Exmoor National Park
Historic Environment Report Series No 6

EXMOOR MIRES PROJECT HISTORIC ENVIRONMENT OVERVIEW AND STRATEGY

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Historic Environment Report Series

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March 2012

This report series includes interim reports, policy documents and other information relating to the historic environment of Exmoor National Park.

Further hard copies of this report can be obtained from the Exmoor National Park Historic Environment Record:
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FRONT COVER:
Exmoor's moorland archaeology: Bronze Age barrows on Five Burrows Hill. (© English Heritage).

EXMOOR NATIONAL PARK

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1.0 - Introduction

The modern character of Exmoor's upland environment is the result of a complex and ever-changing interplay between human, economic, social and spiritual activity and the natural environment in the form of topography, wildlife and climate. The impact of recent human activity in these areas has been less intense than in the lowlands and as a result they preserve a wide range of irreplaceable archaeological sites and landscapes of national and sometimes international significance (Figures 1 and 2). The peat wetlands of Exmoor enhance this importance, preserving archaeological artefacts and sites and an archive of ecological change over the last 10,000 years. Simultaneously, they are of great ecological importance, containing a range of habitats that are rare on a global scale. Additionally, upland mires in healthy condition have significant beneficial effects on water quality and function as carbon sinks.

Past human activity, especially attempts at agricultural improvement through the excavation of drainage systems in the wetlands has acted to degrade these functions. In order to halt and reverse this decline, the overall aim of the Exmoor Mires Project is to restore the hydrological function of the peatlands of the headwaters of the River Exe. The project has 9 specific objectives addressing a diverse range of issues including hydrological, ecological, climatic, socio-economic and educational matters (Project Delivery Plan 2011-2015 and Indicators of Success). Objective 6 deals with the protection and enhancement of the historic environment within the project target areas. The purpose of this document is to characterize and provide an overall assessment of the heritage assets within these areas and develop an explicit strategy for fulfilling Objective 6 of the project in accordance with the original approach agreed by the Delivery Group as outlined in Mires on the Moors 2010-2015, Historic Environment Strategy for Exmoor.

Exmoor National Park recognizes cultural heritage as one of the special qualities of the region and includes its conservation and enhancement as one of its main statutory purposes along with the promotion of its understanding and enjoyment by the public. The additional statutory protection afforded to some of the archaeological sites and landscapes within the Park, in the form of Scheduled Monument status, serves to emphasize their importance at a national level.

1.1 - The Historic Environment

The historic environment is fragile and non-renewable and is defined broadly by the Government's Planning Policy Statement 5 as:

All aspects of the environment resulting from the interaction between people and places through time, including surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.

More specifically, the historic environment comprises three basic elements:

- Soils and sediments. These preserve a wide range of evidence for past environmental conditions, vegetation change and human activity. On Exmoor, as in other uplands, deposits of peat are of particular importance, preserving a record of the development and past management of the moorland (Figure 3). Applied techniques such as radiocarbon dating and geochemical analyses enhance interpretations. The palaeo-environmental record also provides the environmental setting for the many monuments and complex historic landscapes in close proximity.

- Archaeological sites, monuments and finds. These are preserved beneath, within and on top of peat sequences of all types. The onset of peat formation varies in date according to peat type, topography, altitude and many other factors. Exceptional preservation of organic remains provides an added importance to the archaeology of upland wetlands, as has recently been demonstrated by excavation within peat deposits of a cist grave containing preserved animal hide, baskets and other vegetable material dating to the Bronze Age at White Horse Hill on northern Dartmoor. It is also worth noting that 'watery places' such as mires have been imbued with significant spiritual and cultural value by past societies in Britain and, more widely, in north-west Europe, being regarded as locations suitable for the deposition of a wide range of materials including human remains, foodstuffs and metal artefacts. As a result such environments must be regarded as having an enhanced potential for the recovery of important archaeological finds, a significance which is further increased by their preservative qualities.

- Landscapes. The historic environment also includes archaeological landscapes; areas in which the relationships between multiple, linked

heritage assets have been preserved. Examples include areas in which prehistoric fields systems, domestic and ceremonial sites survive in close proximity, or locations which have seen intensive mining activity over several millennia (Figure 4). In most lowland regions such large scale survivals are rare or non-existent, having long been obscured, disrupted or destroyed by subsequent activity. However, Exmoor's moorlands are exceptional in their preservation of significant fragments of such landscapes which preserve a unique window into the ways in which past human societies manipulated and in turn were affected by their environment.

The Field Archaeology of Exmoor (Riley and Wilson-North 2001) provides an overview of the known historic environment resource on Exmoor and its moorlands. This includes Mesolithic flint scatters, Neolithic stone settings, Bronze Age barrows and field systems and settlement, Iron Age hillslope enclosures, Roman to post-medieval mining sites, ancient turbary, medieval field systems and post-medieval reclamation (e.g. the Knight drainage systems).

Many sites and structures are protected by law as Scheduled Monuments and Listed Buildings and some are within Conservation Areas.

The Exmoor National Park Historic Environment Record provides details of the known sites and finds and is constantly updated by the results of other surveys, such as the National Mapping Programme funded by English Heritage. It is recognised, therefore, that the potential for new discoveries is considerable. Thirty seven Principal Archaeological Landscapes (PALs) (Figure 5) have been identified on Exmoor's moorlands based on current knowledge and potential.

Within the last four years, Warcombe Water stone row, a probable Neolithic mortuary enclosure near the Chapman Barrows and a series of Mesolithic flint working sites on Brendon Common have all been discovered. In 2009, geophysical survey on Lanacombe was carried out over a 'blank' area between known stone settings - it revealed burial cairns and an embryonic planned, prehistoric field system. The potential to expose hitherto unknown remains during restoration works or other peat disturbance anywhere on Exmoor is therefore considerable.

1.2 - The Potential Impact of Mire Restoration on the Historic Environment

The impact of the proposed mire restoration works on the historic environment is difficult to predict and observe and may not become apparent until a significant period of time has elapsed. The works will have both potentially beneficial and damaging impacts.

Healthy peat deposits are waterlogged, anoxic environments in which the continued preservation of organic materials over significant periods is greatly enhanced. Maintenance of healthy peat is of obvious benefit to the historic environment on Exmoor. Exmoor's peats preserve a record of environmental and ecological change in the form of assemblages of pollen grains, plant macro fossils and the remains of insects and other organisms. The preservation of this archive is vital as it documents the changing character of Exmoor over the last 8000 years or so. It also supplies data relevant to current debates on climate change and is the baseline from which to assess changes in the future.

Mire restoration also has the potential to damage the historic environment; its impact operating on a variable timescale:

- The most immediate potential for damage is that inflicted by the work of drainage ditch blocking and the site traffic associated with it which can quickly damage or destroy fragile archaeological features and deposits through direct excavation and erosion by vehicles (Figure 6).
- Longer term deleterious effects can result from the alteration of human, animal and vehicle traffic patterns on and around restoration sites due to an increase in mire wetness. This has the potential to initiate or accelerate erosion of some monuments as they will represent 'drier' ground (Figure 7).
- Mire restoration promotes peat growth which, over the long term, may obscure or engulf now visible historic environment assets. Although in itself, this is not necessarily destructive, disappearance under peat represents a loss of access to and understanding of the historic environment.

