ARFORDIR COASTAL HERITAGE 2009-2010



Prepared by Dyfed Archaeological Trust

For Cadw





DYFED ARCHAEOLOGICAL TRUST

RHIF YR ADRODDIAD / REPORT NO. 2010/23 RHIF Y PROSIECT / PROJECT RECORD NO. 99087

> Mawrth 2010 March 2010

ARFORDIR COASTAL HERITAGE 2009-2010

Gan / By

James Meek,

With contributions from Ken Murphy, Simon Ratty and Polly Groom

Paratowyd yr adroddiad yma at ddefnydd y cwsmer yn unig. Ni dderbynnir cyfrifoldeb gan Archaeoleg Cambria am ei ddefnyddio gan unrhyw berson na phersonau eraill a fydd yn ei ddarllen neu ddibynnu ar y gwybodaeth y mae'n ei gynnwys

The report has been prepared for the specific use of the client. Cambria Archaeology can accept no responsibility for its use by any other person or persons who may read it or rely on the information it contains.



Ymddiriedolaeth Archaeolegol Dyfed Cyf Neuadd y Sir, Stryd Caerfyrddin, Llandeilo, Sir Gaerfyrddin SA19 6AF Ffon: Ymholiadau Cyffredinol 01558 823121 Adran Rheoli Treftadaeth 01558 823131 Ffacs: 01558 823133 Ebost: info@dyfedarchaeology.org.uk Gwefan: www.archaeolegdyfed.org.uk



Llywodraeth Cynulliad Cymru Welsh Assembly Government

Dyfed Archaeological Trust Limited The Shire Hall, Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AF Tel: General Enquiries 01558 823121 Heritage Management Section 01558 823131 Fax: 01558 823133 Email: info@dyfedarchaeology.org.uk Website: www.dyfedarchaeology.org.uk

Cwmni cyfyngedig (1198990) ynghyd ag elusen gofrestredig (504616) yw'r Ymddiriedolaeth. The Trust is both a Limited Company (No. 1198990) and a Registered Charity (No. 504616)

> CADEIRYDD CHAIRMAN: C R MUSSON MBE B Arch FSA M IFA. CYFARWYDDWR DIRECTOR: K MURPHY BA MIFA

CONTENTS

SUMMARY	(1
ACKNOW	LEDGEMENTS	2
INTRODU	CTION	3
Pro	ject outline	3
Pro	ject background	3
Pro	ject objectives	3
METHODO	DLOGY	4
Volunteer recruitment and Training		4
Remote Sensing		
Identification of Coastal Sites		5
SUMMARY	(OF THE MAIN ACTIVITIES COMPLETED WITHIN T YEAR	6
1	Display Panels and Website	6
2	Introductory Meetings	8
3	Arfordir Recording Forms and Manuals	8
4	Guided Walks, Training Sessions and Meetings	8
5	Servicing HER Requests	10
6	Flint Knapping	10
7	Arfordir Presentations	11
8	Archaeological Investigations	12
9	Identification of Coastal Sites (both those under threat and new sites)	13
CONCLUSIONS		17
Outreach		17
Tasks for 2010 -2011		18
REFERENCES		19

PHOTOGRAPHS

Photo 1:	Display boards at the Pembrokeshire Day School, Haverfordwest November 2009	6
Photo 2:	Guided Walk at Tower Point on St. Brides Walk	9
Photo 3:	Guided Walk at West Angle Bay	10
Photo 4:	Flint knapping practical session at Oriel Y Parc	11
Photo 5:	Pembrokeshire Day School Presentation	12
Photo 6:	Arfordir volunteers working on the Remote Sensing	13
Photo 7:	Arfordir volunteers working at St Ishmael	13
Photo 8:	Pembrey Harbour, eastern breakwater	14
Photo 9:	St Ishmaels Deserted Medieval Village	15

Photo 10:	West Angle Bay cist graves	15
Photo 11:	West Angle Iron Age Promontory Fort	16
Photo 12:	Eastern stair tower at Boulston Manor	16

ILLUSTRATION

APPENDICES

APPENDIX I:	COASTAL PROMONTORY FORTS SKETCH SURVEYS AND DESCRIPTIONS, PRN 96860	21
APPENDIX II:	ARCHAEOLOGICAL INVESTIGATION: ST ISHMAEL, CARMARTHENSHIRE, DESERTED MEDIEVAL VILLAGE, PRN 99088	36
APPENDIX III:	ARFORDIR SITE VISIT INFORMATION – NOTES ON SITES SUFFERING EROSION AND NEW SITES	71
APPENDIX IV:	ARFORDIR RECORDING FORMS AND RECORDING MANUAL	109
APPENDIX V:	ARFORDIR VOLUNTEER SITE VISIT RISK ASSESSMENT	118

SUMMARY

The potential scale of effects resulting from predicted sea level rises determined by the United Kingdom Climate Impacts Programme (UKCIP), could be substantial. Such impacts will increase the speed of coastal erosion, and may also result in increased sand deposition and silting in other areas. It is unlikely that archaeological sites would be seen as a priority for protection from these possible sea level rises, and thus those sites identified now as being under threat will eventually be lost to the sea.

Arfordir is a Cadw grant aid and PCNPA funded project designed to identify, monitor and record archaeological and historical sites within the coastal zone that are under threat of erosion from tidal action, and other forms of damage resulting from the effects of visitors and livestock erosion or changes in use. The project aims to enable interested community groups and individuals to take an active role monitoring and recording threatened sites and identifying new sites with minimal input from the professional sector.

2009-2010 was the pilot year for the Arfordir Project, run by the Dyfed and Gwynedd Archaeological Trusts. Both Trusts had similar aims and objectives, but have employed slightly different methodologies. The project has been undertaken by staff from DAT, PCNPA and numerous volunteers. Much of the information and feedback that has been given by volunteers has been invaluable in the progress and success of the project.

The pilot year started with the creation of display panels, website, recording forms and recording manual. A number of introductory talks were set up to discuss the aims of the project with interested volunteers and to get feedback on how members of local communities could assist in the recording and monitoring of known coastal heritage sites. These meetings were followed up by guided walks, to demonstrate a range of archaeological sites and how to identify them, and training sessions on recording techniques.

Archaeological and historical sites under threat of coastal erosion have been identified using a number of different methodologies, including analysis of data obtained from the 1990s Coastal Surveys; from existing knowledge and information obtained during previous site visits; information from members of the public; and analysis of aerial photographs, cartographic information and Lidar Data. Site visits have been undertaken to obtain information on the present state of preservation of these sites and to assess the threats to them. The new information and data generated by the project will be used to update the regional HER, and to highlight archaeological sites under significant threat. From this base, appropriate management programmes can be formulated and archaeological investigations; intermittent monitoring and recording can be undertaken independently by volunteers or working in collaboration with professional archaeologists, as appropriate.

In 2009 two sites were identified for further archaeological investigation; West Angle Bay medieval cemetery in Pembrokeshire and St Ishmael Deserted Medieval Village in Carmarthenshire. The St Ishmael site was investigated in February 2010 and West Angle Bay investigations are scheduled for May 2010.

A number of Arfordir recording forms have been returned providing updated information on known sites recorded on the Regional Historic Environment Record, as well as the identification of new sites and features.

This report presents the methodologies, results and outcomes of the initial pilot year of the Arfordir project. It will provide methodologies and information to assist in the continuation of the project into 2010-2011.

ACKNOWLEDGEMENTS

Thanks to the numerous volunteers who have taken an interest in Arfordir, especially Pat Briley, Pam Stringer, Owen Harris, Byron Hughes, Hazel Wadey, Barbara Spittle and Liz Taylor.

Thanks also to Ken Murphy, Marion Page, Simon Ratty, Duncan Schlee and Hubert Wilson of Dyfed Archaeological Trust, Polly Groom of Cadw, Pete Crane, Pembrokeshire Coastal National Park Authority Archaeologist and Andrew Davidson of Gwynedd Archaeological Trust.

INTRODUCTION

Project Outline

Arfordir is a Cadw grant aided partnership project with the Pembrokeshire Coast National Park Authority (PCNPA) and the Royal Commission on the Archaeological and Historical Monuments of Wales (RCAHMW). The project was designed with the intention of providing support and training to volunteers from the community and other groups to give them the skills and information needed to enable them to monitor the impact of tidal action and other sources of erosion on archaeological sites along the coast of Carmarthenshire, Ceredigion and Pembrokeshire, with minimal input from the professional sector.

This report on the pilot study year demonstrates the success of the project so far which has resulted in the collection of new archaeological information and community engagement while also contributing to the achievement of WAG's objectives regarding Climate Change. It is hoped that sufficient data will have been accumulated from the successes of the first year to target other funding bodies in order to try and establish a Coastal Community Archaeologist post.

The Arfordir project will also be an ideal vehicle for disseminating data from the West Coast Submerged Landscape Project (supported by the Aggregate's Levy Sustainability Fund in Wales and English Heritage) for which the Trust is providing support, information, outreach and publicity in Wales.

Project background

Awareness of the impacts of coastal erosion on Welsh coastal archaeology has been recognised for many years, and has been the subject of previous Cadw and PCNP funded fieldwork and survey projects (Cole 1995; Sambrook & Williams 1996; Murphy & Allen 1997, 1998; Page & Scott 1998, Page 1998). In the context of increasing global awareness and concern about the effects of climate change, the issue has recently become more pertinent, and the need to establish a means by which the predicted effects can be monitored and mitigated has become more evident.

In addition, as the popularity of archaeology among the public increases, and public engagement increasingly features as a condition for accessing sources of funding, the need to establish a framework, and means of sustaining future projects has been recognised.

The aspirations of the project was based on the award winning SCAPE (SHOREWATCH) project in Scotland, which has been a constant source of inspiration and ideas throughout the pilot year. Feedback received following a presentation by Tom Dawson of the Scotland Shorewatch project at the Pembrokeshire Archaeological Day School in November 2008 indicated there was a clear desire from communities in the region to set up the project.

Project objectives

The aims of this project are to develop new and sustainable (ie. with minimal input from the professional sector) links with community groups and working partnerships with other professional bodies and educational establishments to provide local communities with the skills and information that will be useful in monitoring and mitigating the predicted effects of climate change on the region's coastal archaeology.

The project will also build upon and add value to previous projects relating to coastal archaeology.

METHODOLOGY

The project has adopted a number of methodologies to undertake different parts of the project with different outcomes. For the project the coastal zone is defined as a band c.500m from the water's edge.

Volunteer Recruitment and Training

A major part of the Arfordir project has been to engage members of the public in the identification and monitoring of coastal sites under threat of erosion.

As stated in the project objectives, the intention is to provide community and other groups with the skills and information to enable them to monitor the archaeology of the coastal zone in the future, with minimal input from the professional sector. Regular users of the coast for leisure and work purposes are an ideal source of volunteers, who will be able to undertake more regular site monitoring.

Through the introductory meetings held at the start of the project in Pembrokeshire, the project has attracted a good number of willing volunteers. The feedback during these sessions raised many questions, and to which considered answers were given. These included basic questions such as how can people get involved? – to more specific queries such as:

How does one recognize an archaeological site?

What is considered important archaeologically or historically?

How would you record a site?

Where can one find out information regarding sites which are already known and recorded?

It was anticipated that a large proportion of the pilot project would consist of identifying, contacting and setting up groups, followed by giving talks, instruction, training and field visits. Proposed activities under archaeological supervision included:

Excavation/evaluation

Monitoring

Ground truthing/annotation of baseline data

Fieldwalking

Earthwork Survey

Geophysical Survey

Unfortunately no field walking or earthwork surveys could be undertaken during the pilot year, but such projects are proposed for the 2010-2011 year.

Remote Sensing

Further work has been undertaken to supplement the 2008-2009 Cadw Remote Sensing project. This has involved the desk-based and ground truthing surveys of a number of Iron Age promontory forts not included in the previous year's project.

The sites have been chosen due to known coastal erosion affects on the monuments. Identification of the erosion has come from both the work undertaken by DAT as part of this project, from site visit information and from information from Arfordir volunteers.

An initial trawl of information held by the Regional HER, RCAHMW and Cadw was undertaken. This was supplemented with the use of aerial photographs, earlier cartographic sources and LIDAR imagery, where available.

Ground truthing was then undertaken on-site to develop sketch plans of the visible elements of the sites, as well as written descriptions of their state of preservation. Information was also recorded regarding the threat from coastal erosion or other forms of erosion (such as footpaths, animal burrows etc).

Arfordir volunteers were also present during some of the ground truthing to learn about and assist in the recording, as well as to provide local knowledge about changes in the sites.

The full report on the Remote Sensing element of the project is included as Appendix 1 below.

Identification of Coastal Sites (both those under threat and new sites)

Data based on the mid 1990s coastal surveys of Dyfed have been added to the HER GIS, showing the identified erosion classes of identified coastline (Cole 1995; Sambrook & Williams 1996; Murphy & Allen 1997, 1998; Page & Scott 1998, Page 1998).

Desk-based analysis of the HER GIS has then been undertaken to assess those areas of higher erosion classes, and remote sensing data sources, including LIDAR data, aerial photography, cartographic sources and UKCP information has also been used to enhance the information on coastal erosion. In some cases reassessment of areas considered as under low erosion threat in the mid 1990s, has shown that the threat has increased. This work has been followed up with walkovers of stretches of coastline with higher erosion threat to ascertain areas of erosion and the level of threat to known HER sites and SAMs (where present), and to identify any new sites (for example Boulston Manor to Picton Point on the Western Cleddau; Burry Port to Pembray; St.Ishmaels to Kidwelly; Porthlysgi Bay). Large areas of North Pembrokeshire and the Ceredigion Coastline have yet to be assessed using this methodology. This survey methodology will enable prioritisation of follow-on work, and will also provide an up-to-date context for the assessment and analysis of the results of the monitoring work.

The importance of photographic record has also been highlighted for a number of sites, where photos taken from the same spot at different periods demonstrates the extent of coastal erosion or changes. This has been especially evident at sites such as the submerged forest at Amroth, Abermawr or St. Ishmaels, where changes occur regularly with spring tides and storm surges and detailed survey cannot be organised. Photographic evidence may also demonstrate erosion better than field survey – which can be affected by weather conditions and safety issues – providing visual evidence for collapse, vegetation changes, sand inundation etc.

SUMMARY OF THE MAIN ACTIVITIES COMPLETED WITHIN THE PILOT YEAR

1 Display Panels and Website

At the start of the year basic introductory text was prepared by Polly Groom for a series of display panels to be taken to various events throughout the Dyfed region to raise interest and recruit volunteers to the project. Photographs from those held by DAT and PCNPA and the RCAHMW were chosen to illustrate the range of coastal archaeology that is present within the region (from submerged forests through to 20th century structures) and the different ways in which they are affected by coastal erosion and changes in use.

The design team at PCNPA prepared the display boards and created a design and colour scheme that could be used across the Arfordir project, to give it its own identification. The display boards have been taken to a number of events throughout the year, including the Carmarthenshire and Pembrokeshire Day Schools (photo 1).

The chosen colour scheme, layout and font has been used for the website for the project (<u>http://www.dyfedarchaeology.org.uk/arfordir/arfordir1.htm</u>; snapshot of front page shown in illustration 1) and has also been adopted by Gwynedd Archaeological Trust to give the Arfordir project, a pan-Wales identity.



Photo 1: Display boards at the Pembrokeshire Day School, Haverfordwest November 2009



Illustration 1: Snapshot of front page of Arfordir Website (<u>http://www.dyfedarchaeology.org.uk/arfordir/arfordir1.htm</u>)

2 Introductory Meetings

A series of three introductory meetings to Arfordir were set up through PCNPA in Pembrokeshire, at Haverfordwest, Lamphey and Fishguard. The meetings were attended by a number of people, that have been involved in several other archaeological projects undertaken by DAT.

The feedback from these meetings was very useful, with many questions raised including: How do people get involved? How to identify archaeological sites? What do we know already? What is considered archaeologically or historically interesting? How to identify erosion? How would people record sites? How would you identify flint?

Meetings:

May 28th 2009 – Picton Centre, Haverfordwest (10 attendees) June 10th 2009 – Fishguard Market Hall (7 attendees) June 17th 2009 - Lamphey Church Hall (14 attendees)

Feedback:

"James / Polly - many thanks for the meeting last night - very useful". Hugh Bishop

"Hello James, Please could you send us copies of the lovely posters you had at the Lamphey meeting? We are having an exhibition of local history in our village hall (Angle) on 30th and 31st August from 11 - 5pm and would like to advertise the Arfordir project to raise interest. Thanks". Pat Briley

3 Arfordir Recording Forms and Manuals

Arfordir recording forms and manual have been prepared through consultation with the Regional Historic Environment Record, and modified following comments from members of the public and other professional. A final version of the form and recording manual are included in Appendix IV. The forms are heavily based on those devised for the Shorewatch project, but have been simplified. Tom Dawson of the Shorewatch project has said that his original recording forms were perhaps too complicated. Risk Assessment forms were also prepared (Appendix V).

Gwynedd Archaeological Trust have also used the original Shorewatch recording forms as a basis for their forms, and again have simplified the original. The forms are very similar to those prepared by DAT.

4 Guided Walks, Training Sessions and Meetings

Two guided walks arranged to address some of the questions raised at the meetings were undertaken at St. Bride's and Strumble Head, Pembrokeshire.

The walks were devised to pass a range of sites of many types and dates, and also indicate areas where erosion was known to be affecting known sites. Draft copies of the Arfordir recording form were taken along to demonstrate how sites could be recorded and the way to fill in the forms.

Further guided walks and meetings with volunteers and other professionals have been undertaken regarding sites at West Angle, St. David's, Saundersfoot to Wiseman's Bridge and Porthlysgi Bay in Pembrokeshire, the Teifi Estuary in both Pembrokeshire and Ceredigion, Morfa Bychan, Marros, Ferryside to St Ishmael and Llanelli.



