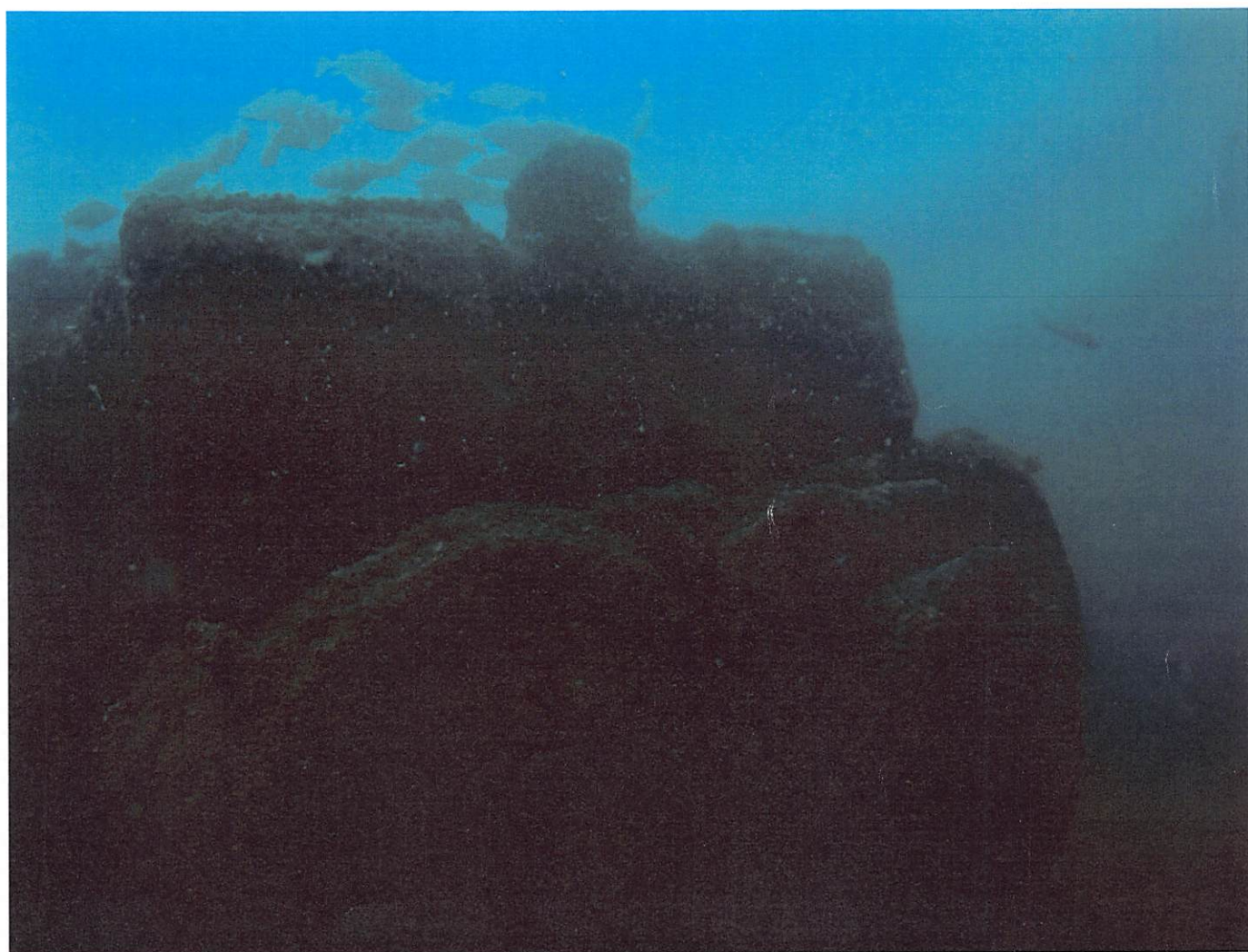


Solent Archaeological Divers Sub Aqua Club

Archaeological survey of wreck sites in the Solent and surrounding area

MILLERSHIP.
2010 Grant support.



April 2011

Summary

The Solent Archaeological Divers Sub Aqua Club (SADSAC) project to survey wreck sites in the Solent and surrounding area was designed to create an archaeological record for sites where there is little or no current information available regarding their condition, extent and features. Funding from the British Sub-Aqua Jubilee Trust has enabled the completion of the project, which otherwise would not have been possible. SADSAC is a BSAC Special Branch whose members largely consist of maritime archaeologists. The members of SADSAC have made up the core team for this project, supplemented by other volunteer SCUBA divers. This project has demonstrated the potential for a group, made up of both volunteers and professional archaeologists, to make a significant contribution to the knowledge and understanding of marine historic assets within the Solent and south of the Isle of Wight.

Six days of diving were undertaken as part of the project on 5 different sites, involving 20 divers. The sites surveyed ranged in depth from 18 metres to 40 metres, the variety of depths allowed qualified divers at all levels to take part in the project. The sites consisted of: a wooden collier; the SS *Londonier*; the SS *Lapwing*; a 19th century wooden sailing ship; and the SS *Serrana*. The survey methods used during the investigation and assessment of the wreck sites included diver survey encompassing tape measurements and site recording using photography. Post-survey skills of project members were maintained through the reporting of dive observations and the production of site plans or sketches, these can be found within the main body of the report and larger versions can also be found in Appendix III.

The survey of the wooden collier resulted in an understanding of the basic layout of the site, and the extant archaeological features on the site. This site offers the opportunity for future investigation, both in terms of developing the site sketch to a more detailed and measured plan, and in terms of research regarding the possible identity of the site. The diver survey on the *Londonier* was limited due to poor visibility but resulted in the production of the site sketch, which details the major features of the site and emphasises the large variety of remains. These offer the opportunity for future survey, with our results from project acting as baseline data which can be built upon. The *Lapwing* site is a good example of a largely untouched seabed archive. Due to its generally unknown location the site has retained some features which it is unusual to find on more frequently dived sites. This site warrants further assessment including the accurate determination of its full extent and the production of a more detailed site plan. All of these three sites were at a maximum depth of 40m with only experienced divers taking part in the assessments. This did not however limit the opportunity to develop the skills of project members, as a number of the divers that took part in these surveys had not previously used underwater survey techniques.

The 19th century merchant sailing vessel site and the *Serrana* are both at a depth that offers access to divers with a range of levels of qualification. The 19th century merchant sailing vessel is significant due to the range of archaeological artefacts relating to all aspects of structure and function of the ship. This was a unique opportunity to dive and survey the undisturbed wreck of a merchant sailing vessel, with measurements and observations adding to the archive of information regarding the site. The *Serrana* offered an ideal opportunity for the sharing of experience in underwater archaeological survey, having clearly

identifiable elements of upstanding structure. A sketch of the site was produced, but this could be a future target for more detailed photography and measurements, offering the advantage of its accessibility in terms of depth and the often good visibility to be found on site.

The information in this report will be made available to the Hampshire & Wight Trust for Maritime Archaeology (HWTMA) to be added to their archive of site information relating to the Solent region and south of the Isle of Wight. By providing this information to HWTMA it will be fed into heritage management datasets, and through this the sites we have assessed will become part of the available data resource for any future research.

During the course of the current project the aim of protecting and sustaining historic wrecks for future generations through investigation and preservation by record has been achieved. There are now site plans and sketches of five wrecks with associated observations recording their condition and notable features at the time of survey. If possible SADSAC would like to continue to carry out archaeological surveys on wreck sites in the Solent for which there is little current recorded information.

Acknowledgements

The Solent Archaeological Divers Sub Aqua Club (SADSAC) would like gratefully acknowledge the funding received by the British Sub-Aqua Jubilee Trust that made this project possible.

We would like to thank all those who gave their valuable time and support to the project, including club members and other volunteer divers. In particular we would like to thank Dave Robbins and Michael Pitts for providing a great many of the images in this report.

SADSAC would also like to thank Dave Wendes for the provision of his invaluable assistance and knowledge during this project.

Copyright Statement

This report has been produced by SADSAC with the assistance of funding provided by the British Sub-Aqua Jubilee Trust. Unless otherwise stated all images are copyright of SADSAC. The report also contains images whose copyright is owned by other parties, permission to use these for this report has been gained, however these images must not be further reproduced or distributed without prior permission of their owners.

Contents

SUMMARY	1
ACKNOWLEDGEMENTS	2
COPYRIGHT STATEMENT	2
CONTENTS	3
TABLE OF FIGURES	5
1. PROJECT BACKGROUND	7
1.1 Introduction	7
1.2 Aim & Objectives	7
2. METHODOLOGY	8
2.1 Diving Methodology	8
2.2 Survey Methodology	8
2.3 Skills Development Methodology	9
3. PROJECT RESULTS	10
3.1 Summary	10
3.2 Wooden Collier	12
3.2.1 Site Description	12
3.2.2 Survey Results	13
3.2.3 Conclusions	17
3.3 SS <i>Londonier</i>	18
3.3.1 Site Description	18
3.3.2 Vessel History	18
3.3.3 Survey Results	19
3.3.4 Conclusions	25
3.4 SS <i>Lapwing</i>	26
3.4.1 Site Description	26
3.4.2 Vessel History	26
3.4.3 Survey Results	27
3.4.4 Conclusions	32
3.5 19 th Century Wooden Sailing Ship	33
3.5.1 Site Description	33
3.5.2 Survey Results	34
3.5.3 Conclusions	37
3.6 SS <i>Serrana</i>	39
3.6.1 Site Description	39
3.6.2 Vessel History	39
3.6.3 Survey Results	40
3.6.4 Conclusions	43
4. INTERPRETATION AND ASSESSMENT	45

5. POSSIBILITIES FOR FUTURE WORK.....	46
APPENDIX I – PROJECT TEAM.....	47
APPENDIX II – SITE LOCATIONS	48
APPENDIX III – SITE PLANS	49
III.1 Wooden Collier.....	49
III.2 SS <i>Londonier</i>	50
III.3 SS <i>Lapwing</i>	51
III.4 19 th Century Wooden Sailing Ship	52
III.5 SS <i>Serrana</i>	53

Table of Figures

Figure 1. Preparing survey equipment prior to diving.....	8
Figure 2. Diver returning to the boat.	10
Figure 3. Location of the site, marked as wooden collier, to the south of the Isle of Wight.	12
Figure 4. Sketch of the wooden collier site.	13
Figure 5. Windlass on the wooden collier site.	14
Figure 6. Keel of the wooden collier with copper pin.	14
Figure 7. Anchor on the wooden collier site.....	15
Figure 8. Hawse hole towards the bow of the site.	15
Figure 9. Planking, copper pin and concretions.	16
Figure 10. Chain visible on the wooden collier site.	16
Figure 11. Cargo of coal carried by the wooden collier.	17
Figure 12. Marine life on the site of the wooden collier.	17
Figure 13. Location of the site, marked as SS Londonier, to the south of the Isle of Wight.	18
Figure 14. SS Londonier, date unknown.	19
Figure 15. Partially measured sketch of the Londonier site.	20
Figure 16. Rudder assemblage on the Londonier.	21
Figure 17. Engine upstanding from the seabed.....	21
Figure 18. Boiler on the Londonier site.....	22
Figure 19. Propeller shaft and arch remaining from propeller tunnel.	22
Figure 20. Gun at the stern of the Londonier site.	23
Figure 21. Anchor chain entering hawse pipe.	23
Figure 22. Capstan on the Londonier.	24
Figure 23. Winch on the Londonier site.	24
Figure 24. Location of the site, marked as SS Lapwing, to the south of the Isle of Wight.	26
Figure 25. Sketch of features on the SS Lapwing site.....	28
Figure 26. Compound engine on the site of the Lapwing.....	29
Figure 27. Hull structure at stern of the Lapwing site.....	29
Figure 28. Main boiler on the Lapwing site.	30
Figure 29. Donkey boiler on the Lapwing site.....	30
Figure 30. One of the winches on the Lapwing site.....	31
Figure 31. Porthole in the starboard area of the Lapwing site.....	31
Figure 32. Anchor at the bow end of the Lapwing site.	32
Figure 33. Location of the site, marked as 19th-c. Sailing Ship, to the north of the Isle of Wight.	33