These three potential sources of damage, either individually, or together, have the potential for eroding the integrity of surviving archaeological landscapes through the destruction or obscuring of individual features or their inter-relationships.

In essence, the immediate aim of the historic environment strand of work within EMP is to maximize the beneficial effects of mire restoration while mitigating any negative effects.

2.0-Objectives

This document is concerned with meeting Objective 6 of the Exmoor Mires Project:

> ***Objective 6***. *Historic environment protection and enhancement: better knowledge of the historic environment and better preservation of palaeo-environmental deposits.*

Accordingly, the historic environment strand of the project has the following four objectives:

1. Mitigate any deleterious effects on the historic environment generated by the implementation of the other EMP objectives.
2. Enhance knowledge and understanding of the historic environment.
3. Improve preservation conditions and knowledge of the palaeo-environmental resource.
4. Develop an evidence base to inform future decisions and methodological development to address the impact of mire restoration on the historic environment both within Exmoor National Park and elsewhere

3.0-Historic Environment Overview

3.1 - Archaeological Quantification and Assessment

The aim of this section is to quantify and characterize the historic environment within the target areas of the Exmoor Mires Project (EMP) in order to provide an overall picture of the archaeological features and landscapes that will potentially be affected by mire restoration.

Two main sources of information have been used to achieve this. The first was a GIS table defining EMP potential target areas. These have been defined on the basis of the presence of ditches and extent of peat cover as identified by analysis of aerial photographs and fieldwork. As such, depending on the distribution of ditches, the effects of mire restoration within each restoration area will vary considerably, being greatest in the vicinity of, or downslope from blocked ditches and least upslope or at a distance from the ditches. As project work is ongoing at the time of writing and the areas targeted for restoration are continually being adjusted, the work presented here is based on the known target area on 27th October 2011(Figure 8). The second source of information was the Exmoor National Park Historic Environment Record (HER). The data presented here is the minimum potential impact of EMP as it takes no account of the possible effects of traffic on site access routes, or mowing activities for bales used in ditch blocking which may fall outside the target areas. These will be assessed as part of individual site surveys in advance of re-wetting work.

The relatively low intensity of recent human activity on Exmoor's moorlands has enabled the extensive survival of a wide range of archaeological evidence that has usually been lost elsewhere, especially in lowland regions. In recognition of this Exmoor National Park has designated 37 Principal Archaeological Landscapes (PALs) within the moorlands (Figure 5). These consist of areas within which the archaeological evidence has been deemed, on the basis of a variety of criteria (see Fyfe and Adams 2008), to be of exceptional quality and importance. The total area of PALs is 50.1 km2, or 7.2% of the total area of the National Park. The archaeology they contain ranges in date from deep prehistory to the Cold War and in type from prehistoric and medieval fieldscapes to Second World War military training facilities and 19th century mining landscapes.

An examination of the extent to which the EMP target areas impinge on the PALs provides a useful starting point in assessing the project's impact on the historic environment as a whole, generating a generalized picture at a landscape scale before more detail is explored (Figure 8). A total of 11 PALs will potentially be affected to some degree (Table 3.1), constituting c. 30% of the total. However, the proportion of each PAL area coinciding with an EMP target area varies considerably from well under 1% at Winsford Hill to 37.8% at Codsend and Dunkery. Also, it should be remembered that this only provides a coarse picture of the effects of restoration on the PALs, as drainage ditch distribution relative to archaeological features is the most important factor in assessing the impact of the project work.

Table 3.2 presents the reasons for the affected PALs' designation. As can be seen, a range of types of archaeology is present including medieval and 19th century agricultural landscapes and the multi-period mining landscape at Burcombe. However, the archaeology of the listed PALs is dominated by prehistoric landscapes which consist of a combination of fieldscapes, settlement sites and monument groups in the form of barrows, cairns and stone settings. In five PALs the area affected by EMP restoration exceeds 20%; Lanacombe, Trout Hill and Pinford, Codsend and Dunkery, Larkbarrow and Tom's Hill and the Burcombe Mining Complex. The first four of these have been designated on the basis of the prehistoric landscapes they contain, while the Burcombe Mining Complex contains a prehistoric element. The implication is that the Exmoor's best prehistoric landscapes, which are of regional, national, or even international significance, will be heavily affected by mire restoration. Obviously, the effects of re-wetting in these areas will need to be carefully considered and judgements made concerning their appropriateness.

PAL No.	PAL Name	EMP Area No.	EMP Area Name	Percentage of PAL within Mire Restoration Area
1	Lanacombe	2	Lanacombe	36.5% (33.5 ha.)
2	Furzehill	1 39 59	The Chains Furzehill Common West Hoar Oak	11.4% (19.1 ha)
7	Shoulsbury	47	Castle Common	1.7% (0.4 ha.)
11	Trout Hill & Pinford	23	Lanacombe Pinford	35.7% (72.7 ha.)
13	Porlock Allotment	29	Porlock Allotment	0.6% (0.6 ha.)
15	Alderman's Barrow & Madacombe	-	Unnamed	16% (6 ha.)
16	Codsend & Dunkery	8 19 21 25	Codsend Moor 4 Codsend Moor 2 Codsend Moor 3 Hoar Moor	37.8 (162 ha.)
24	Burcombe Mining Complex	5 9	Deer Park Burcombe	25% (38 ha.)
25	Larkbarrow & Tom's Hill	12 16 22 23 50 58	Swap Hill Beckham Kittuck Meads S. Kittuck Meads N. South Common S. Swap Hill West	30.7% (151 ha.)
28	Picked Stones Medieval Field System	-	Unnamed	1.1% (2 ha)
30	Winsford Hill	-	Unnamed	0.2% (1 ha)

Table 3.1: Principal Archaeological Landscapes (PALs) potentially affected by EMP target areas.

PAL No.	PAL Name	Reason for Designation
1	Lanacombe	Prehistoric landscape
2	Furzehill	Prehistoric landscape
7	Shoulsbury	Prehistoric settlement
11	Trout Hill & Pinford	Prehistoric landscape
13	Porlock Allotment	Prehistoric landscape
15	Alderman's Barrow & Madacombe	Prehistoric monuments & palaeo-environmental
16	Codsend & Dunkery	Prehistoric landscape
24	Burcombe mining complex	Multi-period mining landscape
25	Larkbarrow and Tom's Hill	19th century improvement landscape, Mesolithic site, Prehistoric monuments
28	Picked Stones	Medieval landscape
30	Winsford Hill	Medieval landscape

Table 3.2: Reasons for PAL designations.

As their name suggests, PALs are primarily designated on the basis of the quality and importance of their archaeology, focussing on them demonstrates the possible cumulative effects of EMP on this scale.