Photo 2: Guided Walk at Tower Point on St. Brides Walk

Organised Guided Walks and Meetings:

Introducing and identifying archaeological sites Session 1 and Session 2: St Brides - Tower Point, Pembrokeshire; Saturday 25th and Sunday 26th July 2009 (7 and 5 attendees) Session 3: Strumble Head - Pwllderi, Pembrokeshire; Tuesday 28th July 2009 (6 attendees) Session 4: St Ishmael – Ferryside, Carmarthenshire: Tuesday 15th September 2009 (1 attendee) Session 5: West Angle Bay, Pembrokeshire; Sunday 22nd October 2009 (7 attanedees) Session 6: Saundersfoot to Wiseman's Bridge, Pembrokeshire; 2nd March 2010 (1 attendee) Introducing geophysics Porthclew (Freshwater East), Thursday 6th August 2009 (c.8 attendees) Introducing archaeological excavation Porthclew (Freshwater East), Tuesday 11th August 2009 (*c.*10 attendees) Meetings regarding the project with other professionals and volunteers 15th May 2009 - Meeting with Andrew Davidson of Gwynedd Archaeological Trust (GAT) 22nd June 2009 – Display taken to PLANED talk on Pembrokeshire Coalfield at Amroth 29th July 2009 - Coastal Forum Meeting, Aberystwyth - Cadw, RCAHMW, GAT etc. 31st July 2009 – Display taken to Angle Heritage Group Local History Weekend event 10th November 2009 - Re: Teifi Estuary project with Dave Maynard of Landsker Archaeology 17th November 2009 - Coastal Forum Meeting, Aberystwyth, with Cadw, RCAHMW, GAT etc 30th November 2009 - Meeting at St David's with Barbara Spittle and Liz Taylor to discuss the project and information they had already obtained

9th December 2009 - Meeting and site visit with Elinor Graham of Glamorgan

Gwent Archaeological Trust regarding the project 28th January 2010 - Brief talk and request for volunteers at Kidwelly Local History Society Meeting 23rd February 2010 - Meeting with Ian Morgan, Coastal Paths Officer, Carmarthenshire County Council

Feedback:

"Hello James, Thank you so much for turning out in that awful weather, we all 'enjoyed' it. The forms seemed so much easier with you going through the sample. The graves are particularly interesting especially with the up to date photos we saw. Thanks again for your help". Pam Stringer



Photo 3: Guided Walk at West Angle Bay

5 Servicing HER Requests

Following requests from various community groups and individuals, HER data has been provided as part of the project. Specific data sets have been compiled for the following areas:

The coast line of St Davids Head, Pembrokeshire;

The Angle Peninsula, Pembrokeshire;

The Dale Peninsula, Pembrokeshire;

The Teifi Estuary, Pembrokeshire and Ceredigion;

Fishguard, Pembrokeshire;

Saundersfoot to Amroth, Pembrokeshire;

Ferryside to St Ishmael, Carmarthenshire.

6 Flint Knapping

A flint knapping demonstration and two practical workshop sessions were organised by PCNPA. These were done by Karl Lee of Primitive Technology UK,

and were carried out at Castell Henllys (demonstration) and at Oriel Y Parc, St, David's (practical session).

The aim of these sessions were to address questions raised regarding how worked flint is identified. The demonstrations enabled observers to not only see how flint tools were made, but also to see how much debitage is created and what it looks like, from waste flakes to chips. The distribution of flint waste deposited around the knapper was also highlighted.

The practical sessions enabled hands on experience for a number of attendees who created their own scraper tools from large waste flakes (Photo 4).



Photo 4: Flint knapping practical session at Oriel Y Parc, St. David's

Flint Knapping events:

Thursday 27th August 2009: Castell Henllys: flint knapping demonstration (numerous observers all day)

Friday 11th September 2009- St Davids, Oriel y Parc: flint knapping workshop (26 attendees)

7 Arfordir Presentations

Presentations regarding the Arfordir project were given at the Pembrokeshire and Carmarthenshire Day Schools. A presentation was also given at the Dyfed Archaeological Trust Annual General Meeting. The presentation outlined the progress of the project and attempted to recruit more volunteers. The style of the presentation slides followed the Arfordir colour scheme, layout and font.

In March 2010 a presentation was given by Ian Cundy of Malvern Archaeological Diving Unit / Nautical Archaeology Society (NAS) (separate Cadw funded lecture) on maritime archaeology. The talk was advertised to all Arfordir volunteers as very relevant to the project, and a number attended from around the Dyfed area.

Arfordir Presentations

Dyfed Archaeological Trust AGM – Friday 9th October 2009 (*c*.30 attendees) Pembrokeshire Day School (with Polly Groom) – Saturday 14th November 2009

(c.120 attendees)

Carmarthenshire Day School - Saturday 5th December 2009 (*c*.60 attendees)

NAS Presentation

St Johns Church, Carmarthen – 10^{th} March 2010 (*c*.20 attendees)

Feedback

"Dear Mr Meek, I attended Ian Cundy's fascinating talk on Marine Archaeology in Carmarthen a couple of weeks ago. It was an excellent evening, and I shall look forward to the next one. Thank you for organising it. Best wishes, Liz Cruwys"



Photo 5: Pembrokeshire Day School Presentation by Polly Groom and James Meek

8 Archaeological Investigations

Two sites were identified for intrusive fieldwork investigations during the course of the year, and permissions were obtained to carry out the works. These were at the early medieval cemetery at West Angle Bay, Pembrokeshire and St Ishmael Deserted Medieval Village, Carmarthenshire. The cemetery at West Angle was scheduled early in 2010, and Scheduled Monument Consent was applied for and has been granted (Dated 23 March 2010). Permission to undertake the works has been granted by the landowner, and it is anticipated that a 7 day investigation will be carried out at the site in May 2010 (dates to be confirmed).

Archaeological investigations were undertaken at St Ishmael between 9th and 13th February 2010. The report on these works is included in Appendix II. Over the course of the investigations 13 volunteers assisted on the site, and a good number of passing visitors also stopped to have a look over the findings. The feedback from those who attended the works has been very positive.

Two volunteers were involved with the ground truthing part of the remote sensing survey, which is reported on in Appendix I. This was undertaken on the 28th January 2010 to the sites on St David's Peninsula to Strumble Head.

It is intended to undertake a programme of geophysical and topographic survey at The Gribin, Solva, Pembrokeshire (being organised by Pete Crane PCNPA archaeologist) in the first half of 2010. Permission has been sought from the National Trust and landowners.

Feedback

"Hi James, I cannot say how much pleasure last week gave me. To see so much more of the site after a few years puzzling over it was immensely rewarding. Thank you so much. The feedback from some of the volunteers was very positive, from Pat and from Sharon who told a friend that she was "bowled over" by the experience. Thanks once again, Regards". Owen Harris



Photo 6: Arfordir volunteers working on the Remote Sensing



Photo 7: Arfordir volunteers working at St Ishmael

9 Identification of Coastal Sites (both those under threat and new sites)

A number of site visits have been undertaken to areas where the threat of coastal erosion has been assessed as severe, or where members of the public have highlighted erosion threats. Within the pilot year, seven areas have been visited within Carmarthenshire and Pembrokeshire. In the next financial year, further site visits will be arranged within Ceredigion.

A list of relevant sites is included within Appendix III below, comprising those sites visited which can result in updates to existing HER records (where differing interpretations have been suggested, where grid references have been mislocated and where threats have been identified). Where new sites have been identified, these have also been included. It should be noted that a number of record forms have been recently received from Arfordir volunteers and these too will be added to the HER or used to amend existing records.

A few sites of specific note have been identified by the site visits, being of high archaeological importance and under threat of erosion, decay or collapse. More information is available in Appendix II, including photographs.

i) Pembrey Harbour, Carmarthenshire – PRN 5344; SAM CM 296. The eastern breakwater of the harbour site is suffering from erosion, with the top layer of slag blocks which form the surface having been removed. The majority of the western breakwater is in a stable condition, having been recently restored and stabilised, although the extreme western end is suffering from erosion.



Photo 8: Pembrey Harbour, eastern breakwater

Deserted Medieval Village, St Ishmael, Carmarthenshire – PRN 2113, 99091, 99092, 99093 and 99094. The village site is discussed further in Appendix II. During spring tides and during storm surges the sand dunes which cover the site are eroded. It contains substantial stone buildings of probable 13th and 14th century date.



Photo 9: St Ishmaels Deserted Medieval Village

iii) Early medieval cist grave cemetery, West Angle Bay, Pembrokeshire, PRN 3092, 7595 and 35095, SAM PE 554. An area of cist graves are eroding from the cliffs on the northern edge of the scheduled area. This has been known about for many years, but over the course of the summer of 2009 into January 2010 a new cist grave has been revealed, and a previously known cist grave has completely collapsed from the cliff edge.



Photo 10: West Angle Bay cist graves

iv) Iron Age Promontory Fort, West Angle Bay, Pembrokeshire, PRN 99104. The site has been suspected for a number of years, but confirmed during a visit in January 2010, where two banks, of *c*.3m and 2m height, with a ditch between were clearly visible. The site

lies on a narrow promontory and has suffered from significant erosion.



Photo 11: West Angle Iron Age Promontory Fort

v) Boulston Manor, Pembrokeshire, PRN 3363. This site represents the remains of a medieval manor house, extended in the 16th century and with walled gardens added in the 19th century. The site has long since been abandoned and is in a very bad state of repair. The majority of the superstructure of the building has been removed, but the substantial remains of two three storey towers survive. An undercrofts also survives between the two towers. The walled garden is subject to tidal erosion along the water front. The building is not afforded any protection from Scheduled Monument or Listed Building status, yet would seem to be a site of high archaeological and historical importance.



Photo 12: Eastern stair tower at Boulston Manor

CONCLUSIONS

The pilot project is considered to have been a success, and has laid the foundations for a longer term project, which is being supported by Cadw for the year 2010-2011. Although an initial application to the Heritage Lottery Fund for two coastal archaeologist posts to cover North and South Wales has been turned down, it is hoped that with further information, and experience gained from the pilot year, a second application to the HLF will be successful. Funding opportunities from other sources may also be sought.

The methodology for identifying threatened coastal archaeological sites has been successful and will be utilised again for the next year of the project. Several sites have been identified that are under threat of erosion, and new sites have been identified. New sites have included 19th century industrial and domestic features in Saundersfoot, confirmation of a suspected Iron Age promontory fort at West Angle and a potential barrow site at Hean Castle.

Further information has been obtained on known sites that warrant further archaeological investigation, including at St Ishmael, Carmarthenshire and West Angle. As local groups continue to provide information, it is hoped that other sites will be identified and the need for mitigation work can be assessed. Where the threat to coastal sites is from other sources than tidal action, it may be possible to protect the sites through other means, such as statutory protection or listing.

The UKICP information on predicted sea level rises and climate change does indicate that areas of the coast of south-west Wales will come under significant threat from increased erosion (UKCIP 2009a and 2009b). Climate change may lead to more extreme episodes of weather, which may result in more storm surges, which can again have dramatically detrimental effects on archaeological remains (at the same time it may expose other sites). Changes may not, however, become apparent during the next year of the project, but the intention will be to identify those sites that are most likely to come under specific threat in years to come. Models for predicting sea level rises, using the vast amount of data collected on past trends and projections, should therefore also be used to identify areas in which archaeology may be impacted upon or submerged.

For this to be achieved, the appropriate software and relevant skills will need to be acquired, to ensure results are credible. The scale of available maps is such that they cannot be relied on to provide accurate results.

Outreach

The project has been successful in getting members of the public interested and involved in the Arfordir project. Feedback from those who have attended events organised through Arfordir throughout the year has been very positive. It has not been possible to target the entire coastline of the Dyfed region, and there are a number of gaps, including almost the whole of the Ceredigion coast which has not been included in the pilot year.

It has been apparent during the course of the project that a number of volunteers have considerable local historical knowledge. Combined with a good knowledge of the local area, this represents a valuable resource which should be utilized where possible. As an example, much of the information on the known historical background of the St Ishmael area has been previously researched by Owen Harris, who has allowed some of his work to be used in the report on the investigations (Appendix II). In reciprocation, for his input, the investigation report and archive will be made available to Owen, for inclusion into an article he will be submitting for publication.

Working with volunteers, whether on guided walks, site investigations or at meetings, has been a very rewarding experience, which increases interest and enthusiasm for the project. But it is likely to be difficult to sustain the momentum of this enthusiasm, since the Arfordir project cannot run full-time throughout the year, solely for volunteers. This highlights the need for other sources of funding to be sought in order to increase the available time that can be spent working with communities and local groups. In an ideal world, it will be possible to obtain sufficient funding to establish the post of a regional coastal community archaeologist.

From experience and feedback throughout the year, the training and involvement of volunteers can be improved. Where introductory talks are held, these should be followed up quickly with more practical sessions, such as guided walks and training in filling in recording forms. It will not be possible for professional archaeologists to constantly monitor archaeological and historical sites on the coast, and the support of volunteers to assist with the recording is invaluable. In most cases volunteers are happier to work in their own local area, on sites that are of interest to them. In order to cover more areas of the coastline and monitoring sites that may seem of less interest, there is a need to further raise awareness of the different types of archaeological remains and their significance.

Although there was a slow start as the recording forms and manual were prepared and improved, a good number of Arfordir Recording sheets are now being returned to DAT for inclusion on the HER.

Tasks for 2010 -2011

The next year of the Arfordir project for DAT will continue with the identification of sites under threat on the coastline and further site visits to undertake rapid assessments of their present condition and threats. This still needs to be achieved for the north coast of Pembrokeshire and Ceredigion.

Further liaison with local groups and communities in Ceredigion followed up with guided walks and training sessions is also needed, to establish and strengthen a network of willing volunteers. The project will also need to maintain liaison with established groups that are already active and continue to encourage support in the project.

Two programmes of fieldwork will be undertaken during the first part of the year, including excavations at West Angle Bay and surveying (topographic and geophysical) at Y Gribin, Solva, both in Pembrokeshire.

Further monitoring will be carried out at St Ishmael in Carmarthenshire, noting the effects of spring tides and any storm surges throughout the year, to provide more data on the rate of erosion and to further record the nature of the settlement.

The site of Boulston Manor is considered to be of high importance. The site should be revisited later in the year in order to monitor its degradation and the waterfront erosion and the possibility of undertaking a buildings survey project in collaboration with the RCAHMW will be discussed.

The Arfordir website will need to be better maintained throughout 2010-2011 to provide information on the past activities that have been undertaken, to provide notification of future events and as a means of disseminating information contributed by volunteers. Further talks will be arranged to bring the project to a wider audience, interest has already been expressed by archaeologists at Gloucestershire County Council (Severn Estuary) and the Scilly Isles to develop

similar projects in these areas.

The majority of proposed outreach tasks for the 2009-2010 project have been achieved and will remain important goals for the 2010-2011 year. These include:

Contacts and talks to local groups and volunteers;

Raising awareness, understanding and appreciation of coastal archaeology;

Increasing local skills - capacity building;

Training in identifying and recording archaeological sites; and

Training in relevant survey and excavation techniques.

Tasks that were not achieved in the pilot year, but which will be attempted for the next are:

Training in using HER software; and

Guidance and training in reporting.

REFERENCES

Cole A 1995, A Coastal Survey of Carmarthen Bay, DAT and RCAHMW Report

Murphy K & Allen B 1997, Coastal Survey 1996-7, Strumble Head to Ginst Point, DAT Report, PRN 33470

Murphy K & Allen B 1998, Coastal Survey 1997-8, Lower Milford Haven, Pembrokeshire, DAT Report, PRN 35003

Page, N 1998, Coastal Survey 1997-8, Carmarthen Bay, Ginst Point to Loughor, DAT Report, PRN 35205

Page N & Scott S 1998, Coastal Survey 1997-8, The Dyfi Estuary, Ceredigion, DAT Report, PRN 35311

Sambrook R P & Williams G 1996, Cardigan Bay Coastal Survey, DAT Report, PRN 30751

UKCIP 2009a, UK Climate Projections - Marine and Coastal

UKCIP 2009b, UK Climate Projections – Climate Change Projections

APPENDIX I: COASTAL PROMONTORY FORTS SKETCH SURVEYS AND DESCRIPTIONS PRN 98680 KEN MURPHY

WEST PICKARD CAMP

PRN 3099

SM 8624 0103

West Pickard Camp is a univallate coastal promontory fort occupying a blunt promontory at c. 40m above sea level. It is protected by sea cliffs to the west and south and by a curving bank and ditch to the north and east. A simple northeast-facing entrance lies midway along the defences. The internal area measures c. 55m east-west and 60m north-south.

The defences are more massive to the south of the entrance, on the east side of the camp, where the *c*. 13m wide bank stands up to 3m above the interior and 4m above the external ditch. The ditch is up to 8m wide, 1.8m deep, and is rock-cut. A spine of unexcavated rock runs across the ditch midway along the eastern side of the defences. To the south of this rock spine the defensive bank has been removed to accommodate a WW2 gun emplacement, the spoil from the bank having been pushed into the interior of the camp forming an in-turn to the bank. The ditch at its southern end runs out into a low cliff, beyond which is a sloping grassy shelf, which provides and undefended way into the camp.

The bank on the northern side stands c. 1.7m above the interior and 4m above the ditch. An old boundary bank runs along the top of the bank. The external ditch is at its maximum 0.6m deep and fades towards its western end. It is visible, but obscured by soil and vegetation, as a c. 1.5m deep V-shaped rock-cut on the cliff-face. There is a trace of a counterscarp on the outside edge of ditch.

As noted above the entrance is a simple gap in the defences c. 6m wide. A large stone slab set on edge on the west side of the entrance may have formed part an entrance structure.

The camp was used by the military during WW2, in association with the nearby Angle Airfield. A gun emplacement (32765) was constructed in its southeast corner, necessitating the removal of part of the defensive bank. This emplacement survives as a circular bank up to 0.6m high, an internal diameter of 8m, with an entrance on the northeast side. There are traces of an internal concrete surface. Two hollows on the east side of the camp's defensive bank bank, *c.*1.5m diameter and 0.8m deep, were probably weapons pits. A concrete surround on the outer face of the defensive bank between the two weapons pits may be remains of a machine gun post, or similar, dug into the bank – if so the defensive bank has been heavily disturbed at this point. Other WW2 features are visible on 1946 aerial photographs (106G/UK/1629 2093-4). These include three scars possibly from the removal of temporary buildings, two inside the fort and one outside to the east.

