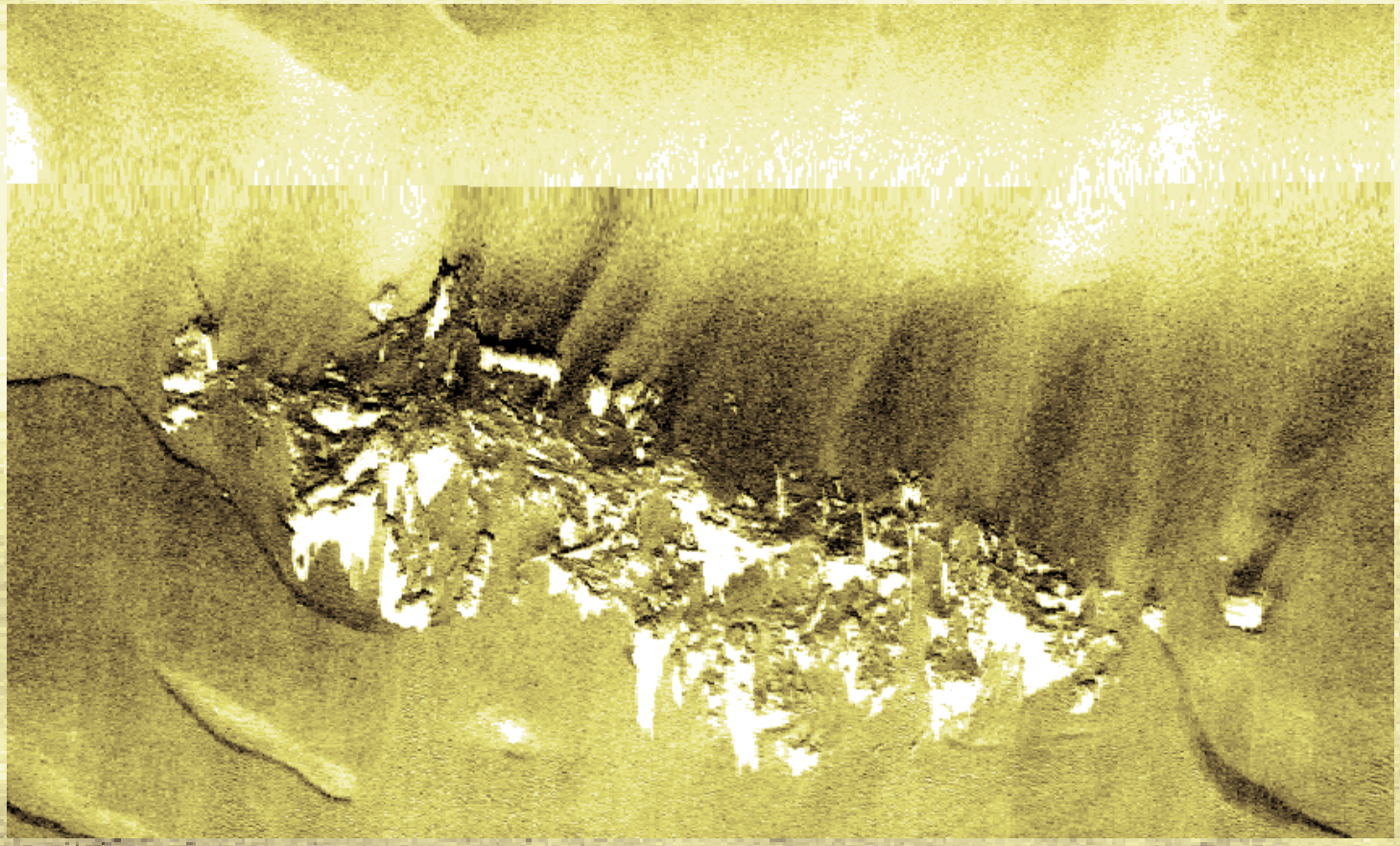
Wessex Archaeology

Stirling Castle, Goodwin Sands, Kent

Designated Site Assessment

Archaeological Report



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January 2009

ARCHAEOLOGICAL SERVICES IN RELATION TO THE PROTECTION OF WRECKS ACT (1973)

STIRLING CASTLE, GOODWIN SANDS, KENT

DESIGNATED SITE ASSESSMENT: ARCHAEOLOGICAL REPORT

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STIRLING CASTLE, GOODWIN SANDS, KENT

DESIGNATED SITE ASSESSMENT: MANAGEMENT REPORT

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- Bob Peacock, current Licensee;
- Simon Adey-Davies, current nominated archaeologist;
- EGS Ltd
- The crew of *Wessex Explorer*
- Nigel Nayling, Department of Archaeology and Anthropology, University of Wales Lampeter
- MRCC Dover;
- Ramsgate Marina;

The fieldwork was carried out by Niall Callan, Matt Astill, Graham Scott, Victoria Lambert and Simon Adey-Davies with the assistance of the crew of *Wessex Explorer*. Graham Scott supervised the fieldwork and Simon Adey-Davies and Graham Scott supervised the diving. The report was compiled by Graham Scott and edited by Steve Webster. Kitty Brandon prepared the illustrations and the project was managed for Wessex Archaeology by Steve Webster.

Data Licences

The chart used in **Figure 1** was obtained from the UK Hydrographic Office. The following notice applies:

A copy of the report will be sent to UKHO.

STIRLING CASTLE, GOODWIN SANDS, KENT

DESIGNATED SITE ASSESSMENT: MANAGEMENT REPORT

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STIRLING CASTLE, GOODWIN SANDS, KENT

DESIGNATED SITE ASSESSMENT: MANAGEMENT REPORT

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1. BACKGROUND

1.1. INTRODUCTION

1.1.1. This document constitutes a Designated Site Assessment: Archaeological Report for a programme of archaeological work undertaken as part of the Contract for Archaeological Services in Relation to the Protection of Wrecks Act (1973). The document has been prepared by Wessex Archaeology (WA) for English Heritage (EH). It constitutes an archaeological assessment of the wreck of the *Stirling Castle*: a designated site situated on the Goodwin Sands, off Kent.

1.1.2. The work was conducted in August 2008 in accordance with a written brief produced by English Heritage and agreed following a meeting with WA. The work was carried out as part of a long-term staged assessment of the site commenced by EH in 2003.

