

SCOTLAND'S HISTORIC FIELDS OF CONFLICT



An Assessment for Historic Scotland

by the Battlefields Trust

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December 2005

Acknowledgements

The project was devised initially in consultation with Noel Fojut and subsequently with Anne MacSween, both of Historic Scotland. Project management for Historic Scotland was undertaken by Dr. Lesley Macinnes, Principal Inspector of Ancient Monuments. Comments on the text have been provided by Dr. Macinnes and Aonghus Mackechnie, also of Historic Scotland.

Thanks are due to various staff in Historic Scotland, RCAHMS and all Scottish SMRs, who provided data and advice for the project, together with all the other consultees who also advised on the project (see appendix 1).

The Explorer 1:25000 scale maps used as base mapping in this report are reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Historic Scotland Licence No. 100017509 [2005]. No north points have been added as north is always to the top of the map.

The work was undertaken by the Battlefields Trust, a registered charity with the aim of providing information on and promoting the conservation and interpretation of battlefields and other fields of conflict throughout the UK.¹ In 2004 it launched the UK Battlefields Resource Centre, an internet resource on battlefields (<http://www.battlefieldstrust.com/resource-centre>). The latter at present deals only with English battlefields, but the Trust is currently seeking resources to enhance this with detailed information on Scottish battlefields in 2005-7.

Abbreviations

BGS: British Geological Survey

GUARD: Glasgow University Archaeological Research Division

National Archives: this archive, based in London and formerly called the Public Record Office, covers the whole of the UK

National Archives of Scotland: this archive based in Edinburgh covers Scotland

NLS: National Library of Scotland

NMRS: National Monuments Record for Scotland maintained by the RCAHMS

RCAHMS: Royal Commission for the Ancient and Historical Monuments of Scotland

SMR: Sites and Monuments Record

¹ <http://www.battlefieldstrust.com/history.asp>

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SUMMARY

This assessment was prepared to assist Historic Scotland in determining the most appropriate management strategies for Scotland's historic fields of conflict and to provide guidance on this to Council Archaeologists and others involved in the management of the resource. It formed the basis for a seminar in November 2005, organised by Historic Scotland and held at RCAHMS, where the future management of Scottish battlefields was discussed an invited audience of national and local archaeologists, battlefield archaeologists and historians.

In the present report priority has been given to assessment of the sites as archaeological monuments, that offer the potential to better understand the individual actions and historic warfare in general. Memorialization and related issues were not a primary objective and, although data was recorded where incidentally identified, cultural importance, though crudely assessed, did not form a central element of the detailed site assessment and overview.

This was a desk based project working largely upon secondary sources plus data from the NMRS and most SMRs. The Battlefield Trust's *UK Fields of Conflict database* has been enhanced to provide an initial listing of sites. This does not claim to represent comprehensive coverage of all sites, though it seeks to include all located battles as well as iconic lesser actions.² The actions have been classified according to scale and character to enable comparative study across the UK and to allow Scottish actions to be viewed in a wider Western European context. A battle is taken here to be an action involving wholly or largely military forces, present on each side in numbers comprising battalion strength (i.e. totalling of the order of a thousand or more), which normally required deployment and engagement on the field in formal battle array. Siege sites, that is military actions consisting primarily of assaults upon heavily fortified sites, and naval actions were excluded because they represent a distinctly different resource which requires separate assessment.

Each site was classified according to the type of action, distinguishing battles from skirmishes, clan warfare and other events of civil unrest. A bibliography of secondary sources was compiled from a specified list of battlefield and related publications to provide an initial assessment of perceived cultural importance of each site. It would be possible, following systematic enhancement of the database for battlefield memorialization, to provide a parallel assessment of perceived cultural importance through the presence, number and scale of battlefield monuments and commemorative associations.

The sites of twenty [check numbers and ensure correct throughout the report] of the highest scoring actions (18 battles and two skirmishes) were then selected for more detailed examination. These are discussed in the gazetteer with a brief description and assessment, supported by a more extensive bibliography and maps. These entries do not claim to represent a comprehensive statement on the current state of knowledge of each site, though where practicable the most recent publications on the battle and battlefield have been consulted.

The present report provides an overview defining the character of the Scottish resource by type of action, and spatial and chronological distribution; reviews the character of the

² Lesser is used here only in terms of the character and scale of the military action itself as does not necessarily indicate minor political or social significance of the event.

physical evidence for battles and battlefields and the type of threats to that resource. Finally a series of recommendations are given for further action.

A digital copy of the report, gazetteer and database is to be archived with the National Monuments Record (NMRS) and copies provided to each Sites and Monuments Record (SMR). A copy of the report appendices and gazetteer will be available online at

<http://www.battlefieldstrust.com/resource-centre>

1. The Value of the Resource

Fields of conflict have an importance from three distinct perspectives:

- *Research*
- *Interpretation*
- *Commemoration*

1.1 Research

Work over the last twenty years in Europe and the USA has revealed the degree to which the physical evidence of battlefields can transform our understanding of the location and character of both major battles and lesser actions.³

There is a major problem with most battlefields of accurately locating the events within the landscape. Interdisciplinary study combining documentary with archaeological evidence has proven increasingly effective at accurately placing the action within the contemporary terrain of the battlefield. This enables the effects of terrain upon the course and outcome of the action to be assessed, revealing for example the success or failures of a commander in exploiting the opportunities provided by the terrain.

The physical evidence may also contribute to the understanding of the nature of warfare of a particular period. Thus distribution of bullets, arrowheads or other artefacts across the frontage of a battlefield may assist in the quantification of the armies involved and the way in which they were deployed. They may also cast light on the composition and equipping of the armies. For example the calibre of unstratified bullets will indicate the bore and hence to some degree the type of firearms employed. If the mass graves can be located then, as can be seen at Towton, a great deal can be deduced from the evidence of trauma on human remains, such as the use and effectiveness of weapons.⁴

Investigations of well preserved battlefields with well documented action may also prove of high value. Even if such work does not provide major advances in the understanding of those particular actions themselves, comparison of the archaeological with the documentary record may lead to major advances in the methodology of battlefield recording and analysis. They may reveal archaeological signatures of different types of action; enable the effectiveness of particular survey techniques to be assessed; and, where exceptional preservation such as waterlogging occurs or where burial by alluvium preserves a battlefield surface, they may show the nature of the original resource, enabling a better understanding of what has been lost on most other sites.⁵

1.2 Interpretation

There is substantial public and educational interest in battlefields and other fields of conflict.⁶ Several iconic actions, such as Culloden, have received interpretive treatment comparable in scale and character to that seen on certain battlefield in the USA,

³ For example the series of papers in Freeman, Pollard and University of Glasgow Dept. of Archaeology, 2001 And in Foard, Sutherland, Schmidt, Pollard and Newman, 2003

⁴ Fiorato, Boylston and Knusel, 2000

⁵ Foard, forthcoming

⁶ Pollard, 2003

something that is rare elsewhere in Europe for battles earlier than the 19th century.⁷ Other actions are also of considerable interest to a more specialist audience, indicated by the number of books and guides published on Scottish battlefields, and to local communities where the sites lay. Assessment of the location, nature and effectiveness of interpretive facilities was not however part of the brief for the present project, but where identified in the research they are noted in the gazetteer.

The other aspects of the sites investigated here are however directly relevant to ensuring the interpretive value of the sites can be effectively managed. Only if the sites are adequately understood can the correct area of landscape be defined and significant physical remains surviving from the terrain at the time of the battle, such as the fine detail of landform, the pattern of hedgerows, walls or other features be identified. This is essential if the interpretive value of the sites is not to be further degraded by uninformed land use change. In addition, only if the events are well understood and placed accurately within the landscape can meaningful interpretation be provided on site. For this reason it is important that substantial interpretive schemes are underpinned by modern investigation of the battlefield.

1.3 Commemoration

A handful of the sites have a very high profile in historical perceptions of Scottish history and national identity, but the presence of monuments on a substantial number of other Scottish battlefields indicate a wider interest. Commemoration and memorialization represents a valid aspect of the management of the historic environment, recognised by the fact that a number of the monuments are scheduled or listed. This theme was not however a focus of the present assessment and thus only a limited number of examples, where incidentally revealed during the research, has been included in the *UK Fields of Conflict features* database (see list in appendix 5). It would be possible, following systematic enhancement of the database for battlefield memorialization, to use this data to provide a parallel assessment of perceived cultural importance through the presence, number and scale of battlefield monuments and commemorative associations.

37 monuments are so far included on the database, of which 10 are listed, 1 listed and scheduled and a further 4 scheduled. In addition there are a few memorial plaques and other such features on the database. There are also a substantial number of standing stones, cairns and other features, most of which are earlier archaeological features which have become associated with the battle by local tradition. In addition there are several sites where important surviving structures which had a significant role in the battle itself might be considered to represent commemorative features in their own right, most notably at Bothwell Bridge.

⁷ Sked, 1987. For an overview of American battlefields preservation and interpretation - <http://www.cr.nps.gov/hps/abpp/>

2. Defining the Resource

2.1 *Previous management approaches*

While there has been extensive research and conservation of battlefields in the USA, in Europe it is only in England that there has been specific action to conserve historic fields of conflict as a distinct component of the historic environment. This is through the Register of Historic Battlefields, established in 1995.⁸ It is instructive to consider the highly selective approach taken, which includes 43 sites and was based on the assessment of just 69 sites. The Register covers only battles, excluding:

- *skirmishes or other lesser engagements*
- *events of civil unrest*: defined as actions where recognised military units were not involved, because they were said to be too poorly documented and to have no real boundaries.
- *sieges*: because they were associated with physical remains which, it was claimed, could be better managed through existing statutory mechanisms.
- *poorly defined sites*: where the geographical extent could not be adequately defined.