Coastal erosion is not a big problem at this site. Clearly the high sea cliffs are eroding along the west and southwest of the camp, but this does not appear to be very active erosion as there are no exposures of soil on the cliff top and no sign of new rock falls. There is some soil erosion on the banks caused by visitors and cattle, exacerbated by sea spray. There is also a fresh animal (badger?) burrow on the outer face of the defensive bank on the east side. The main area of concern is cattle poaching through the entrance, which maybe disturbing underlying archaeological deposits.

K Murphy 2 February 2010











West Pickard Camp. Top: sketch plan. Upper left: WW2 gun position in fort. Upper right: looking through the entrance. Bottom right: possible WW2 emplacement dug into defensive bank. Bottom left: defensive ditch exposed in cliff face.

CASTLES BAY

PRN 3065

SM 8455 0182

Castles Bay is a complex site occupying an irregular promontory in a very exposed location on the southwest Pembrokeshire Coast. Essentially it is an Iron Age bivallate promontory fort with later elements, naturally well defended by 30m high sea cliffs to the north, west and south. The site can be divided into three zones: 1. the ramparts on the mainland; 2. a knoll separated from 1 by a deep natural gully; 3. Sheep Island, a small inaccessible island at the end of the promontory.

It is useful to review the limited documentary evidence for the site before describing the three zones. George Owen writing in c. 1600 described the site, quoted by the RCAHMW in 1925: 'the remnant of a tower stood in this further enclosure in the time of Oueen Elizabeth, and the tradition is that this was a place of retreat for the new Norman settlers to save themselves from the natives.' And ' betweene it (Sheep Island) and the mayne there is another peece of grounde with a great ditch or trench betwixt it and the mayne land verie hard to come to where standeth the remnant of a towre built upon the entrance thereof as it seemeth for a fort or defence of the same, and from the same peece of ground you may goe into shippe Lland dry foote at half ebbe, but not without a ladder for the hard ascending of the same, but at every full sea the same is encompassed aboute with the sea, the neighbours here reporte that the same was a place of retreite for the countrey people in ould tyme to save them and their cattell from the Welshmen that then often assaulted them'. Between the publication of the Ordnance Survey 1:2500 1st Edition map (c. 1880) and the 2nd Edition map (1907) a military 'positioning finding cell' was established over the ramparts of the Iron Age fort. It is likely that the site was used and strengthened in during WW2. A building on the Iron Age rampart was not demolished until the late 20th century.

Zone 1 has been heavily disturbed by 20th century military activity. Its more ancient elements comprise two lines of defensive bank and ditch. The larger of these banks and ditches runs across a narrow point of the promontory for c. 55m. The bank stands up to 1.5m above the interior and 3.5m above the ditch. The ditch is rock-cut, up to 2.5m deep and 9m wide. The entrance is a simple gap, c. 5m wide, towards the southern end of the defensives. To the south of the entrance the defences are slighter than to the north. To the north of the entrance a c. 15m length of the defences has been slighted – the bank levelled and the ditch infilled - by the construction and demolition of a 20th century military building. Concrete rubble is visible outside, east, of the defences, presumably from this demolition. A second, slighter line of defence lies 15m - 20m inside the main line described above, and comprises an 18m long 1.5m high bank with 1m deep ditch. This defence lies on the cliff edge. Both the bank and ditch seem to have a definite terminal at their northern end, perhaps forming one side of an entrance, but there is not corresponding bank and ditch to the north. Here, however, there has been extensive 20^{th} century military disturbance, with c.5m diameter doughnut-shaped earthwork marking the site of a probable WW2 gun emplacement. A slight circular platform may also be of 20th century military origin. Three small marker stones (of an original four) constructed in the late 19th/early 20th century by the military survive. The removed 4th stone was seen in the mid 1990s lying on the foreshore at the foot of cliffs to the north of the site, having probably been uprooted from its original position in what is now farmland to the east.

Zone 1 is connected to Zone 2 by narrow ridge (just passable with care) running across a deep natural gully. Upright sections of angle iron on the steep slope

leading down on to this ridge from Zone 1 demonstrate that the military had access onto Zone 2. Steps cut into bedrock lead up into Zone 2 from the ridge.

Zone 2. A possible bank of runs along the southeast edge of the isthmus of Zone 2, possibly defensive. At the top of the stone steps mentioned above is a small block, *c*. 1m square, of lime-mortared masonry – George Owen's tower? Zone 2 is hog-backed, with the ridge running east-west. Approximately 8-9 rectangular-shaped hollows lie on the north-facing slope of the ridge and about 6 on the south-facing slope. These are up to 12m long and 7m wide (but generally less) and are cut up to 2m into the bedrock of the steep slope and have a lip around their downslope side up to 1.2m high. The RCAHMW described these lips as stone walls, but they were grass-covered in 2010. The Ordnance Survey considers that these are most likely to be multi-period military remains. However, as the RCAHMW's visited and described the site prior to the late 19th/early 20th century military (re) occupation then if these military remains they must be of some antiquity.

There are also several rectangular hollows on Sheep Island, Zone 3, but as this is now inaccessible these were not examined in the field.

In addition to the damage caused by recent military activity, the site is suffering some coastal erosion. This is almost exclusively confined to Zone 1, and is to some extent quantifiable owing to the military marker stones of the late $19^{\text{th}}/\text{early }20^{\text{th}}$ century. For instance the stone placed at the northern end of the outer defensive bank is shown on the 1907 Ordnance Survey map right on the cliff edge – it is still on the cliff edge. Likewise, the stone towards the southern end of the defensive bank is the same distance from the cliff edge as it was in 1907. The stone to the east of the promontory fort entrance is an area of slumping – a block of land c. 30m by 15m has dropped by about 1m. This slumping was observed in the mid 1990s and does not seem to have increased since then, but the cliff edge is now crumbling. George Owen's 1660 description of the gully between Zone 1 and 2 is recognisable today, indicating minimal loss since then. However, the presumed Iron Age inner defensive bank and ditch now (and in 1660 as well as the medieval period) does not enclose any interior area. The conclusion must be that much of the original area of the Iron Age fort has been lost; the deep gully formed between the Iron Age and the medieval period, and the originally Zone 2 and Zone 1 were contiguous.

K Murphy February 2010











Castles Bay. Top: sketch plan. Upper left: hollows in Zone 2. Upper right: stone cut steps leading into Zone 2. Bottom left: doughnut shaped military earthwork. Bottom right: slumping immediately outside fort.

PENPLEIDIAU/CAERFAI

PRN 2728

SM 7628 2396

Penpleidiau/Caerfai is a multivallate coastal promontory fort, naturally defended on by c.30m high sea cliffs to the west south and east. The northern side, approached across flat land, is defended by four substantial lines of bank and ditch c. 100m long. The defensive system is covered with bracken, brambles and gorse. The three inner lines of bank and ditch are close set with no berms between banks and ditch. The inner bank (1) stands 3m above the interior and 3.5m over the ditch on its outside. Its western end is above the vertical cliffs. Its eastern end terminates at the entrance. The second bank (2) is less substantial, standing just 2.5m above the ditches either side of it. It begins to turn slightly to the south at its western end before abruptly terminating at the cliff edge. At the entrance, (east end) bank 2 has a marked out-turn (to the north) and rises sharply to 3.5m high, dominating the entrance. Bank 3 is a similar size to bank 1, standing 3.5m above the flanking ditches. It terminates at its west end above the sea cliff. At the entrance the ditch on its outer (north) side curves around the terminal of this bank. The outer bank (4) is separated from the ditch on its inner (south) side by a c. 6m wide berm. This bank stand c. 3m above the ditch on its outer (north) side. Unlike the other three banks, bank 4 (and the ditch on its outer side) does not run up to the cliff edge at its western end but stops c, 45m short of it. A slighter continuation of this bank beyond its western terminal suggests that the builders had intended to continue the bank to the cliff edge, but did not complete. It is possible that the three inner banks were constructed as a single unit, with bank 4 and its ditch added later.

The entrance lies between the eastern end the banks and ditches and a steep coastal slope which runs down to the top of vertical sea cliffs. The two inner banks (1 and 2) continue to the south down steep coastal slope, albeit in a much reduced form - the inner bank (1) being just 1.2m high and bank 2 c. 0.5m high, with no obvious ditches. There is an obvious hollow on the north side of the slight inner bank (1) on the east side of the entrance. The entrance passageway through banks 1 and 2 is c. 4m wide. The ditch terminal outside bank 3 and bank 4 stop short of the edge of the coastal slope, forming a wide entrance area rather than a passageway.

The grass-covered interior slopes gently down from north to south and is rectangular c.100m N-S and 120m E-W. On the southwest, south and east sides the interior slopes down gently before ending in sea cliffs, indicating perhaps that not a great deal has been lost to erosion. However, on the northwest side a vertically-sided gully has removed a large portion (c.20%) of the interior as well as a little of the inner bank. It is clear that this gully must have formed after the fort's construction, otherwise the position of the defences makes no sense. This is one of the few coastal forts where it is possible to quantify loss, in the case of Penleidiau the 70m E-W and 40m N-S gully has formed since the Iron Age. It is also possible to demonstrate (with reference to the Ordnance Survey 1:2500 1st Edition map of and aerial photographs) that the eastern 15m of this gully opened up between 1880 and 1946. There was a little loss at the southwest end of the inner bank. The gully corresponds to a mineral rich band of shattered rock/geological fault, which the sea is exploiting. Post-medieval mining of the minerals has created a tunnel beneath the fort, no doubt exacerbating erosion. Indeed, it is possible that the gully did not begin to open up until the onset of mining. The character of the side of the gully indicates that it was formed by a series (six to seven) of catastrophic collapses, and that the interior will become an island detached from the defences following three more collapses.

Apart from the major loss caused by the gully there are few other problems associated with this fort. There has been loss above the high cliffs at the western end of the defences, but the banks here are covered with vegetation and apparently stable. Bank 2 is beginning to curve to the south at its western end as though to meet a cliff edge, and so loss here may have been only a few metres. Visitors following a path over the western end of the ramparts are causing some erosion, but this is not severe and is long standing, the path having been in use since the 1880s.

Penpleidiau is an unusual fort. It is rare for a coastal promontory fort to have four lines of banks and ditch, and where multivallation occurs normally the defences are designed to seen from the landward site, as at Porth-y-Rhaw and Greenala where the defensive banks rise one above the other to give the impression of impregnability. At Penplediau the flat landscape means that only the outer bank is visible, with the other banks hidden behind it. Only at the approach to the entrance are all four lines of bank and ditch readily apparent. If their was to provide an impressive display as the entrance was approached then the Penplediau defences are adequate, and the termination of the outer bank short of the cliff top explained.

K Murphy February 2010







Penpleidiau. Top: sketch plan. Above left: the out-turned and heightened terminal of bank 2. Above right: the massive gully eroded into the interior of the fort.

CASTELL COCH

PRN 2734

SM 7754 3035

Castell Coch is a bivallate coastal promontory fort naturally defended on the north, south and west sides by high sea cliffs and on the east side by bivallate defences.

Two straight lines of bank and ditch run north-south from the top of a vertical cliff-face that defines the south side of the fort. The inner bank is the more substantial, being 15m wide, flat topped, and rising 3m above the fort interior and 4m above the external ditch. It is 30m long and has a simple termination at its northern end at the entrance to the fort. The ditch (inner ditch) external to this bank is c.8m wide. There is a 6m wide berm between the edge of the inner ditch and the outer bank. The outer bank rises c.1m above the insubstantial ditch (0.5m deep) on its east side. This bank terminates c.12m further north than the inner bank.

The entrance is a simple gap. To the north of the entrance the defences are insubstantial and make use of the natural topography. There is no substantial inner bank, but low bank, 0.5m high, curves northwest away from the entrance running along the crest of a steep coastal slope that ends in vertical sea cliffs. A bank up to 1m high runs from west to east starting on the north side of the entrance and like the bank described above running along the crest of a steep coastal slope that falls away to the north. This bank is 45m long. A ditch up to 1.5m deep is present on the south side of this bank at its east end. The coastal path runs up this ditch. The original entrance into the fort may have followed the same route.

The interior is flat and measures 70m north-south and 20m east-west.

The defences and exterior of the fort is very overgrown with bramble, bracken and gorse. The interior is under grass. There is active erosion of the sea-cliffs on the south side of the fort. A local resident (Babs Spittle) remembers a steep path leading down from the inner ditch to the foreshore below; this has gone in recent years and the cliff is now vertical. In the interior of the fort along the cliff edge are two patches c. 8m x 5m where sea spray has killed the vegetation revealing bare soil and bedrock. Erosion of the cliffs also appears quite active here, though no new rock falls were noted in 2010.

It is likely that part (most?) of the fort's interior has been lost to the sea. The promontory continues to the west as sea-washed rock; this may represent the original area of the fort.

K Murphy. February 2010








Castell Coch. Top: sketch plan. Upper left: the fort from the south showing eroding cliff. Upper right: the inner bank and ditch. Right: the fort from the northeast.

GILMAN CAMP

PRN 3827, 3828

SN22830765

Gilman Camp is an unusual coastal promontory fort with a circle of stones immediately outside it. Unlike most coastal promontory forts the site is not naturally defended by high sea cliffs but by very steep slopes to the west and east and by sea cliffs only to the south. To site is easily approached from the north across flat land. It can be divided into three zones.

Zone 1 is the southern part of the site and comprises a bivallate defence. A slightly curving outer bank and ditch (180m long) runs east-west across the promontory, fading on its steep flanks. The bank is at its highest, 1.5m above the external ditch (which is 0.5m deep) where it crosses the centre of the promontory, and then fades on the slopes. Apart from on the promontory crest there is no trace of the external ditch. On the east side there is a 20m wide gap in the bank. To the west of the entrance this single bank becomes two parallel banks, albeit very low, c. 0.5m high. These banks fade at the top of the steep coastal slope. The inner bank runs close to the outer bank on the crest of the promontory but diverges from it to the west as it curves around to the south to run along the contour. Immediately to the east of the promontory crest the bank fades in rocky outcrop. The bank is highest on the promontory crest at c. 1m high. The internal area enclosed by this bivallate defence comprises a rocky ridge top. It is not possible to calculate the internal area owing to the topography, but it is in excess of 100m north-south and c. 70m east-west. Several rock-cut hollows to the east side of the rocky ridge top may be house platforms.

Zone 2 consists of a roughly level, smooth oval area *c*. 40m north-south and 40m east-west enclosed by a univallate defence. On the north side this defence comprises a substantial bank, which rises 3m above the interior and 3.3m above the external ditch. Traces of a dry-stone revetment can be seen on the outer face of the bank. Both the bank and ditch fade rapidly to the east and west, and on the west side the bank becomes little more than a scarp with no trace of a ditch, and on the east side there is no obvious defence. The bivallate defence of Zone 1 defines the south side of the enclosure.

Zone 3 is a c.42m diameter circle of stones occupying level ground immediately outside (north) the defences of Zone 2. The stones were overgrown in 2010 and difficult to define. Previous reports (see Ordnance Survey Record Card) suggest this is the remains of a wall constructed from large blocks of stone, with an entrance on the northeast side and house sites in the interior. There is some debate in earlier descriptions as to whether the defences of Zone 2 have destroyed the south side of the circle or whether the circle in an annexe to these defences. One reference (treherne 1917) describes two cup-marks on one of the stones, destroyed on 16th August 1908.

The site is in good condition with little damage. It is, however, becoming very overgrown with bracken, bramble and gorse, with only the interior of Zone 2 and the ridge top in Zone 1 relatively free.

It seems likely that this is a multiphase site, with Zone 1 the earlier than Zone 2. It is not possible to conclude whether the circle of stones (Zone 3) is earlier, contemporaneous with or later than the defensive elements. It also not possible to come to any conclusions regarding its character – is it a funerary and ritual site or an occupation site?

K Murphy. February 2010





Gilman Camp. Above: sketch plan. Right: the outer bank and ditch.

DINAS MAWR

PRN 2828

SM888387

Dinas Mawr is a bivallate coastal promontory fort with a hint of a third, slight inner defensive bank and ditch. It occupies a narrow promontory edged with high sea cliffs, most of which is taken up by a massive rock outcrop (a volcanic plug?) which rises 10m -15m above the defences. The flat summit of this outcrop is bare rock, with no trace of buildings or other structures. Thus, although the defended area of the promontory measures *c*.120m E-W and *c*.70m N-S, only a very small area immediately inside the ramparts is suitable for buildings. The fort is overlooked from the steep coastal slope running down to the fort from the east.

The lines of the two banks and ditches are widely spaced and run across the narrow neck of the promontory, which is c.30m-40m across. The inner line of defence is the stronger. To the north of the centrally placed entrance a bank rises c.2m above the interior and 4m above an external ditch. The ditch is c.8m wide with a hint of a counterscarp. To the south of the entrance there is no bank but the ditch is of a similar size to that north of the entrance. This ditch begins to curve around to the west just before it meets the cliff edge suggesting that not a large amount of the fort has been lost to erosion. Three large boulders lie in the entrance, a simple gap that slopes down to the east. The c.25m space between the inner and outer defence slopes up to the east. The outer defence is overgrown and detail is difficult to obtain, but the bank rises c.1.5m above the interior and 2m above the ditch. The entrance, a simple gap, is not in line with the inner one, being slightly offset to the north.

As mentioned above there is a hint of an third, inner line of defence, represented by a c.0.5m high curving bank and external 0.5m deep ditch making use of a natural rise. If this is a construction, then the only space available for buildings within the fort is the sloping land between the inner and outer defensive lines.

This fort seems to be in a stable condition, with little evidence of erosion. The cliffs on the south side of the fort in particular appear not to be suffering, whilst those to the north are vertical and probably more susceptible, although no new rock falls or fresh scarring was noted in 2010. The outer defences are heavily cloaked with gorse, bramble and bracken, the inner one less so. Elsewhere grass with some bracken dominates.

