog-walking and running, while the Wall runs through three golf courses. Some schools particularly appreciate their position on or beside the Roman frontier and incorporate teaching about the monument into their curriculum. Yet, beyond these people and communities immediately living on the Wall line, knowledge and interest could be improved. Such activities would not only raise the profile of the monument, but act as a vehicle for greater understanding about the monument and through that improved protection of the physical remains.

Action 18

The educational use of the Antonine Wall will be optimised through closer contacts between the protection and conservation bodies, museums, schools, universities and other educational bodies. In particular, steps will be taken to strengthen the use of the Antonine Wall in teaching in schools along its line, not just as an historical resource but as part of understanding citizenship in a modern world.

Action 19

Links between the World Heritage Site and local communities will be strengthened to improve their appreciation of the Antonine Wall and create positive partnerships.

Action 20

The proposals to improve the presentation of the Antonine Wall through the signage and enhancement of the line of the Antonine Wall in urban areas will be extended not only to improve local knowledge but through that seek its better protection.

Action 21

The greater use of the Antonine Wall for recreational activities by people of all ages and inclinations will be explored. These could include the use of the Antonine Wall as a 'green gym' to improve health.

4.5 Managing the proposed World Heritage Site

Issue 9: Implementing the Management Plan.

The Antonine Wall is a major feature in the Scottish landscape, being the single largest ancient monument in Scotland. It crosses the boundaries of five local authorities and other bodies concerned with the countryside. It is essential that all plans for the management of the monument offer an integrated approach, dealing with all parts equally. The move towards such an integrated approach has already commenced during the nomination process. This was underpinned by a Steering Committee consisting of members of Historic Scotland, the five local authorities – East Dunbartonshire, Falkirk, Glasgow City, North Lanarkshire and West Dunbartonshire – and Scottish Natural Heritage. This is the first over-arching body that has ever been established to ensure the protection and management of the Antonine Wall. The fruitful experience of working together to prepare the Nomination Document for the Antonine Wall has prepared the way for the next logical step forward. This step, the Steering Committee recognized, is to establish an Antonine Wall Management Plan Working Party to take overall responsibility for the implementation and monitoring of the Management Plan and its further development. Representatives of all relevant bodies in central and local government, land use and land management, museums and educational institutions have been invited to join this Working Party. This new body will subsume many existing partnerships and working relationships and provide a new focus for joint actions.

Proposed membership of the Antonine Wall Management Plan Working Party

- ✿ Historic Scotland
- ✿ Falkirk Council Development Services and Museum Service
- ✿ North Lanarkshire Council Planning Department
- ✿ East Dunbartonshire Council Planning Department and Museums Service
- ✿ City of Glasgow Council Planning Department and Museums Service
- ✿ West Dunbartonshire Council Planning Department
- ✿ Royal Commission on the Ancient and Historical Monuments of Scotland
- ✿ Scottish Natural Heritage
- ✿ Scottish Executive Environment and Rural Affairs Department
- ✿ Forestry Commission
- ✿ VisitScotland (Scottish Tourist Board)
- ✿ Hunterian Museum, University of Glasgow
- ✿ National Trust for Scotland
- ✿ British Waterways Board
- ✿ Department of Archaeology, University of Glasgow
- ✿ Society of Antiquaries of Scotland
- ✿ Council for Scottish Archaeology
- ✿ Glasgow Archaeological Society

Action 22

The Management Plan Working Group will review the Management Plan and oversee its implementation through the co-ordinated actions of the members of this group.

Action 23

In order to achieve the aims of the Management Plan, the existing partnerships will be reviewed and extended to encompass additional bodies in order to improve the protection, management, presentation and enjoyment of the Antonine Wall.

Action 24

The Management Plan Working Group will be expected to engage with local communities along the line of the Antonine Wall.

Action 25

A first task of the Management Plan Working Party will be to prioritise the list of actions detailed in this Plan and assign resources, determining control and monitoring mechanisms.

Issue 10: The maintenance and enhancement for resources to implement the Management Plan.

Ms Patricia Ferguson, MSP, Minister for Tourism, Culture and Sport, representing the Scottish Executive on 20 June 2006 signed a concordat with representatives of the five local authorities whereby all six bodies pledged themselves to undertake the necessary actions to protect and manage the Antonine Wall. All six bodies have already placed resources at the disposal of the project in a variety of ways, through the

provision of staff to prepare the nomination document, to undertake specific actions to improve the protection of the Antonine Wall, to conserve the monument and to improve access to those sections in public care or ownership. All have committed further funds to continue this work.