For inclusion on the Register the battles had to meet key criteria of importance:

- *Political significance*: its impact should be traceable nationwide
- *Military historical significance*: *it saw the use of tactics of particular note*
- *Biographical significance*: *it was the crowning glory of a military career, or where a famous leader was killed or captured.*

The Register has been effective in fighting off several, but not all, large scale development proposals on major battlefields, but the selective approach has resulted in the unregistered fields of conflict being largely abandoned with little or no management. Yet smaller scale actions may have an archaeological potential which far outweighs their scale or military/political significance, resulting from exceptional archaeological preservation or unusually detailed documentary record of the action itself. Even the poorly preserved battlefields may prove, on close inspection, to have some archaeological potential to contribute to the understanding of the location and character of the action.

Other limitations of the approach have also now been recognised. The sites included were considered as historic landscapes but not as archaeological monuments, thus there was no assessment of research potential, threats to or the conservation needs of the archaeological resource. The surviving historic terrain features from the time of the battle were not identified, thus effective targeted conservation was not possible, and little proactive management or monitoring of the condition of the sites was initiated. Neither was there any ongoing programme of work, thus the poorly defined sites were not investigated to recover evidence to enable the better definition of the extent and potential of these sites.

The Register's battlefield boundaries were very tightly drawn. Although defined on the basis of more detailed analysis of sources than has been possible in the present project,

⁸ English Heritage, 1995- The Registered Battlefield reports are available online at: <http://www.english-heritage.org.uk/>

research on the historic terrain and battle archaeology on some sites has revealed many problems.⁹ In several cases it now appears that completely the wrong area may have been Registered, as at Barnet, while on other battlefields substantial areas of the action can now be seen to have been excluded, as at Naseby and Marston Moor.¹⁰ Significant battle archaeology often also lies beyond the area which can be defined as the battlefield, relating instead to the area of skirmishing during the pursuit. An example is the Towton mass grave, which lay well to the north of the Registered area.¹¹ It seems clear that in many cases the battlefield boundaries have been taken as the definition of the extent of potential archaeological interest and thus no action taken is in many cases when threats arise beyond the boundary, even though important archaeology is likely to exist in the areas of subsidiary action.

2.2 Assessment of Scottish Sites

To assess an individual site's relative potential it is also important to have a record of the scale and character of all fields of conflict. The present project therefore began by enhancing the Battlefields Trust's *UK Fields of Conflict* database. The structure of the database is defined in appendix 6 and the enhancement methodology in appendix 7. The project worked almost solely from secondary published sources together with data from the NMRS and most SMRs and does not claim to represent comprehensive coverage of all sites. Though it seeks to include all located battles as well as iconic lesser actions, a large number of lesser actions will not have been identified. Siege sites, that is military actions consisting primarily of assaults upon heavily fortified sites, and naval actions were excluded from the present study because, although of considerable value, they represent a distinctly different resource which requires separate assessment.

Each site was classified according to the type of action, distinguishing battles from skirmishes, clan warfare and other events of civil unrest. A bibliography of secondary sources was then compiled from a specified list of battlefield, military history and related publications (see appendix 3). This enabled an assessment of perceived cultural importance, as indicated by the number of bibliographic references (see appendix 4). It would be possible, following systematic enhancement of the database for battlefield memorialization, to provide a parallel assessment of perceived cultural importance through the presence, number and scale of battlefield monuments and commemorative associations. The sites' importance and potential were also graded by professional judgement based on the apparent veracity of sources, locational accuracy, number and survival of associated features, the scale of event and its likely military and political importance.

Following the enhancement of the database all the battlefields were selected for a very rapid assessment of potential. A sample of battlefields was then subject to more detailed characterisation and assessment.¹² These sites were selected based on the professional judgement grading in conjunction with perceived cultural importance, the latter indicated by the number of individual bibliographic sources identified in the bibliographic searches (see

⁹ All 43 battlefields on the Register were reviewed over a two year period by the Trust during the preparation of the data present on the UK Battlefields Resource Centre. (<http://www.battlefieldstrust.com/resource-centre>). An assessment, in collaboration with English Heritage & Leeds University, expanding upon the results of this research is proposed for 2005-7.

¹⁰ Brian Warren and Jonathan Smith, pers. comm.. For Naseby and Marston compare the Registered area with the extent of battle archaeology as defined in Newman and Roberts, 2003 And Foard, 1995

¹¹ Fiorato, Boylston and Knusel, 2000

¹² When preparing the gazetteer entries it became clear from the secondary sources that two of the actions, Drumclog and Bothwell Brig, should be reclassified as skirmishes not battles.

appendix 4). From the 358 fields of conflict, 20 of the 'most important' sites, according to the scoring, were then selected for more detailed examination. The one exception was Culloden, which is not assessed here because it is currently subject to a major review and fieldwork by and on behalf of the National Trust for Scotland and ideally the initial results of this work should feed into the assessment process. These sites are described, mapped and assessed in the Gazetteer. All but two of these sites are classified here as battles (Bothwell Bridge and Drumclog), explaining in part the degree to which the bulk of the report and gazetteer focuses on battles. In the assessment priority has been given to assessment of the sites as archaeological monuments that offer the potential to better understand the individual actions and historic warfare in general, but acknowledgement is also given to their wider value as culturally important locations.

In the light of the problems recognised in the English Register boundaries, in the gazetteer in the present study for each site a core 'area of search' has been defined, depicted on the battlefield plans in the Gazetteer. This is supplemented with a wider 'battlefield context', typically drawn along national grid km sq boundaries, to incorporate subsidiary action and take account of the uncertainties over the extent of the battlefield. When detailed research is undertaken even the latter boundary may prove to be inadequate, as seems likely with the south western boundary identified for Dunbar II.

A gazetteer entry has been prepared for 20 of the highest scoring actions. The gazetteer entries include a summary of the battle and the battlefield, including a listing of primary and secondary sources. A map of each battlefield includes a search area rather than an 'extent' of the battlefield which, if it is definable, requires far more detailed research than was possible in the current desk based project. Neither could it cover detailed aspects such as the reconstruction of historic terrain nor reinterpretation of deployments and action within this from the evidence of the primary sources. Neither could the survival be assessed in detail, being restricted to a crude assessment based on state of development as shown by the modern 1:25,000 mapping. The additional information provided in the gazetteer includes deployments, as suggested by key secondary works, terrain information, mainly where available from secondary works or geological mapping, the extent of modern development (on the Explorer map base) and, where this could be established from OS, BGS or SMR data, extents of mineral extraction/made ground.

3. The Character of the Resource in Scotland

The 358 Scottish entries on the *UK Fields of Conflict database*, represent 343 separate actions. The discrepancy is because there are 15 'alternate' sites: for Bannockburn five possible locations are recorded, while there is a single alternative for each of the following: Sheriffmuir, Falkirk, Crossing of the Cree, Brunanburh (others exist in England), Dexastan, Black Earnside, Luncarty, Kinblethmont, Stronslaney, Buaile Bhlair, Roslin, Drumdurg, Bloody Fold. Whereas for sites like Bannockburn and Sheriffmuir the general area is known and the alternatives are centred within 1-4km distance, for sites like Brunanburh and Dexastan even the general area is uncertain, something that is typically the case for battles before the 11th century.

In classifying and describing actions, there has been some concern over the connotation of the term 'rebellion'. However in many cases the term rebellion appears to be integral to accepted descriptions of the events (eg: Bothwell Bridge Rebellion). The term has therefore been used here, as far as practicable, in the specific sense to indicate forces raised to oppose the authorities which were at that time in government, irrespective of their political persuasion. In mapping the latter have typically been identified in blue and the former in red. For international warfare Scottish forces are shown as blue where they were fighting within what was at that time Scottish territory, while invading forces are indicated in red.

3.1 Types of action

Battle

A battle is taken here to be an action involving wholly or largely military forces, present on each side in numbers comprising battalion strength (i.e. totalling of the order of a thousand or more), which normally required deployment and engagement on the field in formal battle array.

The *battlefield* is that area where the troops deployed and fought while in battle formation. Once the formations were lost, as in a rout and pursuit, then the action ceases to be part of the battle and becomes a subsidiary skirmish. Such action was typically piecemeal and could be scattered widely over a several miles or more. Thus for management purposes it must be distinguished from the typically more consolidated area of the battle proper. The area covered by such subsequent action, together with preliminary deployment and manoeuvre which significantly influenced the location of the main action, is described here as the *immediate context* of the battlefield. For each battle in the gazetteer a suggested '*search area*' has been defined, where possible refined into *battlefield* ('core area') and *immediate context* ('extended search area').

The subsidiary action could have dramatic influence on the outcome and significance of a battle, for it was typically in the pursuit and 'execution', after battle formations had collapsed, that the greatest numbers of troops were killed or captured. It is in this wider area, and probably especially where major obstacles were encountered, as much as in the concentrated area where the two armies first engaged, that the potential exists for mass graves. The definition of area may however be problematic, though it is likely, at least for post medieval actions, that unstratified artefact distributions will help in the placing and understanding of the subsidiary action. Several detailed case studies of different periods are however needed to explore such evidence and refine the methodology for its investigation.

Of the 343 separate actions on the database for Scotland, 39 are classified as battles, of which one was a wholly urban action (Dunkeld, 1689). A further 18, mainly from the medieval period, probably justify classification as battles. Two actions dealt with in the gazetteer, Drumclog and Bothwell Bridge, were re-classified as skirmishes rather than as battles because of the small numbers of troops involved in the former and the apparent lack of battle array and formal action in the latter. The current list of battles is given in both alphabetic and date order in appendix 2. Further research might enable reclassification of a limited number of other actions as battles, mainly from the 12th century and before. The scale of battles can be seen from table 3 to vary enormously. Pinkie was probably the largest, with about 40,000 engaged, while numbers fall in other actions, such as Auldearn, to as few as 5000, though there is a high level of uncertainty about numbers engaged in medieval battles. Such variation in numbers will have resulted in battlefields of widely varying size, although tactics of deployment varied between periods leading to other substantial differences in the frontage of armies when deployed in battle array.¹³ Reconstruction of frontages, based on analysis of numbers and tactics, will be a key element of a more detailed assessment of the battlefields, but could not be undertaken in the current study.