The RCAHMW in 1925 recorded the banks as stone construction, possibly with facing stones. They also recorded possible hut circles in the interior, but later fieldworkers have not seen these. Edward Lluyd's (1709) record of this site is reproduced by the RCAHMW: 'a fortification called Dhinas Mawr in the parish of Llanunda, being a Rock above the sea of great height, having 2 ditches, the one north and the other south, running on a precipice into the sea, and two stones pitched on end near the ingress, which looks to ye east.' Dinas Mawr is also shown on the edge of Lluyd's sketch plan of Garn Fawr, also reproduced by the RCAHMW.

K Murphy. February 2010









Dinas Mawr. Top: sketch plan. Above left: view over the fort from the rock outcrop. Above: the fort from the east. Left: the fort from the east.

APPENDIX II: ARCHAEOLOGICAL INVESTIGATION ST ISHMAEL, CARMARTHENSHIRE, DESERTED MEDIEVAL VILLAGE PRN 99088

APPENDIX II: ARCHAEOLOGICAL INVESTIGATION: ST ISHMAEL, CARMARTHENSHIRE,

DESERTED MEDIEVAL VILLAGE

PRN 99088

CONTENTS	Page
SUMMARY	39
INTRODUCTION	40
Project Set-Up	40
Scope of the Project	40
Abbreviations	40
THE SITE	
Location	41
Archaeological Background	41
INVESTIGATION METHODOLOGY	43
RESULTS	45
Building 1	45
Building 2	51
Building 3	54
Building 4	56
Yard Areas	57
DISCUSSION	59
CONCLUSIONS	64
SOURCES	66

ILLUSTRATIONS

- Figure 1: Location of St Ishmael
- Figure 2: Site location map
- Figure 3: Building 1
- Figure 4: Building 2

PHOTOGRAPHS

Photo 1:	Cleaning of Building 1	43
Photo 2:	Wall (102) facing southeast	45
Photo 3:	Wall (103) showing upright stones at the northwestern end of the wall, facing southeast	46
Photo 4:	Area of cobbled flooring (107) facing southeast	47
Photo 5:	Area of possible flooring (108) facing northwest	47

Photo	6:	Wall (104) facing northwest	48
Photo	7:	Showing edge of floor (111). The remainder of the room is visible to the rear, with floor (112). South wall (104) is located adjacent to the far scale	49
Photo	8:	Hearth within Building 1, flat slabs (117) and edge stones (118)	50
Photo	9:	View east of Building 1 showing increase in depth of exposed clay natural at base of sand dune, walls (1002), (103) and (104) are marked with vertical ranging rods.	51
Photo	10:	Overview of Building 1, with wall (102) in foreground, wall (103) by next scale bar and wall (104) beyond	51
Photo	11:	Wall (200) to left, with doorway (201) visible in centre of photo	52
Photo	12:	View of doorway (201), with missing stone of second step replaced.	52
Photo	13:	Wall (205)	53
Photo	14:	Wall (202)	54
Photo	15:	Wall (203), showing outward lean of stones	54
Photo	16:	Wall (300)	55
Photo	17:	Wall (302)	55
Photo	18:	Wall (400) and adjacent collapse of sand dune	56
Photo	19:	Previous photograph of area, with wall (400) to left, wall (401) to right (hidden by vegetation) and wall (402) to rear. (Owen Harris)	57
Photo	20:	Yard surface between Buildings 1 and 2	57
Photo	21:	Yard surface between Buildings 3 and 4	58
Photo	22:	RCAHMW photograph from 1912 visit to the site	59
Photo	23:	RCAHMW photograph from 1912 visit to the site	60
Photo	24:	Doorway into Building 2 in October 2007. (Owen Harris)	61
Photo	25:	Doorway into Building 2 in September 2008 (Owen Harris)	62
Photo	26:	Upright stones seen in 2007 within Building 1 (Owen Harris)	62
Photo	27:	Wall (102) Building 1 in May 2007 (Owen Harris)	63

FIGURES

Figure 1:	Location map, based on the Ordnance Survey	67
Figure 2:	Site area in relation to adjacent scars and other features showir full extent of deserted medieval village	ום 68
Figure 3:	Detail of Exposed Area of Building 1	69
Figure 4:	Detail of exposed area of Building 2	70

APPENDIX II: ST. ISHMAEL, CARMARTHENSHIRE, DESERTED MEDIEVAL VILLAGE (SN 2891 2086)

ARCHAEOLOGICAL INVESTIGATION

SUMMARY

As part of the Arfordir Project, a small scale archaeological investigation was undertaken of the deserted medieval settlement at St Ishmael, Carmarthenshire (NGR SN 2891 2086). The site was first identified following an episode of coastal erosion in the late 19th century and has subsequently been noted and monitored on an intermittent basis, which has highlighted how the site has been eroded over many years. Although it lies at the very edge of the strand line of the highest spring tides, and is mostly effected during stormy weather, considerable portion of the site has already been lost, and it is anticipated that with climate change and the predicted sea level rises the site will be subject to more frequent erosion and eventual destruction.

Dyfed Archaeological Trust undertook the small scale investigation with help from a number of Arfordir volunteers from the local area and further afield.

The investigation involved the removal of a small amount of turf and loose material from the edge of the sand dunes to reveal the exposed parts of the medieval buildings. The areas of stone walls, floors and other features were then recorded. A survey was also undertaken of the site to accurately locate the village, in relation to Ordnance Survey national grid, as well as locating it in relation to surrounding features including the nearby slipway, observation post and St Ishmael Church. Survey was also undertaken of the scars projecting into Carmarthen Bay.

The investigation has revealed at least three distinct buildings within the edge of the sand dune (numbered as Building 1, Building 2, Building 3, from north to south), each comprising structures of two or more rooms. A doorway is visible through the wall of Building 2 with two steps into its interior. No complete floorplan was visible of any of the structures, although the majority of Building 2 is likely to survive still buried. A cobbled yard lies between Building 1 and Building 2, and a further cobbled surface may have been present between Building 1.

From previous finds made at the site, both in recent years and during investigations in the early part of the 20th century, the majority of datable finds are from the 13th and 14th centuries, with some possible 16th century material also present. It is unclear when the settlement was abandoned. The lack of clear documentary evidence regarding the settlement, especially one that was seemingly quite large, would suggest it is more likely to have been abandoned earlier (possibly in the 14th century). It is likely that the settlement lay at the end of a bay or inlet that was formerly located between two promontories of land projecting into Carmarthen Bay (situated over the two scars that are extant today).

Monitoring of the site in recent years would suggest that the base of the dunes is eroding at a rate of around 0.15 to 0.30m a year. With the predicted sea level rises associated with climate change, this rate of erosion can only increase.

INTRODUCTION

Project Set-Up

The archaeological investigation was undertaken at St Ishmael, Carmarthenshire through the Arfordir – Coastal Heritage project and was funded by Cadw grant aid and DAT. The work was undertaken following discussions with Owen Harris, the Secretary of the Kidwelly Local History Society, local resident and regular monitor of the eroding site.

The investigation was arranged by Dyfed Archaeological Trust in consultation with Andrew Patterson, the Common Land Officer of Carmarthenshire County Council (CCC) and Neil Matthew, of the Countryside Commission for Wales (CCW). The land is recorded as being common land, and thus CCC owned, in the absence of anyone else claiming the land. The site lies within two Sites of Special Scientific Interest (SSSI), Arfordir Pen-Bre / Pembrey Coast SSSI and Afon Tywi SSSI (the two meet almost mid-way along the site and include all of the intertidal zone as far as the sand dunes).

Consents were granted by CCW for the archaeological works to proceed, assuming three conditions were complied with, namely:

Condition 1: Section of strandline (formed of natural detritus) when moved should be incorporated into the strandline on either side of the area of work; Reason(s): To minimise adverse impacts on designated invertebrate species

Condition 2: Working area should be accessed from the road past St Ishmael rather than by traversing intertidal sands and muds; Reason(s): To avoid impacts upon designated SAC features, intertidal habitats - e.g mussel beds, etc

Condition 3: Work to be completed before end February 2010; Reason(s): To give a suitable end date to the operation

CCC gave permission for DAT to undertake the works.

Scope of the Project

The project was designed to undertake limited ground clearance of the sand dunes to reveal the walls and other features that had been exposed by coastal erosion. The locations of the building and the northern extent had been previously identified by Owen Harris. The project objectives were to expose and clean the most northerly building (Building 1) and the next building to the south (Building 2), with further clearance of Building 3 and other structures as time allowed.

The works were undertaken as part of the Arfordir project with volunteers from the local area and further afield. Information packs were given to all volunteers to provide information regarding the site, Historic Environment Record information for the vicinity and copies of the Arfordir Recording Forms/Manual.

Abbreviations

Sites recorded on the Regional Historic Environment Record (HER¹) are identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR).

¹ Held and managed by Dyfed Archaeological Trust, The Shire Hall, Llandeilo.

THE SITE

Location

The deserted medieval village at St Ishmael is located to the south of the Church of St Ishmael, Carmarthenshire (centred on NGR SN 3625 0798).

Topographically the site is located beneath the sand dunes on the western side of the West Wales Line railway, on the edge of Carmarthen Bay, at a height of c.5m above Ordnance Datum, at the strand line (Spring Tide mark).

The underlying geology of the site is apparently comprised of boulder clays, lying upon glacially derived rocks, which in turn lie upon the Old Red sandstone solid geology which rises and forms the hills to the east.

Archaeological Background

A detailed historical background of the site has been compiled by Owen Harris, for a proposed forthcoming publication regarding the site, and much of the following information is included within this document with his permission.

The remains of the site first came to public attention following a severe storm in 1896, although the site had been known locally for many years previously. The storm exposed walls which were reported upon in the Welshman newspaper (June 2nd 1900) stating the exposed walls "*which were in some places a foot or two high. They formed rooms, and showed unmistakable fireplaces... The ruins extended some two or three hundred yards on the side exposed to the sea."* (Archaeologia Cambrensis 1900). It is thought that this article gave rise to the idea of a village lost beneath the waves of Carmarthen Bay, reported on in Archaeologia Cambrensis (1907) in the bibliographic notes associated with an article 'Llansaint' (Evans, 1907) which stated that following the storm of 1896, a local farmer removed 40 to 50 wagon loads of stone from the site.

A further article appeared in 1917 about the site (Evans 1917). Some handwritten notes and drawings are in the collection of Royal Commission for the Archaeological and Historical Monuments of Wales (RCAHMW) and give some idea of the remains visible at that time. These are discussed further below.

The RCAHMW commissioners visited St Ishmael to examine the remains in September 1912 (RCAHMW 1917). The description notes that they found a ledge of red marl exposed for a distance of some one hundred yards into which the remains of stone walls were set. One set of walls they examined were interpreted as a room 6ft 6 ins by 6ft 8 ins with walls 2 ft wide and 15 ins high. Some charcoal was found within the structure and nearby a charred pole set into the marl was discovered.

A small-scale excavation carried out by Professor J W W Stephens in 1913 resulted in the finding of a silver penny of Edward I (1272 to 1307), a medieval sickle and the bowl of a leaden spoon (Archaeologia Cambrensis 1949). Pottery dating to between the 14th to 16th centuries was recovered (*ibid*). Animal bones were also found which were identified as being from Shetland ponies, horses, sheep and red deer (*ibid*).

Studies have been carried out to determine the name of the settlement, but this is still debated. Theories have been put forward that it was the village of Hawton or Halkenchurch, although recent thinking notes that Halkenchurch is probably derived from Helgena (gentive plural of Halgan or Saint) and circe (meaning church) and thus in Welsh would be Llansaint (James 1991). Hawton may refer to the same place or alternatively an area of land further to the south. Both of these names suggest a strong Norman influence. Research by Owen Harris suggests that it is more likely that the village had Welsh origins (as may be

evidenced by the dedication of the local church to the Welsh Saint Ishmael), and is more likely to have had a Welsh name. There is still the potential that the village was known as St Ishmael, or alternatively may have taken its name from the nearby manor of Penallt.

From the existing evidence, and that which has been previously recorded and excavated, it would seem that the settlement was quite large, with a number of houses all constructed from stone. The stone would appear to be locally sourced sandstone and limestone. Dating evidence from the site suggests that it was occupied from the 13th century to the 16th century (the majority of pottery from the site that has been analysed in recent years dates from the 13th and 14th centuries only).

The surviving walls and floors of the settlement are sealed directly by sand dune deposits, and it would appear that a catastrophic storm or storms must have been responsible for the abandonment of the buildings, when they were besanded. The lack of artefacts on floor surfaces may suggest that the abandonment took place over a prolonged period, as opposed to a single event (although potentially all such remains had already been removed by tidal action). It is unclear when the site was abandoned, but a 14th century date seems more likely than the 16th century.

Considering that the buildings lie close to the sea edge at the high water mark (Spring Tide line), even with the gradual rise in sea level since the Middle Ages, they are likely to always have been susceptible to flooding. Owen Harris surmises that as 'the building remains that we now see appear to be very well constructed, of well-cut quarried sandstone, clearly built to last. We therefore feel the builders would have only placed their settlement at this point if a natural defence or a sea wall protected them. Alternatively the site must have been sufficiently inland of the sea to be safe from inundation." The settlement was presumably located near to the sea in order to exploit the natural resources it has on offer. The cockle beds of Carmarthen Bay were certainly exploited at this time and presumably it was also an excellent fishing area. No doubt the sea provided the main stays of the economy of the settlement, and perhaps the reason for its success and possible wealth, as may be surmised from the substantial nature of the buildings.

It is possible that the scars that project into Carmarthen Bay were formerly promontories of land, formerly covered in boulder clays which have subsequently been slowly eroded as the sea encroaches towards the land. Potentially a small bay or inlet was located between the two (as can be seen in the area of sand between St Ishmael and Salmon scar today), which was used as a place to launch boats. It is likely that buildings associated with the settlement were present on these areas, but have long since been destroyed. A circular stone lined feature previously recorded quite far out on Salmon Scar, has been interpreted as a well. This may suggest settlement was formerly located on the scars. A number of fish traps and weirs of medieval date found around other scars in Carmarthen Bay, were probably built and exploited by inhabitants of the settlement at St Ishmael.

INVESTIGATION METHODOLOGY

The archaeological investigation of the St Ishmael site comprised limited ground clearance of the sand dunes to reveal the walls and other features that had already been exposed by coastal erosion. This included removal of loose material and detritus that had been washed or blown onto the site, removal of small tufts of turf over walls and floors, and the cutting of grass and other vegetation to expose archaeological remains. Hand cleaning of exposed soils (especially along the eroded edge of Building 1) was undertaken using trowels. Exposed stones of walls and floors were cleaned of loose mud and sand.

In two areas, small water channels had eroded back into the sand dunes along the sides of walls of the buildings. These were cleared of vegetation and cleaned (within health and safety limitations) to provide a view deeper into the sand dunes.

Following cleaning of the structures, the remains were photographed using high resolution digital cameras. Hand drawn plans were prepared of the exposed walls, floors and features within Building 1. Context descriptions were prepared of all deposits and structural elements. This methodology was adopted as a model for participants in Arfordir to use in the continued monitoring of and recording of coastal sites?)

Reconnaissance of the base of the sand dunes to the north and south of the site was carried out in order to determine if further archaeological remains were present around the known village site. Walkovers of the nearby scars were also undertaken to determine if features or finds were present in these areas also.

At the end of the investigation the entire site was accurately surveyed, in relation to known features (slipway, lookout station and St Ishmael church) in order to tie it into the Ordnance Survey grid. The survey included locating the larger stone blocks and floor areas within Building 1, the survey of all stones within Building 2, survey of possible yard areas between Buildings 1, 2 and 3, and the survey of the exposed ends of walls for Building 3.



Photo 1: Cleaning of Building 1

The archaeological works were undertaken with the help and assistance of a number of Arfordir volunteers including Pat Keegan, Lesley Cairns, Byron Huws, Caroline Washer, Owen Harris, Sharon and Ioan Evans, Emily Ivens, Christine and Barbara Davies. I offer my sincere thanks to all of these individuals, and my apologies to any that I have missed out.

RESULTS

Building 1

Building 1 lies at the northern end of the exposed area of the village. It measured almost 16.5m in length and appeared to comprise two rooms.

The northern most wall of (102) was aligned southwest to northeast and was partially concealed beneath beach stone further into the sand dunes. It comprised semi-dressed laid stone blocks, some of substantial size ($0.4 \times 0.4 \times 0.3$ m), and measured 3.16m in exposed length,0.94m in width and survived to a maximum height of 0.75m. The wall was neatly faced, with a rubble core. Erosion had removed most of the rubble core of the wall, and some smaller facing stones. Patches of clay visible where the wall entered the sand dunes suggest the wall had been clay bonded. One upright water worn stone within the wall, which may have been eroded in-situ by tidal action.



Photo 2: Wall (102) facing southeast

A roughly linear alignment of about four medium sized stones projecting from the end of wall (102) and well set into the underlying clay, may mark a possible return to wall (102) at its western end. Due to severe erosion it was not possible to determine the form or dimensions of the wall. What was visible implied a surviving length of around 0.8m.

A 1.1m length of a second northwest to southeast aligned wall (103) was clearly visible 5.3m to the south of (102). Together, these walls appeared to define the area of a room. Wall (103) was narrower, measuring 0.59m in width. It comprised roughly dressed stone blocks on the outer faces, with a rubble core. It

was laid directly onto the natural clays and was either drystone or clay bonded. A number of stones laid on end at its western end of the wall perhaps marking one side of a door way.



Photo 3: Wall (103) showing upright stones at the northwestern end of the wall, facing southeast (Pit [109] visible beneath)

Two possible areas of flooring were present between wall (102) and (103). These included a cobbled surface adjacent to (103), comprising a number of similar sized cobbles laid to form a relatively flat surface (107). Only an area of approximately $2m \times 1.4m$ in size could be clearly defined, although the floor may have been present sealed under a collapse of rubble and sand dune material. The second floor (108) was located closer to wall (102) and was less substantial and well formed than (107), probably due to erosion. The floor area survived to approximately 1.6m \times 0.9m in size. Both floors were set into the natural underlying clays, and evidence for small pebbles being packed between the gaps was noted.