1.2. DOCUMENT PARAMETERS

1.2.1. This document has been based on diver survey and geophysical data, and a limited desk-based study of readily available sources concerning the history of the wreck, backed up by previous WA diver investigations. WA considers this to be a working document designed to open up debate on the topic in question. Every attempt has been made to ensure that the facts within the report are correct; however errors arising from the preliminary character of the desk-based study into the documentary and archaeological history of the site may be present.

1.3. OUTLINE SITE HISTORY

1.3.1. The *Stirling Castle* was as a 70-gun ship of the line. She was built in 1678 at Deptford as part of Samuel Pepys' regeneration of the Restoration Navy. The vessel was lost with many of her crew on the Goodwin Sands in the 'Great Storm' of 1703, which also claimed the warships *Restoration*, *Northumberland* and *Mary*.

1.3.2. Local avocational divers investigating fishing net fastenings found the site in 1979. At the time it was dramatically exposed due to a movement of sand on the Goodwins, possibly for the first time since it sank.

1.3.3. When first discovered the wreck was in a remarkable state of preservation and it was quickly designated under the PWA. However, it has been deteriorating rapidly in recent years and is currently believed to be in a highly unstable condition.

1.3.4. Various survey works have been carried out on the site since its discovery, most notably in 1979-80, in 1999 and then by the ADU, ADUS and WA in 2002-7. The latter investigations incorporated extensive diver tracked ground-truthing and multibeam swath bathymetry and led to the creation of the most recent site plan in 2006-7. By October 2007 it was estimated that Level 3b survey of the site was

approximately 20-25% complete (WA 2007c). Survey has been restricted by the limited availability of resources and complicated by dramatic changes in the condition of the site since 1999. No intrusive investigations other than surface recovery have been undertaken on the site since then.

1.3.5. Numerous artefacts were recovered from the site in 1979-80. The majority of these are believed to be held by Ramsgate Maritime Museum. Since then recoveries have been relatively few, consisting mainly of the ad hoc surface recovery of artefacts believed to be under threat by both the Licensee and Contractor. These have included an important 'Rupertino' gun and an unusual steering mechanism, both recovered by the Licensee. Much archaeological material has been lost due to erosion and biological attack without being recorded.

1.3.6. A Conservation Statement and Management Plan for the site was adopted by EH in 2007. An archive assessment is being undertaken as part of the management of the site.

1.4. EXISTING SITE DATA

1.4.1. The site is designated as a restricted area under the Protection of Wrecks Act 1973. The Statutory Instrument number is Order No. 2004/2395.

1.4.2. The restricted area is a circle with a radius of 300m (**Figure 1**). The position of the centre of the circle is as follows:

Lat.	**51° 16.4561' N**
Long.	**01° 30.4121' E**
WGS84, Zone 31N	

1.4.3. The whole of the known site is believed to lie within the restricted area, although the possibility that archaeological features associated with the wreck may exist outside of this area cannot be totally discounted.

1.4.4. The NMR number is 1082115. The site lies in the EH South East Region.

1.4.5. The following additional data was available prior to commencement of fieldwork:

- Data acquired during previous field and desk based archaeological work on the site or vicinity (WA 2003a-b and 2004, WA 2006 and WA 2007);
- Data obtained from the RASSE Project, including a swath multibeam dataset produced during survey work in 2006 and associated geo-tiffs;
- Further data acquired from the Licensee, including side-scan sonar data collected in 2007 and 2008;
- Licensee report for 2007 submitted to ACHWS (Peacock 2007).

1.5. 2008 FIELDWORK OBJECTIVES

1.5.1. The overall objective for site operations as defined by EH was for recording to level 3a. This was defined as follows:

Level	Character	Scope
3a	Diagnostic	A detailed record of selected elements of the site.

1.5.2. This was further defined in the brief (EH 2007), specifying the following primary objectives. Only those objectives concerned with archaeological recording by the WA are listed:

- Through liaison with Nigel Nayling, undertake dendrochronological sampling of select areas. Integrate the results of dendrochronological analysis into the Designated Site Assessment.
- Re-locate and accurately position (plotted by tracked diver survey) any archaeological material.
- With the aid of appropriate multibeam imagery, continue intra-site survey between identified features & (re)tagging (subject to the agreement of the Licensee) of identifiable and suitable artefacts following ground-truthing.
- If possible (and without excavation) undertake selected elevation recording of exposed transom (in relation to evidence of steering mechanism).
- Produce a structured record of field observations; preferably including a photographic record of the site and a site plan. Key artefacts are to be subject to detailed examination and recording (position by tracked diver survey, taped measurements, photographs and video and written database entries).

1.5.3. The following secondary objectives were also set:

- Provide detailed information on elements of structure currently at risk and identify future elements at risk.
- Supplement the recording of the core of the site by recording profiles across the main axis of the site.
- Advise/inform development of future programme (both practical and financial) for remedial recording, to address stabilisation and targeted solutions to the *in situ* preservation of specific features.
- Following recording, assess the stern of the *Stirling Castle* for either remedial stabilisation or recovery. Provide recommendations on marine environmental monitoring of the site, with particular reference to important features considered to be at risk.

1.5.4. Prior to the commencement of diving operations WA diving staff received technical training from Nigel Nayling of Department of Archaeology and Anthropology, University of Wales Lampeter. This training was intended to improve the capability of the diving team to identify on the seabed wooden ship timbers that were suitable for dendrochronological analysis. Nigel Nayling subsequently provided technical advice with regard to the sampling strategy during the diving operations.

1.5.5. WA carried out an initial inspection of the site to determine its current condition and to determine whether it was suitable for sampling. This inspection, the results of which are discussed below, resulted in EH instructing WA to prioritise work on the nearby designated site of the *Northumberland*. As a result work on the site was suspended and the sampling strategy was refocused on the *Northumberland*.

2. METHODOLOGY

2.1. GENERAL

2.1.1. Methodology and equipment specifications are described in detail in the Archaeological Report (WA 2008b). All fieldwork procedures and standards complied with the relevant guidance produced by the Institute of Field Archaeologists. Data was recorded in both database and hard copy form and is MIDAS compliant.

2.2. DIVING

2.2.1. A four-person surface supplied dive team was deployed during fieldwork operations from the diving support vessel *Wessex Explorer*, a 15-metre MCA Category 2 inshore workboat. *Wessex Explorer* operated out of Ramsgate Harbour.

2.2.2. All diving operations complied with the Diving at Work Regulations 1997 and the associated Inshore/Inland Approved Code of Practice. Only diving supervisors who are members of the Association of Diving Contractors supervisor scheme were appointed. Diving operations were conducted during daylight hours only on a single shift system.