Figure 34. Team briefing on the dive boat prior to survey.	34
Figure 35. Measured site plan of 19 th century wooden sailing ship site.	35
Figure 36. Rudder pintle on the 19 th century wooden sailing ship site.	36
Figure 37. Wooden barrel on from the 19 th century wooden sailing ship site.	36
Figure 38. Window or skylight towards the bow of the site.	37
Figure 39. Diver recording port side structure.	37
Figure 40. Location of the site, marked as Serrana, to the west of the Isle of Wight.	39
Figure 41. Side scan sonar image of Serrana site.	40
Figure 42. Sketch of the major features on the Serrana site.	41
Figure 43. Fire tubes visible within Scotch boiler.	42
Figure 44. Opening for steam drum on top of Scotch boiler.	42
Figure 45. Bolts from engine on the Serrana.	43
Figure 46. Propeller at stern of Serrana site.	43

1. Project Background

1.1 INTRODUCTION

The project was designed to allow an archaeological survey to be carried out on wreck sites in the Solent and surrounding area for which there is little or no current information regarding the condition, extent and features. Funding from the British Sub-Aqua Jubilee Trust has enabled the completion of the project, which otherwise would not have been possible. The project will help protect and sustain historic wreck sites for future generations through investigation and preservation by record. The Solent Archaeological Divers Sub Aqua Club (SADSAC) is a BSAC Special Branch whose members largely consist of maritime archaeologists. The members of SADSAC have made up the core team for this project, supplemented by other volunteer SCUBA divers. This project has demonstrated the potential for a group, made up of both volunteers and professional archaeologists, to make a significant contribution to the knowledge and understanding of marine historic assets within the Solent and south of the Isle of Wight.

1.2 AIM & OBJECTIVES

The aim of the project is to undertake archaeological surveys of wreck sites that have not been subject to previous assessment.

The objectives of the project include:

- **To undertake survey of wreck sites through diver recording** – the proposed evaluation surveys will confirm the extent, density and preservation of the seabed archive. Information gathered will allow for planning of future site investigation, the information can also be fed into heritage management datasets and research programs where relevant.
- **To maintain and develop survey and post- survey skills of project members** – this will give less experienced archaeological divers the chance to develop their skills with training in particular aspects or techniques provided by the more experienced project members as required. It will provide opportunities for skill development and increased capacity for all those involved in the investigation.
- **To contribute to the knowledge of the archaeological sites through production of a field report** - the surveys will create an archive of information regarding each wreck site. Such information can be used to produce the field report for the project and to inform future research into documentary resources, enabling an assessment of historical wrecking information.

2. Methodology

2.1 DIVING METHODOLOGY

All divers were required to provide proof of: diving qualifications, medical fitness to dive and 3rd party insurance. Prior to diving a Project Plan was developed which included detailed information on:

- Diving team composition
- Boats (including safety features and facilities)
- Tides (times and strengths)
- Daily Risk Assessment (to be completed on site)
- Provisional daily operations plan

The SADSAC cylinders were available for use during the project. The HWTMA also made available all its cylinders for use during the project; these are all individually identified and certified as in test. Divers supplied their own dive equipment (other than cylinders if required) and are considered responsible for ensuring that their equipment is serviced according to the manufacturer's specifications.

2.2 SURVEY METHODOLOGY

The survey method used during the investigation and assessment of the wreck sites was diver survey encompassing tape measurements and site recording using photography.



Figure 1. Preparing survey equipment prior to diving.

An archaeological plan was developed detailing the objectives to be achieved on each site. Immediately prior to diving on site a briefing was given, explaining the tasks to be completed and assigning specific tasks to each dive team. The tasks were prioritised so key aims would

be met, with secondary objectives to be completed if there was the opportunity during the time on site. Following each dive the survey team completed a record sheet detailing the tasks they had completed, the results of the survey were then compiled and an assessment was made concerning whether the site objectives had been fulfilled.

Recording was based on the MoLAS recording system, utilising the HWTMA collection of record sheets. Each diver completed an Archaeological Record Sheet which provides details of specific work undertaken on each dive. Not all the available record sheets are relevant for this project, but in summary the record sheet system includes:

- Dive Log Sheet
- Archaeological Record Sheet
- Context Log and Record Sheets
- Drawing Index
- Finds Index and Record Sheets
- Sample Index and Record Sheets
- Timber Index and Record Sheets
- Photo Index
- Video Index and Log Sheets

This system allows for the recording of the relationship of artefacts to their sedimentary context. As shipwrecks provide an opportunity to study the interrelationship between a variety of artefacts which were lost together, specific attention will be placed on the recording of these locations and relationships.

2.3 SKILLS DEVELOPMENT METHODOLOGY

The project provided an opportunity for skills development with professional archaeologists, experienced archaeological volunteers and less experienced archaeological divers working together to complete the project tasks.

All project participants were given an introduction to the aims of the project and the objectives we wished to achieve. Any divers who were not maritime archaeologists, or who had not previously taken part in underwater archaeological survey, were also given an introduction to underwater survey techniques. This included the use of compass bearings and taped measurements, offset measurements and direct survey method to record the relationship between features on a site; the use of slates and permatrace to create a record in the underwater environment and the use of measured drawings and photographs to create a visual record of site features.

The briefing given prior to each dive detailing objectives to be achieved gave the opportunity for divers to request additional information or explanations relating to their tasks. Where possible project members less experienced in underwater archaeological survey worked on site with more experienced members of the team. Following the diving various members of the team aided in creating the site sketches and plans, and contributed to the site information recorded in this report.

This collaborative process allowed for the sharing of experience and skills resulting in increased capacity within the project team.

3. Project Results

3.1 SUMMARY

Six days of diving were undertaken as part of the project on 5 different sites, involving 20 divers. The sites surveyed ranged in depth from 18 metres to 40 metres, the variety of depths allowed qualified divers at all levels to take part in the project.



*Figure 2. Diver returning to the boat.
(copyright Dave Robbins)*

Most sites were only dived once during the course of the project, with the exception of the 19th century wooden sailing ship which was dived on three occasions in the course of the project. This was due to the fact that prior to 2010 this site was unknown, so each dive offered the opportunity to add more to the growing archive of site information. The site also offered an excellent opportunity for the development of skills for divers with a variety of qualification and experience, as it lies at a maximum depth of 21m.

A core team of four SADSAC club members took part in the dives for the project (see Appendix I for the full list of divers who contributed to the project). In addition to the SADSAC members approximately half the other team members were maritime archaeologists, with the other half taking part as interested volunteers. This enabled experience and knowledge sharing within the group, allowing for the development of new skills in underwater archaeology for many team members.

Site plans or sketches were produced for all of the sites surveyed, these are within the relevant sections of text below, but larger versions can also be found in Appendix III.

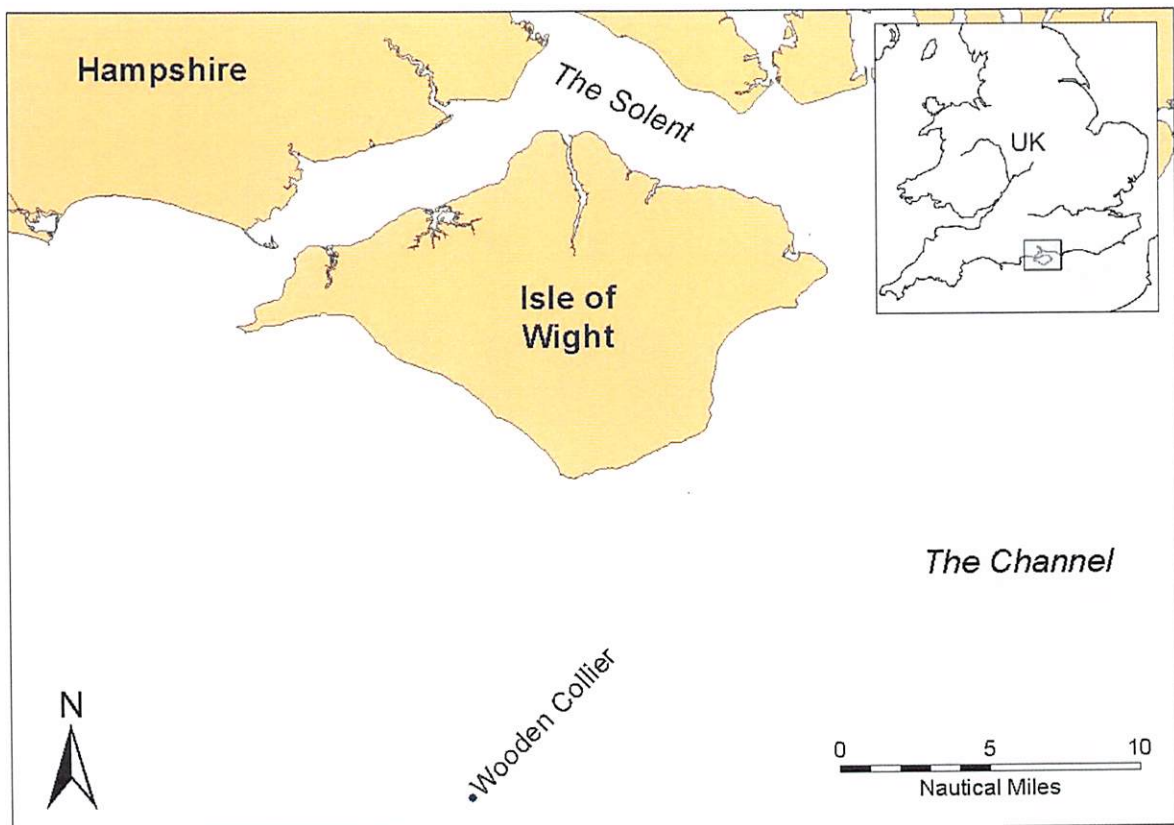
A large part of the site information given below has been provided by Dave Wendes, a local maritime historian and skipper of the dive vessel *Wight Spirit*. Extensive archival research has been carried out by Dave Wendes on a number of wrecks in the Solent and south of the Isle of Wight and the results can be viewed in: Wendes, D. 2006. *South Coast Shipwrecks off East Dorset and Wight: 1870-1979*.