In addition, the Royal Commission on the Ancient and Historical Monuments of Scotland has undertaken a long and complex programme to upgrade all its archive relating to the Antonine Wall. It has digitized the last survey of the frontier undertaken in 1980 and added information relating to all known interventions on the monument: this information will be available on the internet in 2007. In addition, RCAHMS has agreed to maintain this body of information and host the Frontiers of the Roman Empire web-site.

The University of Glasgow has made funds available for the creation of a new gallery devoted to the display of the Hunterian Museum's internationally important collection of Roman material. This will also house the expanded and enhanced Antonine Wall Interpretation Centre providing, *inter alia*, intellectual

THE ANTONINE WALL

The Antonine Wall is the most important ancient monument from the Roman era to survive in Scotland. It is a monument of international importance. It crosses Scotland from Bu'ness on the Firth of Forth to Old Kilpatrick on the River Clyde and survives remarkably well as a visible and valued feature in the landscape in view of its location in Scotland's industrial heartland.

We, the representatives of the Scottish Ministers, East Dunbartonshire, Falkirk, Glasgow, North Lanarkshire and West Dunbartonshire Councils state our support for the nomination of the Antonine Wall as a World Heritage Site and confirm that all parties are committed to working together to achieve recognition of the appropriate place of the Antonine Wall in the cultural heritage of Scotland and its wider international context. Further, all parties confirm that they will work together to improve the protection, management, presentation and interpretation of the Antonine Wall.

Signed on behalf of:

Patricia Ferguson

Scottish Ministers

Patricia E. Steel

East Dunbartonshire Council

Robert J. Spears

Falkirk Council

Alister J. Macdonald

City of Glasgow Council

Gavin Whitefield

North Lanarkshire Council

Gavin O'Sullivan

West Dunbartonshire Council



access to the sites and artifacts associated with the frontier. Falkirk Museum Service is reviewing its displays with the intention of creating a new display relating to the Antonine Wall at Callendar House immediately beside a visible section of the Antonine Wall ditch.

The level of commitment of resources to the improved protection, conservation, management, presentation and interpretation of the monument at national and local level is impressive. It is already very clear that the steps taken in relation to the proposed nomination of the Antonine Wall as a World Heritage Site has released funds and other types of support as part of a long-running programme of activity on the Antonine Wall.

Action 26

Historic Scotland and Falkirk Museum Service have already agreed to provide the secretariat for the new body. Historic Scotland and the five local authorities have agreed to finance the preparation of Supplementary Planning Guidance for the Wall. Both Historic Scotland and the Royal Commission on the Ancient and Historical Monuments of Scotland have confirmed that they will maintain their enhanced level of financial support for the projects relating to the Antonine Wall.

The Antonine Wall is specifically noted as a target site in the Historic Scotland Business Plan. Scottish Ministers recognize that successful nomination will mean that the Scottish Executive, through Historic Scotland, will need to continue its commitment to making a dedicated investment in the Antonine Wall, as it has with other World Heritage Sites in Scotland, and that a designated coordinator post will be established. Historic Scotland recognizes that such investment will need to embrace not only funding for work undertaken directly by itself, but also by local authorities and, as appropriate, private owners. Ministers will expect Historic Scotland to work closely with other partners to maximize the potential for complementary and shared investment in the Site.

Issue 11: The need for adequate and improved information and understanding of the history, development, post-Roman and present use of the proposed World Heritage Site and its buffer zones.

There is a long and respectable history of research on the Antonine Wall, from the sixteenth century to the present day. Visitors and antiquarians recorded their experiences and knowledge of this northern frontier was incorporated into books such as John Horsley's *Britannia Romana* (London, 1732). A major step forward came with the mapping of the Antonine Wall by William Roy in 1755, to be published in his *Military Antiquities of the Romans in Britain* (London, 1793).

The era of modern research began in the 1890s and has continued, amplified by new techniques, since that date. Aerial photography, which commenced in the 1930s, considerably extended knowledge, and it has now been joined by geophysical survey as well as the contribution of natural sciences. As a result, much is known about the structure, plan and history of the Antonine Wall. Yet, research in the study as much as the field and chance discoveries have provided considerable new information about the Antonine Wall over recent years, amplifying and complicating our understanding. There seems to be every probability that such discoveries will continue to be made.