2.2.3. Diving on the site is severely restricted by the prevailing tidal regime. The strong and at times unpredictable currents necessitate a very cautious approach to surface supplied diving. For most of the tidal cycle the current speed is too high for any form of diving operation. Diving is only possible during one short slack water period each shift and as a result bottom time is very limited.

2.2.4. The use of an in-water standby was not considered to be appropriate on safety grounds, due to a combination of hazardous environmental factors (including poor visibility and strong currents) and team size.

2.2.5. Both single and two point moorings were used. No mooring or shot lines were attached to archaeological features.

2.3. BASELINE AND CONDITION SURVEY

2.3.1. Condition survey was by simple visual inspection recorded by diver hat camera. A limited number of still photographs were also taken, although a technical problem with the camera used resulted in these images being of secondary quality. The condition survey was carried out by divers who had undertaken similar surveys in 2006 and 2007.

2.3.2. Incidental to the condition survey, a single new archaeological feature was recorded (**2311**). It was recorded by video. Lack of bottom time precluded further more detailed recording.

2.3.3. The changes in the scope of work described above meant that further baseline survey recording was not undertaken in 2008.

2.4. GEOPHYSICAL SURVEY

2.4.1. A high resolution side-scan and magnetometer survey of the Stirling Castle and of the seabed in the vicinity was carried out by WA for EH shortly after the diving operations on the site (WA 2009).

2.4.2. Where relevant, the results of this survey are commented upon below.

2.5. PROGRESS AGAINST OBJECTIVES

2.5.1. Three working dives were undertaken, during which a total of 111 minutes bottom time was achieved. A further dive was aborted due to loss of slack shortly after the diver made bottom.

2.5.2. The following progress against the primary objectives was made:

Objective	Progress
Through liaison with Nigel Nayling, undertake dendrochronological sampling of select areas. Integrate the results of dendrochronological analysis into the Designated Site Assessment.	Objective cancelled. The initial condition survey results suggested that dendrochronological sampling should be undertaken on the *Northumberland* rather than the *Stirling Castle*, as sampling the latter would probably have required significant disturbance of the site. With the agreement of Nigel Nayling and EH, no sampling was undertaken on the site.
Re-locate and accurately position (plotted by tracked diver survey) any archaeological material.	Objective cancelled. Apart from the initial condition survey, no survey work was undertaken on the site.
With the aid of appropriate multibeam imagery, continue intra-site survey between identified features & (re)tagging (subject to the agreement of the Licensee) of identifiable and suitable artefacts following ground-truthing.	Objective cancelled.
If possible (and without excavation) undertake selected elevation recording of exposed transom (in relation to evidence of steering mechanism).	Objective cancelled. As a result of the ongoing deterioration of the site, evidence of the steering mechanism is unlikely to survive in situ.

Objective	Progress
Produce a structured record of field observations; preferably including a photographic record of the site and a site plan. Key artefacts are to be subject to detailed examination and recording (position by tracked diver survey, taped measurements, photographs and video and written database entries).	Achieved. The results of the tracked condition survey of the site have been recorded in DIVA and using video and still photography.

2.5.3. The following progress against secondary objectives was made:

Objective	Progress
Provide detailed information on elements of structure currently at risk and identify future elements at risk.	Achieved (see below). The condition survey was undertaken in order to inform this objective.
Supplement the recording of the core of the site by recording profiles across the main axis of the site.	Objective cancelled.
Advise/inform development of future programme (both practical and financial) for remedial recording, to address stabilisation and targeted solutions to the in situ preservation of specific features.	Achieved. Advice has previously been given with regard to this objective. Additional advice based upon observed changes in the condition of the site is given in the confidential Management Report.
Following recording, assess the stern of the Stirling Castle for either remedial stabilisation or recovery. Provide recommendations on marine environmental monitoring of the site, with particular reference to important features considered to be at risk.	Achieved. Advice has previously been given with regard to this objective. Additional advice based upon observed changes in the condition of the site has been given in the confidential Management Report.

2.6. SITE POSITION

2.6.1. The position of the site has previously been established. However due to the dramatic changes in the condition of Area 3 described below, it proved necessary to obtain an accurate position for the easternmost timber structure observed in order to

corroborate visual inspection that suggested that it was the truncated remains of the sternpost.

2.6.2. The following position, obtained by tracked diver survey, has been compared with previous positions for the sternpost. These are sufficiently similar to prove its identity. This was subsequently confirmed by overlaying the side scan sonar data onto previous multibeam data (**Figure 2**):

Lat.	**51° 16.4621' N**
Long.	**01° 30.4256' E**
WGS84, Zone 31N	

2.7. CONDITION SURVEY

2.7.1. Changes in the condition of the site prior to 2008 have been discussed in previous contractor reports (WA 2006 & 2007a-c). It can be summarised that the site is unstable, that significant deterioration in its condition has occurred in recent years and that the causes of this are both complex and poorly understood. Despite a lack of comparative data, it is clear that progressive changes in the localised environment, most notably the movement of mobile sandy sediment, has had a profound impact upon the site.

2.7.2. It should be noted that although the brief states that "the monuments' stern-post and one of the attached transom cross-timbers was noted to have fallen further astern (Dean 2006)" (EH 2008), comparison of the results of tracked diver survey between 2003 and 2007 together with visual inspection of the relevant structures suggests that no such movement has in fact taken place.

2.7.3. Earlier in 2008 the Licensee reported to EH that extensive changes had occurred to the condition of the stern of the Stirling Castle. The report subsequently made to WA is not entirely clear in its detail, but the Licensee believed that the sternpost had been truncated and was possibly no longer *in situ*, that the exposed transom timber was missing believed buried or lost and that the rudder was either severely truncated or detached and buried or possibly lost.

2.7.4. The WA condition survey confirmed that there have indeed been very significant changes in the condition of Area 3 between August 2007 and August 2008. Although the stern of the vessel was much changed visually, diver tracking was able to confirm that the sternpost (**2035**) was still *in situ* (**Figure 2** and **Plate 1**). However, it was clearly truncated and leaning off the vertical towards the north-east. The condition of the remaining part of the sternpost was poor and evidence of both mechanical and biological attack could be seen.

2.7.5. The planking of the transom, which has not been recorded in detail, was also much truncated and in very poor condition, showing evidence of severe biological and mechanical damage. The large transom timber (**2268**) could not be seen. It was attached to the sternpost above the level of truncation and the assumption is that it has become detached and is either now permanently lost or buried.

