



Forestry Commission Project E: Insights from local historic environment services creating SHINE records

Report from the Strategic Historic Environment
Service, Cornwall Council

31/03/2023

Connectivity and Environment

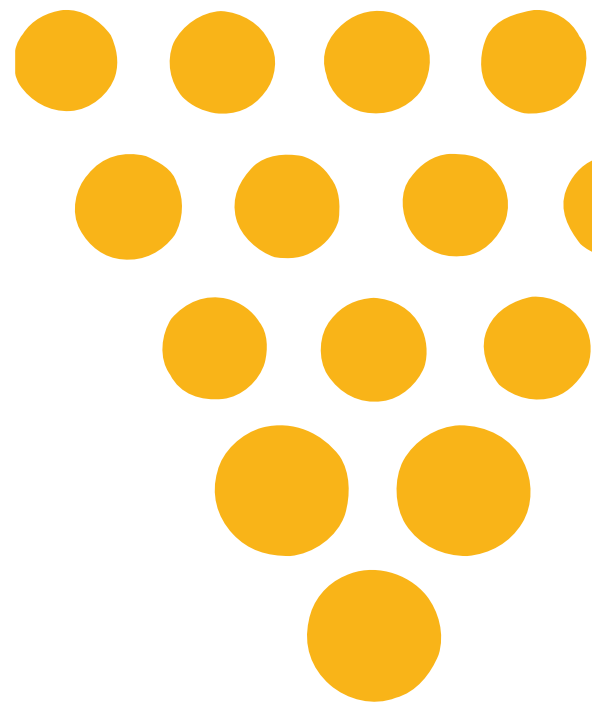


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Abbreviations

ALGAO	Association of Local Government Archaeological Officers
GIS	Geographic Information System
HBSMR	Historic Buildings, Sites and Monuments Record
HER	Historic Environment Record
LRA	Low Risk Area
NCA	National Character Area
SHINE	Selected Heritage Inventory for Natural England
UKFS	United Kingdom Forestry Standard
WHS	World Heritage Site (Cornwall and West Devon Mining Areas)

Introduction

Project E was an opportunity for Cornwall Council Strategic Historic Environment Service to contribute to understanding of the suitability of SHINE data in the context of mapping for woodland creation.

The project was funded by the Forestry Commission who aim to evolve the existing SHINE dataset to make it suitable for woodland creation by improving its methodology, produce an online targeting and opportunities map for afforestation, and feed historic environment data into their existing sensitivity mapping.