Action 27

A framework for research on the Antonine Wall will be prepared. This will be taken forward in conjunction with all bodies undertaking research on the Antonine Wall in universities, museums, archaeological societies and commercial archaeological units.

Action 28

Awareness and understanding of the archaeological, historical and other values of the Antonine Wall and of the significance of its potential value as a

World Heritage Site will be improved. This can be undertaken through publications of all types, the media, museums, on site interpretation and so on.

Action 29

The Management Plan Working Group will ensure that the information provided about the Antonine Wall is accurate and to the highest standards.

Issue 12: Develop the international connections of the Antonine Wall.

The Antonine Wall is a monument of international importance in its own right. It is also part of a wider monument: the frontiers of the Roman empire which stretched for over 5000 km from the Atlantic Ocean to the Black Sea, from Trabzon to the Red Sea, from Egypt to the Atlantic coast of Africa. As already noted, Historic Scotland is part of a three-year European Union Culture 2000 programme to disseminate information about the Frontiers of the Roman Empire and encourage research.

The management mechanisms for this proposed extension of the Frontiers of the Roman Empire World Heritage Site also have to be considered within the framework of the coordinated management of the separate components of the Site. UNESCO have already agreed (Summary Nomination Statement for the Frontiers of the Roman Empire World Heritage Site) that:

“4.1 Responsibility for the management of individual parts of the World Heritage Site must rest with the individual State Parties and be carried out by each in accordance with their legislative and management systems. Equally, it is essential that individual parts of the World Heritage Site are managed within an overall framework of cooperation to achieve common standards of identification, recording, research, protection, conservation, management, presentation and understanding of the Roman frontier, above and below ground,

in an inter-disciplinary manner and within a sustainable framework.”

“4.3 The United Kingdom government and the German authorities have undertaken to work with each other to develop this ... framework... As further States Parties propose parts of the frontier for inclusion in the World Heritage Site, the United Kingdom government and the German authorities will discuss with them possibilities of a more formal structure for international cooperation.

4.4 The United Kingdom government and the German authorities will be supported in the development of the Roman Frontiers World Heritage Site by the Bratislava Group.

4.5 This international group was created in 2003. So-called after the city in which it first met, it is made up of experts of the history and archaeology of the Roman Frontiers and of those involved in its management. It currently has members from the United Kingdom, Germany, Austria, Slovakia and Hungary, but could be expanded to include experts from ICOMOS and the World Heritage Centre as well as from further countries which intend to nominate future sections of the World Heritage Site.

Action 30

Appropriate international links will be maintained and enhanced.

Action 31

Appropriate actions will be taken to ensure that the Antonine Wall retains and enhances its position within the study of the Frontiers of the Roman Empire.

Action 32

A set of management principles for the use of the international community on the identification, recording, research, protection, conservation, management, presentation and understanding of the Roman frontier will be created.

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V MANAGEMENT VISIONS

Two visions for the proposed World Heritage Site are required, a medium term and long term vision.

5.1 Aims for the management of the Antonine Wall during the next 5 years, 2007-2012

The following aims are offered for the management of the Antonine Wall over the next five years:

- improve the management of the Antonine Wall, in particular through the actions of Historic Scotland and the five local authorities along the line of the Wall;
- create an access strategy which would encompass sign-posting, car and cycle routes and car-parking; consideration would have to be given to potential visitor numbers at each site and part of the strategy might be to provide additional land in order to spread the load and provide space for car parks;
- improve the presentation of all those parts of the Antonine Wall which are in the care of ownership of public bodies such as Historic Scotland and the local authorities;
- formulate an integrated interpretation and education strategy encompassing Historic Scotland, the five local authorities along the line of the Wall and all museums holding artefacts from the Antonine Wall;
- prepare a landscape strategy which would seek to enhance the environment within which the Wall sits including improved management of the woodland through which the Wall runs;

- achieve co-operation with other facilities in the area, including the Forth-Clyde Canal/Falkirk Wheel;
- help create standards for the mapping and documentation of Roman frontiers to enable the Antonine Wall to be studied better within its international framework;
- co-operate with international bodies to place the Antonine Wall in its wider historical and tourist setting, for example through the Culture 2000 programme.