A wider examination of the HER reveals 375 individual records fall within the EMP target areas. The precise nature of each record varies considerably; some detail a single well-defined archaeological feature, while others refer to multiple features with wide spatial distributions. Consequently, although it is difficult to discuss precise numbers of archaeological features that will be affected, the number of records will serve as a reasonable proxy.

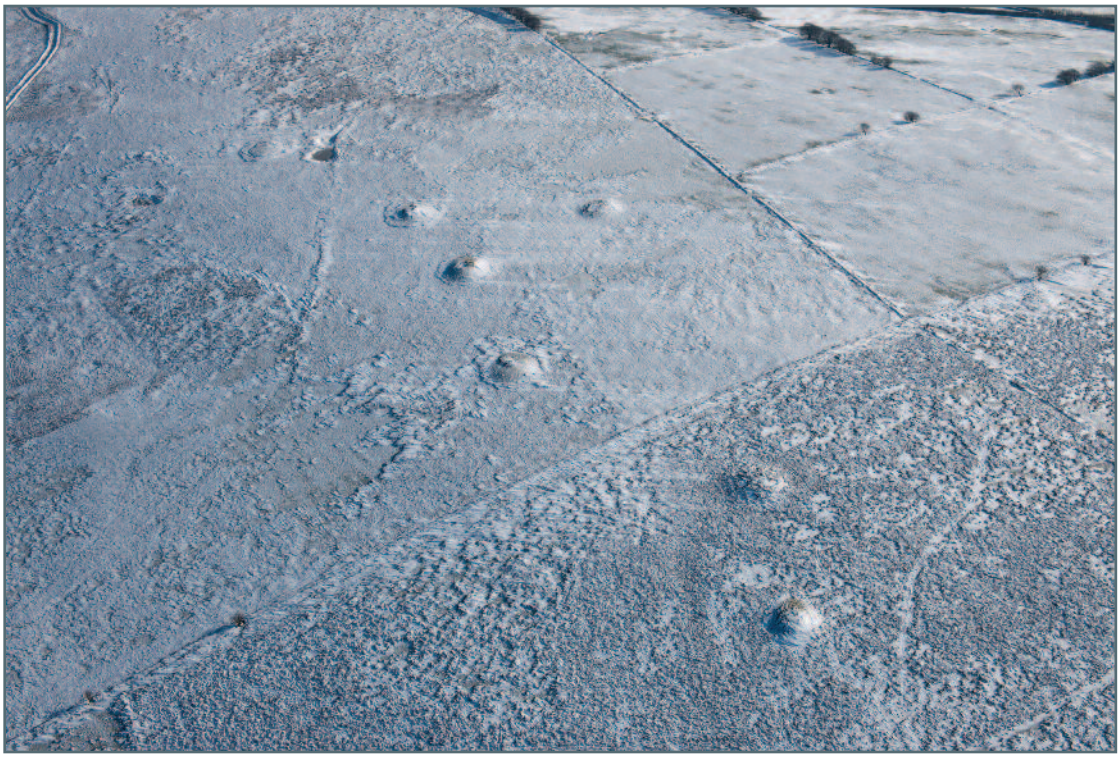

Figure 1: Exmoor's moorland archaeology: Bronze Age barrows on Five Burrows Hill. (© English Heritage).

Figure 2: Exmoor's moorland archaeology: Badgeworthy deserted medieval village (© English Heritage)

Figure 3: Sampling a peat sequence on Ricksy Ball.

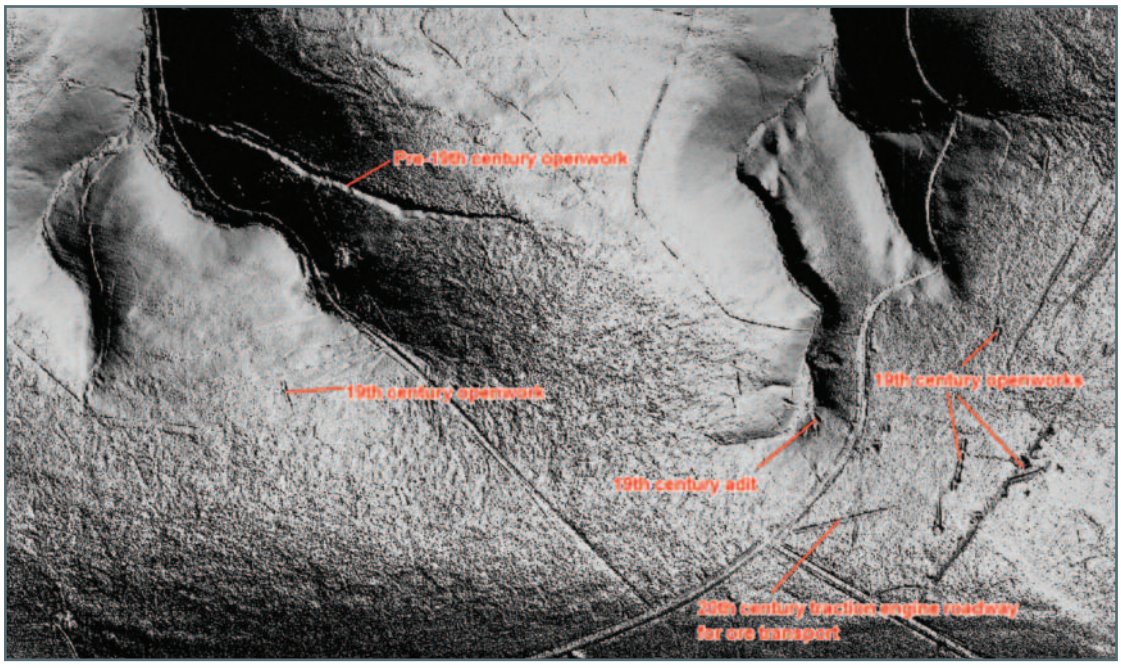

Figure 4: LiDAR digital terrain model showing the mining landscape on Burcombe and Deer Park.