Photo 4: Area of cobbled flooring (107) facing southeast



Photo 5: Area of possible flooring (108) facing northwest

9.03m to the south of wall (103), a 2m length of Wall (104) forming the south wall of Building 1 was visible protruding from the base of the dune. The wall measured 0.60m in width. As with wall 103 it comprised larger roughly dressed facing stones, with smaller packing and rubble between and was either drystone or clay bonded.



Photo 6: Wall (104) facing northwest

A number of large stones were noted running along the lower edge of the sand dunes in the southern part of Building 1 adjacent to wall (104). These may represent the collapsed eastern wall of Building 1. This wall (105) may be associated with the large rectangular block as can be seen at the rear of the wall in photo 6. An area of erosion from water flowing through the dunes exposed a large number of larger Stones set back into the dunes, which may have formed part of this wall, but it was not possible to get a clear record photograph of the stones.

Two possible floor surfaces were located within the second room of the building. The most northerly (111), measured approximately 1.2m x 0.23m and was visible as a layer of fairly large and flat stones set into the natural clays. The majority of the floor appeared to consist of disturbed cobbles. A straight edge formed by larger flatter blocks was clearly visible in the northern part of the room. This edge, an apparent break in the floor, may suggest the presence of a drain, or may be the surviving base of a wall dividing the room into two parts. There was no evidence for any floor in the northern part of this room.

The second floor (112) is likely to have been the same as (111), but was no longer physically connected due to later disturbance and erosion. This floor was made of rough cobbles set into the natural clays, measuring roughly $1.01m \times 0.35m$, but heavily disturbed.



Photo 7: Showing edge of floor (111). The remainder of the room is visible to the rear, with floor (112). South wall (104) is located adjacent to the far scale

Further investigation to the south of wall (102) and floor (111) revealed a an oval hearth made neatly cut and fitted flat stone slabs (117), edged by smaller stones set on end (118). The hearth measured approximately 1.05m along its longest length (northwest to southeast), and with a visible width of 0.7m. The hearth was located at a very similar level to the floor (111), but there was no physical connection between this or any other visible floor surface. The hearth had evidently been subjected to heat and directly above it was a compacted burnt layer (119/123) around 2cm in depth and containing charcoal and fragments of shells. To the west of the hearth two stones had been placed edge-on, forming a triangle, with the pointed end pointing away from the hearth. They had evidently been specifically placed, but their function is unclear. Perhaps with others on other side of the hearth (not excavated), they may have held a wooden or metal post from which skillets could be suspended.



Photo 8: Hearth within Building 1, flat slabs (117) and edge stones (118).

Due to the natural ground levels and patterns of erosion, the majority of the northern room of Building 1 was at a similar level to the surrounding beach level. Far more small stones were present on the beach to the north covering the underlying clay natural geology. Moving south along the building, the height of exposed clay at the base of the sand dune increases. All of the archaeological remains seen within the site were set upon, or cut into this clay (Photos 9 & 10).

Two other features which pre-dated Building 1 also recorded. The first (cut 110) was a large circular pit measured 1.6m x 0.9m in width, situated underneath wall (103) (Photo 3). The fill of the pit (109), was very waterlogged and consisted of lenses of clay alternating with layers of very dark organic matter containing fragments of wood, charcoal and small twigs. The pit had been previously identified and partially excavated by Owen Harris, and two sherds of pottery dated to the 14th century were recovered from it. Although the depth of the pit was not ascertained, it must have been at least 0.5m depth, as it was visible directly below the floor level (108) within the structure, and cut through natural clay beneath. The pit had been partially eroded away with tidal action, visible in the clay natural sloping steeply to the west.

A second small feature was noted in the exposed section of the natural clay beneath floor (111). It comprised a small cut [114] and single dark brown clayey fill (113), measuring 0.40m in width and 0.3m in depth in section (it was not seen in plan as the floor surface was not removed). No finds were recovered from the fill and it was not investigated further.



Photo 9: View east of Building 1 showing increase in depth of exposed clay natural at base of sand dune, walls (1002), (103) and (104) are marked with vertical ranging rods.



Photo 10: Overview of Building 1, with wall (102) in foreground, wall (103) by next scale bar and wall (104) beyond

Building 2

Building 2 is located around 26m to the south of Building 1. It measured 15.4m in length, and was visible as a line of stones running along the base of the dune. It comprised two rooms, the most northerly measuring around 9.5m in length internally, and the smaller southern one around 3.4m. Although mostly buried in

the sand dune and covered in vegetation, a small group of stones at the northern end of the wall (200), presumably formed the northern end of the building.

The most obvious feature at the northern end of the building comprised two upright stones spaced 0.83m apart, with a flat stone lying between them. This arrangement (201) seemingly forms a doorway into the building (photo 11 & 12).

The level of the threshold stone corresponded with a flat stone lying behind it and presumably within the building. Behind this was a step up to four flat stones that had been laid to form a rectangular surface (one stone had been removed in the past, but could be fitted back into the missing location easily; photo 12).



Photo 11: Wall (200) to left, with doorway (201) visible in centre of photo



Photo 12: View of doorway (201), with missing stone of second step replaced.



Photo 13: Wall (205)

Doorway (201) was apparently located on the western side of the building, set within wall (205). This wall survived south of the doorway, for a length of 6.8m. It comprised a single length of medium sized stone blocks set into the natural clay (photo 13). It would appear that only the internal facing stones of the wall survived, a single course in height, with all bonding stones, rubble core and outer facing stones having been previously eroded away. At the southern end of the wall all evidence of the relationship between this and the two southern walls of the building have been lost to erosion.

Wall (202) protruded from the sand dunes 9.65m to the south of wall (200). It measured 2.5m in exposed length, with a width of 0.6m. The wall was badly eroded at the western end, but some large upright blocks were present nearer the sand dune (photo 14). The wall was either drystone or clay bonded, comprising larger blocks, roughly dressed on the outer faces, with a rubble core. A number of large water worn stones were also present in the wall.

The southernmost wall of the building was (203), consisting of a 1.55m length of wall protruding from the dunes, of around 0.65m width (photo 15). The wall lay 3.7m to the south of (202, and was similar in construction as it comprised a number of large upright blocks on the outer faces of the wall. The upright stones were noticeably leaning over towards the south, presumably as a result of pressure from movement within the sand dunes (an area of sand slip is evident directly adjacent to the wall).

No floor layers were noted within this building, but the implication is that the majority of the building is still buried under the sand dune, as the western wall is only just visible along the sand dune edge.



Photo 14: Wall (202)



Photo 15: Wall (203), showing outward lean of stones

Building 3

The elements of Building 3 comprised east-west walls projecting through the sand dunes. It was not possible to expose much of these walls as they lay in a steep face of the sand dune. It cannot be confirmed that they form part of the same building.

The probable northern wall of the building (300) was comprised of medium sized stones, roughly coursed, surviving to a height of 0.55m. The wall was around 0.5m in width. The stones included angular blocks and water worn stones. No bonding material could be discerned.



Photo 16: Wall (300)

Wall, (301) was located around 15.6m to the south of wall (301), and survived to a similar extent. The wall was roughly two courses in height, and was exposed to a length of around 0.7m. The stones included angular blocks and water worn stones. No bonding material could be discerned.



Photo 17: Wall (302)

Building 4

Building 4 was located some 10m to the south of Building 3. During the investigations, only one wall of the structure could be seen, although it is known from previous monitoring and recording by Owen Harris that two walls connected by a wall to the west were present, but now lie buried under a collapsed part of the sand dune.

This building is the only one where a standing stretch of an eastern wall has been revealed. The side walls of the structure (400) and (401) comprised roughly coursed angular blocks of medium and small sizes. The eastern wall of the structure, comprising medium and large stones was also roughly coursed using the varying sized blocks. Again the walls were set upon or into the underlying natural clay. This building was narrow, *c*.3m wide and only survived to a length of 1m into the dunes. No floor surface was revealed in the building, although it is possible that the floor was directly upon the underlying natural clays.



Photo 18: Wall (400) and adjacent collapse of sand dune



Photo 19: Previous photograph of area, with wall (400) to left, wall (401) to right (hidden by vegetation) and wall (402) to rear. (Owen Harris photograph)

Yard Areas

The areas visible between Buildings 1 and 2 and between Buildings 3 and 4 are considered to represent yards, as there is no evidence of walls around them. The first yard area lies around 10m to the south of Building 1 (photo 20). It comprises a number of flat sandstone slabs laid on the natural clay to form a rough surface. An area of the surface approximately $3.5m \times 1.6m$ is exposed, with more likely to be buried beneath the dunes to the north, south and east.



Photo 20: Yard surface between buildings 1 and 2

The second yard area lies 4m to the south of Building 3, visible as a small stretch of stones 2m in length sitting on top of the clay within the sand dune face. The top of the surface was only partially exposed. The stones in the floor were smaller (most around 0.15m square), and well laid to form a fairly level surface. The surface had been visible on previous visits, when a possible feature was also noted underneath cutting through the clay in the exposed section. This feature was not clearly identified during these investigations and not yet been recorded further.



Photo 21: Yard surface between Buildings 3 and 4

DISCUSSION

From the available evidence for the site, from its large scale exposure in 1896 through to today, an idea of the extent of coastal erosion of the site can be made.

The storm event in 1896 revealed remains of such significance that they were nationally reported in the Welshman. The report on the remains suggest a number of buildings were exposed, including stone walls, with door and window openings that could still be discerned. Soon after, the site was used as a quarry by a local farmer and 40 to 50 cart loads of stone were removed, again suggesting a substantial amount of stonework had been exposed.

The RCAHMW survey of 1912 includes a description based on the earlier account as well as two photos of the site (photos 22 and 23). These show the dunes, with stone work exposed at the base on top of the same clay natural as was seen during the recent investigations. What is most evident in the two photos is the extent of clay natural exposed (possibly around a 3 or 4m band), with the sand dune set much further back in relative terms to how it lies at present. Vegetation is only just growing back on the edge of the dunes in the photos, indicating that a substantial part of the sand dune must have been stripped way in 1896.



Photo 22: RCAHMW photograph from 1912 visit to the site (RCAHMW 1917)

Although no clear remains are visible in the first photograph, the extent of stone work at the bottom of the dune is indicative of former structures. In the second photograph a substantial part of a building is visible exposed on top of the clay natural. The building appears to be short-end-on to the sand dune (similar to Building 4 of these excavations) with a substantial part of the southern and eastern walls exposed. The coastline has changed considerably since this time, and certainly the building in photo 23 has been completely eroded by now. Both photographs were taken over 10 years after the removal of the 40 to 50 cart loads of stone, and subsequent episodes of erosion over those years. The relative lack of stone across the clays in photo 20 may be indicative of this stone removal and erosion. The implication is that the stone of the building in photo 21 would have been removed if it had been exposed in 1896.



Photo 23: RCAHMW photograph from 1912 visit to the site (RCAHMW 1917)

From research undertaken by Owen Harris, some handwritten notes and drawings are in the collection of RCAHMW, prepared by G E Evans following a visit he undertook in 1912. The sketches show two erect stone slabs, set less than 1m apart. These may be similar to stones seen in wall (203) and with others noted by Owen Harris in the past few years (that have subsequently collapsed). This construction method (with pairs of uprights built into the wall, perhaps to add strength or even form one side of a doorway or entrance) appears to be common to several of the stone walls at the site.

Other drawings in the collection are labelled as "*the corner of a building*" and "*an erect dressed stone with hole*". The corner of the building may well be that seen in photo 23. The dressed stone with a hole appeared to have been over 1m in height and presumably the hole would have once housed a door or gate hinge. Such a stone is visible in 2010 lying below the high tide mark. The final sketch is of a stone well head described as being sand filled, but unfortunately this was inadequately located and has not subsequently come to light (although local residents do claim to have seen something similar quite far out on the adjacent scar). It is thought that all of the remains seen in 1912 have now eroded away, so it is possible that a number of the larger seemingly dressed sandstones that lie below the high tide line may be some of those recorded in 1912.

Looking at the 1912 photographs it is evident that the natural clay layers exposed beneath the dunes have since eroded away, and it is estimated that this would be about a 4m wide strip (based on the size of the exposed stones and height of the sand dune). This estimate may be quite conservative, as it assumes that the base of the dunes has not retreated back any further.

From the monitoring undertaken by Owen Harris he estimates that between 0.15m to 0.30m erodes from the base of the dunes each year. He states that 'Some features visible in the Autumn of 2007 have now disappeared'.

The buildings previously identified were evidently located further to the west than those recorded during the 2010 investigations, and assuming they are contemporary, it is most likely that a road or track way would have separated them. Should this be the case, it suggests a fairly sizeable and nucleated settlement in existence during the 13^{th} and 14^{th} centuries. The actual extent of the entire settlement is unknown.

It is most likely that the settlement was located for convenient access to the sea. The site is presently located at the end of a sand inlet between St Ishmael's and Salmon Scar. Both the scars were probably formerly fingers of land projecting into Carmarthen Bay, and it is tempting to think that the gap between formed an inlet from which fishing boats could have been raised. As the boulder clay natural soils have been stripped from the scars, revealing the glacially derived stone, the tide has steadily encroached further inland, and any remains of buildings or structures has long since been eroded

The 1900 description of the removal of stone from the site (Archaeologia Cambrensis 1900) says that the buildings covered an area of around 200 to 300 yards length at the base of the dunes. The present length of exposed archaeological remains is presently only a c.100m stretch.

The Great Western Railway undertook improvements of the sea defences along this stretch of coastline in the earlier part of the 20th century. This comprised the insertion of regularly spaced lengths of railway track into the beach (presently about 5m from the edge of the base of the dunes) between which railway sleepers were fixed, and then a substantial quantity of material was placed behind, comprising industrial waste, comprising mostly slag and iron /steel manufacture waste (presumably brought down the line from the foundries to the east). It is uncertain how long these defences held out, but now they are only visible as the upright tracks (much eroded) with substantial quantities of slag etc scattered across the beach and the base of the sand dune.

Obvious changes to the site have taken place in the last few years. This has included the recovering of Building 4 by the sand dune following its exposure during a storm in 2007, as noted above. The threshold of the doorway into Building 2 has evidently been exposed in the last few years and is likely to be dislodged in the near future. The entire length of the western wall of Building 2 has already been eroded, such that only a few of the larger stones on the inside face of the wall survive, but these will not last for very much longer.



Photo 24: Doorway into Building 2 in October 2007. Note that there is a large stone in front of the door which is no longer present, and that the ground level corresponds with the top of the threshold stone. (Owen Harris)



Photo 25: Doorway into Building 2 in September 2008, note that the threshold stone and adjacent uprights are completely exposed to their base (Owen Harris)

In 2007 one of the walls within Building 1 had two large upright stones at its western end. Neither of the stones now survive, but they may be present on the beach in front. It is unclear which wall these stones were associated with, or whether they were actually part of a western wall that has since been eroded.



Photo 26: Upright stones seen in 2007 within Building 1 (Owen Harris)

More large stones were present within the northern wall of Building 1 in May 2008, which have again since been eroded.



Photo 27: Wall (102) Building 1 in May 2007 (Owen Harris)

CONCLUSIONS

The archaeological remains appear to represent a settlement of medieval date, certainly occupied between the 13^{th} and 14^{th} centuries and possibly into the 16^{th} century. From the extant evidence there are at least four structures surviving at the site, three aligned lengthways at the base of the dune – roughly north to south, the fourth roughly east to west. The three buildings on the same alignment may suggest a street or roadway was present along their western edges.

Very few artefacts were recovered during the 2010 investigations, which is possibly unsurprising as the works were more geared towards cleaning the exposed areas of walls as opposed to intrusive excavation of the remains. The majority of evidence recording at the site related to the physical evidence of the structures, walls and floors. Of great interest was the area of the surviving hearth within Building 1, a well made cooking area comprising closely fitting stone slabs surrounded by narrower edging stones. The stone slabs had evidently been subjected to heat. The hearth was set at the same level as the surrounding floors, sitting upon the clay natural. It is unclear if the feature was merely the base which had a fire laid directly upon it, or in a fire basket, or whether it had a specific purpose, as the base of a bread oven for example or a hot stone used in the processing of food stuffs (such as cockles or other shellfish).

From previous evidence recorded at the site, the suggestion is that more buildings were present to the west, which have subsequently been lost to the sea. This may add weight to the suggestion of a street along the western side of the surviving remains. Following the 1896 storms it is said that around 40 to 50 wagon loads of stone were removed from the site by a local farmer, again suggesting far more substantial remains were present than exist today.

Records from 1912 indicate substantial building remains still survived, but again these are now no longer extant. Potentially some of the larger possibly dressed sandstone blocks, that are still present below the high tide line, may have originated from these earlier exposed remains.

The areas observed at the site between Buildings 1 & 2 and Buildings 3 & 4 are only loosely interpreted as yards. It is possible that associated walls may have been eroded away, robbed or remain partially hidden beneath the dunes.

Monitoring of the site in recent years would suggest that the base of the dunes is eroding at a rate of around 0.15 to 0.30m a year. With the predicted sea level rises associated with climate change, this rate of erosion can only increase.

The investigation has provided very useful information regarding the site in terms of its present state of survival. The work has provided the first accurate location survey of the site, showing it in relation to the adjacent scars projecting into Carmarthen Bay. The investigation has confirmed the presence of at least four structures and two possible yard areas. It has confirmed that the walls of the buildings were clay bonded.

This excavation and recording work undertaken as part of the Arfordir project, is an excellent example of how the project was envisaged to work and develop. It has enabled the enthusiastic and highly motivated volunteers to be directly involved in the discovery and investigation of their local heritage, while also providing them with a better understanding of the purpose, aims and process of archaeological investigation as a means of making a useful record of threatened cultural heritage. The range of methods used, and the process of recording that the volunteers were involved in will enable them to continue to monitor of the site, and to produce a more useful, meaningful and accurately observed record of the features exposed.

The new links between the local community and DAT that have been developed as a result of the project will greatly enhance the flow of information about the site to DAT allowing appropriate management decisions for the site to be made, and providing further opportunities for public engagement and education.