2.7.6. To the east of the sternpost no sign of the rudder (**2274**) was observed, despite a search being carried out up to 5m away from the original position. The seabed to the east (outboard) of the sternpost and transom was scoured to a depth of approximately 1m. The scour was probed to a depth of 0.5m but no hard object was detected. It therefore appears that the rudder has either been very severely truncated or, more likely, has become detached and is now either lost or buried several metres away.

2.7.7. No upstanding features were observed in the side scan sonar data to the east of the sternpost, although debris-like features were observed to the north-northeast. This may or may not be debris from the damaged structure of the stern.

2.7.8. The Licensee believes that these changes are likely to have occurred in late 2007 during a period of severe storms. This is certainly possible. Alternative mechanisms for the changes observed are mechanical damage caused by the commercial fishing that is reported to occur at night in the vicinity of the site, or simple structural failure caused by the gradual weakening of the timbers caused by biological and mechanical damage. A considerable amount of fishing gear of various types and age was observed throughout the site.

2.7.9. The section of deck (**2270**) observed in 2006 but not in 2007 was not seen. Instead a shallow scour was noted in its position, sloping down from **2035** and then rising gradually to the vicinity of **2307**. Insufficient time was available in order to probe this scour for the presence or absence of **2270**.

2.7.10. In Area 2 a very narrow and shallow scour was detected in two places approximately where the port side scour (**2266**) was seen in 2006 and 2007. The port side of the hull (**2266**) was not distinct at these locations. The scour therefore appears to have filled in since 2007. The Licensee reported observing that the scour was filled in earlier in 2008. Given that this scour has previously been a very distinct feature of the site, its disappearance may not be a very short term condition change.

2.7.11. Timber features observed in 2006 and 2007 between **2307** and **2030** were relocated. Although they were not inspected in detail, they did appear to be in a more eroded condition than in 2007, with very extensive signs of severe biological and mechanical damage. In addition they appeared to be slightly more exposed.

2.7.12. All exposed timber surfaces seen in 2008 showed very extensive evidence of long and short term erosion and of biological attack.

2.7.13. In Area 1 the archaeological features west of anchor **2001** were largely buried with the exception of the probable hearth and chimney feature (**2018**). This has subsequently been confirmed by analysis of the side scan sonar data, in which the only recognisable upstanding feature is **2018**. All of the features recorded in 2006-7 but not seen in 2008 are believed to have been buried. 2001 itself appeared to be in a largely unchanged condition although the rim of what is probably a medium-large cuprous cauldron or cook pot (**2311**) was observed in a small scour between the shank and the westernmost fluke. This artefact was not observed in 2006-7 and is believed to have been buried then. The exposure of this artefact suggests that local scouring can occur even within areas of general sedimentary build up.

2.7.14. The starboard side of the vessel (**2267**) was not observed and is believed to have been buried as the slope immediately to the north of the feature was relocated. The area west of **2018** was not inspected but the Licensee has reported that features there were also buried when inspected earlier in 2008.

2.7.15. In addition a large magnetic anomaly was detected approximately 14m north-east of the sternpost. No side scan anomaly was detected at this location. The anomaly is therefore likely to be buried and it is conceivable that it may be a large gun. A number of side scan anomalies were detected to the north of the sternpost and these may be detached elements of wooden structure.

2.7.16. The pattern of scouring in the side scan results is south-west to north-east. This pattern has been observed in previous surveys and suggests that a dominant current crosses the site from south-west to north-east.

2.8. BASELINE ARCHAEOLOGICAL RECORDING

2.8.1. Incidental to the condition survey, a single new feature, a medium-large cuprous cauldron or cook pot (**2311** and **Back Cover**) was observed in a small scour between the shank and the westernmost fluke of anchor **2001**. Only the rim with a small round handle attached was exposed and it is not clear whether the object is complete.

2.8.2. This feature had previously been reported by the Licensee. However, it was not exposed during WA diving operations in 2006-7.

2.9. DENDROCHRONOLOGICAL SAMPLING

2.9.1. During the inspection of the site it was observed that all of the exposed timber structures seen were heavily eroded and subject to extensive biological attack. It was apparent that these were likely to have low potential for dendrochronological dating and that intrusive work would be required in order to uncover and sample relatively unaffected timber. It was therefore decided not to take samples from the site.

3. ARCHAEOLOGICAL RECORDING STATUS

3.1.1. In 2006 it was reported that the site had been repeatedly recorded to Level 2a, with limited areas recorded to Level 3a. This remains the case. Several more weeks of basic survey work will be required in order to complete further survey to Level 3a.

4. ASSESSMENT ARCHIVE

4.1.1. The project archive consisting of a hard copy file and computer records, together with mini-DV tapes, dive logs and miscellaneous hardcopy photographs and plans is currently stored at WA under project code 53111.

5. REFERENCES

5.1. PUBLICATIONS AND REPORTS

Archaeological Diving Unit, 1986-2002, Reports 003, 023, 92/23, 93/23, 95/08, 97/26, 98/23, 99/15, 00/17, 01/12 & 02/15, unpublished client reports

Bates, R., et al., 2005, Innovative approaches to Rapid Archaeological Site Surveying and Evaluation (RASSE) Year One Report, unpublished ALSF report for EH, University of St. Andrews

Brayne, M., 2003, *The Greatest Storm*, Sutton Publishing

Caston, G.F., 1979, 'Wreck marks: indicators of net sand transport', *Marine Geology*, 33; 193-204

Cederlund, C.O. (ed), 2004, *MoSS Final Report*, The National Board of Antiquities, Finland

Chamberlain, D., 2002, *The Goodwin Sands Man-of-War 1703-2003*, privately published

Cloet, R.L., 1954, 'Hydrographic Analysis of the Goodwin Sands and the Brake Bank', *Geographical Journal*, CXX, part 2; 203-215

Colledge, J. J., 1987, *Ships of the Royal Navy*, Greenhill Books.