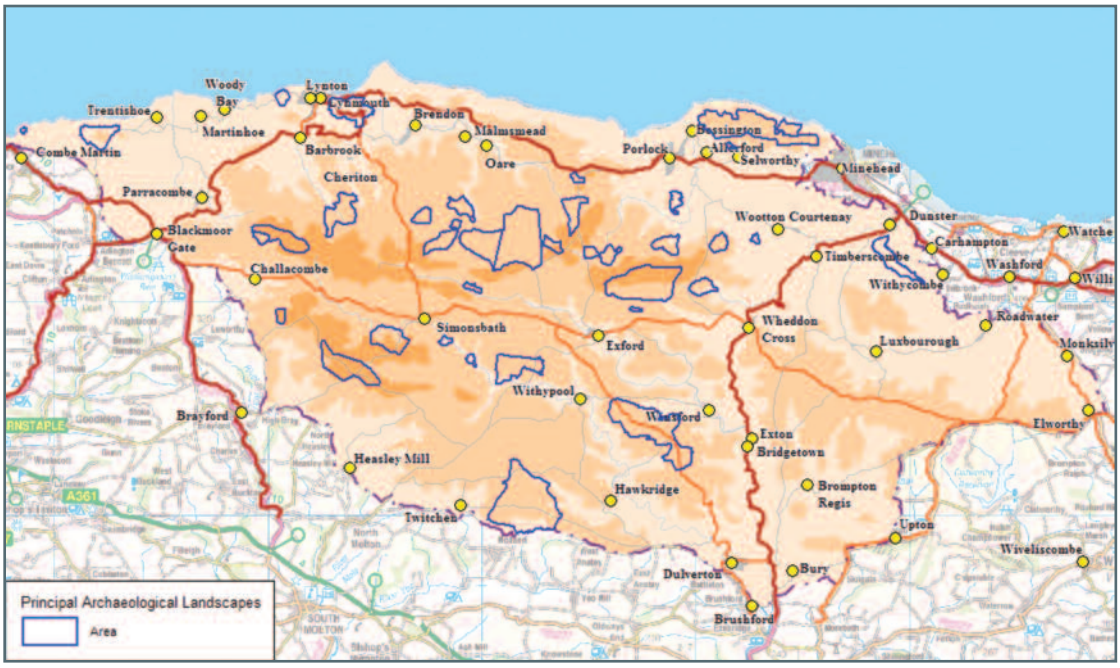

Figure 5: Map showing the areas designated as Principal Archaeological Landscapes (PALs) by Exmoor National Park.

Figure 6: Mire restoration underway at North Twitchen Springs, 2009.

Figure 7: A potential threat to the historic environment: focussing on livestock traffic.

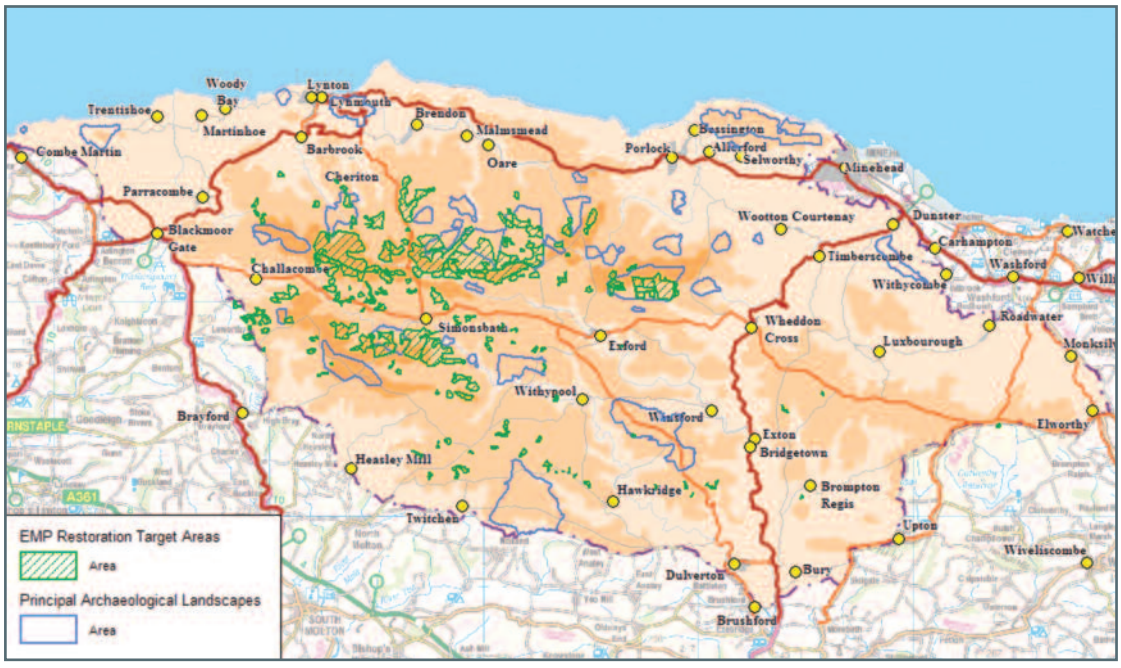

Figure 8: Map showing the areas targeted for mire restoration by the Exmoor Mires Project.

Figure 9: Aerial view of Spooners, Exmoor showing the extensive 19th century drainage ditch system (the curvinging parallel lines) with a 19th century prospecting openwork in the foreground (© English Heritage).

Figure 10: Peat cuttings on Brendon Common (© English Heritage)

Figure 11: Prehistoric field system on Great Hill (© English Heritage)

Figure 12: Roman Lode, a pre-19th century mining openwork on Burcombe.

Figure 13: Stones B, C and D of the Lanacombe II stone setting. The diminutive size of the stones is readily apparent.

Figure14: The Chains Barrow within the Chains mire restoration area.

Figure 15: Evidence for World War II military training; the ruined 19th century farm at Larkbarrow, destroyed by practicing artillery with shellholes readily apparent in the field adjacent
(© English Heritage)

Figure 16: Holloway running out of the valley of the River Barle on Spooners.

Category	Record Types	Number of Records
Communications	hollow way, track, packhorse trail, railway	12
Extractive/Industrial	adit, mine, quarry	28
General Agriculture	bank, boundary bank, field boundary, field system, fishpond, ridge and furrow, sheep fold, strip lynchet	56
Land Improvement	drainage ditch, drainage system, field gutter, water meadow, canal	81
Military	bomb crater, firing range, slit trench, target, observation post	11
Peat Cutting	peat cutting, peat stand	60
Settlement/Domestic	enclosure, deserted farmsteads, hut circle, hillfort	35
Ritual/Ceremonial	barrow, cairn, stone setting, standing stone, mound	65
Unclassified	find spot, uncharacterized, boundary stone	5
Water Management	leat, water channel, pond	22

Table 3.3: Quantification and classification of HER record types within EMP target areas.

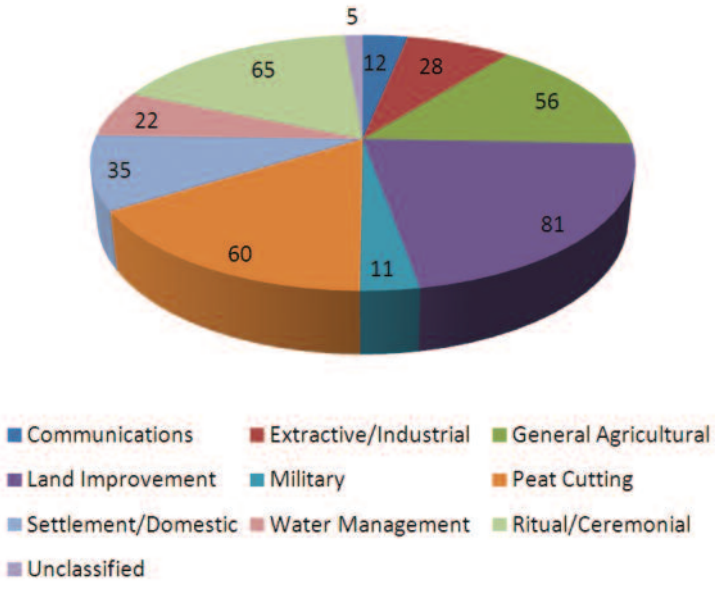

Table 3.4: Classification and quantification of HER record types within EMP areas.