Skirmish

A skirmish was an engagement where military forces fought when not in battle array. Typically, though not always, this occurred when small numbers of troops were involved, because the rigid order of a battle array was not essential for the control of numbers substantially less than a battalion strength. Skirmishes could be subsidiary to a battle but most often they formed part of a wider military campaign. Generally skirmish sites tend to be far smaller in extent than battlefields, though it is a broad continuum of scale with no rigid divisions.

Of the 343 separate actions, 73 are classified as skirmishes, of which 4 are undated, but this class of action is almost certainly grossly underrepresented on the database. Many are only likely to be identified by a search of specialist historical works on individual war periods. The lower proportion of such actions from the 13th century and before probably relates in part to a bias in the secondary sources/records reporting the actions and partly to the adequacy of primary sources.

For lesser actions further work is needed to establish what value, if any, the sites themselves may have to add to the understanding of the events, over and above what is available from conventional military history. On some sites there may be the potential for exceptional survival of physical evidence, for example providing the opportunity for specific questions about military equipment to be addressed. It is also important to know where they occurred as the archaeology they have deposited may confuse the evidence for major battles, especially as military actions tend to concentrate in certain strategic locations. For example the skirmish at Musselburgh (East Lothian, 1650), may lie close to the Pinkie battlefield (East Lothian, 1547), where the bullets from the later event might confuse the battle archaeology of the earlier action.¹⁴

¹³ Prestwich, 1996 p.315-323. Chandler, 1990

¹⁴ Reid and Turner, 2004 p.48-49.

Border Conflict

Border conflict is used here to distinguish small scale cross border actions, often by irregular or civilian forces, from actions which were part of a large military campaign by regular forces (sometimes termed a 'chevauchee')¹⁵, such as the major punitive action that ended in the battle of Solway Moss (Cumbria, 1542). The nature of warfare in the borders has some similarity to clan warfare in the Highlands, it being at least up to the early 17th century a region of lesser security and greater reliance on direct action. These border raids are almost wholly unrepresented on the database and require specific enhancement. As they are frequently a matter of action against property, they might best be dealt with together with Norse raids of the early medieval period, alongside a review of sieges and other actions against fixed defences, which were conflicts specifically excluded from the present investigation.

Clan Warfare

The Highlands remained a region of lesser security than Lowland Scotland in the medieval and post medieval period. Here there was a far higher level of civil unrest. Many of the remaining actions on the database appear to comprise minor clan conflicts. The expression 'clan warfare' is defined as those actions that where conflicts between rival clans (individually or in groups) was the primary cause of the action and in which clan members were the principal participants. Actions in which clans were present but which were related to distinct national or international warfare are classified accordingly. The distinction is emphasised here as being the difference between 'warfare between clans' as opposed to 'warfare in which clans were involved'.

Whereas the evidence for battles has been drawn from a wide range of sources, the evidence for clan actions has been drawn almost solely from the NMRS. They are often based on oral tradition, the sources contain very little information, and the sites are notoriously difficult to locate. As such the clan conflicts raise particular problems that require detailed consideration in their own right.

There are 79 sites on the database identified relating to clan warfare. Of these sites 19 are wholly undated; many have tenuous or conflicting dates with 8 sites linked only to a century; 42 have no detail regarding combatants and 52 have been classified as unverified, i.e. they have a professional judgement scoring of 0 (for detail of scoring see appendix 7). However it is likely that many of the actions classified as 'unverified' because of lack of evidence may also be clan related.

Unverified sites

There are 185 sites on the database identified as 'unverified' due to the very limited or dubious nature of the evidence. Most are based on local tradition, including associations with finds of human remains, cairns and standing stones, and apparently lacking any contemporary documentary source. Many are likely to be spurious but further research may establish some as genuine actions. Where it has been possible to classify the 'war type' 52 are clan related, 8 related to national warfare and 39 to international warfare.

Other actions

Also on the database there are 3 massacres (of which the best known is Glencoe, 1692), 1 judicial combat (North Inch or Battle of the Clans, 1396), and 2 sites which are sometimes included in lists of battles but where even though armies faced each other no action took

¹⁵ Prestwich, 1996 p.10.

place (Carberry Hill, 1657; Hill of Rowan, 1307). Although sieges were specifically excluded from the present enhancement project, as a very different type of event requiring separate consideration, 2 sieges (Ruthven Barracks 1746 and Southend 1647) were added to the database because they were originally classified under battle in certain of the secondary sources.¹⁶

3.2 Chronological distribution

Within the last millennium there is a general decline in the number of actions as one moves back in time, particularly if the unverified sites are excluded. To a degree this may be influenced by a decrease in quantity and quality of primary documentation for earlier centuries, which certainly becomes a major problem by the early medieval period. But, with regard to battles at least, it also reflects to some degree the generally accepted view that, in the medieval period battle was very much a matter of last resort, compared to sieges and lesser actions. There are significantly fewer actions in the 18th century, a far smaller percentage of lesser actions than in the preceding four centuries, and no unverified sites. For earlier centuries there are in contrast a significant number of lesser actions, particularly for the 14th to 17th centuries, as well as a large number of unverified actions, though most of these may prove spurious. The high number of actions for the 17th century is as reflection of the intense action in both the civil war and the early phases of the Jacobite risings. The 16th century in contrast sees a significant, though not massive, fall in numbers when unverified actions are discounted.

Table 1: Scottish fields of conflict by type and century

Century	all	battles	battle?	all battles	skirmish	all lesser action	unverified	massacre	siege	no action	judicial combat
uncertain	87	0	0	0	4	4	83				
1st	3	1	0	1	0	1	1				
2nd	0	0	0	0	0	0	0				
3rd	0	0	0	0	0	0	0				
4th	0	0	0	0	0	0	0				
5th	0	0	0	0	0	0	0				
6th	2	0	0	0	1	0	2				
7th	3	2	0	2	0	0	1				
8th	6	0	0	0	0	0	6				
9th	7	0	2	2	0	0	5				
10th	11	1	1	2	0	3	6				
11th	17	0	3	3	0	2	12				
12th	5	0	2	2	2	2	1				
13th	17	4	0	4	7	5	9	1			
14th	44	6	2	8	17	17	19			1	
15th	38	4	5	9	4	19	9	1			1
16th	45	5	2	7	14	18	20			1	
17th	48	11	2	13	20	24	11	1	1		
18th	10	5	0	5	4	5	0		1		
totals	343	39	19	58	73	100	185	3	2	2	1

¹⁶ Southend is also listed under massacre.