Dean, M., 2006, 'Licensee Report to ACHWS', unpublished report

Dunkley, M., 2005, 'A Shipwreck on the Goodwin Sands: Local maritime archaeological stewardship', *Conservation Bulletin*, 48: 28-29, English Heritage

Elderfield, N., 2001, *Sheltering effects of offshore sandbanks: the Goodwin Sands*, MSc Dissertation, University of Southampton Faculty of Engineering and Applied Science

Endsor, R., 2003, 'The loss of the *Stirling Castle* in the Great Storm of 1703 and the earliest archaeological evidence of a ships steering wheel', *Mariner's Mirror*, 90.1; 92-98

English Heritage, 2006, 'Stirling Castle', unpublished site operations briefing document

English Heritage, 2007a, 'Stirling Castle', unpublished site operations briefing document

English Heritage, 2007b, 'Stirling Castle: Conservation & Management Plan', internet published document

English Heritage, 2007c, 'Protected Wreck Sites at Risk: A Risk Management Handbook', internet published document

English Heritage, 2008, 'Stirling Castle', unpublished site operations briefing document

English Nature, 1997, *East Kent Coast Natural Maritime Area Profile*, English Nature Kent Team, Ashford, Kent

Lyon, D. J., 1980, 'The Goodwins Wreck', International Journal of Nautical Archaeology and Underwater Exploration, 9.4; 339-350

Manders, M.R., 2003, 'Safeguarding: The physical protection of underwater sites', *MoSS Newsletter* 4/2003;18-20

Manders, M. and Luth, F., 2004, 'Safeguarding', *MoSS Final Report*; 63-73

Manders, M.R., 2006, 'The In Situ Protection of a 17th-Century Trading Vessel in the Netherlands' in Grenier, R. et al, *Underwater Cultural Heritage at Risk: Managing Natural and Human Impacts*, International Council on Monuments and Sites (ICOMOS);70-72

NISA, 2004, Management plan of shipwreck site Burgzand Noord 10, internet published report

Peacock, B., 2000, 'Operation Man O'War', *Nautical Archaeology*, Number 2; 8-9

Peacock, B., 2004, 'Licensee Report to ACHWS', unpublished report

Peacock, B., 2005, 'Licensee Report to ACHWS', unpublished report

Peacock, B., 2006, 'Licensee Report to ACHWS', unpublished report

Peacock, B., 2007, 'A survey on the Stirling Castle wreck in 1703', unpublished dissertation

Perkins, D. R. J., 1979, 'Wreck of a British Man-of-War discovered on the Goodwin Sands', The Isle of Thanet Archaeological Unit, unpublished interim Report

Perkins, D. R. J., 1984, 'A Photographic Reconnaisance During July/August 1984 (Licensee Report to ACHWS)', unpublished report

Redknap, M. and Fleming, M., 1985, 'The Goodwins archaeological survey: towards a regional marine site register in Britain', *World Archaeology*, Volume 16, 3; 312-328

Wessex Archaeology, 2003a, Stirling Castle Designated Historic Wreck Site: Desk-Based Assessment, unpublished report

Wessex Archaeology, 2003b, *Investigations June-September 2003*, unpublished report, ref 53111.05a

Wessex Archaeology, 2003c, 'Archaeological Services in Relation to the Protection of Wrecks Act (1973): Recording Methodologies', unpublished report, ref: 53111.04.

Wessex Archaeology, 2004, 'Stirling Castle, Designated Assessment: Final Report', unpublished report, ref 53111.03

Wessex Archaeology, 2006, 'Stirling Castle, Designated Assessment: Management Report', unpublished report, ref 53111.03e

Wessex Archaeology, 2007a, 'Stirling Castle, Designated Assessment: Archaeological Report', unpublished report, ref 53111.03oo

Wessex Archaeology, 2007b, 'Stirling Castle, Designated Assessment: Management Report', unpublished report, ref 53111.02bbb

Wessex Archaeology, 2007c, 'Stirling Castle, Designated Assessment: Archaeological Report', unpublished report, ref 53111.03bbb

Wessex Archaeology, 2009, 'South East of England Designated Wrecks: Marine geophysical Survey and Interpretation', unpublished report, ref 69551.01