There is considerable variety in the character of archaeology represented by the records, but it is possible to define nine broad categories, each representing a different type of human activity (Tables 3.3 and 3.4). The land improvement category is the most common type of record to be affected (21.6% of the total), which is to be expected given that the EMP target areas are partially defined by the distribution of the drainage ditches (Figure 9) and systems which dominate the group (64 records). Also, the focus of the project on peatlands means it is unsurprising that the evidence for peat cutting is strongly represented (16%) (Figure 10). Features associated with the general agricultural use of the landscape, especially relict field systems and features (53 records), are also heavily affected (14.9%) (Figure 11), while habitation sites constitute almost 10% of the affected records. The extraction of minerals has also formed a strong theme in human activity on Exmoor's moorlands for millennia and it is thus unsurprising that mining and quarrying features form 7.5% of the records within the EMP target area, ranging from prospecting pits to major openworks (Figure 12). If extraction is defined more broadly to include peat as well as stone and metallic minerals, it accounts for almost a quarter of the affected records (23.4%), emphasizing the moorland's importance as a source of raw materials. However, perhaps most striking is the number of records associated with prehistoric ritual monuments (17.3%), consisting of a combination of barrows, cairns and standing stones (Figures 13 & 14).

The date of this known archaeology is difficult to assess in some cases. Perhaps most clear-cut is that of prehistoric date which includes the 65 records of ritual or ceremonial features, although it is likely that at least some of the 10 records for mounds that are included in this total have a later origin. Combined with 14 records for hut circles and a hillfort and an additional 13 enclosures which are probably predominantly prehistoric settlement sites; 92 records, or 24.5% of the total, are of prehistoric date. Additionally, at least some of the 56 general agricultural records, for example the field systems on Codsend Moor and Furzehill Common, are known to be of prehistoric date, raising the total to in excess of one quarter of the total number of records. Combined with the discussion of PALs (see above), this further emphasizes the potential impact mire restoration could have on the prehistoric archaeology of Exmoor.

However, the majority of the records within the EMP target areas probably date to the post-medieval period, with most of those falling within the last two centuries. These include the evidence for agricultural improvement, largely from the 19th century (81 records), peat cuttings which are most likely to be of a similar or later date (60 records), water management features in the form of leats

and ponds (22), deserted farmsteads (8 records) and the evidence for mineral extraction (28 records). It is probable that most of the records for general agricultural are of also of relatively recent date (56 records), while the 11 records denoting military features date from the Second World War. In all, this suggests that perhaps 65-70% of the records within the EMP target areas belong to the post medieval centuries.

The medieval period, appears to be poorly represented within the affected records, the only feature obviously of this date being a single example of ridge and furrow. Others with a possible medieval origin may include some of 11 the hollow ways, tracks and packhorse trails and the two boundary stones. It is also worth considering the multi-period character of some of the features within the record data set. For example, it has been assumed above that the 8 deserted farmsteads are post-medieval in date, but it is quite possible that they have origins within the medieval period and the same can be said for relict post-medieval field systems and even peat cuttings. Finally, it should be remembered that mineral extraction sites are often difficult to date on the basis of field evidence alone and it is possible some are medieval or at least have a medieval component. However, overall, records relating to the medieval period are sparse in comparison to those of the prehistoric and post-medieval period and comprise probably no more than 10% of those within the EMP target areas.

Eleven Scheduled Monuments will be affected to some degree by re-wetting: 5.5% of the total within the National Park (Figure 14). These are summarized in Table 3.5 and are divided into those within one of the EMP target area (6 monuments) and those which are within 50m and downslope and thus likely to be affected to some degree by mire restoration. These monuments are of national importance and the potential effects of works in their vicinity will need to be carefully considered well in advance. Scheduled Monument Consent may be required for the works.

Monument No.	Description	Directly Affected/Proximity
SM49	Shoulsbarrow Castle	proximity
SM157	Chains Barrow	within target area
SM161	Rexy Barrow	within target area
SM173	Round Barrow SW of Exe Head	within target area
SM715	Barrow on Cheriton Ridge	proximity
SM25205	Lanacombe V Stone Setting	within target area
SM25209	Halscombe Stone setting	proximity
SM25217	Stone Row on Furzehill Common	within target area
SM25218	Hoaroak Stone Setting	proximity
SM25220	East Pinford Stone Setting	proximity
SM25221	Trout Hill 1 Stone Setting	within target area

Table 3.5: Scheduled Monuments affected by EMP mire restoration.

3.2 - Assessment of Significance

The assessment of significance of individual archaeological sites and monuments is complex and depends on the application of a range of criteria. These include its state of preservation, rarity, fragility or vulnerability to damage, its associations with specific individuals or communities and the degree to which it is characteristic of a particular period. The relationships between multiple surviving contemporary heritage assets can also enhance the significance of such groups. Archaeological significance also varies depending on the geographic context of its assessment. For example, a given monument may be rare within a given region but more common at a national level. In this way sites can acquire elevated significance at a local or regional level but not nationally. It should also be remembered that archaeological significance does not necessarily remain static but can change as new research is undertaken and new discoveries made. For example, recent years have seen a series of discoveries of previously unrecognized prehistoric sites on Exmoor, some within EMP target areas. At Hawkcombe Head, for example, recent excavation on a Mesolithic site hunter-gatherer site has uncovered rare structural remains, elevating the site's importance to an international level. This in turn has

enhanced the significance of other unexcavated Mesolithic sites on Exmoor, some of which are recently discovered, due to their increased potential for the preservation of similar evidence. Taken together, the extensive survival of Mesolithic sites on Exmoor may enable the study of Mesolithic landscapes and 'territories', which is almost unachievable elsewhere in southern Britain.

The evidence dating to the post medieval centuries, accounts for approximately two thirds of the total number of records within the EMP target areas. Much has considerable local significance as it is the result of the processes which have given Exmoor its present character. The evidence for relict field systems and deserted farmsteads form a basic level of information, standing testimony to the varying degrees of viability, optimism and ambition that have shaped Exmoor's often marginal farming landscape in the last few centuries. However, it is the 19th century struggle to increase the productivity of Exmoor's moorlands, especially under the Knight family in the former Royal Forest, which has done most to shape the face of the Exmoor we see today, specifically the area of the former Royal Forest. Features associated with this form a major component of the post medieval evidence within the EMP target areas, although the data is dominated by the evidence for water management. This is mostly either in the form of systems of ditches dug to drain the moorland mires, or field gutters intended to distribute water and manure onto fields to improve pasture quality. This evidence provides only a partial picture of the land improvement endeavour, but its impact and scale is sufficiently fundamental to promote its significance. That of the drainage component is enhanced further as the features affected by re-wetting will constitute the majority of the surviving evidence for this technique. Additionally, the precise intentions and functioning of the drainage systems on a landscape scale are poorly understood and some of the individual, larger scale features (e.g. Pinkery Canal) remain enigmatic. It is generally accepted that the evidence for the agricultural improvement of Exmoor, due to its extent, state of preservation and demonstration, is of national significance (Hegarty, forthcoming).