The site is obviously one of great interest, providing evidence of a coastal settlement of which there is little clear record, and about which we know little. Indications suggest that the settlement was quite expensive, with fairly robust buildings, and its absence from clear documentary records is intriguing. The site is most definitely worthy of further investigation beyond merely monitoring its erosion, and such opportunities would greatly benefit (and be suitable for) community involvement. Investigative work at the site, must be weighed against the potential impacts on the SSSIs and also the effect it may have on the archaeological remains. It is possible that by exposing more of the walls, they will become less stable and erode quicker. Of course, without further detailed work, the site will be lost to the sea without any detailed record at all. Possibilities for reinstatement following investigation might be considered to at least keep erosion of the site at its existing rate.

SOURCES

Archaeologia Cambrensis 1900, 'The Submerged Town of Hawton', Archaeologia Cambrensis, Volume **55**, 234-235

Archaeologia Cambrensis 1949, 'Carmarthen Report', Archaeologia Cambrensis, Volume **104**, 151

Evans, G. E., 1907, Archaeologia Cambrensis Volume 62: 75

Evans, G. E., 1917, 'Moved Stones', *Archaeologia Cambrensis*, Volume **72**: 163–166

James, T., 1991, 'Where Sea Meets Land', *Sir Gar – Studies in Carmarthenshire History*, Carmarthenshire Antiquarian Society Vol **4**, Carmarthen

RCAHMW 1917, Inventory for the County of Carmarthen, RCAHMW, 245-246


Figure 1: Location map, based on the Ordnance Survey.

Reproduced from the 1995 Ordnance Survey 1:50,000 scale Landranger Map with the permission of The Controller of Her Majesty's Stationery Office, © Crown Copyright Cambria Archaeology, The Shire Hall, Carmarthen Street, Llandeilo, Carmarthenshire SA19 6AF. Licence No AL51842A



Figure 2: Site area in relation to adjacent scars and other features showing full extent of deserted medieval village



Figure 3: Detail of Exposed Area of Building 1



Figure 4: Detail of exposed area of Building 2

APPENDIX III: ARFORDIR SITE VISIT INFORMATION – NOTES ON SITES SUFFERING EROSION AND NEW SITES

IDENTIFICATION OF ARCHAEOLOGICAL SITES UNDER THREAT OF EROSION AND NEW SITES

A number of site visits have been undertaken to record the present state of the known archaeological remains under most threat from coastal erosion.

Following the methodology undertaken, as described in 'Methodology' above for the identification of sites which are under most threat from coastal erosion, a number of site visits have been undertaken to record the present state of the known archaeological remains.

The following description identifies the site and its location, includes the PRNs for sites already known about and also notes new sites identified from the site visits. It has not been possible to visit every site identified as being under threat, due to the time constraints for the project, but those site visits that have been undertaken have proved informative and also identified a few additional sites previously unrecorded. The pilot year has concentrated on the Carmarthenshire and Pembrokeshire coast lines, with more work scheduled for the Ceredigion coast during 2010 -2011.

The descriptions below note the present condition, but also identify potential threats to the sites. An indication of possible action is also noted, though in most cases regular monitoring of the sites is perhaps the only action possible. Only sites where erosion is visible, where threats have been identified or new sites are included in the lists.

AREA 1: Burry Port and Pembrey Harbours, Carmarthenshire

Site visits were undertaken to the Burry Port area as they lie in an area identified as being under *severe* threat from the 1996 surveys. The entire area of Burry Port harbour was subject to extensive renovation as part of the creation of the Millennium Coastal Park.

Site Name: Burry Port Outer Harbour

PRN 5345 and PRN 61059 (eastern breakwater)

NGR: SN 4452 0030

Site type: 19th century harbour.

The outer harbour is a restored 19th century harbour currently used as moorings for small recreational boats (photo 1). The site is well protected from coastal erosion by breakwaters and modern dock gates, however, a sand bar is forming across the entrance of the harbour and is beginning to be problematic for users of the harbour. It is considered likely that the harbour area could eventually end up inundated with sand and silt, as happened at Pembrey Harbour.

The outer breakwaters of the harbour are formed from rubble and industrial waste (slag etc). These have been renovated fairly recently and in a stable condition.



Photo 1: Burry Port Outer Harbour

Site Name: Iron Tub Boats, Burry Port Harbour PRN 35902 NGR: SN 4457 0014 Status: SAM CM 268 Site type: 19th century former coal carrying iron tub canal boats.



Photo 2: Area of former coal tubs, with single iron rib visible in foreground

On the seaward side of the eastern breakwater a series of iron former coal tub boats were laid to strengthen the wall (PRN 61059). The boats are a rare survival of iron constructed coal tubs and hence why they have been designated as a Scheduled Ancient Monument (SAM). The tubs were said to be visible up until quite recently, but at present only a few iron uprights were visible (forming the

ribs of the tubs, photo 2), with the remainder buried by sand. The condition of the boats is at present unclear, but whilst buried in the sand would be considered stable.

Site Name: Sandhurst, Burry Port PRN 36926 NGR: SN 4433 0033 Site Type: Post medieval dwelling.

demolished and removed in the near future.

The former dwelling has not been subject to coastal erosion, however the building is no longer occupied, appears to have been subject to a fire and vandalism (photo 3). The house has been surrounded by metal fencing in an attempt to prevent entry, but was seen to be ill fitting in places with gaps permitting access to the site. The building is probably beyond repair and will no doubt be



Photo 3: Sandhurst, Burry Port

Site Name: Pembrey Harbour PRN 5344, 8759 (former lighthouse) and 31368 (pill box)

NGR: SN 4370 0015

Status: SAM CM 296

Site Type: Early 19th century harbour.

The former harbour was abandoned and replaced by that at Burry Port in the 19th century. The harbour area is now filled with sand and silt (photo 4). The harbour walls were constructed of slag block. The eastern wall appears to be in a state of decay, suffering from tidal erosion with a considerable amount of the outer skin of slag block having been ripped from the wall and is now lying scattered inside the harbour (photo 5).

The western breakwater survives in much better condition, containing both areas of slag block and mortared stone block. The western breakwater was extensively restored recently with the construction of the Millennium Coastal Park, which runs to the end of the breakwater. A former lighthouse was present at the western end of the breakwater (PRN 8759), as was a pill box (PRN 31368), although the pillbox is no longer present. Even with the extensive renovation work, the far end of the breakwater has begun to suffer from coastal erosion, with parts of the stonework beginning to become dislodged and removed (photos 6 and 7).



Photo 4: Silted up internal area off harbour



Photo 5: Pembrey Harbour, eastern breakwater also visible



Photo 6: View from end of western breakwater towards renovated stone work and also showing more recent erosion in the foreground



Photo 7: End of western breakwater showing effects of coastal erosion

AREA 2: Kidwelly – St Ishmaels Area, Carmarthenshire

Site visits were undertaken to a number of sites along the coast between Kidwelly and Ferryside, targeting known sites suffering from erosion or in areas where erosion threat had been identified as severe.

Site Name: Kidwelly Quay PRN 7808 NGR: SN 3976 0640 Site Type: 19th century quay.

The quay structure appears to be in a good state of repair, and has evidently been subject to restoration and stabilisation works (photo 8). The area is the subject of gradual silting, presumably as it is no longer a functioning quay and there is no need to keep the waterway clear. At the entrance to the quay some undermining of the quay wall appears to be occurring and there has been an attempt to stabilise the structure using corrugated iron sheeting part of which appears to have been washed away (photo 9). This stabilisation work is far more haphazard than is apparent over the rest of the quay.



Photo 8: Kidwelly Quay showing dock



Photo 9: Kidwelly Quay showing some erosion damage at base of quay wall

Site Name: Gwendraeth Steam Saw Mill PRN 99089 (New site) NGR: SN 3983 0640 Site Type: 19th century steam saw mill.

This site was identified during the course of a site visit to Kidwelly Quay and following subsequent cartographic research where it is marked on late 19th century mapping.

The site is located to the east of Kidwelly Quay and consists of a complex of buildings that appear to have been last used for agricultural purposes. The structures were seen to be of stone with later railway sleeper and corrugated iron additions present across the site (photos 10 & 11). The site is currently derelict with some of the buildings open to the elements and decaying. A small stone structure at the entrance to the complex has been re-roofed with ply wood and partially covered in roofing felt but this too appears also to be decaying. The small building contains a fire place (photo 12).

The site area has not been subject to previous record. The site is decaying.



Photo 10: Building remains of former Gwendraeth Valley Saw Mill (PRN 99089)



Photo 11: Building remains of former Gwendraeth Valley Saw Mill (PRN 99089)



Photo 12: Building remains of small stone structure on edge of Gwendraeth Valley Saw Mill (PRN 99089)

Site Name: Penallt Priory PRN 2115 NGR: SN 3879 0701 Status: Grade II Listed building. Site Type: Medieval grange (?)



Photo 13: Penallt Priory

Permission to access the site could not be obtained, and it was therefore viewed from a distance on the adjacent road (photo 13). The site appears to be in a poor state of repair and is thickly covered in vegetation. The site may require attention to prevent any further decay. Further buried archaeological remains will be present around the site within the farmyard.

Site Name: Penallt II Building

PRN 99090 (New site).

NGR: SN 3944 0702

Site Type: Medieval or Post medieval structure and earthworks.

The site was identified during the course of a site visit undertaken in the area and was viewed from the adjacent road.

It comprises an unrecorded masonry structure surviving as substantial gable wall standing to full height with remains of masonry side walls (or buttresses; photo 14). The surviving structure is cloaked in ivy but appears to be relatively stable.

The field in which the structure stands contains a series of earthworks that may mark the positions of further associated structures or features. It is considered that buried archaeological remains will be present across the site. The site is marked as ruinous on the first edition Ordnance Survey Map. No documentary reference to the site has been found. However, the site is located between Penallt, the site of medieval manor and Coleman farm that is also known to have medieval origins. The site is considered to be worthy of further archaeological investigation.



Photo 14: Penallt II Building, surviving gable end of large building and earthwork platform (PRN 99090)

Site Name: Burton, Bertwyn PRN 30000

NGR: SN 3755 0695

Site Type: Post medieval/ modern farmstead.

The site is recorded on the regional HER as nearly destroyed. The site visit revealed that the farmstead had been completely demolished and replaced by the entertainment complex of the Carmarthen Bay Holiday Park (photo 15). The site is no longer extant.



Photo 15: Former location of Bertwyn Farmstead, replaced by modern entertainment complex building of Carmarthen Bay Holiday Park

Site Name: Gwelfro, Old Battery PRN 7826 and PRN 23600 NGR: SN 3651 0750

Site Type: Post medieval/ modern gun battery.

Gwelfro (PRN 7826) and the Old Gun Battery (PRN 23600) appear to refer to the same site (photo 16 & 17). The structure was originally located at the top of the sand dunes and was probably first constructed in the early part of the 19th century. Although some remains are still present on top of the dunes, substantial fragments of masonry have collapsed onto the shore line. The area surrounding the structure is littered with concrete fragments and large rectangular stone blocks with curving recesses that are considered to be the remains of a gun track. Coastal erosion will eventually lead to the destruction of the remainder of the site.



Photo 16: Collapsed part of the gun battery now lying on the edge of the beach



Photo 17: Stone blocks with curved recess for gun tracks on fore shore

Site Name: Deserted Medieval Village of Hawton or Hawkinchurch etc

PRN 2113 (99091, 99092, 99093 & 99094 - new sites)

NGR: SN 3624 0798 (amended from HER)

Site Type: Deserted Medieval Village

The site of the deserted medieval village near St Ishmael in Carmarthenshire is mis-located on the HER, which places it to the south of its actual location and quite far out into Carmarthen Bay. The correct grid reference is used for this description (photo 18). The actual name of the settlement is unclear and is debated. The site has been subject to a number of visits during the year. During February the site was subject to a 5 day long investigation which is reported on in **Appendix II**.

Monitoring of the condition of the site has been undertaken intermittently since it was first brought to public attention in 1896 following a storm surge which exposed a large amount of buildings. Basic archaeological recording was undertaken in 1912, and a small scale excavation in 1913. DAT has been involved in occasional monitoring since the 1990s and this has been supplemented by more regular work by volunteer, Owen Harris.

The site is presently afforded no statutory heritage protection, although the exposed edge does lie within two Sites of Special Scientific Interest (the strand line being the extent of the SSSI). It is unclear how much more of the site remains buried under the sand dunes. The railway line to the east is situated in a cutting within the sand dunes. It is unknown if the presence of the railway will necessitate sea defences within this location to protect the line, but if so, these may impact upon further remains of the deserted medieval village. As the sand dunes do not lie within the SSSI, and works within the cutting of the railway or in the dunes will not require consent.



Photo 18: View along exposed remains of medieval village at St. Ishmael

The archaeological works undertaken at the site in February have identified 4 distinct structures. Each of these buildings has had a new HER record created; Building 1 – **PRN 99091**, SN 3623 0802; Building 2 – **PRN 99092**, SN 3625

0798; Building 3 – **PRN 99093**, SN 3625 0795; and Building 4 – **PRN 99094**, SN 3625 0793.

Site Name: St Ishmaels WWII Lookout PRN 30100 NGR: SN 3618 0820 Status: SAM CM 383

Site Type: Second World War coastal lookout

The site is located on a 19th century sea wall constructed to as part of the Great Central Railway line that crosses immediately to the rear of the site and marks the beginning of the Carmarthen Stop Line (photo 19). The concrete and brick structure has been vandalised and graffiti covers much of the internal walls with bottles, cans and other debris littering the floor.

The brick piers supporting the concrete roof have a number of missing bricks. If this gets worse, it is likely to lead to the eventual collapse of the roof. The site is afforded Scheduled Ancient Monument status. The remainder of the structure appears sound.



Photo 19: St Ishmael WWII Lookout

AREA 3: Morfa Bychan, Carmarthenshire

Site Name: Morfa Bychan Tank Trap

PRN 33466

NGR: SN 2248 0753

Site Type: Second World War Tank Trap

The concrete structure is located on the sea edge of the beach, on a pebble bar (photo 20). The HER description states near intact, and has evidently got this site mixed with the one set back from the beach. This structure is almost completely destroyed, most recently from erosion, but mainly during training manoeuvres during World War II. The structure has craters from shells and bullets. The structure only covers a small part of the beach front and it is considered unlikely that it was a tank trap and most likely a structure associated with training exercises, possibly used as a climbing wall to mimic German coastal defences in France or alternatively the structure was used a ranging target for ships.



Photo 20: Concrete tank trap? PRN 33466

Site Name: Morfa Bychan Tank Trap

PRN 33467

NGR: SN 2251 0764

Site Type: Second World War Tank Trap

The concrete structure is located back from the edge of the beach (photo 21). The HER description states near destroyed, and has evidently got this site mixed with the one on the beach. This structure is almost intact and has craters from shells and bullets evident on its sea ward face. As above, its description as a tank trap would appear incorrect.



Photo 21: Concrete tank trap? PRN 33467, showing damage from shelling

AREA 4: Wiseman's Bridge to Saundersfoot, Pembrokeshire

Site Name: Wiseman's Bridge Submerged Forest

PRN 7994

NGR: SN 146 060

Site Type: Submerged Forest of Mesolithic Date

The site visit to Wiseman's Bridge was undertaken at low tide on a Spring Tide in order to view the maximum area of the submerged forest (photos 22 & 23). The conditions were good and a fairly large area of clays and wood was visible showing through the sand. Tidal action is certainly altering the surviving area of the forest as channels could be seen cutting through the clays.



Photo 22: Patches of submerged clays showing through sands with two upright stumps in distance, of submerged forest PRN 7994 looking sea ward



Photo 23: Further patches of submerged clays showing through sands associated with submerged forest PRN 7994 looking towards land

The recorded extents of the visible clays covered an area of around 8056 sq m. Regular monitoring of the exposed surfaces, using reference points, such as the two upright stumps, and some of the horizontal timbers could be undertaken. Changes in tidal action will cover and uncover the site with sand, so the full extent is never likely to be revealed. Monitoring at low Spring Tides could provide further evidence for the extent of the forest and provide the potential for recovery of any artefacts that may be present.

Site Name: Hean Estate, Mound PRN 99095 (new record) NGR: SN 14152 05502

Site Type: Possible barrow or castle mound

A large mound is visible within the Hean Estate land from the coastal path (over the higher ground) Coppet Hall and Wiseman's Bridge (photo 24). The mound is covered with mature trees, implying it is earlier than an industrial spoil tip. It is fairly sizable, and shows on aerial photographs of the area. It was not possible to access the site and it was viewed from some 200m away. The mound is situated on a high point of land, and (assuming no tree cover), would be visible from the promontory on the western side of Morfa Bychan to Monkstone Point. It is unclear what the site represents, though would appear to be worthy of further investigation.

It does not appear that the mound is under any threat from erosion or agricultural activity, but could represent an archaeological monument of high significance.



Photo 24: Earthwork mound within the Hean Castle Estate (PRN 99095)

Site Name: Hean Castle, Summerhouse PRN 32811 NGR: SN 1424 0575 Site Type: Summerhouse or gazebo



Photo 25: Southern wall of Hean Castle Summerhouse or Gazebo, showing stone plinth and recesses

A stone built structure is visible on the coastal path, at the edge of the Hean Castle estate on the cliff top. The structure comprises a straight rear wall *c*.4m in length, with two side walls projecting to the south. The structure is 1.7m in height. Three stone plinths are present on the inside of the wall, and presumably supported a wooden bench. Two horizontal recesses are also present on the southern side running the whole length of the structure. It is assumed that these held wooden battens onto which wooden slats were fitted to create a timber backrest for the seat (photo 25). Rather than a summerhouse, the structure would appear to be a seating area with clear views across Carmarthen Bay.

Site Name: Mooring Point, Coppet Hall PRN 99096 (new record) NGR: SN 14000 05264

Site Type: Metal mooring point within rocks

A small metal mooring point is visible within the rocks on the promontory on the western side of Coppet Hall beach (photo 26). The object is of iron and well secured in the bedrock, although the entire area is badly eroded. No remains of the original shape of the fixing is visible. It was presumably used as a mooring point for boats at high tide, connected with the transportation of goods. It is located around 18m from the cliff face.