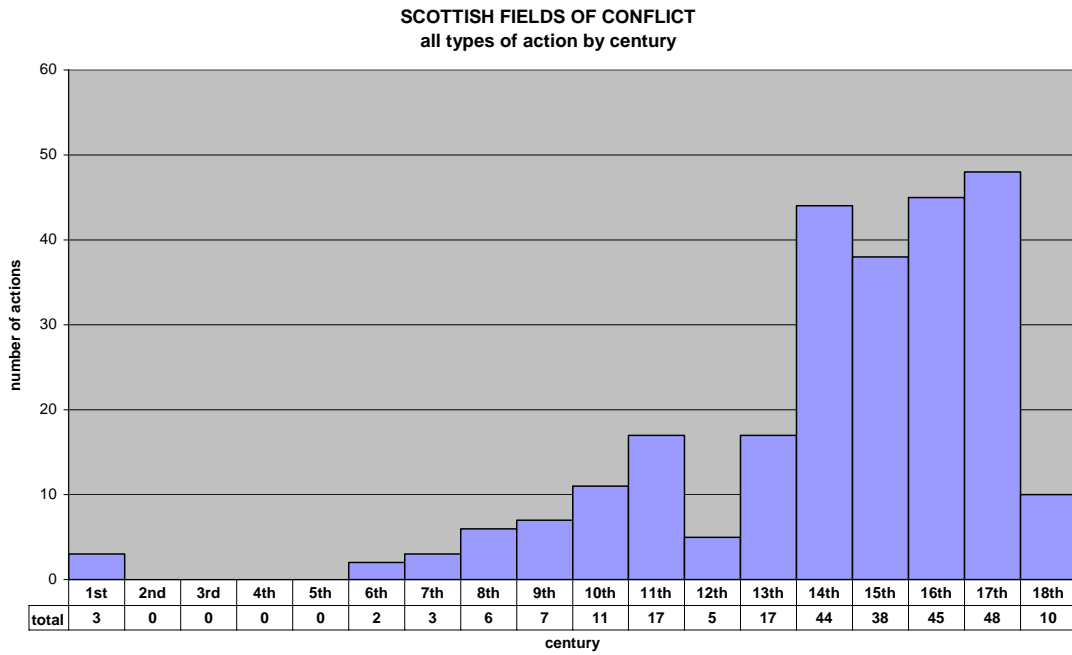


Figure 1: Graph of Scottish Fields of Conflict by Century

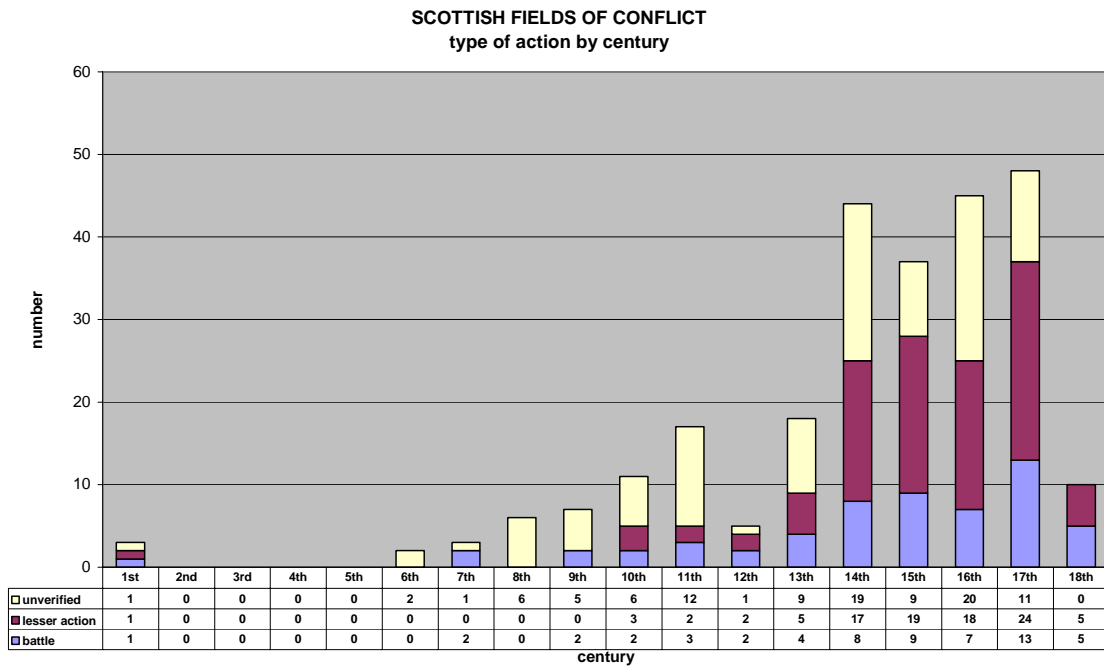


Figure 2: Graph of Scottish Fields of Conflict by type by century

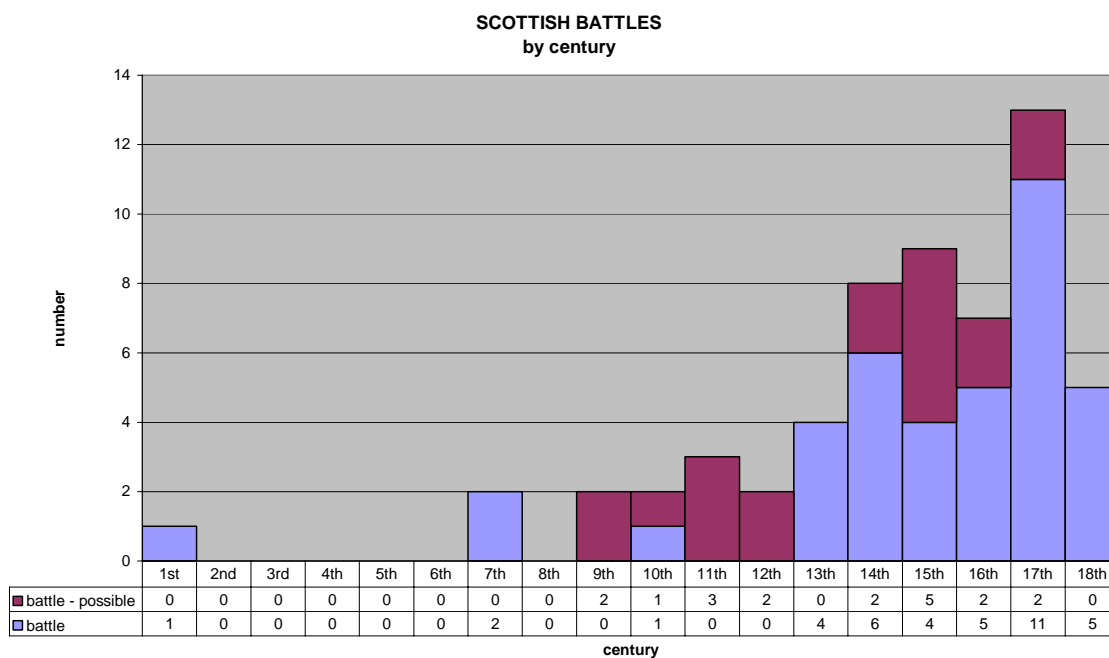


Figure 3: Graph of Scottish Battles by century

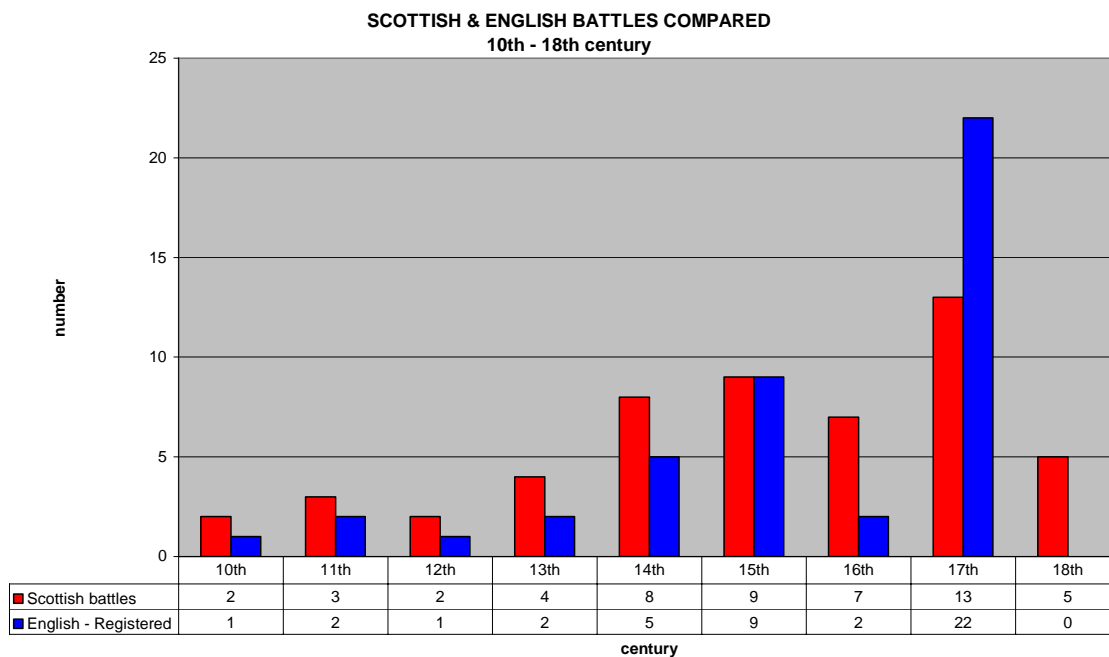


Figure 4: Graph of Scottish & English battles 10th – 18th century

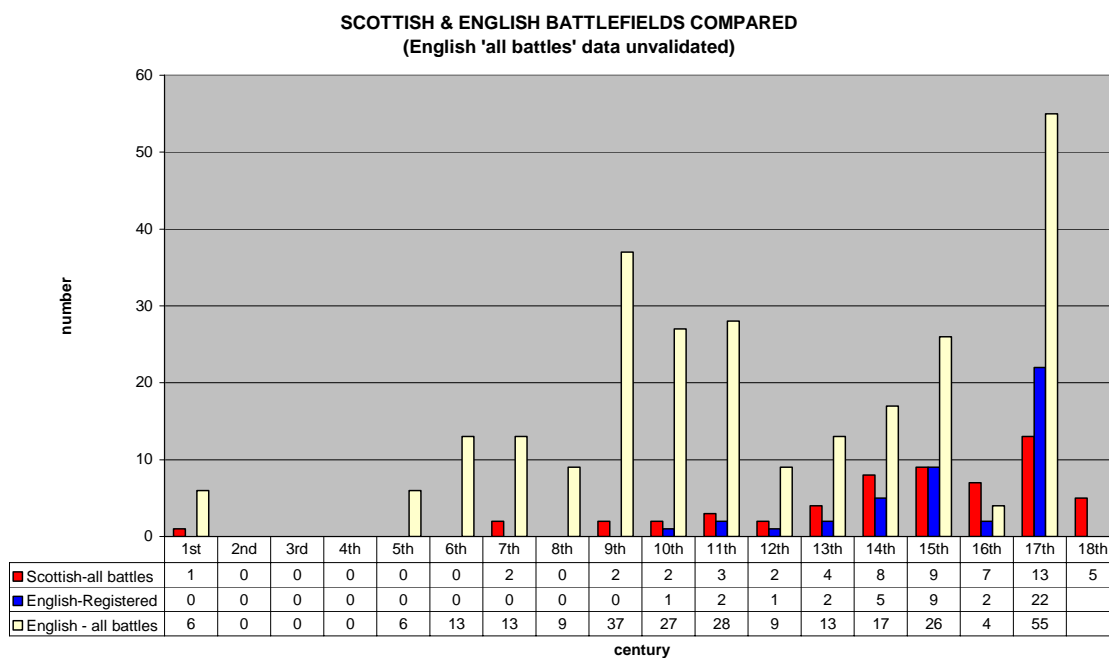


Figure 5: Graph of Scottish & English battles 1st – 18th centuries

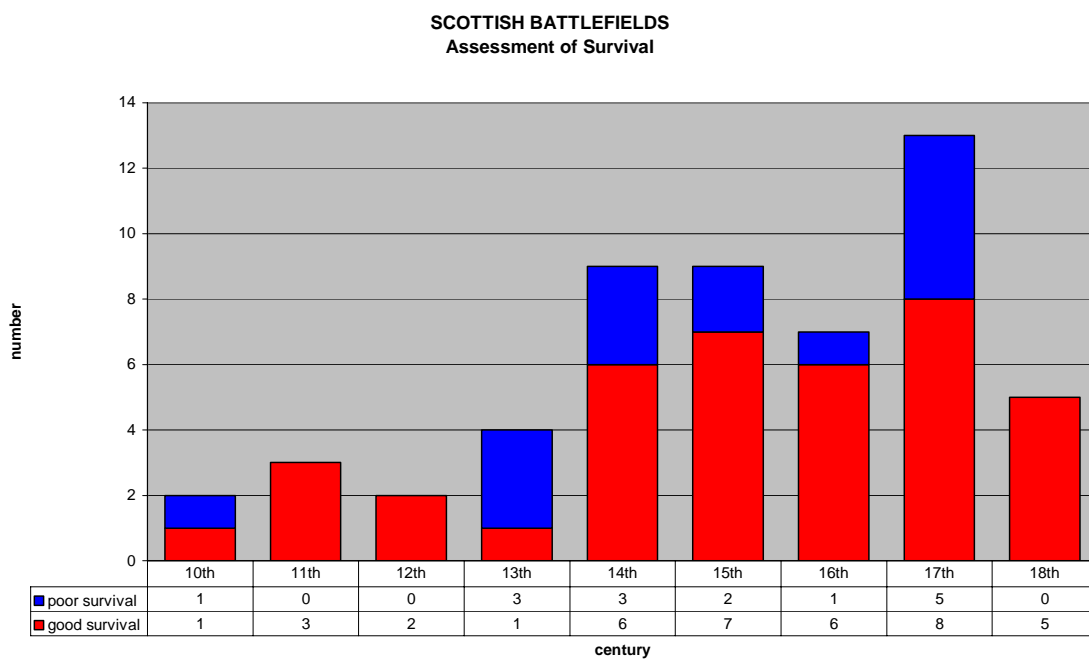


Figure 6: Graph showing degree of survival of Scottish battlefields by century

For battles the pattern is more distinct. To enable them to be understood in a wider context the number of battlefields in England (both Registered and unregistered)¹⁷ is presented alongside those from Scotland (figure 4). This shows that the trends in Scotland are broadly mirrored in England, tending to reinforce the significance of the pattern. For the medieval and post medieval periods there are broad similarities in the relative numbers of battles in most centuries in the two countries, although the number in England is typically more than double that in Scotland. The exceptions are significant. The massive increase in England compared to Scotland in the 15th and 17th centuries is a result of the number of actions in the Wars of the Roses and the far greater intensity of action in England in the Civil Wars. In both these periods not only the number but also the scale of the actions tends to be of a quite different order in Scotland compared to England, with the largest battles, such as Alford or Kilsyth, involving about 5000 troops compared to Marston Moor (Yorkshire, 1644) with well over 40,000. In contrast it is in Scotland that the number of 16th century battles is greatest. As this is a critical period in the transition of warfare, from one dominated by the archer to one dominated by musket and pike, these Scottish battlefields, most notably Pinkie, are a particularly important resource. It is also only in Scotland that full scale battles took place during the 18th century, again making these sites an important research resource. Moreover the latter have a particular importance in a European context as they show the effectiveness of irregular forces using non standard tactics against troops following the standard military practice of the day.

One significant limitation in the data set for Scotland can be seen by comparison with actions prior to the 12th century in England (figure 5). The lack of comparable numbers in the enhanced Scottish data set is not just a result of less action or a limitation of the sources. It is also a reflection of the priority given in the current project to the identification of fields of conflict, i.e. the sites of action, and the vast majority of the pre 12th century actions have never been securely located to any site. A systematic search to add these early medieval actions should ideally be undertaken, but this task was given a low priority due to our inability, at present, to recognise the actions archaeologically. Even the potentially most securely located of early battles, Nectansmere, still poses substantial problems.

Overall the numbers of battlefields across Scotland are relatively few in number. For each of the medieval centuries and especially before the 14th century they are particularly rare. This makes the each site of considerable importance where it survives intact or reasonably complete.

3.3 Spatial distribution

Not surprisingly, the battles are mainly concentrated in the lowland areas (Figure 6). When divided between the three main types: against the Norse, against the English and in civil wars, clear patterning is seen. The action against the English focuses particularly on the east side of the country, in the Tweed valley and especially along the coastal plain on the south side of the Firth of Forth, up to the lowest crossing, at Stirling. Actions on the western side of the country are very rare.

The lesser actions are far more evenly distributed, though naturally again tending to be in the areas of higher population density. MacLean states that 'the Clan is in its essence a

¹⁷ It should be noted that the English component of the database has not been subject to the same level of enhancement as the Scottish component, but it has drawn upon a major new dictionary of English battlefields: Rayner, 2004

Celtic and highland concept',¹⁸ and the distribution of actions classified here as clan warfare is very much a highland phenomenon (Figure 10). In contrast, MacDonald Fraser considers that the families in both the Scottish and the English Marches, i.e. on both sides of the Anglo-Scottish border, could be considered clans.¹⁹ However because the nature of the warfare in this region is very much determined by cross border action this has been separately distinguished here as international 'border conflict'. As stated above, this small scale border action is largely unrepresented in the database.

The spatial patterning on a national scale adds relatively little to the initial analysis of fields of conflict, at least for management purposes. However if analysed together with the pattern of garrisons and of sieges a significant patterning and association is to be expected, which is likely to raise issues of group value for management and interpretation purposes. It is however clear that the major actions tend to concentrate in the region with the greatest current development pressure.

Figure 7: Map of Scottish Fields of Conflict by type