Although the multi-period character of some extraction features has been noted, they have been assigned to the post-medieval period (3.1). In the case of quarrying, the affected sites are small in scale and likely represent local extraction for road building or the construction of boundaries and are thus of merely local significance. Those sites from which metallic minerals were exploited have local importance as they indicate a further route explored by 19th century landowners, especially the Knights, in their quest to improve their land's productivity. However, the real significance of some of these sites lies in the lack

of success those landowners achieved, the result being a relative lack of destruction wrought by industrial mining and a consequent increase in the potential for the preservation of evidence for earlier periods of exploitation, a potential which has been proven at Burcombe where human activity dates to at least the Early Bronze Age. Mining sites with these conditions are rare given the continuous demand for metals over the last 4 millennia of human history. Those of western Exmoor, including those within the EMP target areas, are potentially of regional, national and, in at least one case, international significance.

The evidence for peat cutting on Exmoor is extensive, constituting the remains of a cottage industry of once vital importance for the inhabitants of Exmoor. As such, it is of local significance, its importance being enhanced by the impact which re-wetting work will have on the remains as much of the evidence falls within the EMP target areas.

Additionally, although only represented by a few sites or find spots, the evidence for the use of the northern part of the former Royal Forest as military training grounds deserves consideration. This body of evidence consists of individual features, often fairly ephemeral, which are widely scattered across the landscape making the corpus as a whole vulnerable to gradual erosion (Figure 15). Its significance lies in its uniqueness in Exmoor's history and in its association with the Second World War which has had such a formative effect on Britain's modern national character. It is also a rare kind of relict military landscape from this period, because most training grounds have continued under military control and the Second World War phase of activity has been overlaid, altered or effaced by later military activity.

The prehistoric archaeology within the EMP target areas is striking in the variety of individual features present which include evidence for ritual, domestic and agricultural activity on Exmoor's moorlands. The survival of such a range of evidence for many aspects of life on Exmoor between the Neolithic and Iron Age forms the basis of its significance which is of at least regional level. However, this is promoted to a national degree of importance in some cases where fragments of entire landscapes survive, consisting of fields, habitation sites and related ritual features. Such sites provide an invaluable resource for exploring human interaction with the environment at these times and are vulnerable to the gradual erosion of their integrity by cumulative minor impacts.

Individual types of features within this group also have great significance. Recent research has focussed on Exmoor's stone settings which are part of a contemporary north-west European tradition of marking places through the

erection of monuments. The almost uniquely diminutive character of Exmoor's stone settings promotes them to an international level of importance due to their concomitant potential for illuminating contemporary perceptions of monumentality. Also, within the EMP target areas; there are 44 known cairns, barrows and mounds, accounting for approximately 10% of the total known within the national park. These monuments have been little studied, but the few dates obtained from them suggest construction at somewhat later dates than those in surrounding areas. The implication is that Exmoor's barrows and cairns are important for the study of the Bronze Age at the regional level. Some recent approaches to prehistoric monuments have stressed a landscape-scale approach that explores the relationships between groups of monuments and the landscape in which they are set. This emphasizes the significance of those barrows and cairns within the EMP target areas as part of a wider landscape rather than as individual features especially as none of Exmoor's monuments have been studied in this way to date.

Much of the post medieval archaeology of Exmoor has probably developed from medieval antecedents (3.1). The result is that archaeological sites of unequivocal medieval date are rare in the region, especially within the former Royal Forest which contains the majority of the EMP mire restoration areas. This rarity increases the archaeological significance of those medieval remains that are present. In particular, the packhorse trails impacted by restoration assume a degree of local significance as they represent past communications routes across the moors, some carrying relatively high volumes of traffic (Figure 16). However, they are currently poorly understood, but have the potential to shed light on one way in which the medieval Exmoor was used. The paucity of clear archaeological field evidence of medieval date enhances the significance of palaeo-environmental evidence as a means of investigating on human activity during this period.

As section 1.1 describes, the historic environment includes the mires themselves. They contain a wealth of palaeo-environmental evidence that has the potential to shed light on the development of Exmoor's landscape. This evidence is of great significance, providing an environmental and chronological context for human activity on Exmoor and a record of climatic and environmental change. However, Exmoor's mires attain at least national significance in some areas due to their proximity to contemporary archaeological remains. Such spatial and temporary congruence is rare in Britain and has the potential to enable key questions of human-environment interactions to be addressed with results which are of interest to an international audience.

Exmoor's mires also preserve a record of natural events originating further afield. Tephra, particles of volcanic ash which can be matched by geochemical analyses to specific dated eruptions, are found within peat sequences on Exmoor. These provide important chronological markers and also remind us of the wider significance of the palaeo-eonvironmental archive in Exmoor's peats.

4.0-Historic Environment Strategy

4.1 - Principles and Philosophy

The following principles and philosophy have been adopted by the EMP Delivery Group to enable the objectives of the historic environment strand of the project (2.0) to be fulfilled in an effective and cost-efficient way;

- The project should endeavour, at all levels, to safeguard the Historic Environment.
- Successful and sensitive upland rewetting will, in many cases, significantly benefit the archaeological resource, but the works associated with rewetting can have a considerable negative impact. As with other land use changes and development, rewetting proposals should be carefully planned for well in advance and appropriate mitigation proposed, so that impact is kept to a minimum.
- There should be an acceptance that - where mitigation is inadequate - some areas may not be suitable for rewetting because of their importance for the historic environment.
- Access to archaeological sites and monuments by the general public should be maintained or enhanced and not reduced by upland rewetting. Work may be required to better identify which sites are of prime interest.
- The project should follow a formal, carefully planned, staged approach, allowing sufficient time to use desk and field-based information to respond to specific proposals for rewetting. This is standard good practice and will establish present knowledge, likely potential and inform mitigation.
- A strategic approach is essential from the outset so that decisions are informed by an overall understanding of the Historic Environment resource. This will ensure that the project budget is managed appropriately in a cost-effective and efficient manner with a clear understanding of priority where necessary.
- To ensure the project delivers clear gains for all National Park purposes, there is a need for the full co-ordination and integration of Historic Environment elements within the wider programme.