3.2 WOODEN COLLIER

The site of the wooden collier was the first project target and the dive took place on 16th May 2010. The site of the wooden collier formed one of the targets for this project due to the quantity of remains on the site in relatively good condition, and the possibility of providing more information regarding the site in the hopes of aiding a possible identification. Diving on the site is limited by the need for good weather and appropriate tidal conditions, and although the project members would have liked to return and add to the information gathered during the dive in May 2010, this unfortunately was not possible on the subsequent days of project work.

3.2.1 Site Description

The site is located at 50° 24' North, 001° 23.44' West WGS84 to the south of the Isle of Wight (Figure 3). The site location has been provided by Dave Wendes, who has confirmed the position and depth of the site using a combination of DGPS and sonar equipment.



*Figure 3. Location of the site, marked as wooden collier, to the south of the Isle of Wight.
Location data has been provided by Dave Wendes.*

The site is at a maximum depth of 40m and contains the remains of a wooden collier. The full extent of the site is unknown but the preliminary dive survey suggests that it is at least 20m long by 10m wide. The site consists of structural elements, fixtures and some fittings, and the remains of a possible cargo of coal. The vessel identity is unknown, though research carried out by Dave Wendes suggests that it is possibly the Christina, which sunk as the result of a collision.

3.2.2 Survey Results

The site was surveyed on 16th May 2010 from the dive boat *Wight Spirit*. The tasks were undertaken in the window of slack or near slack water. The main purpose of the diving activities was to confirm the extent, density and preservation of the site. Due to the depth of the site the bottom time available for the survey was limited, and although the visibility on site was good at 3-4m the light conditions made a torch essential. This combined with a short slack window made surveying the site difficult and only a basic site sketch was produced (Figure 4). The features recorded were not measured and the sketch is based on observations only. A larger version is available in Appendix III.

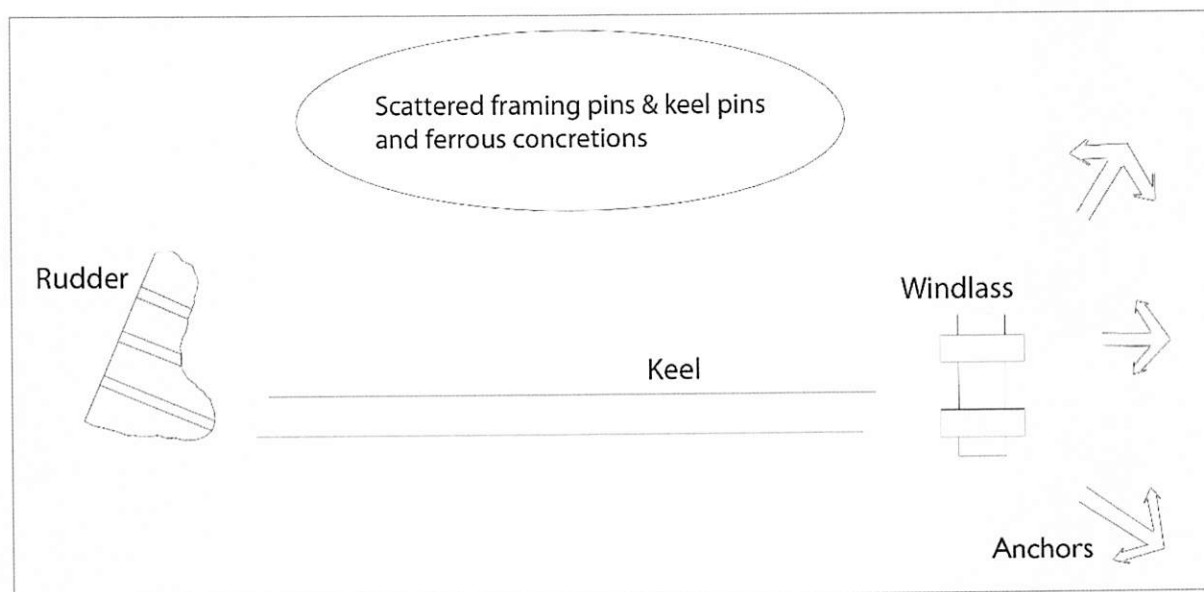


Figure 4. Sketch of the wooden collier site.

The entire length of the vessel is believed to have been observed during the dive and recorded, with the stern marked by the presence of the rudder, and the bow identified by the windlass and the anchors. The shot was positioned adjacent to the windlass (Figure 5) and the keel, possibly the keelson, was clearly visible lying flush to the seabed (Figure 6). This ran consistently almost the entire length of the vessel to the vicinity of the rudder. To one side of the windlass lay three anchors associated with the bow end of the vessel (Figure 7). The survey did not continue any further than the anchors, so it is possible there were more remains beyond this point. Associated with the anchors were hawse holes flush to the seabed (Figure 8).

On the port side of the keel elements of ship structure and fastenings were visible on the seabed, accompanied by concretions and remnants of chain (Figures 9 and 10). Also observed on the port side of the wreck were mounds of coal, this is likely the remains of the cargo the vessel was carrying when it went down (Figure 11).

During the dive an abundance of marine life was sighted, in addition to marine growth crabs and lobsters were observed as well as fish species including Pollack (Figure 12).



*Figure 5. Windlass on the wooden collier site.
(copyright Dave Robbins)*



*Figure 6. Keel of the wooden collier with copper pin.
(copyright Dave Robbins)*



*Figure 7. Anchor on the wooden collier site.
(copyright Dave Robbins)*



*Figure 8. Hawse hole towards the bow of the site.
(copyright Dave Robbins)*



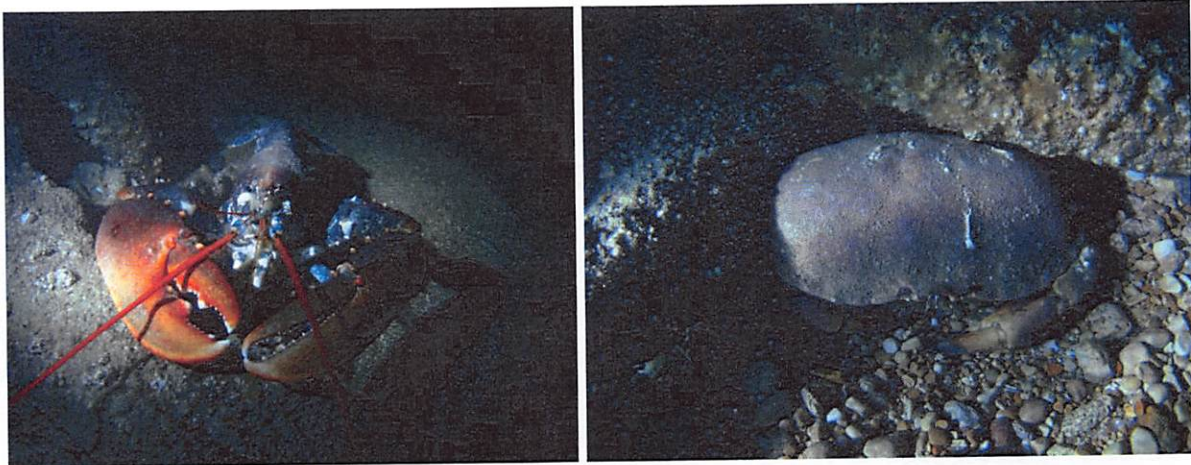
*Figure 9. Planking, copper pin and concretions.
(copyright Dave Robbins)*



*Figure 10. Chain visible on the wooden collier site.
(copyright Dave Robbins)*



*Figure 11. Cargo of coal carried by the wooden collier.
(copyright Dave Robbins)*



*Figure 12. Marine life on the site of the wooden collier.
(copyright Dave Robbins)*

3.2.3 Conclusions

The results of the survey on the wooden collier were limited due to the visibility and the time constraints imposed by the depth and the tidal window. A return trip was not possible due to the need for favourable weather and tidal conditions. Despite this an understanding was developed of the basic layout of the site, and the extant archaeological features on the site. This site offers the opportunity for future investigation, both in terms of developing the site sketch to a more detailed and measured plan, and in terms research regarding the possible identity of the site.

3.3 SS LONDONIER

The site of the *Londonier* formed one of the targets for the Hampshire & Wight Trust for Maritime Archaeology (HWTMA) as part of the Archaeological Atlas of the 2 Seas project (<http://www.hwtma.org.uk/archaeological-atlas-of-the-2-seas>). As a result of this they made their dive logs and site observations available for this project prior to the project dive on 4th September 2010. In terms of this project the *Londonier* was selected as the quantity and position of the material produce an interesting site in need of detailed survey. The results from our survey have been made available to the HWTMA to be added to their archive.

3.3.1 Site Description

The shipwreck remains of the SS *Londonier* are located at 50° 28.59' North, 001° 23.07' West WGS84 (Figure 13). The site location has been provided by Dave Wendes, who has confirmed the position and depth of the site using a combination of DGPS and sonar equipment.

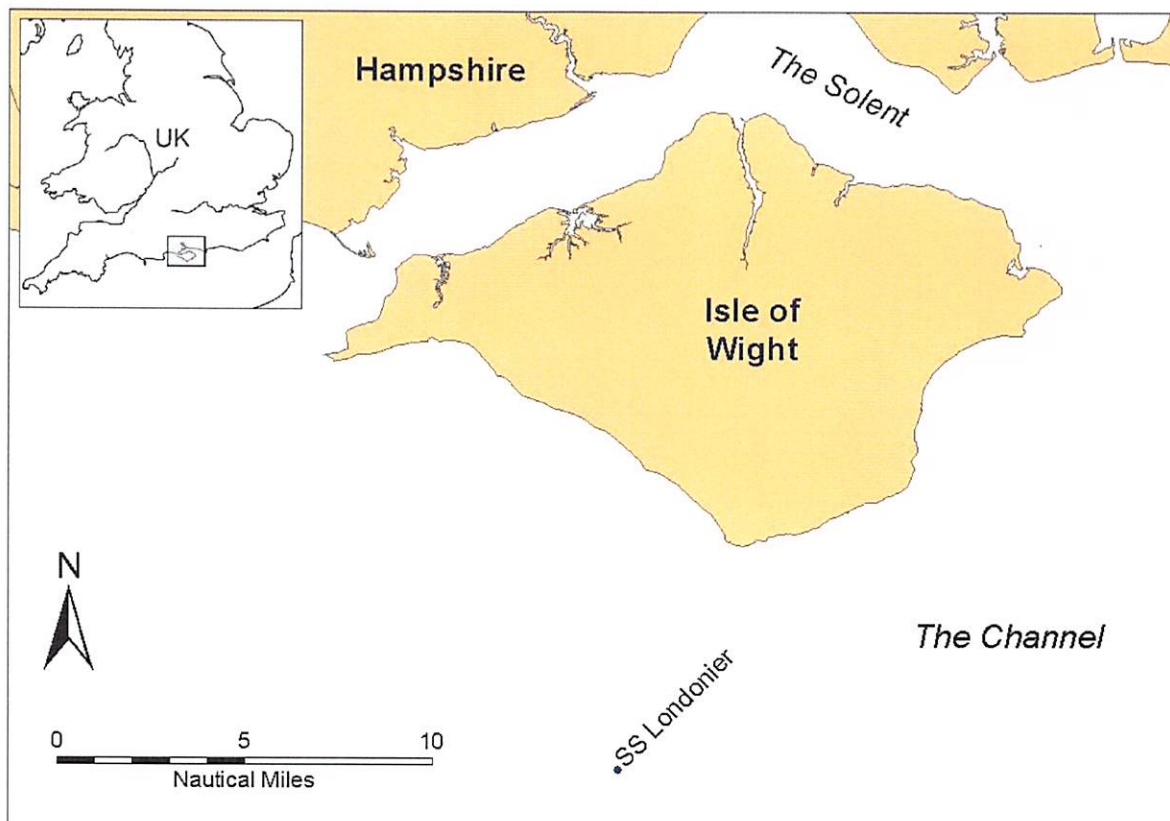


Figure 13. Location of the site, marked as SS Londonier, to the south of the Isle of Wight. Location data has been provided by Dave Wendes.