Figure 8: Map of Scottish Battlefields by period

Figure 9: Map of Scottish Battlefields: early & high medieval

Figure 10: Map of Scottish Battlefields: post medieval

Figure 11: Map of Scottish Battlefields: International

Figure 12: Map of Scottish Fields of Conflict: Clan Warfare

¹⁸ Maclean, 1995 P.1.

¹⁹ Fraser, 1974 P.32-3.

4. Battlefield Evidence: its character and survival

The physical evidence, when analysed through interdisciplinary study alongside the documentary evidence, can contribute substantially to the understanding of the actions themselves and to the nature of warfare in the period.

Dispute between secondary sources leads in a number of cases to quite different placing of the deployment and extent of action, as can be seen with Kilsyth (see Gazetteer). Work on various English sites, as discussed above, also shows that even where secondary sources tend to agree there can still be substantial errors. These can often be resolved by the analysis of historic terrain and the placing of the events within it by reinterpretation of the primary documentary accounts.

Memorialization, interpretation and related issues of cultural importance were not a primary objective of the current project, either in database enhancement or assessment. Data on memorials and commemorative association was recorded incidentally as it appeared during the research but was not actively sought. For these reasons aspects of cultural importance could not form a central element of the present assessment.

4.1 *Historic Terrain*

The realisation that terrain is a key to the understanding of historic battles can be traced through battlefield studies over the past 150 years.²⁰ Once one has recovered, with reasonable accuracy, the historic terrain of the battlefield at the time of the action it often reveal problems with previous placing of deployments, which have usually been reconstructed in relation to the modern landscape.

Strategic landscape

There are two levels at which work is required. At the broadest level there is the strategic context, including distribution of garrisons, strategic road network and wide variations in land use, such as the degree of enclosure or extent of woodland. This can enable the approach of the troops to the field to be understood and assist in the identification of the site.

Tactical terrain

Of far greater significance is the immediate historic terrain of the battlefield. This comprises the underlying fine detail of the landform, the pattern of fields, woodland, marsh, roads, buildings and other land use types. Slight changes of landform across the field will have provided major tactical opportunities, thus it is essential to understand it in fine detail. The landform cannot be adequately revealed from the Ordnance Survey contour mapping. Only the 5m dtm from NEXTMap Britain enables desk based analysis to match careful examination of the battlefield on the ground. Where the relief has been transformed by later changes it may in some cases be possible to reconstruct the earlier pattern by the use of stereoscopic vertical photography from the 1940s or later.

²⁰ Foard, in preparation

Some elements, such as the former extent of a marsh, are to a degree be indicated by geological or soils data. In the present study the 1:50,000 mapping of both drift and solid geology (where available) has been examined as a basic guide.

For most other aspects of the 'man made' historic terrain, and indeed exact definition of the extent of the marsh and other such land use, at the time of a battle must come from documentary sources, supplemented where possible by archaeological evidence.

4.2 *Battle Archaeology*

While reinterpretation of the primary accounts within the context of the reconstructed historic terrain can enable many improbable interpretations to be dismissed, it can only provide one or more refined hypotheses. Battle archaeology provides wholly independent evidence to test these hypotheses. But the character and potential of battle archaeology varies dramatically between war periods. The most obvious changes are in projectiles, ranging from lead bullets in the later 16th to 18th century, iron arrows before the mid 16th century and iron spears before the 11th century.

Types of evidence

Unstratified Artefact Scatters

Research on 17th -19th century battlefields in Europe and the USA has shown that unstratified artefact distributions are the physical evidence for battles, revealing information on the location, extent and character of action.²¹ Investigations at Towton (Yorkshire, 1461) have shown that it is possible to recover comparable data from late medieval battlefields, though the nature of the artefact distributions is different and the problems of recovery and analysis are far greater.²²

Survival of artefact evidence can vary enormously not only between battlefields but also across an individual site. Preservation, particularly of ferrous artefacts, will vary greatly according to soil pH and the current and past land use, with the mechanical damage occurring during arable cultivation being particularly influential. As an example of the potential variability, the geological boundaries are defined as a crude initial guide to potential survival for the Pinkie battlefield (see Gazetteer). The sands and gravels on the site are likely to be aggressive whereas boulder clay may prove more favourable to the preservation of unstratified ferrous artefacts. The possibility also exists for exceptional preservation in the previously waterlogged marsh areas defined by the extent of alluvium.