Summary

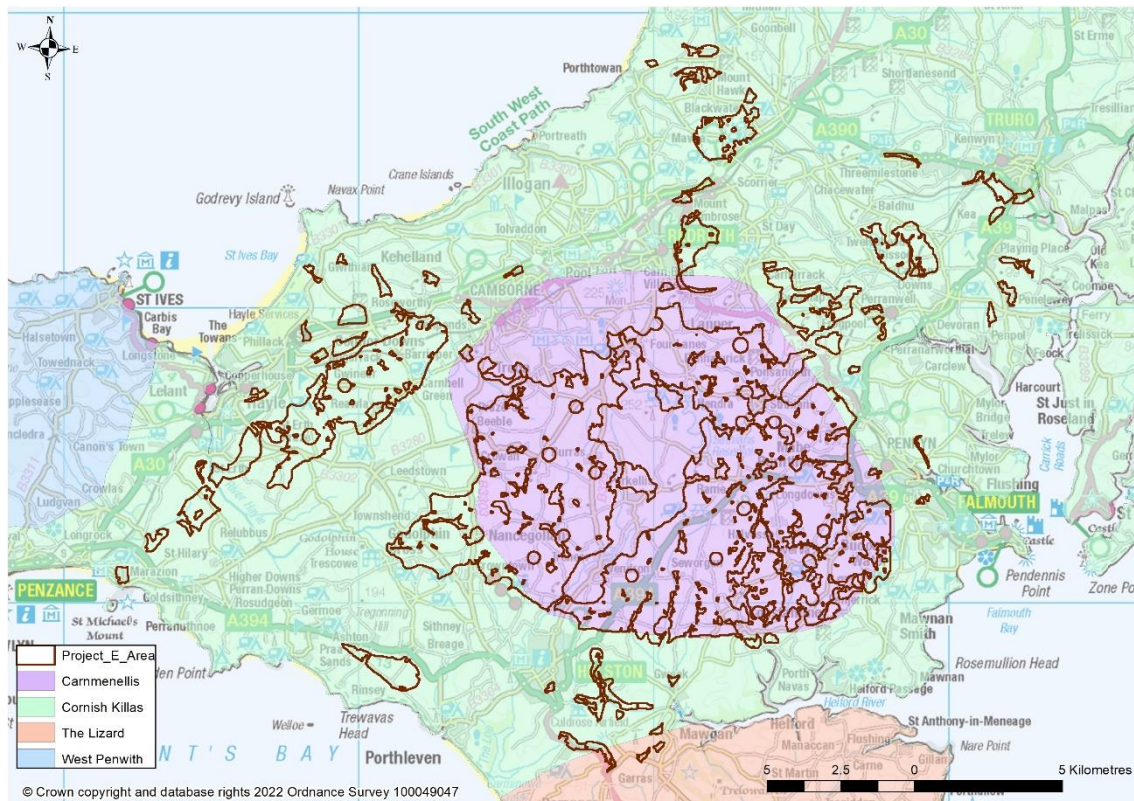


Figure 1: Extent of the final project area and its relationship to National Character Areas

A discrete project area, the Carnmenellis National Character Area (NCA) (Historic England 2020), was chosen, and within this the Low Risk Area (LRA) (Forestry Commission 2023) was singled out for study. This LRA of 9221ha represents roughly 3% of the entire LRA for Cornwall (291667ha), with roughly 11% of HER

entries for the same area (Reynolds 2022). This project area was recorded in 15 days of Project time, including the creation of new SHINE records and amendments to existing records where these were required as well as the creation and updating of sites and monuments records in the HER.

An additional area beyond Carnmenellis primarily within the Cornish Killas Character Area 152 was explored with the remaining 5 days of recording time remaining in the original project specification. This area added approximately 3400ha to the original recording target.

The aim of the project was to provide feedback on the suitability of the SHINE dataset as a means of informing new woodland planting, while applying existing SHINE methodology and criteria. Results from this project include recommendations for amendments to the existing methodology, to make it suitable for informing woodland creation.

The project area

The project area comprised LRAs within the Carnmenellis NCA, excluding areas such as World Heritage Sites areas, Scheduled monuments, extant settlements, bodies of water and existing areas of woodland.

Although the WHS areas do not intersect with the LRA and thus the project area, they are of high significance to this project. A meeting was held about Project E, and the significance of the Cornwall project area, with officers from the WHS team. The conclusions from this meeting were that the WHS area boundaries are very tight, and officers do pay consideration to the historic landscape outside the boundary area. Dense tree planting that obscures historic features, landscapes or viewsheds across the WHS is considered to have the potential to negatively impact on the Outstanding Universal Value (OUV) of the site (A. Cocks, pers. comm.). On this basis Cornwall investigated sensitivity around setting and character in relation to woodland creation further as part of Project E.