5.2 A vision for the management of the Antonine Wall over the next 30 years, 2007-2037

- ensure that the strategies and plans for management, landscape, access, presentation and interpretation listed above are implemented;
- seek to free all sections of the Antonine Wall from modern developments when such opportunities occur;
- improve the immediate environs of the Antonine Wall and the access points to it;
- following the implementation of the access strategy, raise the profile of the Antonine Wall in the public consciousness;
- place teaching about the Antonine Wall firmly within the Scottish History curriculum, not just in its own right, but also as a method of teaching about international citizenship;
- pursue a research programme for the Antonine Wall within its international framework.

LEFT: The goddess Victory places a laurel wreath in the beak of the legion's eagle on the Hutcheson Hill distance slab.

THE ANTONINE WALL

DAVID J. BREZE



THE
ROMAN
WALL
IN
SCOTLAND
—
MACDONALD

THE
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THE ANTONINE WALL REPORT

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AND R. P. WRIGHT

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VI BIBLIOGRAPHY

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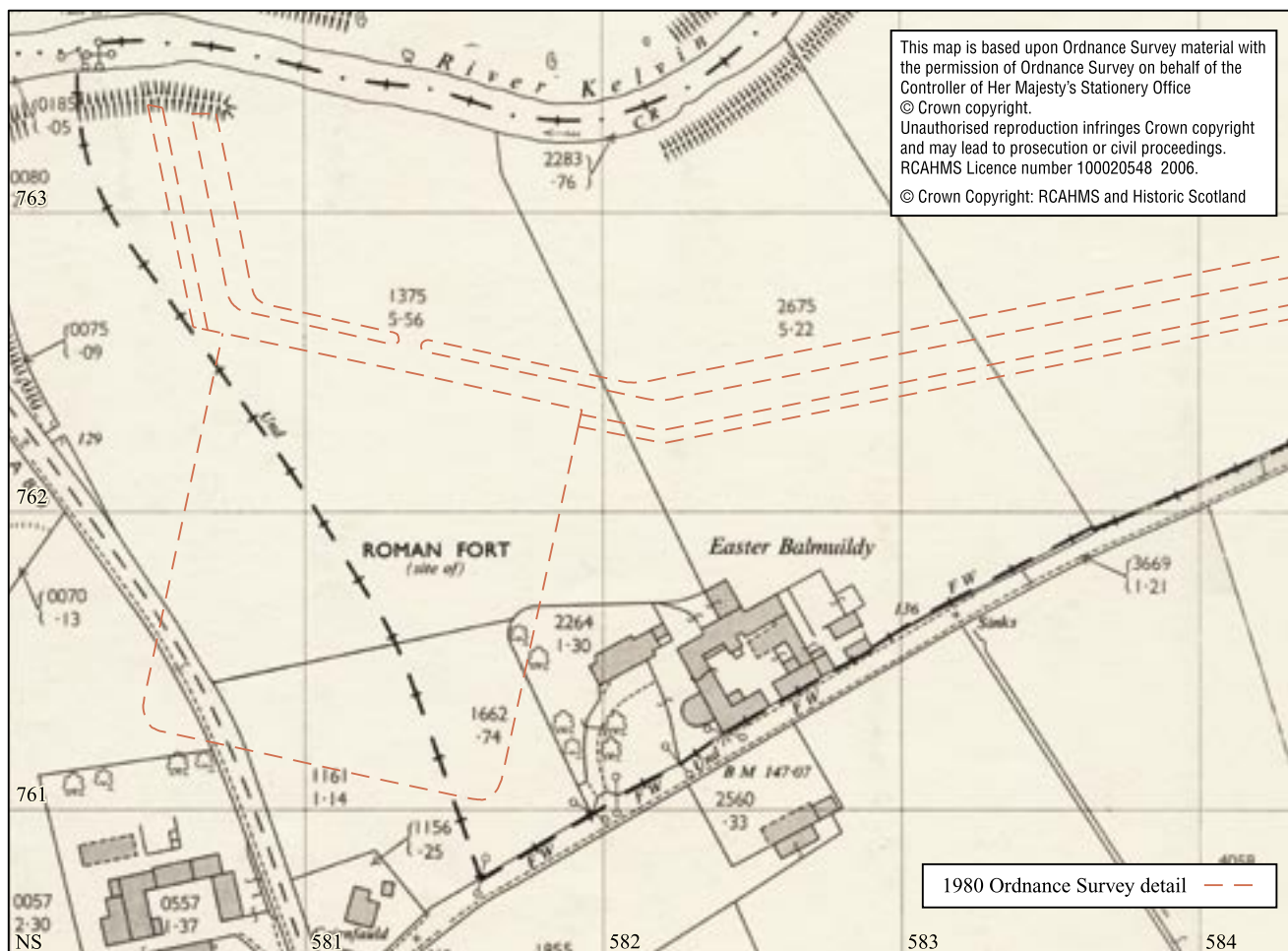
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APPENDIX I