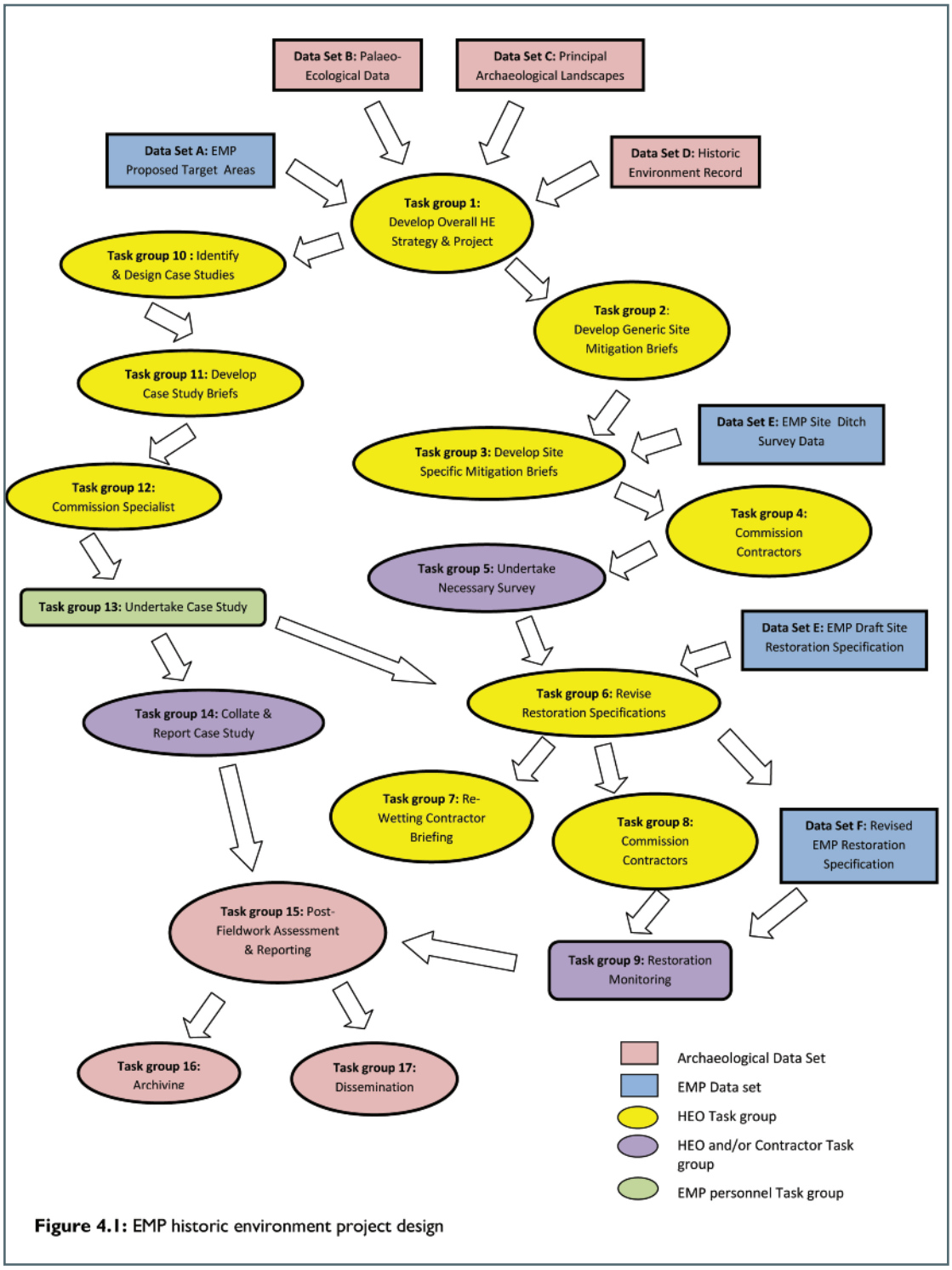

Figure 4.1: EMP historic environment project design

Figure17: EMP historic environment project design

4.2 - Strategy

The historic environment strand of the Exmoor Mires Project has four objectives (2.0) which focus on two main themes; the protection of the historic environment and the enhancement of our understanding of it. In order to fulfil these objectives, the methodology described here is also broadly divided into two, corresponding, types of work. Theoretically, protection of the historic environment is, to a significant degree, inherent in mire restoration; restoration preserves the integrity of mires thereby protecting peat deposits containing invaluable palaeo-environmental evidence and maintaining the exceptional ability of these environments to preserve artefacts. However, there is potential for the work associated with restoration to directly damage the historic environment necessitating mitigation work in the form of on-site survey and monitoring of works and careful assessment of the long term effects of re-wetting. This constitutes one strand of the historic environment strategy.

The work associated with improving understanding of the historic environment is less driven by on-site restoration work. Instead, this strand of the methodology will undertake a series of case studies, each aimed at answering specific questions concerning areas affected by mire restoration work, using a variety of techniques including desk-based study, geophysical survey, palaeo-environmental sampling, LiDAR analysis and targeted excavation. The criteria used to select the heritage assets targeted by case studies are defined in English Heritage's National Heritage Protection Plan (http://www.english-heritage.org.uk/professional/protection/national-heritage-protection-plan/) and are as follows;

- least understood
- most threatened
- most significant
- most valued by communities

The precise design of each case study will be driven by the research priorities for Exmoor's Moorlands as defined in Exmoor's Moorlands Historic Environment Research Priorities. Although the case studies remain to be further defined, the latter document, combined with the assessment of the significance of the heritage assets within the EMP target areas (3.2), enable a number of potential priority investigative themes to be identified:

- prehistoric settlement and landscapes

- medieval landscapes
- 19th century agricultural improvement
- peat development
- archaeology concealed by the peat
- peat exploitation
- tephrochronology
- climatic change
- valley mire development
- recent vegetation development

4.3 - Methodology

The historic environment strand of work for EMP is divided into 17 task groups and 6 data sets corresponding to one of three different types (Figure 18);

- Strategic/Planning: the work undertaken in these task groups affects the whole project at a strategic level and includes initial planning and the production of reports detailing the project results.
- Mitigation: work that is focussed on protecting the historic environment from any deleterious effects of restoration works and as such tends to be closely tied to specific re-wetting sites.
- Enhancing Understanding: work that consists of investigation intended to increase knowledge of the historic environment in areas affected by mire restoration.

Each task group and data set is described below:

Data Set A: EMP re-wetting target areas. This data set, outlining the boundaries of the re-wetting target areas, is of fundamental importance as it defines the majority of the area within which the historic environment will potentially be directly affected by mire restoration works.

Data Set B: Palaeo-Environmental Data. This data set consists chiefly of the locations of previous palaeo-environmental sampling programmes and of the areas of high palaeo-environmental potential as identified by Fyfe and Adams (2008). This information, will inform the design, execution and interpretation of

palaeo-environmental work undertaken over the course of mire restoration.

Data Set C: Principal Archaeological Landscapes (PALs). Fyfe and Adams (2008) defined 37 areas of moorland in which the historic environment was of exceptional quality. These designations were based seven criteria including degree of preservation, contribution to the character of Exmoor, completeness and association with palaeo-environmental deposits. This data set is of obvious importance as the significance of these areas is such that preservation of the historic environment should have precedence over other issues within them.

Data Set D: Exmoor National Park Historic Environment Record (ENPHER). The information contained in the ENPHER forms a fundamental data set for the project.