There is, as yet, little published evidence as to the potential for survival of battle archaeology in situations of different soil and land use history situations, but such study of the taphonomy of battle archaeology is essential. The nature of the original unstratified deposits, before they were depleted through the effects of later agriculture, particularly for the battlefields from before the 16th century, may be indicated by areas of exceptional preservation of battlefield surfaces beneath alluvial or colluvial deposits or beneath man made terraces.

²¹ E.g.: various papers in Freeman, Pollard and University of Glasgow Dept. of Archaeology, 2001

²² Sutherland and Schmidt, 2003, Sutherland, 2000

Where the key artefacts are ferrous they are far more difficult to recover during metal detecting survey, due to the large number of other iron artefacts typically found within the topsoil, though this may make them slightly less vulnerable to treasure hunting. Where a battlefield does not have such a substantial ferrous background then the study of battle related artefacts generally may be far easier.

Even where there has been extensive destruction of battle archaeology there may be enough evidence surviving to provide critical validation of hypotheses on the location and nature of principal deployments and action, especially if detailed research on well preserved battlefields enables us to distinguish finer detail of archaeological signature. Thus even poorly preserved battlefields that have seen extensive development or intensive unrecorded metal detecting, and thus may not warrant conservation measures, may prove to have a significant potential justifying recording action when remaining evidence is under threat.

Mass graves

On most battlefields there will be mass graves at various locations on the field. The main concentration of burial will probably be at the point where the main engagement began.²³ The degree to which losses tended to occur during a rout, after the battle formations had broken, means that a substantial proportion of mass graves may be found well beyond the battlefield boundary in the areas of subsidiary skirmishing. These can be scattered widely across the landscape, as in the case of Towton where the mass grave excavated in 1996 lay beyond the battlefield, more than a mile from the centre of the action.²⁴ Such graves are notoriously difficult to locate but they can provide dramatic evidence of the nature of the action.

Shot impact scars

For actions of the 16th to 18th centuries, where structures were involved in the action (buildings, bridges, boundary walls) there may be shot impact scars to indicate the direction and intensity of a fire-fight, though such evidence is exceptionally rare on battlefields compared to siege sites.²⁵

Post Medieval

17th – 18th centuries.

In this period the lead bullet was the dominant projectile. Its use began in the later 15th century and it took on its dominant role during the 16th century. These objects were typically deposited in thousands or tens of thousands on the battlefield and are sufficiently small that it was not normally practicable for them to be recovered during or immediately after the battle. Lead is also highly stable over long periods of time, even when unstratified and in low pH or other aggressive soil conditions. There is therefore a high potential for the survival of unstratified battle archaeology from this period. The artefacts also give a highly distinctive signature, compared to ferrous objects, during metal detecting survey and so are relatively easy to recover by systematic survey. However this also makes them very vulnerable to treasure hunting and inadequately recorded metal detecting survey.

²³ Burne, 1950

²⁴ Fiorato, Boylston and Knusel, 2000

²⁵ Of 25 Civil War battlefields in England examined by the author between 1992-5, only that at Nantwich (Cheshire, 1644) revealed any extensive evidence of shot impact scars, on Nantwich church which was the focus of action for the royalist baggage train. Foard, in preparation

Research on several 17th / 18th century battlefields in the UK and many more 18th / 19th century battlefields in the USA, has shown that the distribution of projectiles provides the most valuable evidence as to the extent, intensity and character of the fighting. The other military equipment and the non military artefacts also lost during the action by the troops or in the stripping of the bodies after the action, can also be of great value in interpretation, though distinctive artefacts clearly identifiable with the battle have proven relatively rare on battlefields of the 17th century.²⁶

The effectiveness of investigation of the battle archaeology of 17-18th century sites, and by implication probably also those from much of the 16th century, is well demonstrated, though the methodology for their investigation and conservation needs substantial refining.

Late 15th and 16th centuries

Battlefields of the late 15th and 16th century have a high research potential because of the contribution that they might make to the understanding of the introduction of firearms. This is important not only in its own right as a research question, but also because it might contribute to the study of earlier battle archaeology. If distribution patterns can be recovered where both lead bullet and iron arrow were used in significant numbers then the survival of the former may assist us in understanding the survival potential and significance of distribution patterns of the latter. In Britain battlefields of the 16th century are rare and thus any battle of this period will have a particular importance and may justify far more intensive study than the political or strategic importance of the action might otherwise imply.

High Medieval (12th – 15th centuries)

There are fundamental problems with the nature of the evidence the earlier one goes. In this period the iron arrow was normally the dominant projectile. They were typically used in their thousands but it was practicable for them to be recovered for re-use, both during and immediately after the action, unless they had been smashed by the movement of troops across the area. The pattern of survival on the battlefield thus may not fully reflect the pattern of use on the battlefield.

It is particularly at the point of change from lead to iron projectiles in the late 15th and earlier 16th century that problems begin, for whereas lead is relatively inert, iron is highly unstable. The work at Towton shows that iron arrowheads can survive in the topsoil across large areas of a battlefield, but it is as yet unclear to what degree the pattern is determined by exceptional conditions of preservation. The recovery of more than 200 iron arrowheads from Towton may reflect the nature of the soil conditions on the site, it being wholly on a limestone plateau and thus has a high soil pH.²⁷ However, in contrast to post medieval battlefields, a high proportion of the evidence recovered from Towton has been in the form of non ferrous artefacts, not projectiles. The degree to which the distributions can be used to interpret the nature and intensity of the action has yet to be clearly demonstrated.

There may be a substantial reduction in the quantities of arrows deposited when one moves back from the period of dominance of the longbow (late 14th to the early 16th century).²⁸ There is the need for comparison of arrow distribution on 14/15th century compared to earlier battlefields, if sites with good preservation can be identified. In this context the battle of Dupplin Moor (1332) could be of major significance, alongside those elsewhere in Europe such as Halidon, Crecy and Poitiers.

²⁶ Ibid.

²⁷ T Sutherland, pers.comm.

²⁸ Prestwich in Chandler, 1994

Other changes in the nature of warfare may also have had significant influence upon the nature of battle archaeology. For example the transition from the use of mounted cavalry in the 13th century, to subsequent warfare in which the majority of the cavalry typically dismounted to fight. While the cavalry action might be expected, as in the 17th century, to provide far less artefactual evidence, the intensive hand to hand fighting on foot, especially given the high status of many of the combatants and the extensive use of metalwork in the equipping these troops in the late medieval, might be expected to yield a great deal more. This may explain why interim reports from Towton appear to show far more non ferrous non-projectile artefacts were deposited on battlefields of this period compared to later battlefields.²⁹ This may mean that it is practicable to carry out an initial metal detecting survey of a battlefield discriminating against ferrous items, to avoid the problems caused by the frequency of ferrous items of later date in the topsoil. Once the pattern of distribution of non ferrous artefacts pinpoints a potential focus of action then intensive re-survey in all metal mode may enable the efficient recovery of arrowheads, if they survive, though the detecting techniques necessary for the recovery of arrowheads requires substantial refining.³⁰

The problem of recovering archaeological evidence from medieval battlefields can be seen from the difficulties encountered in the *Two Men in a Trench* investigations.³¹ We are also largely dependent upon the work at Towton (Yorkshire, 1461) which, apart from the mass grave excavation, remains largely unpublished and it is unclear how representative the Towton evidence may. Some of these issues will be addressed through the planned investigation of Bosworth battlefield (Leicestershire, 1485).³²

Early Medieval (pre 12th century)

No substantial results have yet been achieved on any UK battlefields before the 15th century. Indeed across Europe, apart from mass graves, the only major study of an earlier battle to have produced extensive battle archaeology is that at Kalkriese (Germany, AD9), where exceptional preservation conditions prevail.³³ The reasons for this are as yet unclear.

The iron spear is likely to have been the dominant projectile or to have formed a substantial proportion of the projectiles used, although iron arrows were a significant projectile in some actions. The iron spears will have been far easier and thus far more likely to have been retrieved for re-use during or immediately after the battle. Thus the distribution patterns, where the artefacts survive, may be far less dense and representative of the action than iron arrow distributions. It is also unclear the degree to which in the early medieval the equipment lost on the field will have been of non ferrous items - a critical issue as regards the potential for both the survival and recovery of battle archaeology. However, given the extreme length of time for which the artefacts will need to have survived in the topsoil (Bannockburn took place almost 700, Nechtansmere more than 1300 and Mons Graupius over 1900 years ago), battle archaeology for the earliest periods, if it survives at all, will probably be far rarer than for later periods. It may only be where there has been burial of part of a battlefield surface beneath alluvium, in waterlogged areas, or where land has remained

²⁹ Sutherland and Schmidt, 2003, Sutherland, 2000

³⁰ Simon Richardson, pers.comm.

³¹ Shrewsbury & Barnet: Pollard & Oliver, 2002, Pollard & Oliver, 2003

³² Foard, 2004

³³ S Wilbers-Rost, paper to the 3rd International Fields of Conflict Conference, Nashville, 2004.

uncultivated for most or all of the intervening period, that battle artefacts may survive in sufficient numbers to enable meaningful analysis.

Lesser actions

Skirmishes and other lesser actions were so much more frequent, smaller in scale, and likely to be far more poorly documented and difficult to locate than battles. Moreover, while battlefields have been shown to yield meaningful evidence, it remains to be demonstrated that comparable evidence survives on these lesser sites, or that if it does that it can contribute substantially to the understanding of the events. It is most likely to be meaningful for the post medieval period, though there may be examples from any period, especially where exceptional preservation conditions prevailed. For example where action took place in proximity to areas of marsh then waterlogging may have occurred, offering the possibility of a special insight into the nature of the full assemblage of equipment of the period.