5.2. WEB SITES & DOCUMENTS

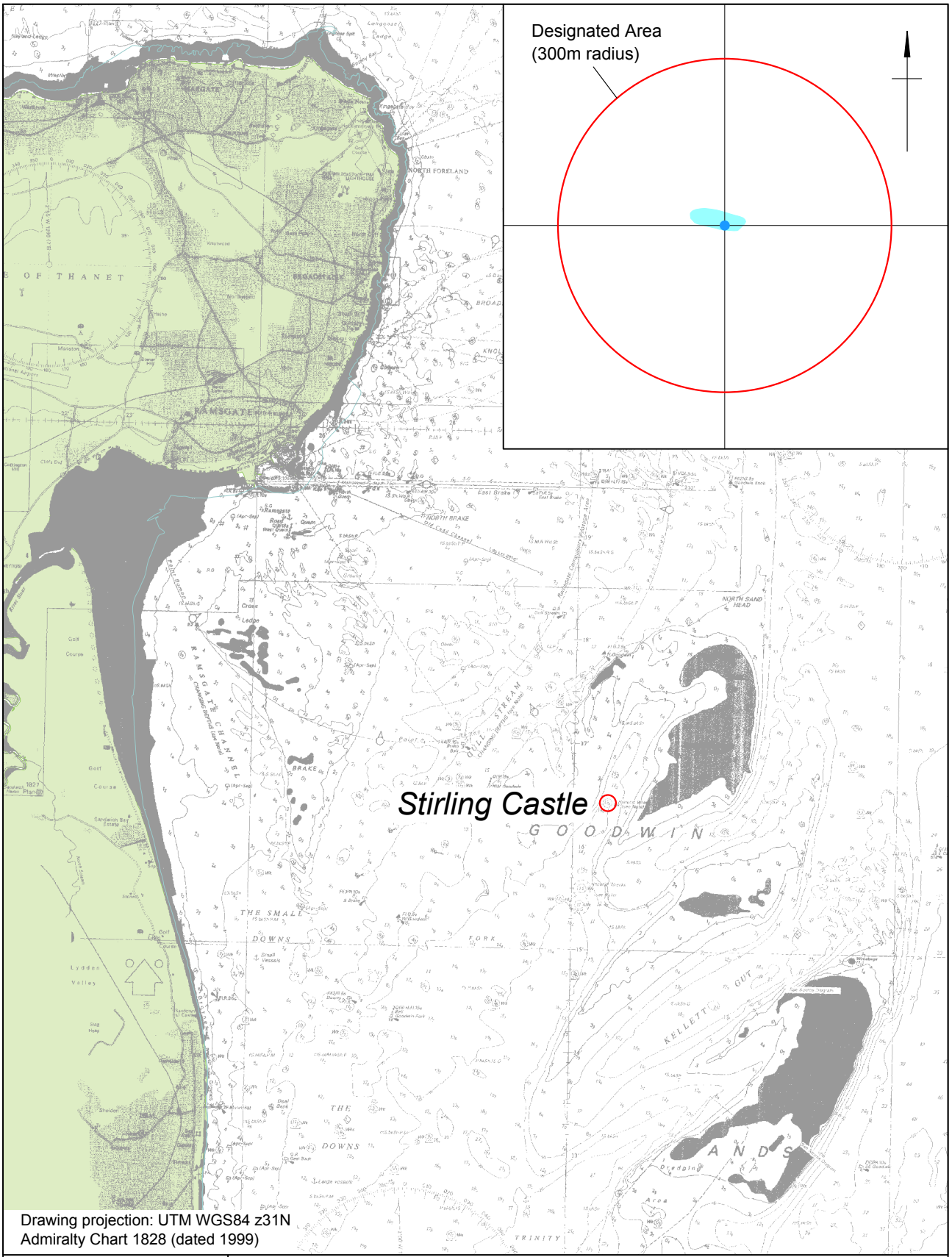
www.st-andrews.ac.uk/rasse/index.html

http://www.nba.fi/INTERNAT/MoSS/eng/publications.html

http://www.machuproject.eu/documenten/MACHU_REPORT-1.pdf

APPENDIX I: NEW CONTEXTS

Context No.	Tagged	1999 Site Plan No.	Description	Area
2311	No	Not found	Medium to large cuprous cauldron or cook pot. Part of rim and small round handle exposed in scour between western fluke of 2001 and shank, otherwise buried.	1



SI position
51°16.426' N, °01 30.516' E
WGS. 84 coordinates

Approximate extent of Site

Wessex Archaeology

Date:	10/10/08	Revision Number:	0
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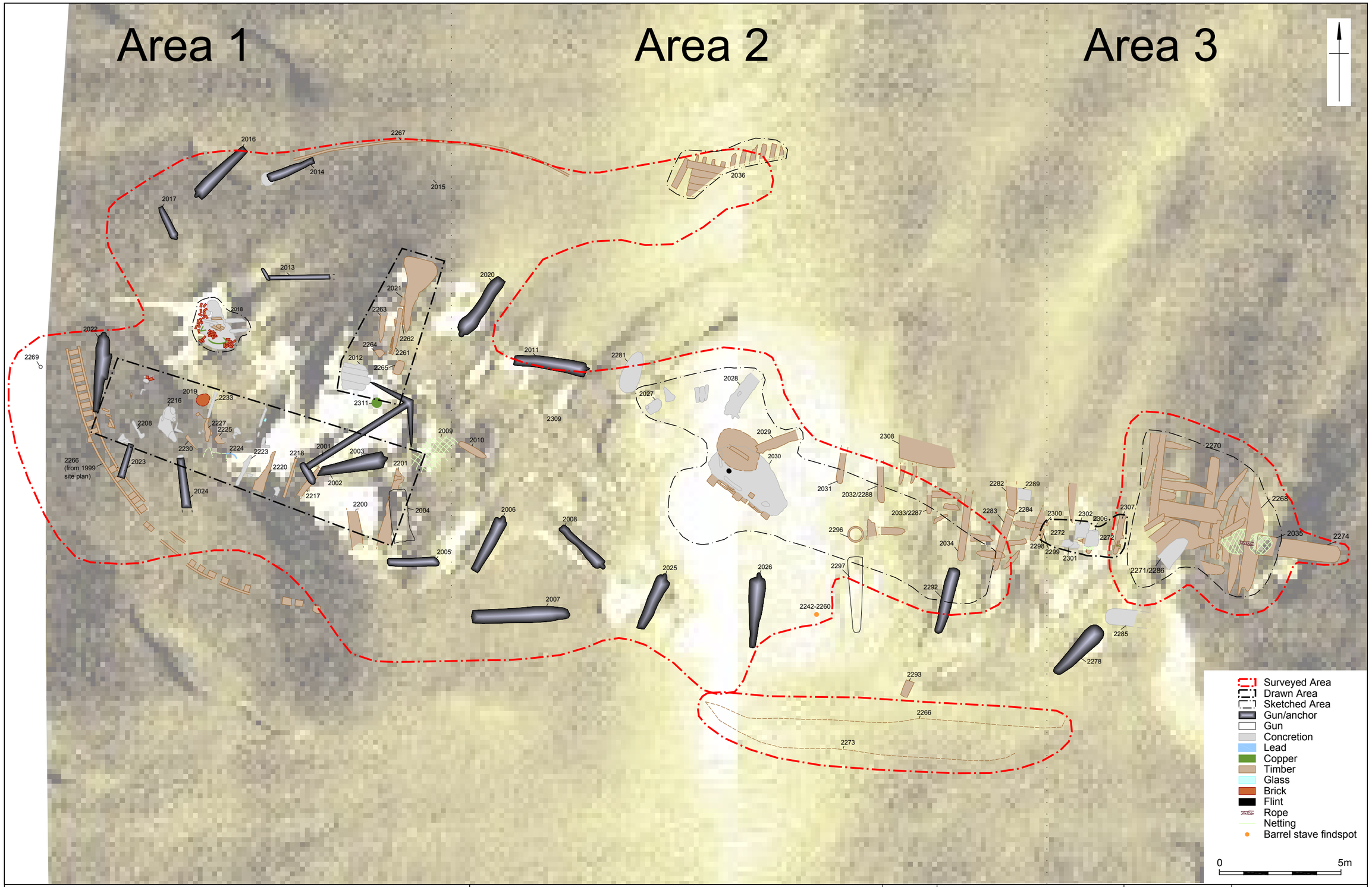
Stirling Castle site location