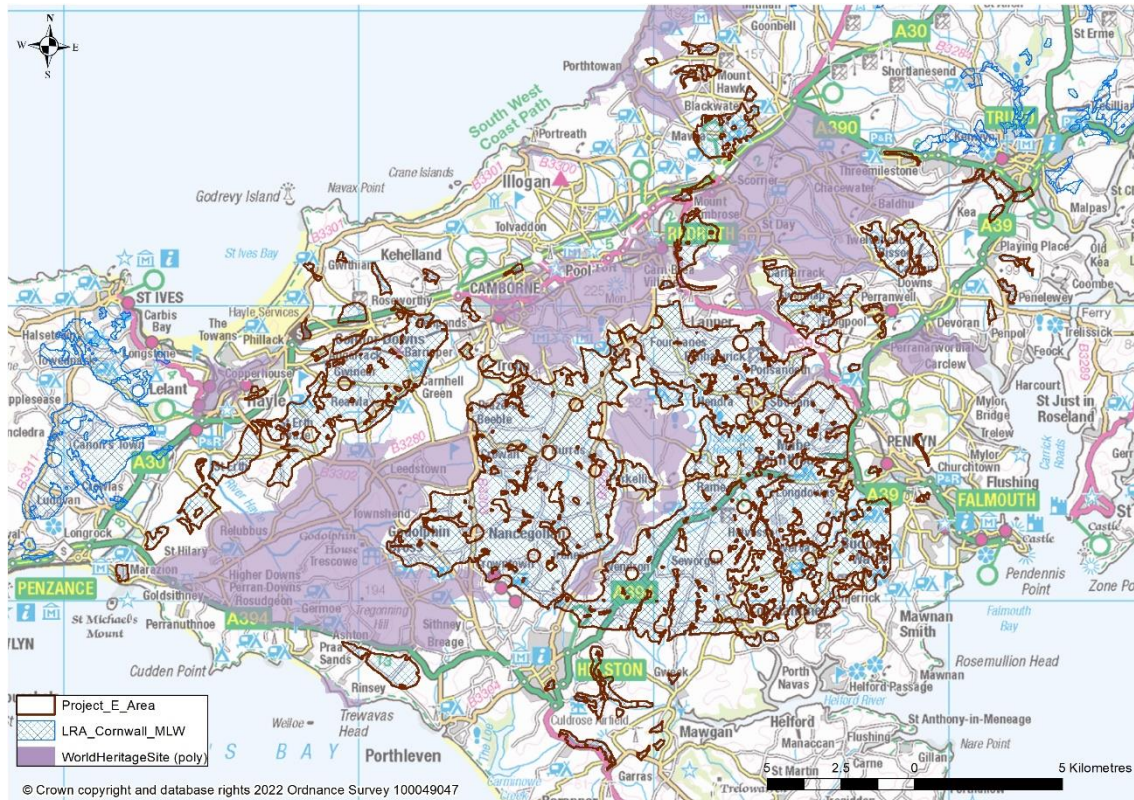


Figure 2: The project area, wider Low Risk Areas within Cornwall, and adjacent Cornish Mining World Heritage Site areas

Carnmenellis NCA

Carnmenellis is a geographically discrete area of granite upland, situated to the south of Camborne and north of the Lizard. It is identified as National Character Area 155 by Natural England, who describe a key characteristic of the area as “exposed granite hill tops offering long views over the surrounding landscape”. Woodland is uncommon across the character area, although some dense patches of woods occur on steeper valley edges. Water collects in bogs and mires across the uneven granite plateau and small reservoirs, pools and ponds are distinctive features of this landscape. Soils in the centre and north of the area are of poor quality and farming is predominantly livestock and dairy on small (i.e., under 50 acres) farms. Larger farms, comprising a mix of arable, livestock farming, and horticulture are evident in the more sheltered southern area.

Although its archaeology is under-researched and not as well understood when compared to other parts of Cornwall, the HER holds a wealth of evidence of Neolithic and Bronze Age activity for this area including a number of undesignated prehistoric settlement sites on the highest unimproved moorland.

There is extensive evidence for historic and prehistoric metal and stone extraction across Carnmenellis and its exploitation during the 18th and 19th centuries for tin and copper have led to the inclusion of parts of the area in the Cornish Mining World Heritage Site (figure 2). Of particular interest to Project E is the proliferation of 19th century miners' and quarry workers' smallholdings with associated field systems that survive in a coherent, recognisable form across this area.