Data Set E: EMP Site Ditch Surveys. This data set, compiled by the EMP Project Officer, will provide up-to-date information concerning the extent and condition of surviving drainage ditches, on each restoration site. This will define the restoration area for each site and enables the impact of re-wetting to be more closely assessed in each case (Task group 3). In addition, this data set will include a specification for re-wetting work detailing the ditches to be blocked, locations and type of dams, site entrances and traffic routes, location and boundaries of harvesting areas for bales if they are to be used. It is not envisaged that movement of disturbed peat will occur but if this is deemed desirable for re-wetting works, the location of the proposed movement should be planned as soon as possible as archaeological intervention may be necessary.

Data Set F: Revised EMP Site Ditch Surveys and Restoration Specification. Following an initial assessment of the historic environment and the completion of any mitigation survey or other work, it will be possible to make any necessary revisions to the restoration specifications for each site in consultation with EMP staff.

Task group 1: Develop Overall Historic Environment Strategy and Project Design. This task entails the characterization of the historic environment within the area targeted by EMP re-wetting operations. This will take a strategic approach, synthesizing relevant data from all the affected sites to enable overall priorities to be identified. In addition, it will maximize the efficiency of and provide a solid contextual foundation for subsequent work, while also enabling the most cost-effective budget allocations to be made early in the course of the project. It is important that the overall project schedule is known at this stage to enable effective prioritization and planning of archaeological work.

Deliverables for this task will be:

- Characterization and quantification of the historic environment within EMP target areas.
- Assessment of the potential impact of re-wetting on all aspects of the historic environment.
- Examination of the landscape scale impact of mire restoration.
- Priorities for subsequent work.

Task group 2: Develop Generic Site Mitigation Briefs. It is anticipated that walkover survey and watching briefs will constitute the majority of mitigation work on each restoration site. Generic briefs developed in this task group will form the basis of more site-specific instructions written for each site, saving time and providing consistency in the details of the work undertaken and its reporting. Other types of mitigation become necessary during work on each site, but briefs for this will have to be developed on a case-by-case basis. Outcomes for this task group will include general specifications for:

- Detailed walkover survey.
- Watching briefs.

Task group 3: Develop Site Specific Mitigation Briefs. Completion of the drainage ditch survey for each site will closely define the area affected by re-wetting on each site and enable site-specific briefs to be produced for mitigation works. Outcomes for this task group will include site specific briefs for:

- Detailed walkover survey.
- Watching briefs.

Task group 4: Commission Contractors. Where necessary suitable archaeological contractors will be appointed to undertake mitigation survey according to the briefs developed in Task group 3. Outcomes will be:

- Appointment of appropriate contractor to undertake mitigation survey where necessary.

Task group 5: Undertake Necessary Survey. It is anticipated that detailed walkover survey of many of the proposed restoration sites will be necessary in advance of re-wetting. The results of this work will add to the HER and enable the restoration specification to be critically examined and adjusted where necessary (Task group 6). It is worth noting that the results of case studies undertake in order to enhance understanding in a given area may also act to inform this task group. Outcomes for are:

- Detailed historic environment information for each survey area.

Task group 6: Revise Restoration Specifications. Production of the restoration specifications (Data Set E) will enable a clearer, more detailed assessment of how re-wetting work will affect the historic environment on each site. This will in turn allow consultation between the project historic environment officer (HEO) and other EMP staff aimed at revising the re-wetting specifications where necessary. The results of this may be:

- No further archaeological requirements.
- Additional archaeological intervention.
- Archaeological watching briefs (see Annex 1 of Exmoor NP Local Plan for details)
- Request to amend the re-wetting specification.
- Request to abandon the proposed restoration work.

Outcomes of this task group will include:

- Agreed re-wetting specification and mitigation strategy for each restoration site (data Set F) which will govern the conduct of all further work.

Task group 7: Re-Wetting Contractor Briefing. Prior to work being undertaken on each site all contractor personnel involved should attend a short briefing/training session with the HEO. This is intended to emphasize the potential vulnerability of the historic environment to the restoration work, highlight best practice and establish good working relations and communications between the HEO and the contractors. Outcome:

- Increased awareness of the historic environment, its vulnerability and best practice in working with it.

Task group 8: Commission Contractors. In many cases suitable archaeological contractors will be appointed to undertake monitoring of restoration works according to the briefs developed in Task group 3. Outcomes will be:

- Appointment of appropriate contractor to undertake watching briefs where necessary.

Task group 9: Restoration Monitoring. The restoration work will be undertaken on each site with the agreed (Task 14) archaeological monitoring and any require further work. Outcome:

- Successful monitoring of site restoration work.

Task group 10: Identify and Design Case Studies. In this task group the case studies which will form the strand of work aimed at enhancing understanding of the historic environment will be identified according to the priorities discussed in 3.2. Each will use a variety of techniques according to its precise objectives. Outcome:

- Series of defined case studies aimed at enhancing understanding of the historic environment in those areas affected by mire restoration.
- Detailed study design for each case study.

Task group 11: Develop Case Study Briefs. It is likely that each case study will require the appointment of at least one specialist contractor to undertake work according to the study design (Task group 10). Briefs outlining the objectives, scope and deliverables for each type of work involved will be written at this stage for each case study. Outcomes will be:

- Detailed briefs for each type of work involved in each case study.

Task group 12: Commission Specialist Contractors. Suitable contractors will be appointed to undertake programmes of work as part of individual case studies as detailed in the briefs developed in Task group 11. Outcome:

- Appointment of suitable contractors to undertake case study work.

Task group 13: Undertake Case Study. The fieldwork, concomitant analysis and

reporting of results of the case studies will be undertaken by the relevant contractors and the HEO at this stage. In some cases this may constitute the final report for the case study. Outcomes will be:

- Completed reports of results of each strand of individual case studies completed.

Task group 14: Collate and Report Case Study Conclusions. Some case studies may be composed of more than a single strand of work. In these cases it will be necessary to collate the results of each strand and report on the case study conclusions in the light of its overall objectives. The outcome of this task group where it is necessary will be:

- Completed overall case study report.

Task group 15: Post-Fieldwork Assessment and Reporting. This task involves the production of a report in which the results of EMP works are described and assessed as a coherent whole. Outcome:

- Completed project report.

Task group 16: Archiving. The results of historic environment activities, including surveys, reports, samples and artefacts should be appropriately archived. Archiving should also include the creation and amendment of ENPA HER records and museum and county record office depositions. Outcomes of this task group are:

- Project archive deposited with museums and county record offices.
- HER updated.

Task group 17: Dissemination. The results of the project should be disseminated to landowners, the general public and academic audiences and appropriate provision should made for the hosting of seminars at the conclusion of the project.

- Appropriate seminars aimed at public and academic audiences.

5.0-References

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6.0-This Document

This document was written by L. Bray in consultation with R. Wilson North, Exmoor's Historic Environment Moorland Panel and the Exmoor Mires Project Delivery Group. It is based on Wilson-North and Turner (2010).