Figure 1



Wessex Archaeology	Drawing projection: UTM WGS84 z31N. This material is for client report only © Wessex Archaeology. No unauthorised reproduction.	Date:	08/10/07	Revision Number: 0
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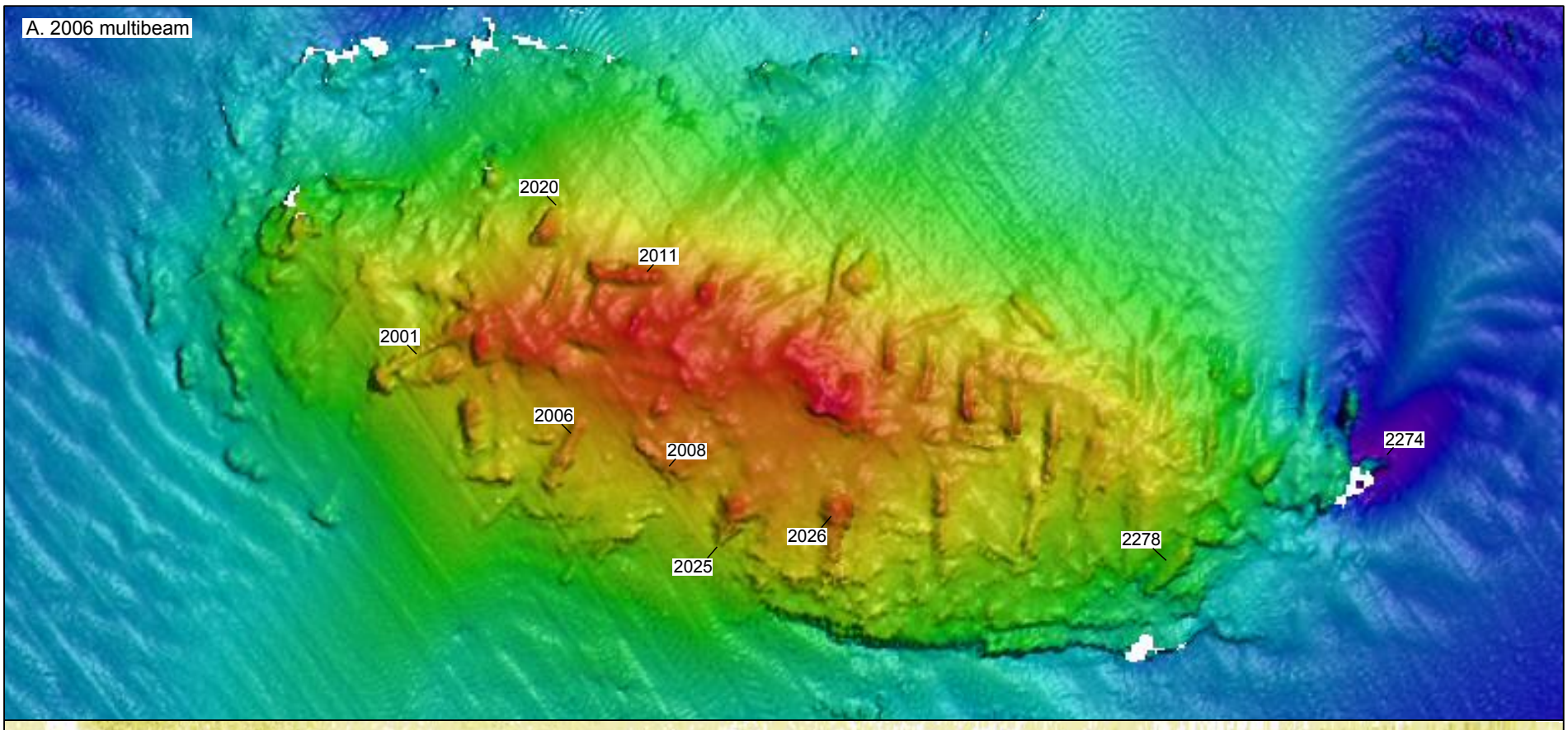
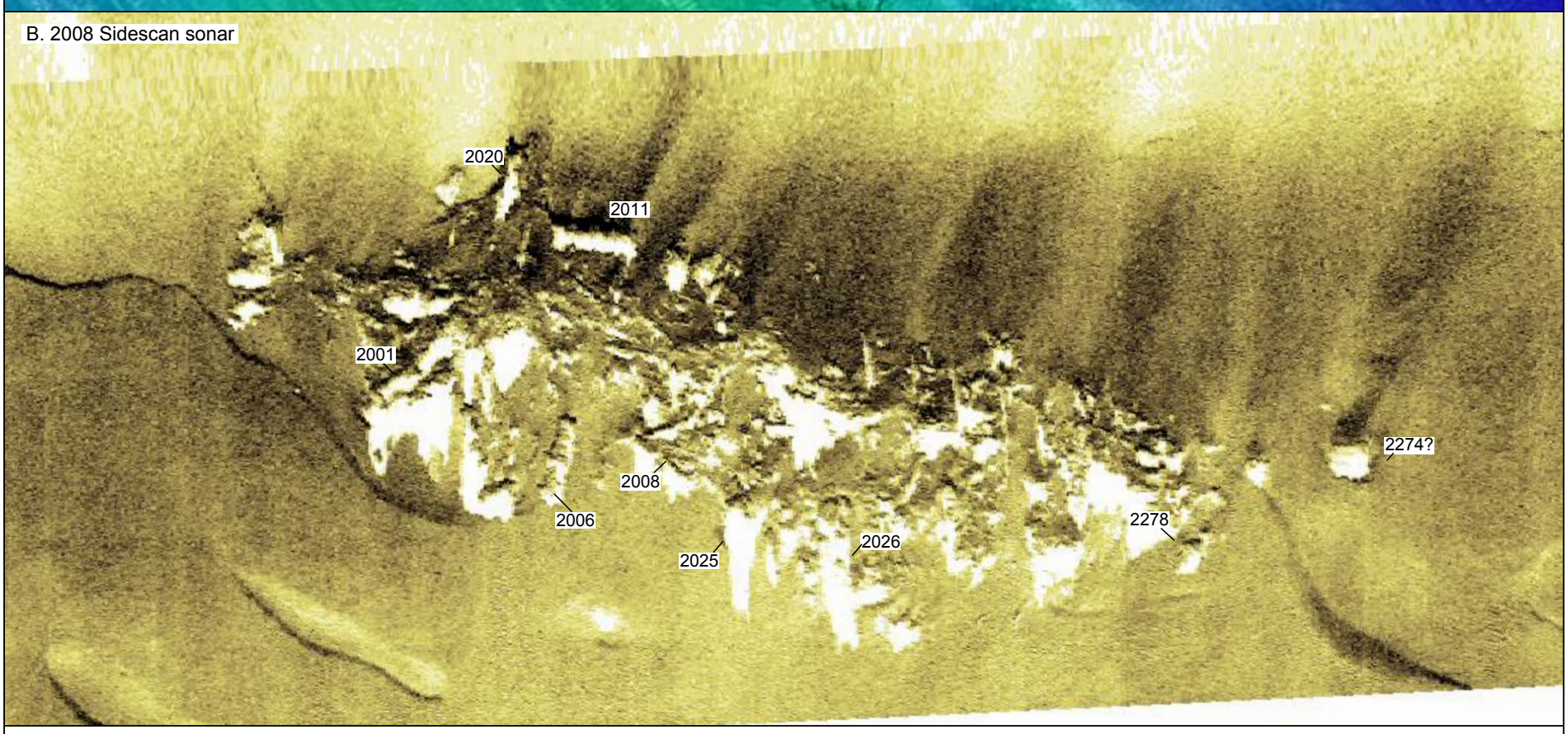
WA 2007-8 site plan with August 2008 sidescan sonar data