Figure 3: An aerial view of Carn Marth, 2006 ©Cornwall Council CIOS HER

Cornish Killas NCA

This is a far more widely distributed character area which lies between Cornwall's five granite outcrops, including Carnmenellis. The "killas" refers to the area's underlying geology of sedimentary and metamorphic rocks, primarily shale or shillet, which support a plateau lying close to the sea in all directions.

It is an area of mixed farming punctuated by densely wooded river valleys. The field patterns of the farmed landscape vary enormously from the sinuous and irregular nature of prehistoric and medieval systems to medieval and later strip fields and the small, regular pattern of 19th century intake from rough ground.

The archaeology of this character area also varies considerably, with evidence surviving for settlement from the Neolithic period onwards. The significance of industrial activity across the area in many forms, such as transportation and the development of high-status country houses with attached ornamental landscapes, has been recognised by inclusion in the World Heritage Site.



Figure 4: Aerial view of Cornish Killas character area near St Agnes, 2006 ©Cornwall Council CIOS HER

Methodology

The recording process created new SHINE records and amended existing records where appropriate. Progress was audited by regularly querying the SHINE database in the HBSMR by date and author.

Current SHINE recording guidelines were followed throughout (ALGAO et al 2018a and ALGAO et al 2018b), and the dataset was regularly uploaded to the national database with a final update on 13th February 2023. The figures in the summary of results reflect final amendments to SHINE and to the HER on that date.

Recording SHINE for woodland creation required a different approach to that for Countryside Stewardship. As discussed in the following section, some large area polygons were created not because they included a number of sites but because there was a need to highlight the threat to visual impact from tree planting, in particular dense tree cover schemes, on landscape features such as field systems and historic industrial activity.

Without more detailed or specific information on planting proposals, the project took a view that a worst-case scenario, of cumulative dense planting schemes, was proposed. It is recognised that some types of tree planting schemes have value to historic landscapes, such as the reinstating of historic orchards. It is important therefore that detail for individual schemes is made clear at an early stage in the consultation process.

To distinguish between SHINE records from this project and SHINE records created for Countryside Stewardship applications, fields in the HBSMR recording form were utilised:

- New SHINE records, created with woodland planting in mind as part of Project E, were flagged as “Woodland” in the Other Ref field (figure 5). This also allowed for post-recording auditing and interrogation of these records.
- A note was added in Curator Notes for amended SHINE records, where additional monuments were enclosed due to their proximity to the existing record. The note was standardised as: “Amended for Project E potential woodland planting”.

Within the project area new HER entries were created and updated where appropriate to reflect the monument types that were captured, and to aid further post-recording interrogation. For example, a number of disused smallholders’ dwellings were polygonised for SHINE, and HER entries were created where none had existed previously. These sites were predominantly in areas that had not previously been considered for SHINE recording.

At present, this field does not appear in the GIS attribute table for SHINE data and thus cannot be queried in its mapped form. Some discussion with Idox (owners and managers of the HBSMR) suggests that a long-term solution for distinguishing recording processes within SHINE is possible but the current work-around used for this project is unlikely to be sustainable (J. Fuller, Idox, pers. comm).

DCO19435: A group of extant 19th century smallholders' field plots; boundary hedges are int...

Designation DCO19435 Active

New Copy Delete Link Task Bookmark Report Menu Close

Record Type: SHINE Setup Dates: Assigned: 06/12/2022

Pref. Ref: (Unused) Amended:

National Ref: (Unused) Revoked:

Name/Title: A group of extant 19th century smallholders' field plots; boundary hedges are intact and fo

Authority: Clr

NGR: Centred SW 7188 3351 (1403m by 1299m) Map: SW73SW

General Monuments Sources Location LibraryLink Metadata

Description

Curator Notes

Significance: Medium Form: Above-ground feature(s)

Other Ref: Woodland (Unused) Unused date:

LibraryLink: 0 Resources: 0 Tasks: 0 XY

Figure 5: HBSMR form with Other Ref field utilised for "Woodland" entries

Results

Project Area Figures	Recording Summary
Total project area in hectares: 12,627.968	SHINE records new: 249
Total SHINE records within the project area: 498	SHINE records amended: 42
Total HER entries within the project area: 2301	New and updated HER entries: 431
	Total recording time: 20 days

Within the project area, the number of records in the SHINE dataset was roughly doubled. It included 48 records for Bronze Age or Iron Age sites and monuments, 81 relict mining landscapes and 75 post medieval smallholder's dwellings, field systems or associated site types.