The vessel's identity was confirmed by crockery recovered from the site during previous diving activity. The wreck lies upright in a maximum depth of 40m of water but has collapsed to starboard. The engine is the highest part of the wreck and the propeller shaft is clear of the wreckage. In the stern the gun lies on its side. The bow section is broken and low to the seabed (Wendes, 2006).

3.3.2 Vessel History

The *Londonier* was a Belgian steamer under charter to the French government. On 13th March 1918 the *Londonier* had crossed the Channel and was steering a course in the

direction of the Needles on route from Calais to the Bristol Channel. The *UC-71* under the command of Oberleutnant zur See Warzecha executed a surface attached, torpedoing the *Londonier* at 2am on 13th March 1918.

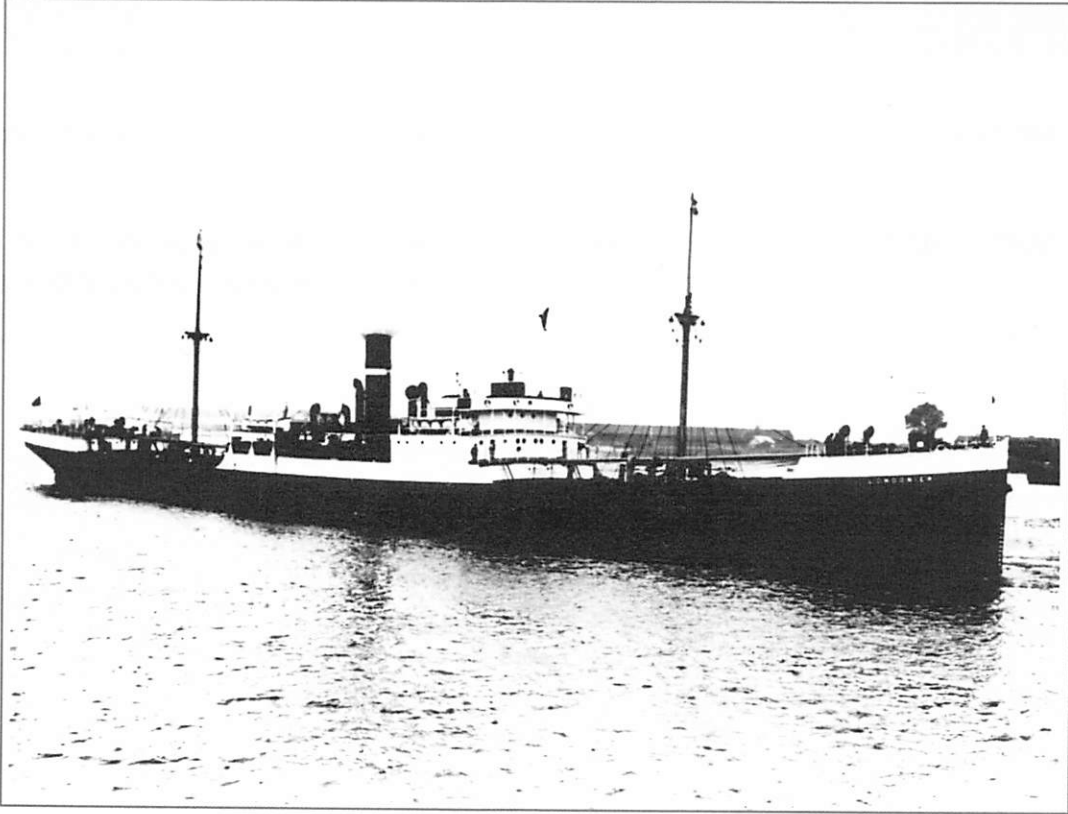


Figure 14. SS *Londonier*, date unknown.
(copyright National Scheepvaartmuseum)

Sven Degryse, the ship's master, reported that the *Londonier* was in company with another steamer and two trawlers. The vessel was altering course, but not zigzagging, due to the sighting of a submarine on the surface 200 yards away immediately before the explosion. The torpedoes struck the *Londonier* on the fore side of the engine room on the port side. The vessel was abandoned as it sank immediately, 13 men managed to reach the ship's boats and rafts but 12 lost their lives. The survivors saw the conning tower of the *UC-71* as it submerged and disappeared (Wendes, 2006).

3.3.3 Survey Results

The wreck site of the SS *Londonier* was surveyed on 4th September 2010 from the dive boat *Wight Spirit*. The tasks were undertaken in the window of slack or near slack water. The main purpose of the diving activities was to confirm the extent, density and preservation of the site. Taped measurements of observed archaeological features were recorded where possible. The visibility was 0.5m to 1m making surveying and recording the wreck challenging. The dives were conducted to a maximum depth of 40m.

The site was subject to a measured survey, but low visibility restricted the ability to measure many features during the survey. The results are visible in the measured sketch of the site seen below in Figure 15. The elements measured and to scale include the boilers, engine and the propeller shaft. The other features shown are based on observation of the site and

were not measured either in themselves or in relation to each other. A larger version of the measured sketch is available in Appendix III.

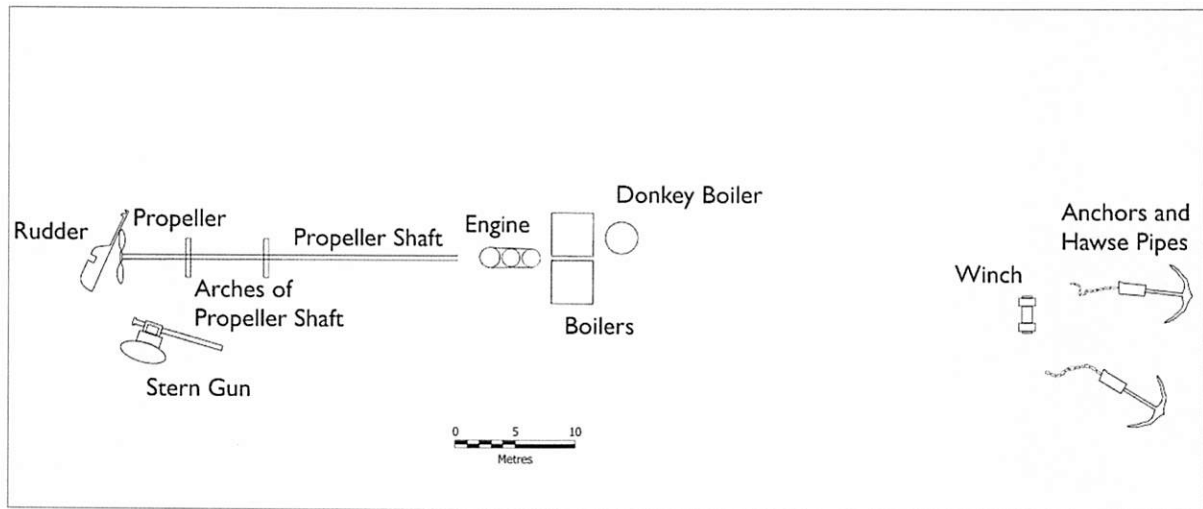


Figure 15. Partially measured sketch of the Londonier site.

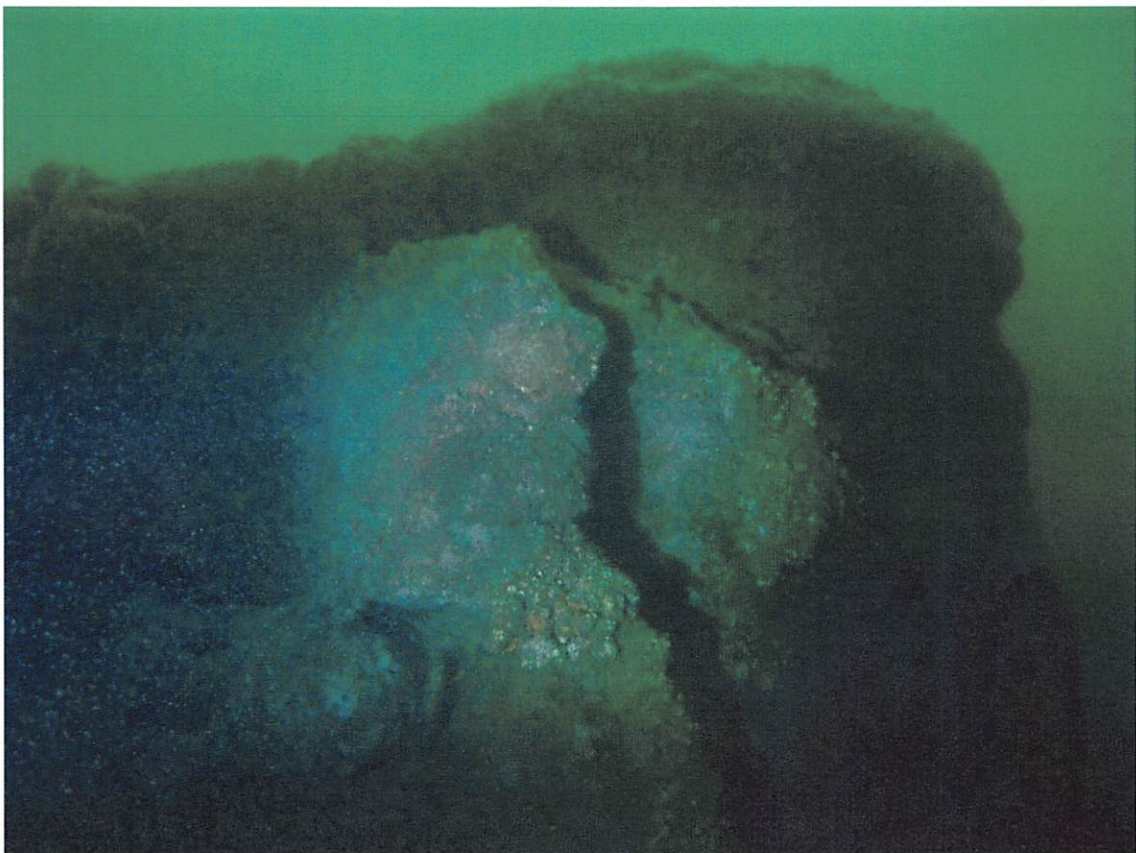
The tasks undertaken were limited by the diving conditions, but it was possible to discern the vessel remains lie scattered around a flat seabed comprised of sand and gravel. Most of the wreck lies close to the seabed, the exceptions which stand vertical to the seabed being the rudder at the stern of the wreck (Figure 16), and the engines (Figure 17), boilers (Figure 18) and donkey boiler amidships. The stern face of the starboard boiler is missing, revealing the water pipes inside. The engines are the highest part of the wreck, approximately 4-5m above the seabed. Aft of the engine it is possible to follow the propeller shaft to the stern of the wreck, remnants of the propeller tunnel can be seen in arches that still cover the shaft (Figure 19). At the stern to the starboard side the gun is visible lying on one side (Figure 20). Life-jackets can be seen pinned under frames adjacent to the port side of the propeller shaft.