Event mapping along the Antonine Wall

Rebecca Jones

The most recent full survey of the Antonine Wall was undertaken by the former Archaeology Branch of the Ordnance Survey (OS) in 1980. This baseline survey assessed all the available archaeological evidence at that point to produce a revised suite of maps at scales of 1:1,250 and 1:2,500, now deposited in the RCAHMS archive. Two earlier folios of maps, the Ordnance Survey Working Sheets of 1954–7 and the course supplied by Sir George Macdonald 1931, are also held by RCAHMS.

In the mid 1990s the mapped detail from the 1980 OS survey was digitised by RCAHMS to create a layer in the Geographic Information System (GIS). This digitisation process applied intelligent attributes to the component features of the Wall, the rampart, ditch, outer mound (counterscarp bank), forts, fortlets and other features. It is this line that forms the basis of the World Heritage Site nomination.

The digitisation of the map was followed, between 2004–6, by the digitisation of all archaeological interventions or events along the line of the Antonine Wall from 1980 to the present, thereby updating the existing baseline survey and bringing the documentation up to date. In addition, all events prior to 1980, for which there was sufficient information in the form of locational data and detail, were also mapped.

The project incorporated evidence from a variety of sources including geophysical survey and excavation. This drew together information from published sources as well as unpublished reports and collections of material deposited in the archives of RCAHMS. Site location plans were digitised and geo-referenced to

local mapped detail. Attribute (metadata) tables were created, both at a high level, containing data such as the type, date and director of the intervention, as well as more detailed data recording the individual features found. The project digitised information from excavations, watching briefs and geophysical surveys, recording individual trenches and features, identified by type. By capturing the data in this way, the user is able to cross-search different events to identify similar features across, for example, separate excavation projects.

In addition to this data collection, all available air photographs depicting areas where the Wall is visible as a cropmark were scanned and geo-referenced. The archaeology was transcribed and additional GIS layers created. Further selected field survey data to enhance this resource was also collected in 2006, using a differential Global Positioning System (GPS), to enhance the basic information about upstanding segments of the Wall.

The aerial transcriptions, geophysical survey information, excavation extents and excavation detail created through this project are all available as layers in the GIS. Once in this digital environment, the data can be viewed against a variety of backgrounds and cross interrogated with other datasets. This includes raster datasets such as earlier maps of the monument, and ‘intelligent’ vector data such as the World Heritage Site line and buffer zones, Historic Scotland’s Scheduled Ancient Monuments, Historic Land-use Assessment information, the Macaulay Land-use data, Ordnance Survey height and contour data, nature conservation designations, local authority land-use zones and other data gathered for land-management purposes.

LEFT:

Top: The Ordnance Survey 1:2,500 paper map of the area around the Roman fort at Balmuildy, published in 1967, with additional detail from the 1980 Survey.

Bottom: An extract from the digital map for Balmuildy incorporating the raster Geophysical Survey (Glasgow University 2005), the vector digitised and rectified excavation plan (Miller’s excavations 1912–14), and the RCAHMS vector digitisation of the OS 1980 Survey.

This therefore provides a powerful tool for the management, protection, conservation in interpretation of the monument, and the event-mapping layer will be made available to the local council archaeologists and planners. The RCAHMS database, Canmore, is available online (www.rcahms.gov.uk) and each event created for the project has the RCAHMS unique identification number embedded in the attribute table to enable the user to drill directly into the online information in the national database.

Now that the data collection phase has completed, there is a requirement to consider the on-going maintenance of the map and ensure that data collected in future is in an appropriate format to

enable the smooth incorporation of digital and non-digital data into the existing resource. One mechanism for enabling the smooth update of this dataset is the OASIS (Online Access to the Index of archaeological investigationS) project, run by the Archaeology Data Service of the University of York, which manages the flow of information from the archaeological consultants and contractors to the local and national records. This project is being extended to cover Scotland in Autumn 2006. The availability of information on the event mapping work to all those interested in the management and research of the Antonine Wall should aid the requirement for a standardisation of data collection along the Wall.