24 historic quarries were polygonised, particularly in the southern part of the project area where some areas of quarrying also encompassed groups of smallholders' fields.

The following two case studies consider in more depth some of issues regarding the use of SHINE for woodland planting.

Case study 1: Smallholders' fields, Edgcumbe

Large sections of the project area lie adjacent to the WHS (see figure 2). There is potential for tree planting to obscure monuments, as well as views towards and across historic landscapes immediately outside the WHS Area (see for example figure 6), as well as an impact on below-ground archaeology, for example the remains of small farms, smallholdings and on ancillary mine buildings. The 2,301 monument records within the project area included 1,493 sites of Post Medieval date and within this number were an unusually high proportion of site types associated with miners' and quarry workers' smallholdings. These site types include smallholdings, cottage pairs, hulls¹, crows² and farms of 19th century date. They comprised 5% of the total monuments within the project area, against less than 1% across Cornwall overall.

While some of the best-preserved areas of smallholdings are within the WHS areas, numerous additional examples survive including a well preserved group to the north of the A394 at Edgcumbe in Wendron parish. The individual field plots cannot be presumed to be currently in the same ownership and may thus be subject to multiple applications for tree planting. This area, and many similar sites across the project area, are therefore vulnerable to loss via cumulative small area

¹ Subterranean storage rooms usually dug into rab (granitic subsoil) in upland areas of Cornwall. Associated particularly with small farms and smallholdings of 19th century date

² Ground-level recesses constructed within deep Cornish stone hedges, with either a stone lintelled or corbelled roof. Used as stores for tools, or to house livestock such as pigs or geese

planting schemes which would ultimately prevent recognition and understanding of these areas of small 19th century fields.

The Edgcumbe field system was recorded in SHINE as a single entity, encompassing dwellings and outbuildings where these lay within the area (figure 7). This was seen as a preferred option to attempting to plot groups individually, so that the reason for the polygon could be understood. It was also necessary due to current GIS guidelines for SHINE which demand a gap between polygons of 20m. In order to preserve the coherence of the field system so it is understandable as a historic feature, a single polygon was necessary.

However, the creation of such large area polygons may lead to applicants questioning why certain areas, such as gardens and modern outbuildings, are within a SHINE record.



*Figure 6: Smallholders' fields with tree planting within some field plots on Carnmenellis, 2009
©Cornwall Council CIOS HER*