Forward of the boilers the wreckage is more dispersed with plates lying flush to the seabed. Two anchors at the bow are clearly visible, still in their hawse pipes (Figure 21). The capstan and the winch are two other fixtures clearly discernible in the wreckage on the *Londonier* site (Figures 22 and 23).

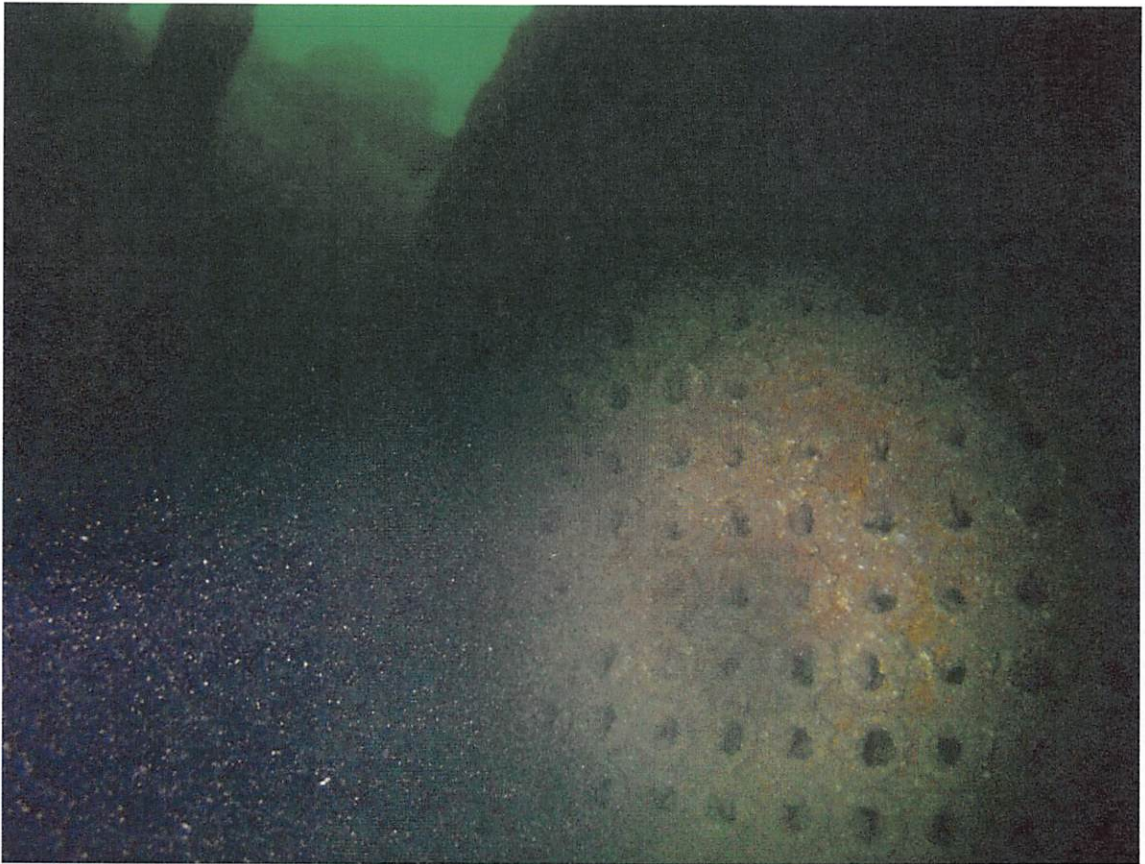
Although it was not possible to measure many of the features in the course of one dive on the site, further observations of wreckage were made and added to the plan of the site. It is apparent that a significant assemblage of material relating to the wreck of the *Londonier* survives on the seabed.



*Figure 16. Rudder assemblage on the Londonier.
(copyright Dave Robbins)*



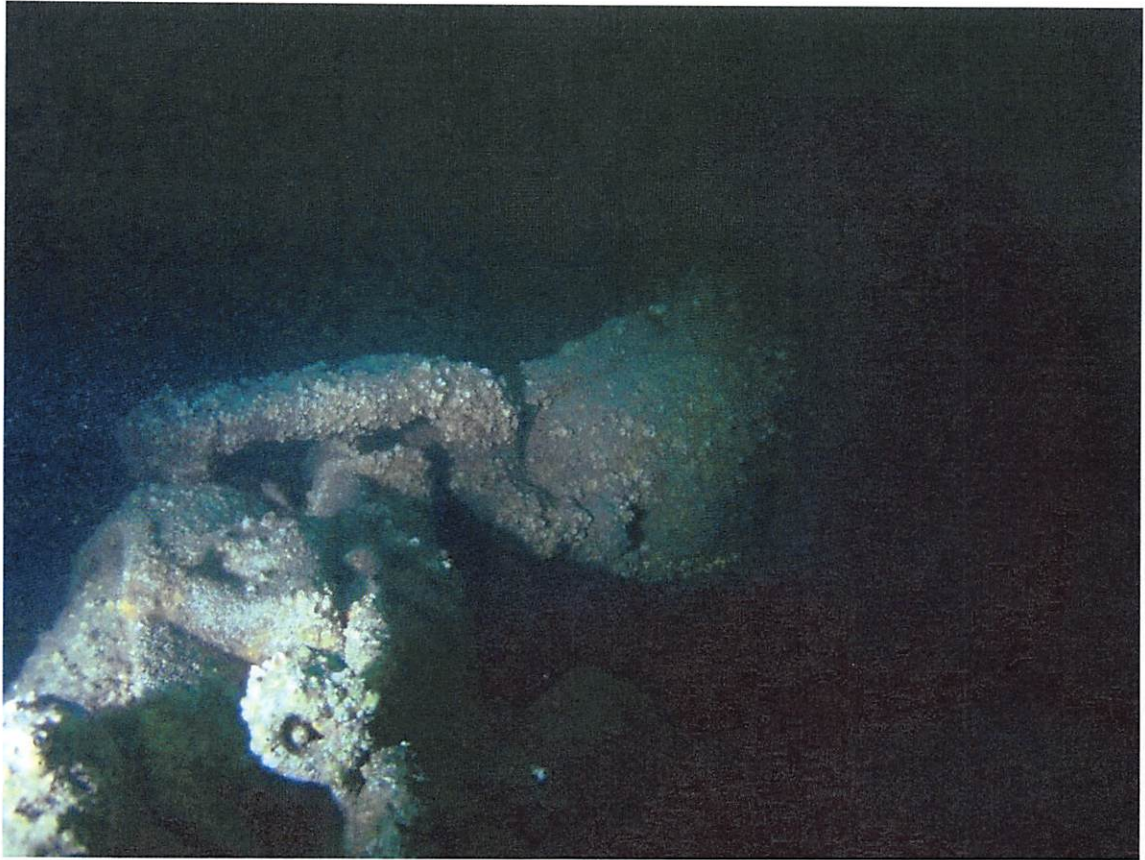
*Figure 17. Engine upstanding from the seabed.
(copyright Dave Robbins)*



*Figure 18. Boiler on the Londonier site.
(copyright Dave Robbins)*



*Figure 19. Propeller shaft and arch remaining from propeller tunnel.
(copyright Dave Robbins)*



*Figure 20. Gun at the stern of the Londonier site.
(copyright Dave Robbins)*



*Figure 21. Anchor chain entering hawse pipe.
(copyright Dave Robbins)*



*Figure 22. Capstan on the Londonier.
(copyright Dave Robbins)*



*Figure 23. Winch on the Londonier site.
(copyright Dave Robbins)*

3.3.4 Conclusions

The diver survey on the *Londonier* was limited due to poor visibility but revealed that the *Londonier* wreck site appears to be relatively stable in terms of the structural remains extant on the seabed. The survey resulted in the production of the site sketch, which details the major features of the site and emphasises the large variety of remains on the site. These offer the opportunity for future survey, with our results from project acting as baseline data which can be built upon.

3.4 SS LAPWING

The SS *Lapwing* was suggested as a target for this project by Dave Wendes. The site is largely unknown to sports divers and as such offers a good opportunity to survey the in situ remains of a vessel where the quantity of artefacts removed by previous divers has been limited.

3.4.1 Site Description

The remains of the SS *Lapwing* are at a maximum depth of 40m lying across the tide. Due to the nature of the remains on site and the possibility of their disturbance or removal by diver activity it is not possible for the co-ordinates to be publicly disclosed. The approximate location is shown in Figure 24 below. Dave Wendes has confirmed the position and depth of the site using a combination of DGPS and sonar equipment.

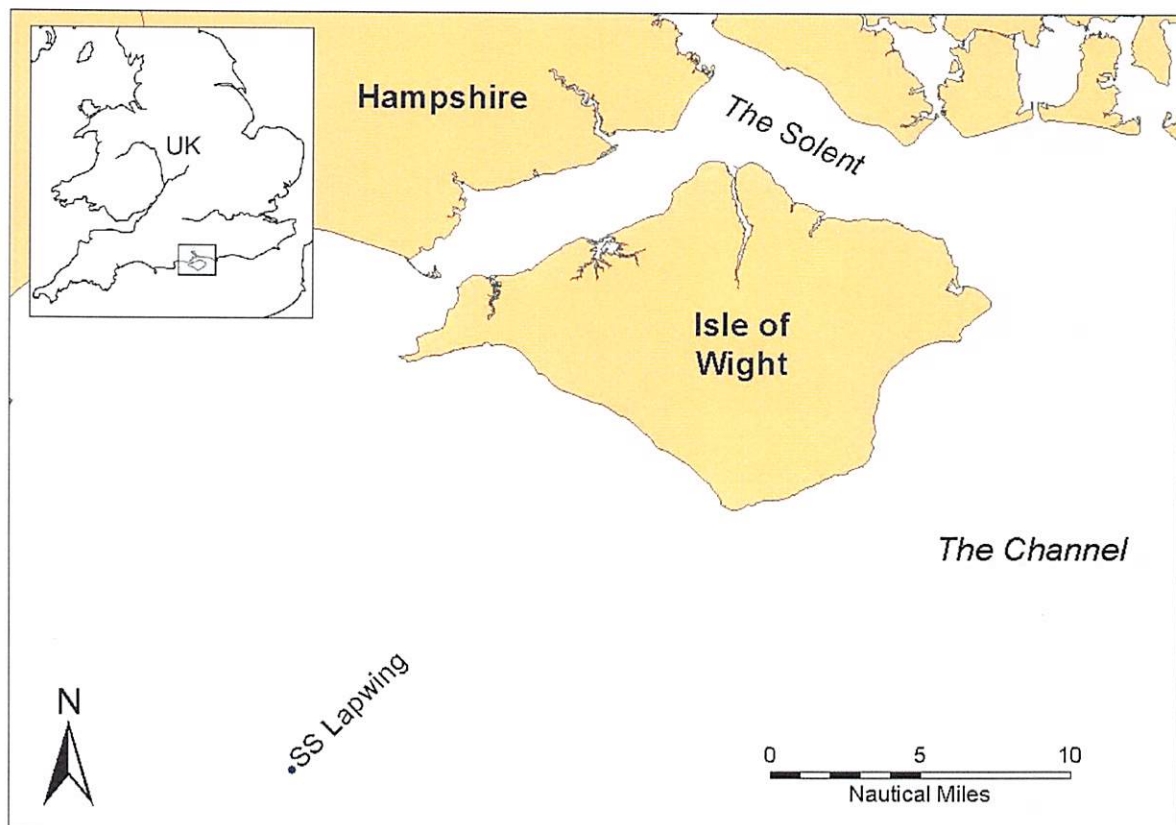


Figure 24. Location of the site, marked as SS Lapwing, to the south of the Isle of Wight. Location data has been provided by Dave Wendes.