There may also be specific research questions to be addressed on such sites, as for example with regard to clan warfare sites. The nature of some of the warfare in 17th and 18th century Scotland appears significantly different from that in the period generally in Western Europe. This is seen from the military reports of government commanders at battles like Killiecrankie and Falkirk II, reporting upon the unorthodox tactics of the Highland forces and the problems this could provide to regular troops. The apparent effectiveness of hastily raised Highland forces contrasts to the lack of effectiveness of rebellions which were essentially lowland based, such as the Bothwell Brig Rebellion or, in England, the Monmouth Rebellion. In the latter type, apart from a small number of veterans and to a lesser degree the militia forces, the troops were largely untrained and unprepared for war. In contrast the clan warfare of the Highlands seems to have maintained a degree of military expertise, albeit of a very unconventional type, that could be rapidly exploited in a rebellion, ideally centred around a core of well equipped and trained regular, often foreign troops. Thus, in addition to any value in the study of the sites in their own right, the nature of the battle archaeology on clan warfare sites might have a relevance to the interpretation of the highland forces in battles and other actions of military campaigns.

5. Management of the Resource

5.1 Threats

There are a range of threats to battlefields affecting their research and interpretive value:

- **modification of the detail of physical terrain**
- **removal of landscape features surviving from the time of the battle**
- **change of land use character from that at the time of the battle**
- **destruction of the archaeology of historic terrain**
- **degrading/destruction of battle archaeology**

Development

Urban development, road construction and mineral extraction will effectively destroy the archaeology of the areas they directly impact upon. Even piecemeal land use change, including incorporation of limited areas of battlefield into gardens, fragments the battle archaeology. As the all important patterning can only be fully understood by recovery of large scale metal detecting survey, thus the potential of a site may be severely degraded even if substantial areas remain undeveloped.

However, particularly with 17th-18th century battle archaeology, even relatively small areas of survival in key areas of a battlefield may still enable enabling testing of hypotheses about the distribution and character of the action.

If the deployments and the extent of the action are not securely positioned then major problems will arise where sites are subject to development pressure, as it is not clear what are should be protected and where recording action should be required. Because of the nature of battlefield evidence such matters can only be resolved on a battlefield-wide scale. This is true even for periods where lead bullets are the primary type of evidence, especially as some elements of the action, particularly cavalry action, tends to leave very sparse battle archaeology which can only be understood in the context of the wider patterning across the battlefield.

Other land use change

Removal or realignment of features such as hedgerows or a road system can lead to the loss of terrain components contemporary with the battle. The construction of buildings, tree planting or other land use change may alter the character of a landscape from that which existed at the time of the action. Cultivation may also remove earthwork evidence of former terrain, such as ridge and furrow, as can forestry planting and management activities. Drainage where areas of waterlogged deposits, including peat, survive may initiate decay of exceptional deposits.

Soil chemistry and cultivation

Low pH soils are destructive, particularly to unstratified ferrous artefacts such as arrowheads. Where land remains as pasture or otherwise uncultivated, or where deposits lie immediately below the current plough soil, as in the remnant furrows of levelled ridge and furrow, there may be sufficient stability to enable the artefacts to survive the chemical damage. Afforestation may have a negative impact on soil pH and decay may

also be accelerated by application of fertilisers and other agricultural chemicals. However it is mechanical damage caused by cultivation, including incorporation into the topsoil of deeper deposits by deep ploughing, that is most likely to destabilise and massively accelerate erosion of the objects.

Recent changes of land use to arable, and of other aspects of agricultural regimes, after long term non-arable use, may mean that many sites are suffering massive but as yet unrecognised decay of unstratified artefacts. Recent deep cultivation may also have removed artefacts from previously uncultivated zones and these artefacts too are likely to be experiencing rapid decay. Given the importance of ferrous artefacts, particularly on medieval battlefields, this may represent as great a threat to the battle archaeology as large scale development. Research is needed to enable the accurate quantification of the decay processes on battlefield artefacts of various materials and types in different ground conditions.

Metal detecting

Metal detecting is the most important technique in the investigation of battle archaeology. There is substantial expertise within the metal detecting community that could, and in particular projects does, contribute greatly to the investigation of battlefields. However, if it is undertaken outside the framework of an archaeological survey following current best practice for battlefield studies then enormous damage is caused. That metal detecting targeted on a range of battlefields is taking place can be seen from recent reviews, however the scale and intensity is as yet undefined.³⁴

The threats are of two distinct kinds:

Treasure hunting: This may be for sale, as seen from the wide range of artefacts offered for sale on EBay, or for the development of private collections.³⁵

Battlefields Survey: Unsystematic and poorly recorded survey, especially where intensive and unevenly distributed across the battlefield.

Both types are likely to cause massive distortion in the distribution of unstratified artefacts, destroying fine detail of patterning which is critical to interpretation.³⁶ It is not just the loss of overall distributions, but the failure to individually locate and separately bag each artefact means loss of key data such as distribution patterns of different calibre and type of bullet. Further research may indicate what information can be salvaged from sites that have been affected in this way.

Building repair

Restoration work involving stone or brick replacement on structures containing shot impact scar evidence can destroy that evidence.

³⁴ Smith, 2004-5 Bailey, 2001

³⁵ Bailey, 1992a, Bailey, 1992b

³⁶ Compare for example the surveys by Newman and by Roberts on the Marston Moor battlefield, in Foard, forthcoming

5.2 Scottish battlefields: condition & threat

A simplistic review of the state of development of the battlefields on the database, based on a search around the centre point grid reference on the modern 1:25,000 scale mapping, suggests the majority are largely undeveloped sites (see table 2). Of those that are partly developed most may have limited survival of battle or historic terrain archaeology which would warrant further assessment. Only a few, such as Falkirk I (site 1), appear to lack any significant potential. Even Aberdeen II, despite its present urban context, revealed some terrain and archaeological potential when the evidence was reviewed. An interim assessment of importance, survival and potential, based on the data in the gazetteer is provided in table 3 for the 20 sites considered in more detail.

Only for the battlefields in East Lothian has data on current planning applications and consents been reviewed. An interim priority listing is however provided here in draft form of those requiring or likely to require substantial and urgent action (see table 3). This can be further developed and refined in the future.

Table 2: Initial listing of condition of all battlefields

Bold indicates assessed at Level 1 in Gazetteer. Italic indicates awaiting assessment, with current grading of poor/good based purely on degree of development around central grid reference on UKFOC database. Question mark indicates alternative sites or some uncertainty of location/character. Underlining indicates substantial identified development threat.

CONDITION	CENTURY								
	10 th	11 th	12 th	13 th	14 th	15 th	16 th	17 th	18 th
GOOD	<i>Strathearn?</i>	<i>Lumphanan</i> <i>Scone?</i> <i>Standing Stone?</i>	<i>Renfrew?</i> <i>Stracathro</i>	<i>Dunbar I</i>	<i>Culblean</i> Dupplin Moor <i>Methven?</i> <i>North Mains</i> <i>Pass of Brander</i>	Harlaw <i>Arkinholm</i> <i>Huntly Hill</i> <i>Lochalber</i> <i>Nesbit Muir</i> <i>Sark?</i> <i>Suchieburn</i>	<i>Corriche</i> <i>Glenlivet</i> <i>Linlithgow</i> <i>Skirmish Field?</i> Ancrum Moor	Killiecrankie Alford <i>Carbisdale</i> Philliphaugh <i>Tibbermore</i>	<u>Sheriffmuir</u> <i>Culloden</i> <i>Glenshiel</i>
FAIR				<u>Falkirk I?</u> <u>(site 2)</u>			<u>Pinkie</u>	Auldearn Dunbar II Kilsyth	Falkirk II Prestonpans
POOR				Largs Stirling Bridge	<u>Bannockburn?</u> <i>Loudon Hill</i>	<i>Carron?</i> <i>Inverlochy</i>	<i>Langside</i>	Aberdeen <i>Ferry Hills</i> <i>Inverlochy</i> <i>Dunkeld</i> <i>Hamilton</i>	
BAD				Falkirk I? (site 1)	<u>Bannockburn?</u>				
UNLOCATED	Brunanburh				<i>Benrig</i>				

Table 3: Initial assessment of battlefields in the gazetteer

The list of battles is presented in the order of scale of action, based on probable numbers of troops engaged. 'Potential' is a subjective overall assessment, based on the evidence presented in the gazetteer and database, as to the potential of the physical evidence of the battlefield to contribute to understanding of the action. The methodology for scoring of the other columns is given in Appendix 6.1.

Action	Year	Type	Battle Array	Approx. troop Numbers	Loc. Acc.	Prof. Judg.	Biblio. Score	Imp. Milit. Polit.	Potential	Designation
Brunanburh (site 1)	937	battle	Y	uncertain	1	2	16	3	0	
Brunanburh (site 2)	937	battle	Y	uncertain	1	2	16	3	0	
Largs	1263	battle	Y	uncertain	2	2	18	3	1	Minor
Drumclog	1679	skirmish	N	1500	4	2	21	2	3	None
Aberdeen	1644	battle	Y	4000	4	3	16	2	1	Minor
Prestonpans	1745	battle	Y	5000	4	3	46	2	3	Partial
Harlaw	1411	battle	Y	5000	4	2	18	2	2	None
Auldearn	1645	battle	Y	5000	4	3	21	2	3	Minor
Alford	1645	battle	Y	5000	3	3	25	2	3	Minor
Killiecrankie	1689	battle	Y	7500	4	3	37	3	3	Minor
Ancrum Moor	1545	battle	Y	7500	4	3	22	2	3	Minor
Philiphough	1645	battle	Y	7500	4	3	23	3	3	Minor
Dupplin Moor	1332	battle	Y	7500	3	3	16	3	3	Minor
Bothwell Bridge	1679	skirmish	U	10000	4	2	22	3	1	Minor
Sheriffmuir (site 1)	1715	battle	Y	10000	3	3	44	2	3	Minor
Sheriffmuir (site 2)	1715	battle	Y	10000	3	3	44	2	3	Minor
Stirling Bridge	1297	battle	Y	12000	4	3	29	3	1	Minor
Falkirk II	1746	battle	Y	15000	4	3	30	2	3	None
Falkirk I (site 1)	1298	battle	Y	25000	3	3	21	3	0	None
Falkirk I (site 2)	1298	battle	Y	25000	3	3	21	3	2	None
Dunbar II	1650	battle	Y	30000	4	3	35	3	3	Partial
Pinkie	1547	battle	Y	40000	4	3	34	3	3	Partial

High potential / requiring urgent action:

Pinkie: limited development, high potential, major confirmed threat.