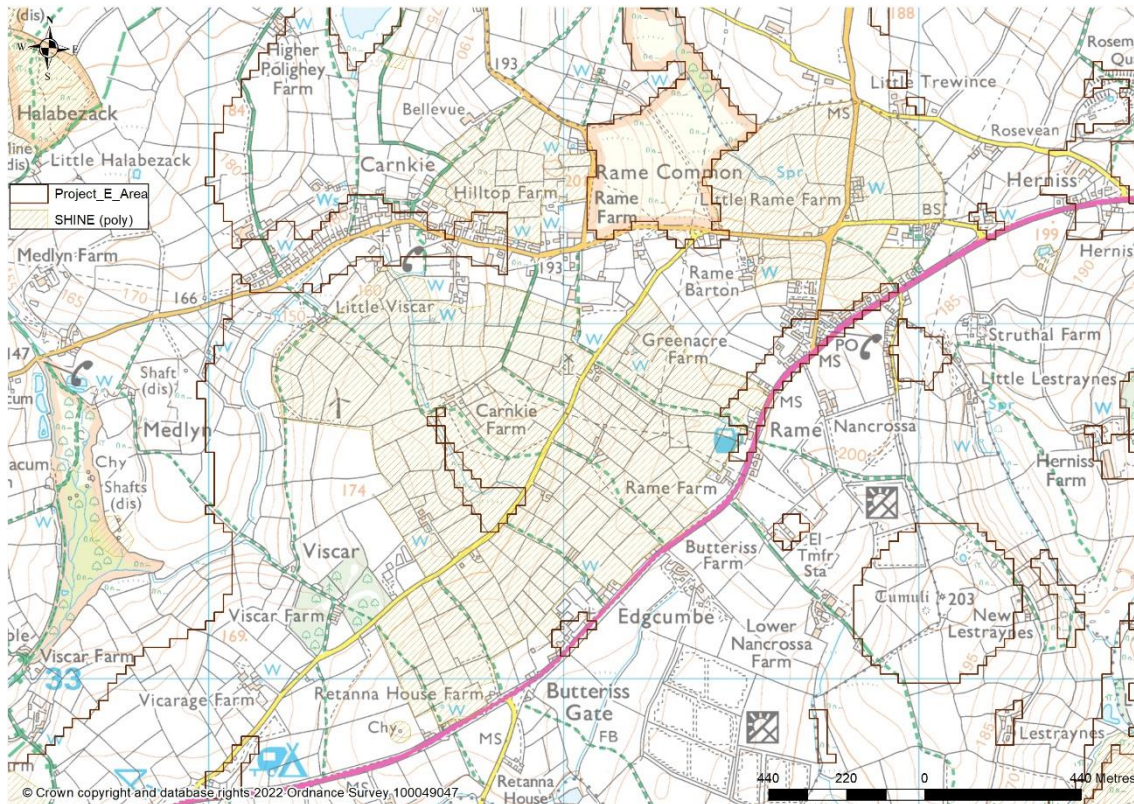


Figure 7: Large area SHINE polygon created to highlight coherent 19th century smallholders' fields

Case study 2: artefact scatters and place-name evidence, Menerdue

Current SHINE recording guidelines are narrow with regard to records of artefact scatters, advocating either systematic field walking or controlled metal detecting before such site types can be included in the SHINE dataset. These sites are therefore potentially vulnerable to loss within both agri-environment and woodland creation schemes if there is no further communication between historic environment advisors and applicants beyond the supply of SHINE data.

During the project, 43 findspots could not be recorded under current SHINE guidelines. At Menerdue, on the edge of the Wendron WHS Area, a number of recorded artefact scatters were noted within the LRA, as was place-name evidence, highlighted by the curvilinear nature of enclosing field hedges, for an Iron Age settlement or "round". Given the potentially destructive nature of some types of tree planting, a mechanism should exist for such site types to be flagged in the early stages of planning within a single coherent consultation. This would remove the issue of misleading data being provided from the SHINE dataset

which currently suggests that these sites are not of further significance. A second stage consultation which does highlight these sites would thus cause confusion for applicants.