The engine, main boiler and the donkey boiler are upstanding to one end of the site, these were originally fitted aft on the vessel, and forward of these on the site the wreckage is more dispersed and lies flatter to the seabed. The vessel's identity was confirmed by the engine maker's nameplate recovered from the site during previous diving activity (Wendes, 2006).

3.4.2 Vessel History

The *Lapwing* was an iron hull screw steamer with sails owned by the Cork Steam Ship Company and built for them by Palmer's Company, Newcastle. The vessel was equipped with a compound engine with two cylinders, a main boiler and a donkey boiler. The ship transported general cargo and passengers between Liverpool and Rotterdam, and at the time of its sinking was on route to Rotterdam with four passengers and a full general cargo

including mahogany and bales of cotton. The *Lapwing* was lost due to collision with the iron sailing barque *Abbey Holme* (Wendes, 2006).

The *Lapwing* left Liverpool on Friday 29th June 1872 under the command of Captain Cullen, and by the night of Sunday 30th June the vessel was approaching the Isle of Wight in a south-westerly force 5-6. The *Abbey Holme* was on route from London to Brisbane with a full general cargo and was tacking down the Channel. The crew of the *Abbey Holme* had hailed the *Lapwing* and received a response, but the *Lapwing* carried on, failing to give way to the sailing ship. Captain Robinson of the *Abbey Holme* attempted to lessen the collision by steering away, but the barque struck the *Lapwing* on the port side aft also destroying the port lifeboat. The collision caused the funnel to topple over, crashing into the starboard lifeboat and leaving the ship's dinghy with a capacity for three persons as the only rescue vessel on board for the nineteen crew and four passengers (Wendes, 2006).

Just after the collision the *Lapwing's* engineer, a stewardess and the quartermaster climbed aboard the *Abbey Holme* before the two ships separated. Boats were lowered from the *Abbey Holme* but were not able to rescue anyone. Seven members of the *Lapwing's* crew took to the ship's dinghy, including Captain Cullen, but as the *Lapwing* sunk this was pulled under and all seven drowned. Henry Emanuel, a fireman aboard the *Lapwing* saw the drowning and after donning a lifejacket decided to stay aboard the *Lapwing*. He was pulled under with the *Lapwing* but regained the surface, though without his lifejacket. The *Abbey Holme* was nowhere in sight so he climbed aboard a bale of cotton, and was saved on 1st July, 18 hours after the *Lapwing* went down, by the Sunderland steamer *Lady Anne*. Three others were picked up from floating bales of cotton, one found on 2nd July by a fishing smack, and two by the ship *Rhine*. Aside from the three who made it aboard the *Abbey Holme* these four were the only survivors. Over the few days following the collision more than 58 bales of cotton, 9 mahogany logs and a bale of wool were picked up (Wendes, 2006).

3.4.3 Survey Results

The project dive took place on 17th October 2010 in good visibility allowing for a comprehensive assessment of the shipwreck remains. Within the time constraints of the dive a sketch was produced based on information provided by David Wendes prior to the dive and the observations of team members on the day.

The stern and bow extents of the wreckage can be discerned through the propeller at one end of the site and the anchors at the other, the rest of the archaeological remains are distributed between these two areas.

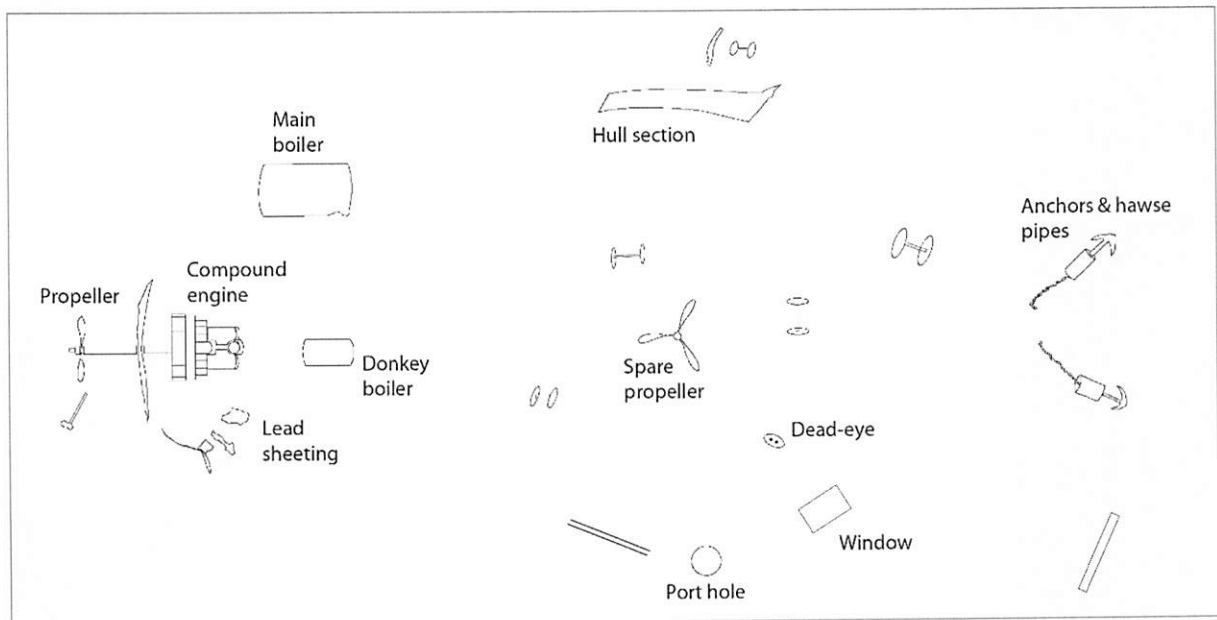


Figure 25. Sketch of features on the SS Lapwing site.

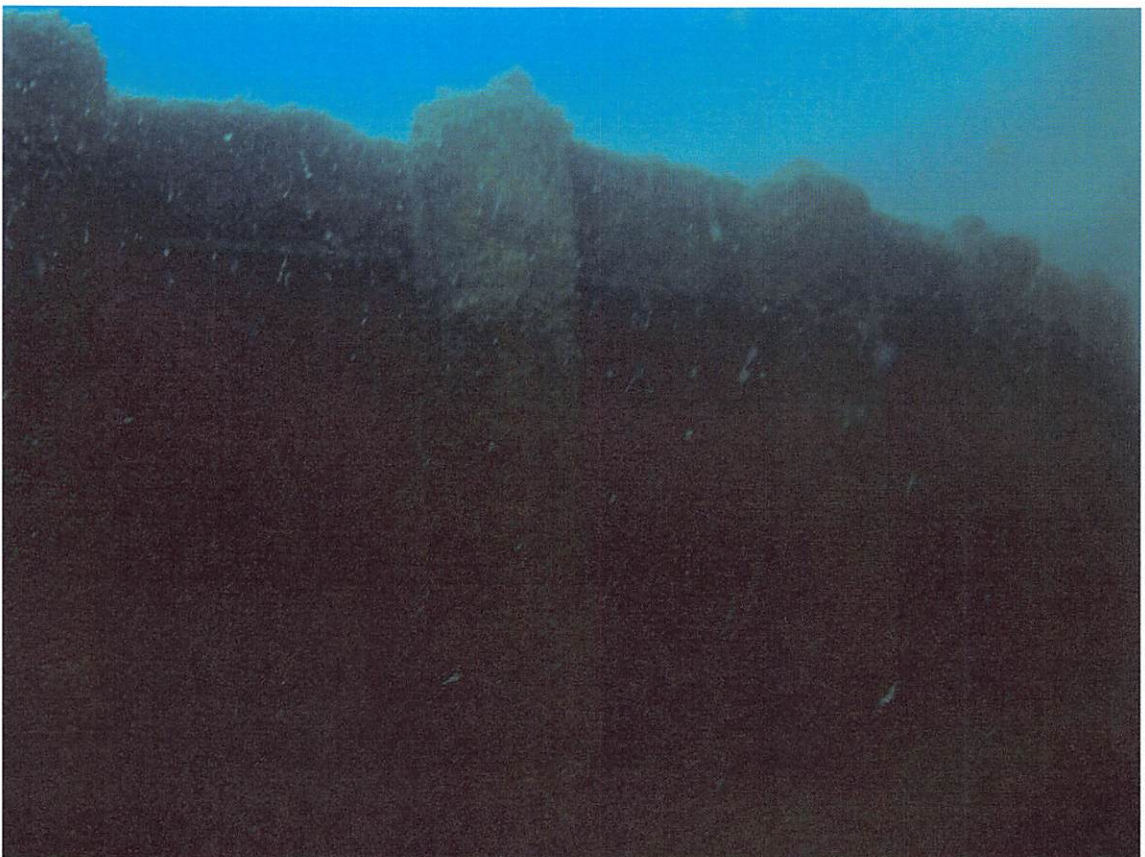
The shot was positioned next to the engine near the stern of the wreckage. The engine is the highest section of wreckage and stands approximately 5 metres high above the seabed (Figure 26). There is a section of stern hull plating between the engine and the propeller (Figure 27).

Directly forward of the engine lies the donkey boiler, whilst to the port side of this the main boiler can be seen (Figures 28 and 29). Throughout the site are a variety of winches (Figure 30), also visible are sections of hull plating lying flush to the seabed, a spare propeller in the middle of the site, and a porthole (Figure 31) and window in the starboard section of the site.

At the bow of the site two anchors are visible (Figure 32); these mark the extent of the site with no further remains found beyond these so far.