A battlefield of international importance for battlefield study; probably the most threatened in Scotland. Requires immediate recording prior to approved development, detailed assessment of the whole battlefield and detailed evaluation on all proposed development areas.

Prestonpans: partial development, high potential, possible development threat

Falkirk II: limited development, high potential, possible development threat

Sheriffmuir: no development, high potential, confirmed threat

Falkirk I [site 2]: partial development, potential, possible development threat

High potential / limited threat:

Alford: development threat, high potential, requires accurate location of battlefield

Auldearn: limited development, high potential, possible limited development threat

Dunbar: significant mineral extraction, high potential, limited threat

5.3 Methodology for investigation

An integrated historical and archaeological methodology for the investigation of battlefields exists. It requires application of a range of evidence and techniques, each of which bring their own distinctive problems, depending on when and where the battle was fought and the present condition of the battlefield. Given the many uncertainties about the nature and survival of battle archaeology, particularly from before the 17th century, there is a need for key research projects to refine the methodology and provide models for future work. The best preserved sites should be identified for intensive study as exemplars, to establish what battle archaeology can survive in ideal conditions, to refine the methodology of battlefield survey and analysis, and to determine exactly what contribution the physical evidence from a battlefield can make to the understand of the event itself and of warfare of the period in general.

For the 16th-18th century methodological questions remain particularly over the finer detail of survey and analysis. For earlier periods there are far greater problems which require major new research. These needs can be most effectively addressed on a UK wide scale in collaboration with academic research. Scotland should provide key examples for the 18th century and 16th centuries. It is possible that when *level I* assessment is completed for all the battlefields there may be exceptional preservation which suggests certain medieval Scottish battlefields should also be considered. For the 17th century the survey at Edgehill (Warwickshire, 1642) is testing methodology. For the 15th century the planned Bosworth (Leicestershire, 1485) study should provide an essential complement to the Towton research to deal with late medieval battlefields. A major study is underway at Culloden which should provide a model for 18th century battlefields. Pinkie would appear to offer a high potential for the investigation of the unique problems and potential of 16th century battlefields, representing the transition from archery to firearms. Currently no data is available from sites before the 15th century.

Three broad levels for the investigation of battlefields can be defined:

Level I

Desk based assessment working from secondary sources, as defined in the current study and applied in the associated Gazetteer, to characterise a battle and battlefield sufficiently to:

- locate sites
- define their importance and broad potential
- identify key problems
- identify major threats

Level II

Undertaken from the major primary documentary sources on the battle and the historic terrain, supported by further examination of secondary works, and validated through a field visit. Intended to sufficiently characterise and locate the action, including definition of probable battlefield boundary, to enable effective management of the resource. Likely to involve the following:

- Basic reconstruction of historic terrain at the time of the battle from: geological and contour mapping; 1st Edition Ordnance Survey 1880s, Roy military survey maps of c1750 and other regional historic mapping, supported as necessary by local historic maps; and existing archaeological data from NMRs, SMR and other published sources.
- Briefly characterise the armies that fought.
- Reinterpret the battle, as far as practicable, using documentary sources, developing a hypothesis placing preliminary manoeuvres, estimating frontages and location of principal deployments, locating subsequent action, all within the terrain reconstruction.
- Assessment of all NMRS and NMR records and relevant antiquarian records of archaeological discoveries on the battlefield and in its environs which might relate to the battle or to the historic terrain of the battlefield
- Establish, as far as practicable, the historic terrain features which remain from the time of the battle that require conservation.
- Basic assessment of potential for survival of, and any threats of ongoing decay to battle archaeology, using information on soil type or geology, current land use and that on the 1940s Land Use Survey and/or earliest vertical aerial photography where available, identifying potential for waterlogging and for colluvial/alluvial/peat burial, based on geological and soils data.³⁷
- A walkover field visit to understand the physical terrain.
- Definition of boundaries for the battlefield, and of its immediate context to encompass relevant subsidiary action.
- Assess likely impact of existing development threats.

Level III

Detailed investigation, including on site sampling, to refine and then validate the interpretation from level II . Such work should be undertaken to underpin both substantial interpretive schemes and responses to significant development and other threats. Likely to involve:

- Detailed reconstruction of historic terrain at the time of the battle, through all relevant primary documentary sources and existing archaeological data³⁸
- Reworking of all primary sources for the battle and re-interpretation within the detailed historic terrain reconstruction
- Reconnaissance survey of battle archaeology to determine actual survival, character and extent, using systematic metal detecting with standard transect intervals and GPS/GIS recording.³⁹

³⁷ 1:50,000 scale mapping should be supplemented by 1:10,000 scale mapping (where available) at the Edinburgh offices of the British Geological Survey.

³⁸ A methodology is defined in Foard, Sutherland, Schmidt, Pollard and Newman, 2003 Initial research should proceed with the Ordnance Survey 1st edition 6" mapping registered in GIS as the map base. The military maps of the mid 18th century provide a key source, relevant at both the strategic and the tactical scale. For the Jacobite uprisings in particular they are almost contemporary and provide both a national road network, fort system etc. Other national and local historic mapping will provide other supplementary detail. However, for the earlier periods the use of written documentary sources will be far more complex and time consuming, possible only in the most detailed of studies.

³⁹ A methodology for reconnaissance survey of 17th century battlefields has been demonstrated in the Edgehill Survey. Foard, in preparation A brief interim report is in Foard, 2005. See also

- Detailed assessment of potential for survival of, and any threats of ongoing decay to battle archaeology, collecting information on soil type and soil pH, current agricultural practices and land use history, mapping areas of potential waterlogging and for colluvial/alluvial/peat burial, based on geological and soils data.⁴⁰
- Sampling of waterlogged or formerly waterlogged deposits to assess potential for exceptional survival and rapid ongoing decay of artefacts, and for potential for environmental data.
- Testing of areas of potential burial of battlefield surface beneath alluvium, colluvium etc, to determine potential for exceptional preservation.
- Recording of shot impact scars on any contemporary structures: *a recording methodology needs to be defined for this.*
- Definition of accurate boundaries for the battlefield, and its immediate context to encompass the subsidiary action.

The refining of level III methodology should be based on experience in survey work undertaken at Towton, on various sites examined by GUARD, in the Edgehill Survey, and also taking account of experience from survey work the USA. It will also require further research on new case studies.

6. RECOMMENDATIONS

1. Priority should be given to battlefields, as the sites where the physical evidence has been demonstrated to yield substantial advances in understanding and interpretive potential.
2. All located battlefields not yet dealt with in the gazetteer should be subject to *Level I* assessment, to ensure that broad potential of and threats to each site are identified.
3. Battlefields under major threat should be subject to *Level II* survey, to provide a framework for management. This will ensure that the probable extent, character and potential of both battle archaeology and of terrain archaeology, and surviving landscape features are defined. This will facilitate effective management through the Local Plan process and enable appropriate requirements to be set for development related evaluations and recording actions.
4. Select sites, based on Level I survey, for inclusion in a list of nationally important battlefields appropriate for long term conservation and interpretation; and conduct Level II enhancement to enable sufficient definition of boundaries and characterisation of the resource for initial management purposes

<http://www.battlefieldstrust.com/resource-centre/civil-war/battlepageview.asp?pageid=542&parentid=500>

⁴⁰ 1:50,000 scale mapping should be supplemented by 1:10,000 scale mapping (where available) at the Edinburgh offices of the British Geological Survey.

5. Based on Level II surveys, prepare example Conservation Statements to provide a framework for long term conservation, as a model to guide such work on other battlefields.
6. Promote Conservation Statements for all nationally important battlefields.
7. Introduction of licensing of metal detecting on nationally important battlefields, to ensure all future survey is conducted to current standards of best practice.
8. Evaluation and Assessment required through the planning process on nationally important sites should be conducted by archaeological contractors with access to specialist expertise in battlefield studies, to ensure application of current best practice.
9. Provision of guidance and training in battlefield studies for planning archaeologists and archaeological contractors.
10. Any substantial interpretive scheme on a nationally important battlefield should be underpinned by a *level III* survey.
11. Promote the refining of battlefield investigation methodology through *Level III* studies of battlefields representative of the main war periods, ideally selected from those which are well preserved but under greatest threat. This can be most effectively achieved in collaboration on a UK wide scale. The Scottish contribution should include sites of the C18th (possibly Falkirk II or Prestonpans) and C16th century (Pinkie).
12. Future database enhancement and assessment of siege sites, to complement the present work on 'open' actions, to provide a balanced perspective on historic warfare.
13. Promote detailed research on example site of lesser actions to establish whether a meaningful archaeology exists on such sites, and that study of it and of historic terrain can make a significant contribution to overall understanding.
14. Sieges and sites of lesser actions should be assessed when they come under threat.
15. Promote systematic enhancement of the *UKFOC Features* database with monument and memorial features. Such systematic enhancement would enable a parallel assessment of perceived cultural importance of fields of conflict through the presence, number and scale of monuments and commemorative associations.
16. Promote the development of a recording method shot impact scar and related evidence, and assessment of the contribution it may make to understanding of battles and sieges.

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