Photo 26: Iron fixing in rock on eastern side of Coppet Hall beach, PRN 99096

Site Name: Waterpoint for steam engine?, Wiseman's Bridge PRN 99097 (new record) NGR: SN 14442 05897

Site Type: Stone built structure on edge of former railway

The structure comprises a small stone built structure measuring 1.2m in width, 1.25m in height and 1.3m deep (photo 27). Possibly situated over a natural spring at the base of the cliff. Iron grill present at front (badly eroded) and small drain passage visible on rear wall. Presumably of 19th century date.



Photo 27: Possible waterpoint for steam trains on edge of railway near Wiseman's Bridge PRN 99097

Site Name: Waterpoint for steam engine, The Strand, Saundersfoot

PRN 99098 (new record)

NGR: SN 13736 05015

Site Type: Stone built structure on edge of former railway line

The structure comprises a small stone built structure measuring 2.7m in width, 1.2m in height and 1.4m deep (photo 28). Possibly situated over a natural spring at the base of cliff. There is no cover to the feature. A pipe is visible at the rear of the feature. Presumably of 19^{th} century date.



Photo 28: Possible waterpoint for steam trains on edge of The Strand, Saundersfoot PRN 99098

Site Name: Drinking waterspout, End of High Street, Saundersfoot

PRN 99099 (new record)

NGR: SN 13672 04860

Site Type: Metal pipe seating set in stone wall

The original waterspout has been incorporated into a more decorative stone built surround in recent years (presumably at the same time as the Sensory Gardens were laid out, photo 29). The feature comprises a square iron pipe seating set in a stone wall. No remains of the external spout are present. Is likely to have been one of the five drinking water spouts that are known to have been present around Saundersfoot. Presumably of 19th century date.



Photo 29: Possible water spout at southern end of High Street, Saundersfoot PRN 99099

Site Name: Metal door and standpipe, end of High Street, Saundersfoot **PRN 99100** (new record)

NGR: SN 13670 04852

Site Type: Metal door and standpipe set in wall

A second water feature is present close to PRN 99099 above (photo 30). This feature is different as it comprises a small metal door (the frame is $0.3m \times 0.5m$ in size) with a standpipe enclosed within. The metal door is badly rusted. The standpipe is still in use. It is unclear if this was another drinking water spout or merely part of the water feeding system. Presumably of 19th century date.



Photo 30: Metal door and standpipe, southern end of High Street, Saundersfoot PRN 99100

Site Name: Waterspout, Milford Street, Saundersfoot PRN 99101 (new record) NGR: SN 13534 04922 Site Type: Waterspout set in wall



Photo 31: Water spout at east end of Milford Street on the south side, Saundersfoot PRN 99101

The original waterspout cover is still present within the wall. The cover is fairly ornate and the makers name is cast in the cover – 'Kennedy Patentee Kilmarnook' (it is assumed that earlier casts would have said Kilmarnock, but over the years the mould became abraded; photo 31). The cover was cast by the Glenfield & Kennedy Ltd Ironworks in Kilmarnock, and the water spout is model G & K No D19, self closing drinking fountain (http://www.scottishironwork.org). It is unclear if all of the water spout / drinking fountains would have been the same within Saundersfoot, as mentioned above five others were known to have been present in the town. It is also unclear why a Scottish made drinking fountain cover would have been used in West Wales. Presumably of 19th century date.

AREA 4: West Angle Bay, Pembrokeshire

Site Name: St Anthony's Chapel PRN 3092, 7595, 35095 NGR: SM 8515 0309 / 85130 0305 Status: SAM PE 554 Site Type: Medieval / Early medieval cist grave cemetery and chapel

A visit to the early medieval cist grave cemetery was undertaken in late summer 2009 following information from a member of the public that another cist grave had been exposed in the cliff face on the south side of the bay (photo 32 and 33). The visit confirmed the presence of a third cist grave to the south of the two previously recorded graves. The new grave appeared smaller than the other two and was located closer to the ground surface. A fragment of human bone was recovered from a rock ledge beneath the central cist grave.



Photo 32: West Angle Bay early medieval cemetery cist burials eroding from cliff, with three graves exposed (new grave on right hand side of photo)



Photo 33: West Angle Bay early medieval cemetery showing cist grave first exposed in the summer of 2009

Further information regarding the site was given in January 2010, when following bad weather, the central cist grave collapsed from the cliff face (photo 34). A site visit was undertaken and a brief search of the collapsed material was made (although this could not be done in any detail, due to its location beneath the unstable cliff face). The slabs of the grave were present but no further bone or any other artefacts were recovered.

The presence of the third burial and the evident instability of the cliff, suggest that further burials are likely to be present within the Scheduled area adjacent to the cliff face. Scheduled Monument Consent has been granted for further archaeological works to be undertaken at the site, as part of the Arfordir project, to further investigate the areas close to the cliff edge.



Photo 34: West Angle Bay early medieval cemetery in January 2010, where one cist grave has collapsed from the cliff face (compare with photo 40 above)

Site Name: West Angle Bay, Ditch PRN 99102 (new record)

NGR: SM 85075 03113

Site Type: Possible ditch to west of cemetery site.

During a site visit to West Angle Bay, a possible ditch was seen eroding from the cliff to the west of the cemetery site (photo 35). The ditch was visible as a darker band of soil in a shallow U shape. The possible feature measured around 3m in width and around 1.2m in depth. Further investigation of the feature on a subsequent visit with a geologist (Arfordir volunteer) indicated that the feature may be substantially natural (formed by mineralisation), but that a definite smaller cut feature was visible above (with a further feature also situated to the west). No further investigation has been undertaken of this feature.



Photo 35: Possible ditch feature (PRN 99102) visible in eroding cliff face located to the west of the cemetery site

Site Name: Rock cut mooring points, West Angle Bay

PRN 99103 (new record)

NGR: SM 85149 03100

Site Type: Mooring points cut into cliff face

A number of square rock cut hollows were noted in a sloping cliff face adjacent to the medieval cemetery site. These are evidently of post-medieval date, and probably represent mooring points for boats possibly used for transportation of brick from the nearby brickworks (at a time before the small harbour was built on the north side of the bay. The mooring points are on three levels in the rock face, presumably so that different ones could be used depending on the height of the tides. A number contained mortar within the hollows (photo 37), and a few with iron fixings within the mortar. Other mortar/concrete features are also present in the area nearby.



Photo 36: Rock cut holes for mooring points in the cliff face adjacent to early medieval cemetery (PRN 99103)



Photo 37: detail of one of the rock cut mooring point holes in the cliff showing remaining mortar seating for presumed post (PRN 99103)

Site Name: West Angle Bay Iron Age Promontory Fort

PRN 99104 (new record)

NGR: SM 84975 03109

Site Type: Iron Age promontory Fort

During the site visit in early 2010, an Arfordir volunteer pointed out the banks present on a small promontory at the end of the bay. The features appear to represent a substantial outer bank, and a slightly smaller inner bank with a ditch between (photo 38 & 39). Although the promontory is significantly eroded, the features would appear to be the classic remains of a former Iron Age promontory fort. The site area is quite difficult to access so detailed recording was not undertaken. The site is considered to be of high archaeological importance and worthy of further recording. The site is visibly eroding, with exposed areas of soil on the edges of the bank and ditch, presumably from recent collapse (photo 39).



Photo 38: View west along remaining promontory at West Angle Bay, with bank and ditch earthworks on right hand side of photograph (PRN 99104)



Photo 39: Profile view of banks and ditch of Iron Age promontory fort at West Angle (PRN 99104)

AREA 5: Picton Point, Pembrokeshire

Site Name: Picton Point Promontory Fort PRN 3603 NGR: SN 0029 1173 Status: SAM PE 280

Site Type: Iron Age promontory fort at junction of Eastern and Western Cleddau Estuary.



Photo 40: View of area of Picton Point promontory fort showing vegetation covering cliff face

A visit was undertaken to Picton Point following information received at the Pembrokeshire Day School that stated the fort had significantly eroded in recent years and

The fort site would appear fairly stable, sitting on hard rock outcrop covered with vegetation (photo 40). There is evidence of past subsidence which has subsequently been well covered in vegetation. There is very soft geology to the east of the site along the coastline which shows clear signs of recent erosion, but this lies some distance from the site.

Site Name: Picton Point Stone BuildingPRN 99105 (new record)NGR: SM 00300 11670Site Type: Stone walls on shore line at Picton Point

During the site visit to Picton Point stone walls were noted on the shore line, visible as clear walls set into the underlying beach deposits. The walls were constructed of small to medium sized stones with good faces. The walls indicated a right angle with one wall roughly east-west with a short north-south return. The walls only survived a few courses in height and had been substantially eroded to the south by tidal action. The first edition Ordnance Survey map indicates a rectangular building roughly in this location with 'Old Culm Pit' written adjacent to it. The building was noted, but not recorded in any detail. The building or culm pit is not shown on the second edition Ordnance survey map.



Photo 41: Part of stone wall identified on shore at Picton Point



Photo 42: Corner of stone wall identified on shore at Picton Point

AREA 6: Boulston, Pembrokeshire Site Name: Boulston Manor PRN 3363 NGR: SM 9807 1238

Site Type: Medieval manor house



Photo 43: Eastern masonry block, stair tower indicating a former three storey structure with undercroft

The site is located on the banks of the Eastern Cleddau and consists of a complex of ruined structures with associated possible garden.

The original medieval hall had an undercroft beneath, which still survives, although the roof is beginning to show signs of subsidence (photo 46). It is thought that in the 16th Century two multi-storey towers were added at either end of the hall, and elements of both towers still survive, although in advanced states of decay (photos 43 & 48). A series of walled courtyards and water gardens were built by Robert Innes Ackland in 1843 surrounding the main manor house, which are still visible, although in differing states of preservation. On the water front the lower parts of the garden walls are suffering from erosion (photo 44).

The site is situated in woodland which has encroached over much of the ruins. Ivy has taken root over areas of the main surviving masonry blocks and appears to be forcing apart the stonework. Tree root damage is also apparent. At the base of the east wall of the eastern tower structure a substantial hole is present (photo 45). The eastern tower represents a stair tower used to access the former three storey building above the undercrofts (photo 43). Should the undercroft be allowed to collapse, as noted above the roof is beginning to subside (photo 46), it is possible that this will also weaken the remains of the eastern tower, as they are directly connected.

To the west of the main remains is located a further substantial masonry structure/tower which survives to a height of three storeys (photo 48). This is also cloaked in ivy and in an advanced state of decay. At the northwest corner of this structure water is eroding the ground beneath the wall (a stream course has established itself in this area, and is likely to undermine the structure and lead to its collapse; photo 47).

The area of Boulston Manor contains some very significant archaeological remains of medieval and later periods, evident as standing walls and substantial blocks of masonry. The site is presently not afforded any statutory, being neither scheduled or a listed. The remains all lie at the edge of the Eastern Cleddau, which is already undermining the garden walls. Erosion from tidal action will increase with rising sea levels. The site has been recorded to some degree by the RCAHMW, although not to modern standards. The area was also partially described as part of the Tir Gofal works undertaken at the site by DAT, but not in any detail.

The site should be considered of high archaeological importance (national). Without intervention, elements of the site will soon collapse. The height of the surviving remains, the presence of a well preserved undercrofts and the extent of associated walls and structures demonstrate the importance of the site. A more detailed record of the site is considered necessary to determine the extent of the walls and identify specific elements. The site is presumably structurally unsound, so caution would need to be taken in identifying the site as one which Arfordir volunteers should monitor (although the wall on the waterfront could be safely viewed from the coast).


Photo 44: Undermining of waterfront wall of Boulston manor due to coastal erosion



Photo 45: Substantial breach at base of eastern masonry block (stair tower)



Photo 46: Subsidence visible in underside of undercroft roof.



Photo 47: Water undermining corner of standing western block of masonry of Boulston Manor



Photo 48: Boulston Manor western surviving block, showing poor state of repair

Site Name: Boulston Church

PRN 3365

NGR: SM 9791 1222

Site Type: Abandoned post medieval church on site of medieval church.

The church at Boulston was constructed in the 19^{th} century but occupies the site of a medieval church that is known to have been in existence since the 12^{th} century. The church is roofless and in a state of advanced decay with ivy and semi mature trees growing within the ruins (photo 49). Within the church are located the remains of an armorial slab and 17^{th} century tomb.

The surrounding churchyard is also heavily overgrown and contains post medieval gravestones. The surrounding graveyard wall does not appear to have been eroded despite being in close proximity to the river.

Given the church is relatively isolated and located away from any through roads vandalism does not appear to have been a problem. The biggest problem noted was the vegetation that chokes much of the site that will continue to degrade the structure. With rising sea levels, the church wall facing the estuary will be under threat from erosion, and thus the churchyard itself will also become exposed.



Photo 49: Boulston Church, internal view east

AREA 7: Porthlysgi Bay, Pembrokeshire

Site Name: Iron Mooring post, Porthlysgi BayPRN 99106 (new site)NGR: SM 73102 23761Site Type: Mooring post of post medieval (modern?) date



Photo 50: Iron mooring post at Porthlysgi Bay (PRN 99106)

At the edge of Portlysgi Bay, close to the enmd cliff, an upright metal post is visible. The post measures 1.20m in height ad 7.5m in width. It is L shaped in profile, with riveted metal plates near its base. The metal is rusted and corroded. The feature is isolated and thus interpreted as a mooring post, although could conceivably have been attached to other posts nearby, perhaps acting as a water break.

Site Name: Earth bank, Porthlysgi Bay PRN 99107 (new site) NGR: SM 73078 23782

Site Type: Earth bank around end of Portlysgi Bay

A site visit to Portlysgi Bay noted a large man made earth bank present around the northern edge of the bay. The bank was cut through by a stream course, and potentially carries on to the west. The bank is likely to have been used to shelter the buildings and farm land to the north of the Bay (similar banks have been noted at other bay sites, such as Nolton Haven). The bank could be as much as 3m in height and about 5m in width.



Photo 51: Substantial earth bank around edge of Porthlysgi Bay (PRN 99107)

Site Name: Rectangular building at Porthlysgi Bay PRN 99108 (new record) NGR: SM 73094 23848

Site Type: Remains of rectangular structure at Porthlysgi Bay

Three rectangular buildings are recorded at Porthlysgi Bay to the north of the beach (PRNs 32615, 32616 and 32635). A further building was noted during the site visit, surviving as low earthworks on the northern side of the trackway leading from the beach. The external walls of the structure, measuring $c.18m \times 5m$, are visible as low banks around the perimeter of the structure. No entrance

way or internal divisions were apparent. The building is presumably of a similar date to the other known structures, of post-medieval date associated with a small former settlement.



Photo 52: Remains of building to north of track way at Porthlysgi Bay (PRN 99108)

APPENDIX IV: ARFORDIR RECORDING FORMS AND RECORDING MANUAL

(adapted from Shorewatch Recording Forms and Recording Manuals)

ARFORDIR – Coastal Heritage Site Recording Form							
SITE NAME							
This information will be used to distinguish the site from others							
Site Nan	ne.				PRN	Number:	
LOCATIO	ON OF T	HE SITE	and others to retu	rn to the site			
Address	or desc	ription of lo	ocation				
Parish /	' District			Carmarthenshire/Cerec (delete as appropriate)	digion/)	/Pembrokeshire	
Nationa	l Grid				Ν	NGR taken from	
Referen (NGR)	ce				r	nap? SPS?	
Use the c	centre of	the site area	if possible, other	wise note where the grid	d refer	ence has been	
taken fro	m		. , .				
Approxim	nate Dista	ance to coas	t edge:				
SITE DE	SCRIPT	ION IIII					
The desc	ription w	ill help to ide	entify the site type	, function and date			
Full dese	cription	(including a	oproximate size of	site area if possible)			
continue	over if n	ecessary					
FORM:		•					
(please u	ise HER s	tandard terr	ns)				
Estimate	ed perio	d					
(if possib	ole)						
SITE CO	NDITIO	N Vill bala ta a		of the site and thursts	L. :L.	e un du ce l	
		vill nelp to a	ssess the condition	or the site and threats	to its	survivai	
(nlease u	ION ISA HER G	tandard torr	nc)				
Any three	eats to s	ite?	113)				
,,							
YOUR R	ECORDS						
This will	This will help to cross reference to other records and to things that you have found						
Have you taken photos? Produced any other drawings?							
A	Dettern	Anine - Li		od/Motol/Duislic +11 /	Chara		
Any Finds?	/Glass/S	Shell/Other	e/Human bone/Wo	od/Metal/Bricks or tiles/	Stone	WORK/FIINT	
FIEL	DWORK	INFORMAT	ION This will rem	ind you and others abou	ut the	actual survey	
	Group na	me	For	n recorded by		Survey date	
	•			-		-	

ARFORDIR – Coastal Heritage Site Recording Form

SKETCH LOCATION DRAWING: a drawing showing the location of the site in relation to other features, (with distances), the location of the coast edge (if relevant) and the approximate position of north (usually north is at the top of the drawing).

DETAILED SKETCH PLAN / SECTION: a more detailed drawing showing the principal elements of the site, either in plan, section, or both. Show the dimensions of features and the approximate position of north.

Please return forms to: ARFORDIR, Dyfed Archaeological Trust, The Shire Hall, Llandeilo, SA19 6AF

THE ARFORDIR – COASTAL HERITAGE SITE RECORDING FORM

Information to assist with filling in the form

Why do we need to use the form?

"Archaeology is not only about finding things, but about telling others about what has been found. To help do this, archaeologists write information on recording forms.

Using a form:

- helps to jog your memory, prompting you to note down enough information to make a meaningful record
- ensures that your data is recorded in a consistent manner
- helps with cross-referencing to other information you collect (such as photographs, finds or drawings)
- helps when transferring data to a computer database.
 *

The aim of the form is to provide a consistent means of recording that can be used by anyone assisting with the ARFORDIR project.

All sites should be identified with a unique site name, and this used again for any further episodes of recording at the site. This should ensure that sites are not recorded twice or two sites get confused.