*Figure 26. Compound engine on the site of the Lapwing.
(copyright Dave Robbins)*



*Figure 27. Hull structure at stern of the Lapwing site
(copyright Dave Robbins)*



*Figure 28. Main boiler on the Lapwing site.
(copyright Dave Robbins)*



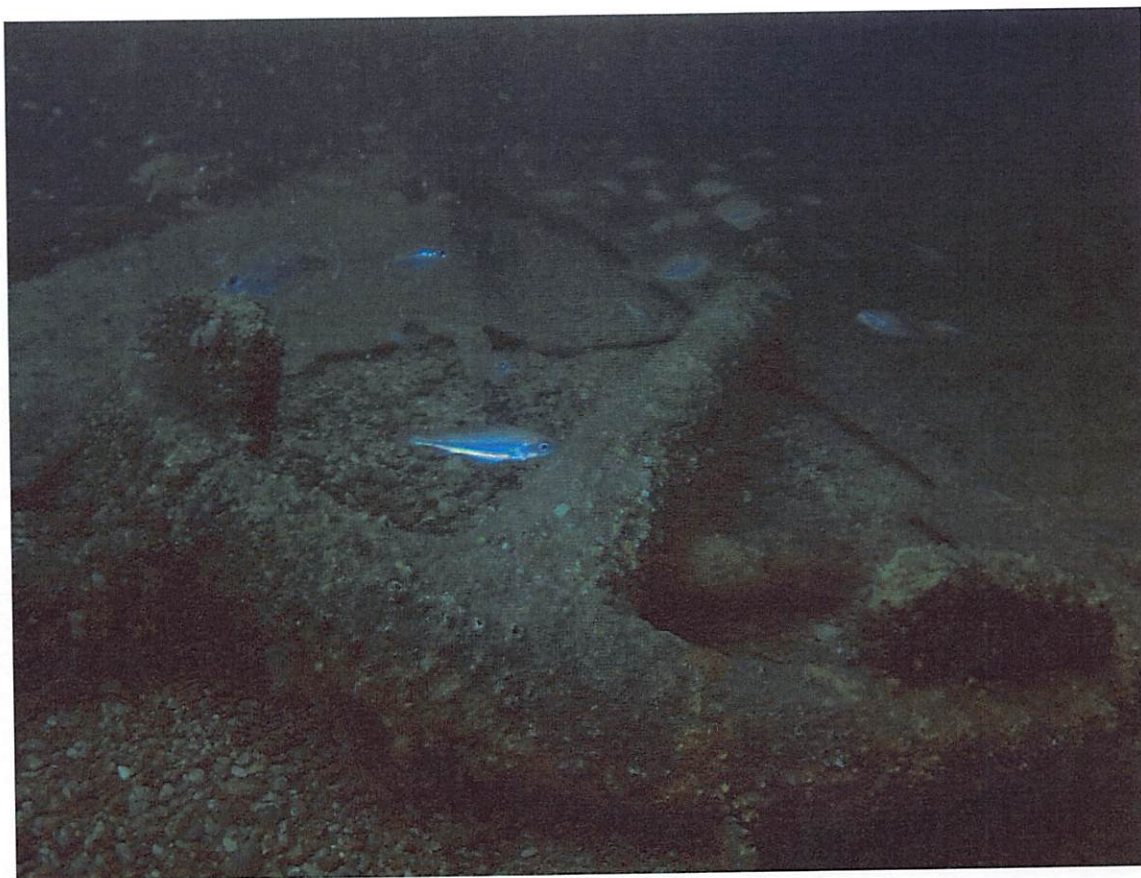
*Figure 29. Donkey boiler on the Lapwing site.
(copyright Dave Robbins)*



*Figure 30. One of the winches on the Lapwing site.
(copyright Dave Robbins)*



*Figure 31. Porthole in the starboard area of the Lapwing site.
(copyright Dave Robbins)*



*Figure 32. Anchor at the bow end of the Lapwing site.
(copyright Dave Robbins)*

3.4.4 Conclusions

The *Lapwing* site is a good example of a largely untouched seabed archive. Due to its generally unknown location the site has retained some features which it is unusual to find on more frequently dived sites. This site warrants further assessment including the accurate determination of its full extent and the production of a more detailed site plan.

3.5 19TH CENTURY WOODEN SAILING SHIP

The site of the wooden sailing ship came to the attention of Dave Wendes through data recorded by the United Kingdom Hydrographic Office (UKHO). The UKHO recorded the site as an area of foul ground which could possibly be the wreckage of a schooner called the *Neath*. This site formed part of the diving schedule for the New Forest Coastal Zone Assessment, a joint project between Wessex Archaeology and the New Forest National Park Authority funded by English Heritage (<http://www.newforestnpa.gov.uk/lookingafter/landscape/archaeology/coastal.htm>). As a result of the diving that took place under this project, a site plan was made available to this project prior to our survey dives on 30th and 31st October 2010 and 16th April 2011, to which the observations from our diving activities could be added.

The vessel formed one of the targets for this project as it provided an almost unique opportunity to dive an untouched site, with the original wreck remains presumed to be undisturbed by previous diving activity. The depth of the site, at a maximum of 21m also allowed for the inclusion of divers with a range of qualifications and differing degrees of experience in archaeological survey to take part in the assessment of this site.

3.5.1 Site Description

The site is located within Thorness Bay, between Cowes and Yarmouth on the Isle of Wight (Figure 33). Due to the nature of the artefacts on site and the possibility of their disturbance or removal by diver activity it is not possible for the co-ordinates to be publicly disclosed. Dave Wendes has confirmed the position and depth of the site using a combination of DGPS and sonar equipment.

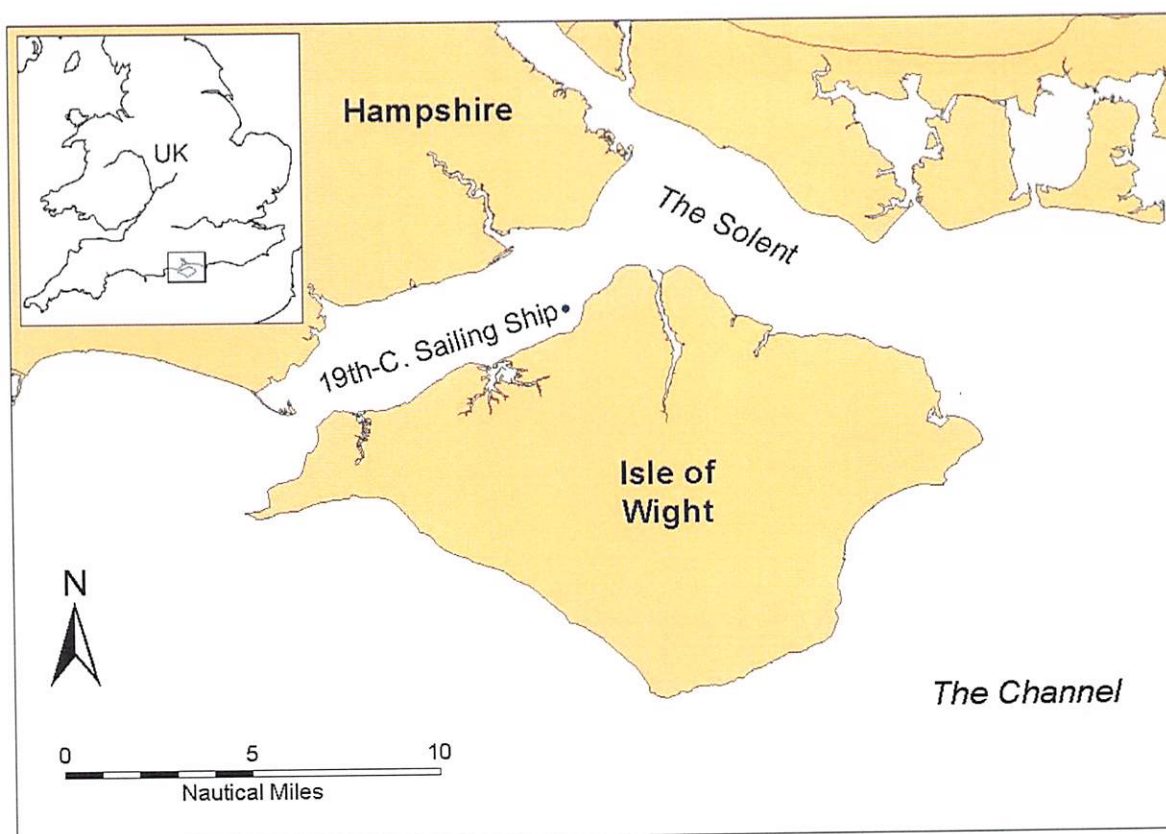


Figure 33. Location of the site, marked as 19th-c. Sailing Ship, to the north of the Isle of Wight. Location data has been provided by Dave Wendes.

The site is at a maximum depth of 21m and contains the remains of a wooden merchant sailing vessel. The wreck lies with the bow pointing south and the stern to the north, with the wreck remains lying across the tide. The site is approximately 30m long by 10m wide and consists of ship structure, fixtures and fittings and many small finds. The remains date the ship to the mid to late 19th century. The identity of the vessel remains unconfirmed, the site was first recorded by the UKHO in 1914 but the date of sinking is unknown. The site was last surveyed by the UKHO in 2007 when side scan sonar and swath bathymetry images were recorded. The UKHO record suggests the vessel is possibly the *Neath*, but there appears to be no documentation in support of this. Prior to the inclusion of the site in the New Forest Coastal Zone Assessment in 2010 no diving activity or site investigations appear to have taken place.

3.5.2 Survey Results

The site was subject to three survey dives on Saturday 30th and Sunday 31st October 2010 and Saturday 16th April 2011 from the dive boat *Wight Spirit*. The tasks were undertaken in the window of slack or near slack water. The main purpose of the diving activities was to confirm the extent, density and preservation of the site.



Figure 34. Team briefing on the dive boat prior to survey.

The visibility on site varied between the dives ranging from 0.5m to 1.5m, and a torch was necessary as all the dives were subject to low light conditions. This made surveying and recording the site challenging. Taped measurements of distances between observed archaeological features, and measurements of the features themselves were recorded. A site plan was produced using baseline offsets which is illustrated in Figure 35, a larger version can also be seen in Appendix III.

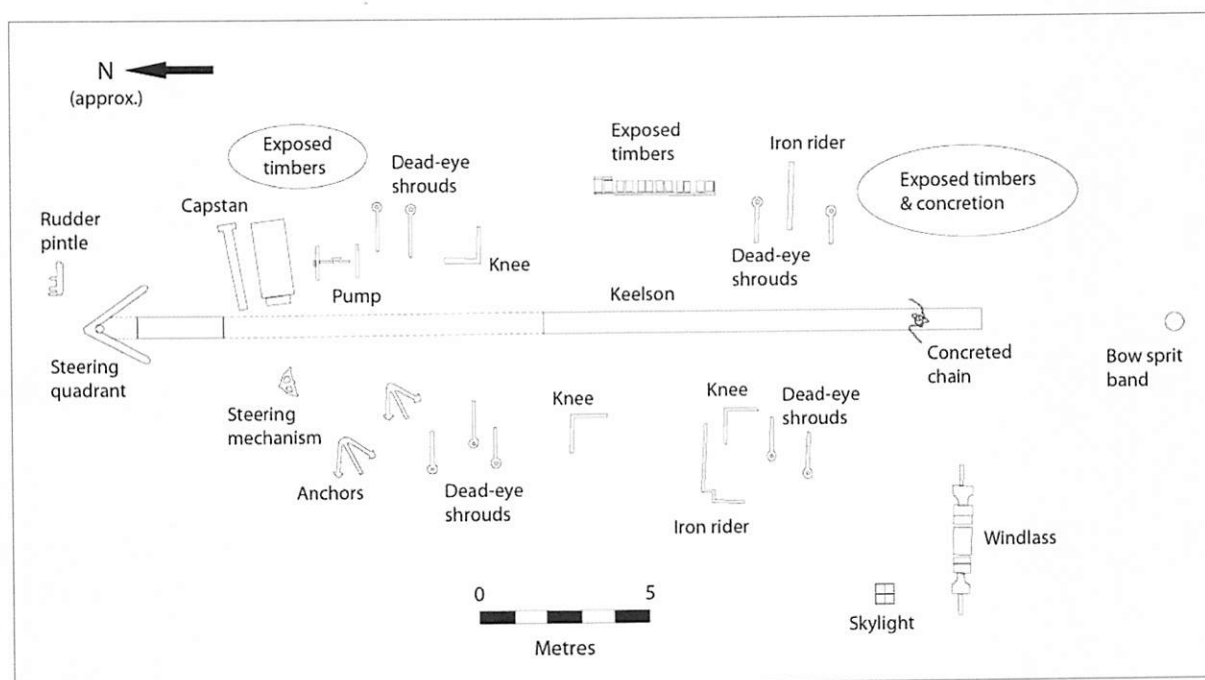


Figure 35. Measured site plan of 19th century wooden sailing ship site.