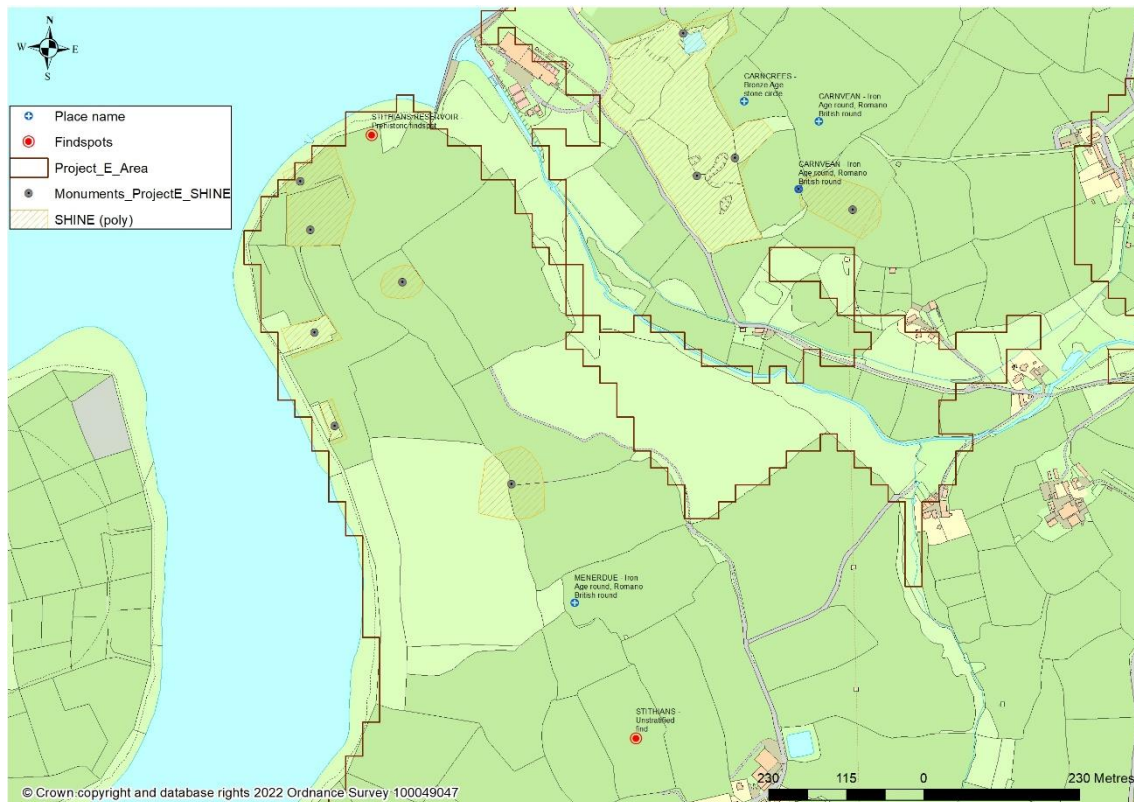


Figure 8: Site types in the historic landscape at Menerdue, within the LRA, that cannot be recorded for the SHINE dataset

The complexity of the prehistoric and later landscape at Menerdue is an example of the potential for a number of sites to be missed, and possibly lost, due to tree planting. These sites are vulnerable under such schemes if the current SHINE criteria remain in place.

Limitations to the use of SHINE

- The need for large area polygons: these may include sites pulled in due to their perceived vulnerability under woodland schemes as well as sites likely to benefit from standard Countryside Stewardship schemes, that have been brought together in a single polygon to avoid issues of proximity. There is currently no clear method to define the reasoning behind very large polygons or break down the significance of sites that have been included.
- Afforestation has been viewed throughout this project as differing from other Countryside Stewardship schemes. SHINE recording for countryside stewardship applications is the beginning of a process of exploring how sites will benefit from positive land management. It is difficult to avoid viewing SHINE for afforestation as a way of limiting or preventing loss or damage to archaeological sites. It should be clear that early discussion around the detail of planting proposals will enable a more nuanced, positive approach.
- There is a need to distinguish between SHINE polygons created as a reaction to woodland planting proposals, and SHINE polygons created for agri-environment applications. The solution described in the previous section is a work-around employed for this project, and a more consistent national approach would be useful.
- SHINE cannot fully highlight vulnerabilities to large scale historic and prehistoric landscapes but it can record the scale of some sites, such as coherent field systems (see figures 6 and 7). Visual impact and cumulative impact on historic landscapes, for example 19th century smallholders' field plots, are an ongoing concern which requires monitoring. It would be useful to have a means of distinguishing woodland consultations from agri-environment consultations because of recording decisions for site types such as this.
- Changes to the current recording criteria should be considered, or applicants will face at least two levels of heritage advice as some site types cannot be flagged in the early design stages. Vulnerable site types include artefact scatters (see case study 2), as well as sites recorded from historic aerial photographs and HER entries derived from place name evidence.
- Drawing limitations such as the proximity rule which dictates polygons be at least 20m apart, prevent the precise extents and location of monuments

during the recording process, and create unnecessary issues for landowners and time taken to provide advice/reassurance.