The data recorded on the form will be used to provide information to the Regional Historic Environment Record (HER). Dyfed Archaeological Trust maintain the HER for Carmarthenshire, Ceredigion and Pembrokeshire. Using the form means that the information you collect can be easily checked and allow new records to be generated or existing records to be updated.

The recording form will also provide information on the condition of sites between one visit and the next, in order that an understanding of any changing conditions of the site may be noted (identifying those sites under threat of erosion, through changes of use, agricultural processes, neglect, public access or vandalism). Recording the date the recording form was used is essential.

The Site Recording Form should be ideally completed on-site, but this may be impractical at times due to weather conditions. Some parts of the form, such as grid references may be easier to complete when off site. In all cases please complete the form as soon after the site visit as possible. It is always worth taking a notebook to record details of archaeological sites, and the information may be added to the recording form (or additional record sheets) at a later date.

The forms will be photocopied or scanned, so please use black pen to complete them.

Once the form is completed, send a copy to the Arfordir coordinators.

Arfordir Dyfed Archaeological Trust The Shire Hall Llandeilo SA19 6AF

^{*} Taken from the SHOREWATCH project

HOW TO FILL IN THE ARFORDIR SITE RECORDING FORM

SITE NAME:

This information will be used to distinguish the site from others.

Ideally this name should not just be a place name – but should be distinguished by a unique feature of the site, landmark or even the type of site it may be.

If the site already has a site name (perhaps it is already recorded on the HER, or it is a site which is being revisited), please reuse the same site name.

PRN NUMBER:

The PRN number is the Primary Record Number that will be assigned to the site by the regional Historic Environment Record. It is not necessary to fill this in unless the site has already been assigned the record number. In many cases where new sites are being recorded, this will be filled in following the submission of the site record to the Arfordir project coordinators and input onto the HER. You can check whether the site already has a PRN by contacting Dyfed Archaeological Trust and asking for information about the particular site, or the area within which you are working.

LOCATION OF THE SITE

There are a number of parts to this section, and it is best to fill in as many as possible (but not essential).

Address or description of location: If the site is a specific building or within the grounds of a building, then it may be possible to assign an address to the site. It may only be possible to state information such as whether it is close to a road or footpath within a certain parish or district and the county in which it lies.

The reverse of the Site Recording Form includes room to include sketch plans to aid identification of the site location.

National Grid Reference (NGR): The National Grid Reference refers to the Ordnance Survey grid which is used for standard mapping across the UK. The grid reference can be identified by locating the site on an OS map and reading the easting along the bottom of the map, followed by the northing which goes up the side. Many people will have used grid references before, but we can offer further help and assistance to anyone who has not, or is not confident in how this is done.

The eventual grid reference is ideally recorded as an eight-figure reference, for example SM 8803 2130 (the location of Roch Castle) - where SM is the 100x100km grid square in which the map lies (recorded on OS maps), and the eight figure grid reference is taken by using the Eastings running from left to right and the Northings running from top to bottom.

The Ordnance Survey states: When giving a National Grid reference for any point, always read the distance eastwards (Eastings) before the distance northwards (Northings). Eastings and Northings must always be recorded in the same number of figures, even if some are zero.

If a map is not used it may be that a GPS device is being used (Geographical Positioning System) which locates the instrument using signals taken from satellites circling the earth. The accuracy of these depends on the GPS instrument being used or how many satellite signals are being received (tree

cover, buildings or cliffs can disrupt this). It is therefore worth distinguishing which method of location is being used.

Approximate distance to coast edge: A rough indication of the site to the coastal edge is useful to note. An estimate of the distance (preferably in metres) is perfectly acceptable, so please **do not** take any risks to your own safety for the sake of accuracy!

SITE DESCRIPTION

Full Description: The site description should be a summary of the site to help identify the site type, its function and an estimate of the date. Some descriptions may be very short, and others may require further notes being written on additional sheets of paper (or on the reverse of the recording form). The more concise the description, the better in some ways!

Record information about the size of the site. It may be useful to refer to photographs that you take, which may assist the description.

In some cases it may not be possible to assign an accurate function or date to the site – or the recorder may not feel confident enough to ascribe such information (just like most archaeologists!). In these cases just highlight the information which has made you consider the site may be of archaeological importance. What have you identified that makes you consider the site to be of archaeological interest? Is it a building or structure? An earthwork? A field boundary? Further work or research may be necessary on the majority of sites to provide further information on what they actually represent.

Form: There are a number of standard form descriptions terms that should be used to describe a site, standard HER terminology, which are as follows:

Form	Use for
Building	Roofed structure
Buried Feature	Use for below ground features, known only from excavation, geophysical survey or exposed in cliff faces etc.
Cropmark	Features visible from aerial photographs (usually), where below ground archaeological features are visible in crops, grass or soil
Documents	Use for sites known only from documentary sources
Earthwork	Earth mounds or linear features, such as field banks, indicating archaeological features below
Finds	Where an artefact is recovered indicating
Landform	Where natural features have been used for past activities
Other Structure	Use for built structures that are not buildings e.g. bridges, lime kilns
Place-name	e.g. field names or road names indicating previous land use or activities
Topography	A topographic feature or location may be considered to indicate a high potential for earlier archaeological activity

Form: There are a number of standard form descriptions terms that should be used to describe a site, standard HER terminology, which are as follows:

Period: It may be possible to ascribe a certain period or even a specific set of dates for some archaeological sites. For pre-Roman sites sometimes no better description than '**prehistoric**' can be assigned, or if it is not possible to ascribe a date use '**unknown**'. The following date ranges are used to ascribe periods:

Period	Approximate date	
Palaeolithic –	<i>c</i> .450,000 – 10,000 BC	
Mesolithic –	<i>c</i> . 10,000 – 4400 BC	Pre
Neolithic –	<i>c</i> .4400 – 2300 BC	hist
Bronze Age –	<i>c</i> .2300 – 700 BC	oric
Iron Age –	<i>c</i> .700 BC – AD 43	
Roman (Romano-British) Period –	AD 43 – <i>c.</i> AD 410	
Post-Roman / Early Medieval / Dark Age -	<i>c</i> . AD 410 – AD 1066	H
Medieval Period –	1066 - 1535	sto
Post-Medieval Period –	1536 - 1899	ric
Modern –	20th century onwards	

SITE CONDITION

Condition of site: . This will tell us the current condition of the site, and record damage – both historic and modern. The majority of archaeological sites will have suffered from some form of damage in the past, and it is worth recording the extent of survival – for example:

The structure is relatively intact; or

the earthworks are clearly visible within a pasture field; or

the field boundary would appear to have partially collapsed recently; or

the site is visible within a collapse in the cliff; or

the site is only exposed at low tide etc. etc.

The following terms should be used to describe condition of a site (standard HER terminology):

Condition	Use for
Near intact	E.g. a roofless building surviving to gable height
Damaged	E.g. a feature surviving as low earthworks
Destroyed	Use only for features that have been fully excavated or quarried away i.e. where excavation would find no trace
Near destroyed	E.g. a building shown on an historic map that is no longer visible on the ground
Restored	Where a site or building has undergone a program of restoration
Intact	Where a site or structure can be seen to be in very good state of preservation
Moved	Usually where a feature such as a gatepost, cannon has been moved from its original location. Worth stating how you know it has been moved.
Not known	Use for sites identified from maps/photographs where the condition has not been verified from a site visit
Various	Use for complexes and linear features, farmsteads, leats etc.
Converted	Where a structure has been altered for a different usage
Not Applicable	Use for findspots

Any threats to the site? This will be very important to the Arfordir project, and will help us to identify those sites where further archaeological recording or investigation may be essential. Threats may include:

coastal erosion affecting cliffs, beach heads or sand dunes and the archaeology upon or within them;

disused buildings may be decaying and collapsing;

public access may be leading to erosion across archaeological sites, through constant walking, climbing, camp fires or even vandalism;

a change of use of a building or structure may lead to damaging alterations.

YOUR RECORDS

If you have taken any photographs, made any written descriptions or drawings that are not on the main recording form, please note these here. It is best that these can be made easily accessible to the Arfordir project coordinators and the HER in order that as much information as possible is archived regarding the sites.

Any Finds? Note any artefacts that you have recovered, even if you are unsure if the objects are significant or not. For most site visits finds will not be recovered and should certainly not be removed from the ground (for archaeological reasons as well as issues with landowners or any legal permission that may be necessary). In most cases finds should be left where they are.

FIELDWORK INFORMATION

Group Name: Please record your Group Name, if you belong to one, or note if you are an individual involved with the project.

Form Recorded By / Survey Date: Please note who has completed the Site Recording Form, and on what date the survey was undertaken. Then we can come back to you if we don't understand something!

REVERSE OF SITE RECORDING FORM

SKETCH LOCATION DRAWING:

This provides space in which to put a sketch location plan of the site in question, and is very useful where accurate written descriptions of the locations are difficult. They can also be used to locate sites on return visits if grid references are inaccurate or could not be clearly defined.

To assist with the locations, show features around the site that will not move or change over time (such as outcrops of rocks, walls or buildings or large trees). Indicate distances between these features and the site by using tape measures, or estimate distances as best as one can where such equipment is not available.

DETAILED SKETCH PLAN / SECTION

Room is given to provide a more detailed drawing of the site in question, which may include different elements to the site, and can be used to show dimensions of the area and any features within. Ideally the direction of north should be shown on the plans.

For both of the sketch plan sections we are not looking for works of art! The sketches will be an aid to recognising the sites for any subsequent visits. On one

day a feature may be visible, but a return visit a number of weeks later, the same feature may not be identified due to vegetation growth or due to bad light or weather.

In a few cases, the Site Record Form may be the only record we have of a site or feature as it is in the process of being removed (eg demolition of a building or structure) or may be destroyed through erosion processes.

The sketch plans are a basic record, and where more detailed drawings are needed, or are being done, then these will be done on different sheets.

Ideally measurements should be given in metres – BUT whatever units of measurement you use, please make sure they are noted on the drawings! If you are providing additional accurate scaled drawings, please write the scale of any the drawings upon them.

Where additional photographs, finds, drawings, written records etc are taken of an identified site, please ensure that they are all recorded with the same name and referenced on the Site Recording Form, to enable cross referencing.

APPENDIX V: ARFORDIR VOLUNTEER SITE VISIT RISK ASSESSMENT

RISK ASSESSMENT

ARFORDIR

Dyfed Archaeological Trust	Arfordir – Coastal Heritage Risk Assessment
Project Name and Number	Volunteer Risk Assessment

- 1. This risk assessment relates only the **generic** features of a common activity. It may not cover those specific to a particular project or location.
- 2. Tick the potential hazards that might be encountered as part of the project. Assess the level of risk on this particular project (high, medium, and low), tick the precautions that will be put in place to reduce the risk level, and add any other precautions that will be taken.
- 3. Undertake a review of whether there are any other potential hazards (e.g. fire, smoke, etc.) and list these together with the precautions that will be taken to reduce risk at end of the form. Monitor risks during the course of the project and revise assessment accordingly if necessary.
- 4. A full risk assessment of a particular activity, to the same format as this generic risk assessment, must be undertaken where necessary to cover the circumstances of a particular project of where the risks of that activity are assessed as being high.
- 5. The assessment must be approved by a member of DAT's Senior Management Team (Director, Principal Archaeologist (Heritage Management) or Principal Archaeologist (Field Services)) before the start of the project if working on a DAT led project.

For the sake of general health and safety and welfare ensure that:

- All volunteers working on the project are aware of and have helped with the preparation of this risk assessment.
- All staff engaged on a project, particularly new volunteers are made aware of any hazards they may be exposed to before the beginning of the work.
- A fully stocked First Aid kit should be available on the project at all times (and can be supplied by DAT).
- If a DAT led project, then at least one member of staff or a lone worker must have undertaken an Emergency Aid course within the recommended interval in all cases where the level of risk is assessed as being medium. If the risks are assessed as being on the borderline of medium and high then at least one member of the team must be a qualified first aider.
- Further advice must be taken from a competent person before beginning any project where any risk to project staff, visitors, or members of the public is assessed as being high.
- You have checked on the best means (e.g. nearest telephone) of summoning medical assistance if needed and that all staff/volunteers engaged on a project are aware of what the procedure they should adopt in an emergency. Try to ensure that a mobile phone is available in the case of remote working.

Risk assessment by (name, signature, and date)	James Meek
Project Supervisor – Team Leader (name, signature, and date)	
Person with Emergency Aid experience (name)	
Personal Safety Equipment (confirm that all appropriate equipment is available)	
Approved by (where a DAT led Project) (signature of member of Senior Management team and date)	
Designated person (to be contacted in case of lone working)	

The Dyfed Archaeological Trust: Risk Assessment for Excavation, Field Evaluation, Watching Briefs, Building Recording

Hazard	Tick if relevant	Who's at risk	Risk level	Precautions to be put in place to reduce the risk level	Tick if in place
Travelling To and From Site	V	All	Moderate to High	 Ensure vehicle is in roadworthy condition, taxed, insured and has MOT. Do not drive when tired or under the influence of drink or drugs. Drive safely and sensibly 	
Working on coastline possibly in remote locations away from facilities and cover	×	All	Low to High	 Take food and drink and take regular refreshment breaks. Plan toilet stops/rest breaks Wear suitable clothes (warm in winter, wet weather gear etc) Take appropriate factor of sun-cream if sun exposure likely, and wear hat Wear suitable sturdy footwear for coastal walks and paths Plan routes prior to starting out Take mobile phone where possible and tell others where you are going and what time you expect to be back Do not go to any remote locations alone 	
Tides	~	All	Low to High	 Ensure that you know tide times if accessing intertidal zone Do not take risks by working in areas where you could be cut off from the tide Take mobile phone in case of emergency and dial 999 and ask for Coastguard 	
Eroding and stable cliff faces	×	All	Moderate to High	 Plan surveys with care Never walk to close to cliff edge and do not access any areas where signage indicates danger Avoid cliff tops in high winds Do not go near unstable cliff edges and do not walk below them in case of falling rocks Avoid any areas where possible sink holes or other areas of erosion are present which could open up into hidden cavities 	
Slippery Rocks	✓	All	Low to Moderate	 Avoid walking on slippery rocks Wear appropriate footwear with good grips 	
Waterlogged ground	v	All	Moderate to High	 Avoid areas of coastline where there is waterlogged ground Tidal changes can alter sand banks significantly, only access areas which are known to be stable Avoid boggy areas where possible Wear suitable footwear in wet conditions 	-
Lone working	·	All	Low to High	 It is best not to undertake any coastal survey alone, but at times local walks in less remote areas may be seen as safe - keep people advised of whereabouts, routes and estimated times of return Take mobile phone 	

Arfordir – Coastal Heritage Pilot Project 2009-2010

Hazard	Tick if relevant	Who's at risk	Risk level	Precautions to be put in place to reduce the risk level	Tick if in place
Adverse Weather conditions	×	All	Low to High	 The coastline can have unpredictable and rapidly changing weather. Check weather forecasts before undertaking any survey. Be prepared for changeable weather – with suitable clothes, wet weather gear, Ensure you know routes in case of poor visibility 	
Farm Animals	Ý	All	Low to moderate	 Avoid bulls or cows with new calves Avoid taking dogs (if applicable) in any fields with cows - in case the dogs get chased, in which case release the dog to run away to safety and cows will leave you alone Do not walk behind horses Do not access farm land where permission has not been granted or where signage warns of dangers 	
Wild animals and birds	×	All	Low to moderate	 Animal and bird burrows present a trip hazard, be aware when walking Avoid disturbing any wildlife where possible Snakes may be present in some coastal areas at certain times of the year, be aware and do not approach if seen 	
Slips, Trips and Falls	×	All	Low to High	 The coastline is mostly uneven ground with the potential for trip hazards, slip hazards and fall hazards (as covered in other areas of the risk assessment) Wear appropriate footwear, plan routes carefully Do not access any areas where routes present a danger 	
Quarries or Mine Workings	×	All	Low to moderate	 Be aware of the presence of mine workings and quarries in certain areas around the coastline that could have voids in the ground, open shafts or vertical edges Do not access any mine shafts, or stand beneath quarry faces where there is a potential for falling rocks 	
Toxic Substances – unknown containers on the beach including explosives	1	All	Low to high	 Do not touch or approach any unknown containers or substances on the coastline Where a potential environmental or explosive hazard is identified inform the police or coastguard immediately and keep yourself and others a safe distance away 	
Hypothermia				 Everyone should be aware of the risks of hypothermia and have adequate clothing and footwear to remain warm and dry. 	
Hygiene				 Volunteers should bring prepared food and drinks with them or purchase from cafes etc. each day, rather than preparing or storing food or drink on site. Hands should be cleaned before eating and drinking 	

Arfordir – Coastal Heritage Pilot Project 2009-2010

Hazard	Tick if relevant	Who's at risk	Risk level	Precautions to be put in place to reduce the risk level	Tick if in place
Other identified hazards					

ARFORDIR COASTAL HERITAGE 2009-2010

DYFED ARCHAEOLOGICAL TRUST

RHIF YR ADRODDIAD / REPORT NO. 2010/23 RHIF Y PROSIECT / PROJECT RECORD NO. 99087

Mawrth 2010 March 2010



INVESTOR IN PEOPLE BUDDSODDWR MEWN POBL

Debbsobb wK MEWRING ODE

Paratowyd yr adroddiad hwn gan / This report has been prepared by

James Meek

Swydd / Position: Head Of Field Services

Jamos Llofnod / Signature Date 31/03/2010

Mae'r adroddiad hwn wedi ei gael yn gywir a derbyn sêl bendith This report has been checked and approved by

Duncan Schlee

ar ran Ymddiriedolaeth Archaeolegol Dyfed Cyf. on behalf of Dyfed Archaeological Trust Ltd.

Swydd / Position: Project Manager

Llofnod / Signature .. hINLAN. Date 31/03/2010

Yn unol â'n nôd i roddi gwasanaeth o ansawdd uchel, croesawn unrhyw sylwadau sydd gennych ar gynnwys neu strwythur yr adroddiad hwn

As part of our desire to provide a quality service we would welcome any comments you may have on the content or presentation of this report