Figure 2

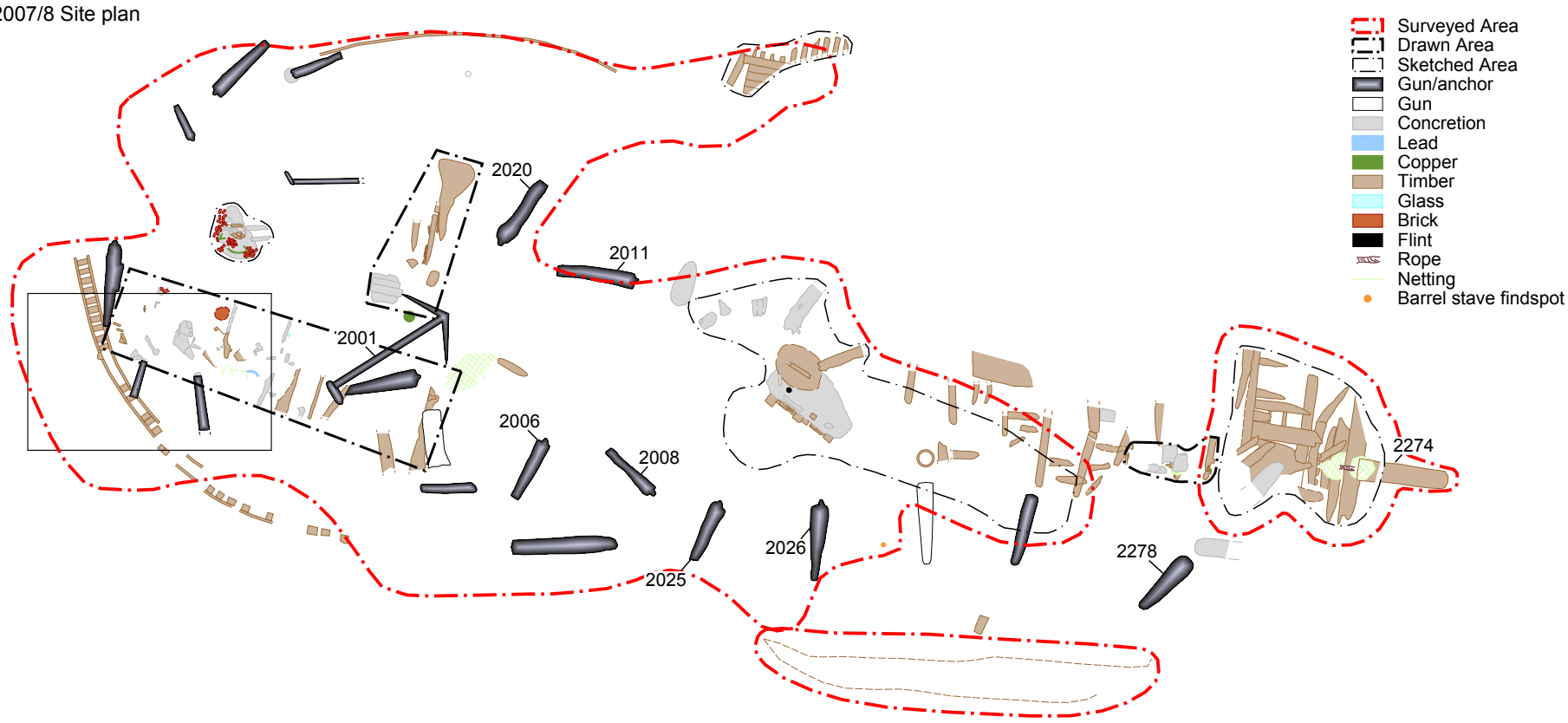
A. 2006 multibeam



B. 2008 Sidescan sonar



C. 2007/8 Site plan



0 10m

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Drawing projection: UTM WGS84 z31N.
Multibeam data collected and processed by St Andrews University.

Date:	23/01/08	Revision Number:	0
Scale:	1:250 @A3	Illustrator:	KJB
Path:	U:\PROJECTS\53111\Drawing Office\Report Figures\2008\z31_2008_Stirling Castle\Arch Report		

2006 multibeam data, 2008 Sidescan sonar and 2007/8 Site plan

Figure 3

Plate 1: Sternpost and transom structure

Date:	09/01/09	Revision Number:	0
Scale:	N/A	Illustrator:	KJB
Path:	U:\PROJECTS\53111\Drawing Office\Report Figures\2008\z31_2008_Stirling Castle\Arch Report		

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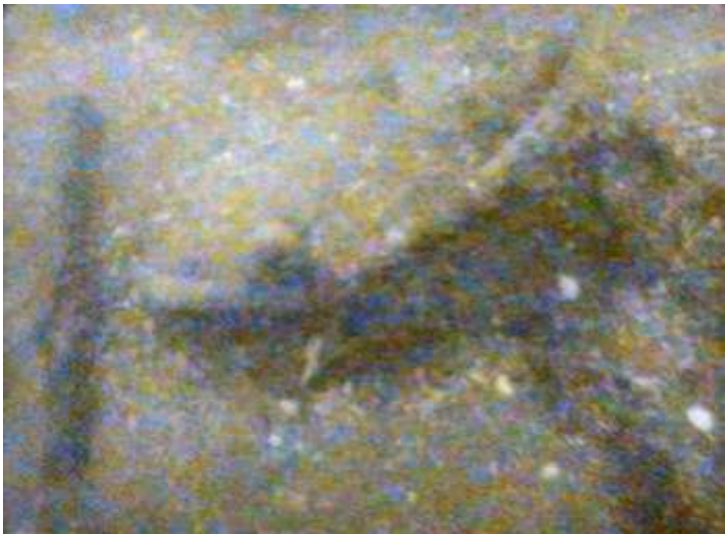

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