- Any changes to the SHINE database such as changes to recording criteria may require retrospective amendments to existing records.
- SHINE has been active as a process for almost 20 years, and changes to features within it such as recording criteria, and retrospective amendment of SHINE data will affect existing schemes as well as users' understanding of the process and how it will affect their applications.

Recommendations

1. Update the level of data available via SHINE attribute tables so that applicants have a clearer understanding of the reasoning behind polygonization of some sites. Hyperlinks to local HER data would be helpful.
2. Amend the recording process in the HBSMR to include sub-categories for Woodland and Agri-environment schemes so these can be recorded and audited as distinct processes.
3. Update SHINE recording criteria to accommodate site types that currently do not qualify, such as dense or multiple artefact scatters.
4. Ensure time and funding are set aside for retrospective amendments to legacy SHINE data to accommodate changes.
5. Upgrade the polygonization guidelines to limit problems caused by the proximity rule.
6. Provide up-to-date training for users, to accommodate recent changes to criteria and upgrades to the SHINE recording system, and to ensure consistency.
7. Further work is needed to accommodate landscape scale features, and this may not be possible as part of the SHINE recording process. Ensure there is still a process for consultation with historic environment officers and services early in the application process, and address further using a

combination of existing datasets such as Historic Landscape Characterisation.

8. Ensure continuation of the process whereby the Forestry Commission notifies local historic environment services in relation to forestry proposals, and the current requirement within UKFS for woodland creation proposers to contact local historic environment services for advice (and with a recommendation to check the associated HER records) continues.

Appendices

Appendix 1: SHINE Metadata table

HER	Description	SHINE Schema
OBJECTID	ESRI ArcGIS Primary Key	N/A
Shape	Indicates Geometry type in ArcGIS	N/A
MI_PRINX	MapInfo Primary Key	N/A
DesigUID	A nationally unique identifier for each polygon. The identifier comprises a two-letter code for each HER (assigned by the SHINE coordinator), and a unique integer number, with no padding zeros. For example, records in Devon might have UIDs from "DE1" to "DE507"	SHINEUID
NationalRef	This refers to a SHINE unique Identifier. These can be searched within the Historic Environment Farm Environment Record (HEFER) Portal.	N/A
Name	A descriptive name including the principle characteristics of the manageable site in non-technical terms. This should include the principle site type(s), period and form. The name should include any recognized appellation for the site, where one exists.	Name
Form	The predominant form, constrained to: "Structure(s)" "Above-ground feature(s)" "Below-ground feature(s)" "Well-preserved below-ground feature(s)" "Degraded below-ground feature(s)" "Structure(s) + above-ground feature(s)" "Structure(s) + below-ground feature(s)" "Above + below-ground feature(s)" "Structure(s) + above + below-ground feature(s)"	Form
Signif	The significance of achieving protection through the ELS, constrained to 'High', 'Medium' or 'Low'. Default to 'Medium'.	Signif
WhenCreated	Asset creation date	N/A
CreatedBy	Name of asset creator	N/A
WhenLastEdited	SHINE: The date/time of the last modification. ISO 8601 extended format must be used, i.e. YYYY-MM-DD HH:MM:SS (for example: 2008-06-09 14:18:51) HER: format used DD/MM/YYYY	LastEdit
LastEditedBy	Name of asset modifier	N/A
xgGeometryType	Type of geometry presented as numeric code rather than string. SHINE polygons all use 6 as value	N/A

MI_STYLE	MapInfo Style dialogue. In ArcGIS applications value should be <Null> as redundant.	N/A
Shape_Length	Polygon Dimensions – Length (m)	N/A
Shape_Area	Polygon Dimensions – Area (HA)	N/A
N/A		WebURL (optional)

References

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4 April 2023

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