Most of the wreck lies close to the seabed, with the ship's keelson visible intermittently along the length of the site. The stern end of the vessel is defined on site by the presence of the steering quadrant and the rudder pintle (Figure 36), whilst the bow end is identified through the presence of the ship's windlass. In addition to the steering quadrant and rudder pintle other fixtures and fittings are visible towards the stern along the centre line of the keelson, or within 2m to either side, including the possible capstan and the ship's pump flywheel. Glass bottles are to be found all over the stern and midships area, and a complete wooden barrel (Figure 37) and staves from other barrels were observed in the midships area. Towards the bow, outside the main area of wreckage, a window or skylight was observed (Figure 38). This is partially exposed on the seabed, consisting of a square wooden frame, divided into four sections by internal wooden struts. Two panes of glass are still extant on the seabed.

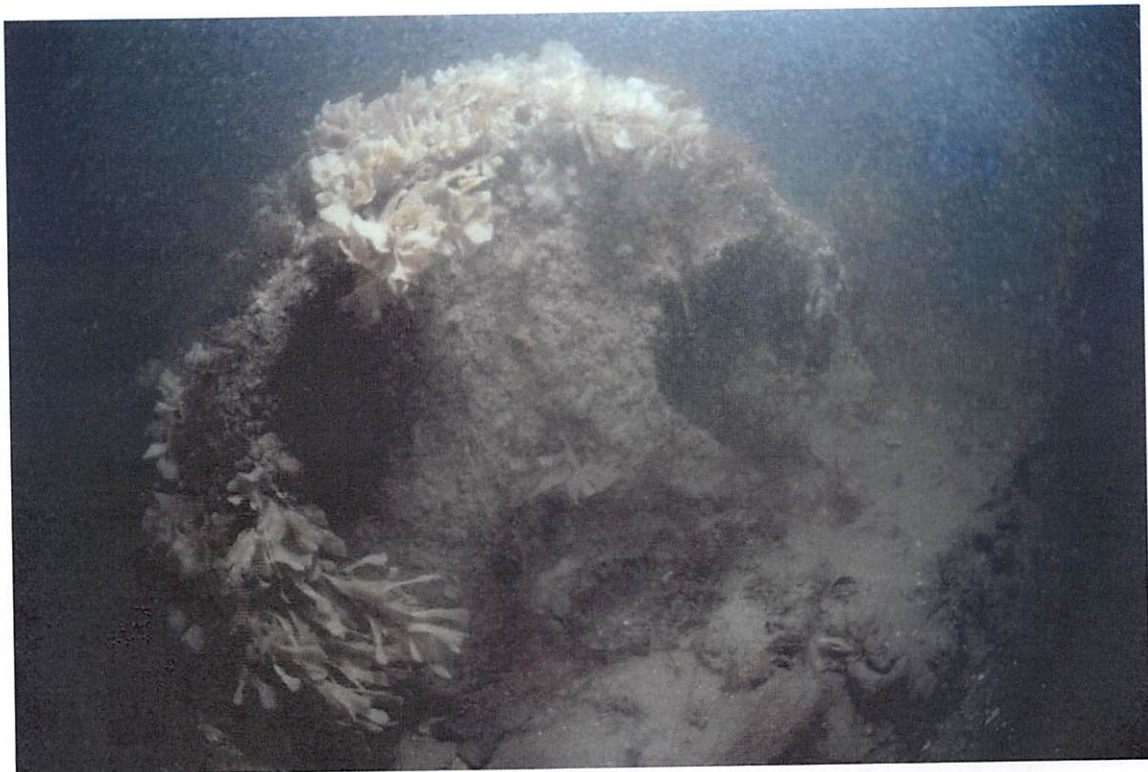
As well as the keelson, other elements of structure are visible on the site. On the port side, the section midway down the keelson on the site plan is upstanding structure approximately 1m in height that can be clearly identified as frames and inner and outer planking (Figure 39). Further towards the bow there is a section of timbers and concreted material which is harder to define. The port side of the wreck appears subject to more scour, and is therefore more exposed, than the starboard. Possible deck beams and planking were observed flush with the seabed on the starboard side. There is presumably further structure under the sediment on both sides of the site. In addition to the timber elements ship structure is also present throughout the site in the form of numerous iron knees, iron riders and copper alloy metal fastenings of different sizes and types. Concreted shrouds and circular iron strapping which would have fitted around a wooden deadeye are also prevalent, though the deadeyes themselves are mainly gone.

The copper alloy fastenings indicate a vessel constructed after 1850, whilst the length and width of the keelson suggest a fairly large vessel of at least 27m in length. The double framing suggests the vessel was designed to carry heavy cargoes. There is no evidence of any engines, suggesting propulsion was by sail, and the position of the rigging elements in two groups on the site implies the presence of two masts. The survival of the hull structure,

the ships fittings and fixtures and the small finds suggests the presence of an almost complete assemblage of a mid to late 19th century merchant sailing vessel.



*Figure 36. Rudder pintle on the 19th century wooden sailing ship site.
(copyright Michael Pitts)*



*Figure 37. Wooden barrel on from the 19th century wooden sailing ship site.
(copyright Michael Pitts)*



*Figure 38. Window or skylight towards the bow of the site.
(copyright Michael Pitts)*



*Figure 39. Diver recording port side structure.
(copyright Michael Pitts)*

3.5.3 Conclusions

The 19th century merchant sailing vessel site is significant due to the range of archaeological artefacts relating to all aspects of structure and function of the ship. Following the work on the site for the New Forest Coastal Zone Assessment English Heritage requested that

Wessex Archaeology undertake an Undesignated Site Assessment. As a result this site is currently being considered for designation under the Protection of Wrecks Act (1973).

The site offered the opportunity for divers of at all levels of qualifications to take part in exploring the site, and adding their observations to the information regarding the site and to the site plan. This was a unique opportunity to dive and survey the undisturbed wreck of a merchant sailing vessel, and offered a contrast to the other wreck sites dived during the course of the project, which with the exception of the wooden collier took the form of metal wrecks with clear elements of upstanding structure.

3.6 SS SERRANA

The survey of the *Serrana* took place on 4th September 2010 as a second dive following the *Londonier* assessment. The *Serrana* at a depth of 18m allowed divers with different levels of qualifications to join the dive, and practice archaeological recording skills.

This site formed part of the diving schedule for the New Forest Coastal Zone Assessment (<http://www.newforestnpa.gov.uk/lookingafter/la-landscape/archaeology/coastal.htm>), a joint project between Wessex Archaeology and the New Forest National Park Authority funded by English Heritage.

3.6.1 Site Description

The shipwreck remains of the SS *Serrana* are located with the bows at 50° 39.62' North, 001° 36.16' West WGS84 and the stern at 50° 39.87' North, 001° 35.82' West WGS84 (Figure 40). The site location has been provided by Dave Wendes, who has confirmed the position and depth of the site using a combination of DGPS and sonar equipment. The site is in two parts, with the bow section on the Bridge Reef in about 8m much flattened but with some cargo remaining, and the stern section standing 5m from the seabed in a depth of 18m (high water). At the stern the boilers, engines, after holds and gun are visible with the engine lying on its side. The ship's identity is confirmed through contemporary reports and the recovery of the ship's bell during previous diving activity.

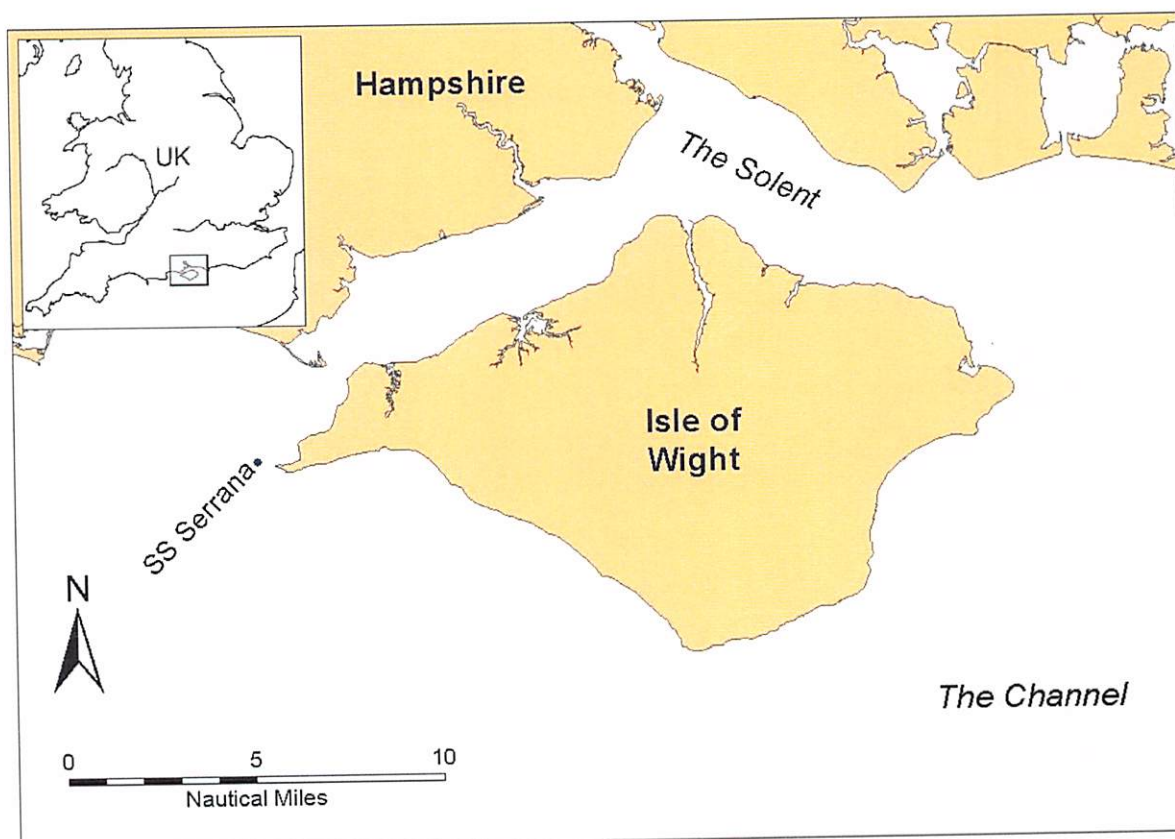


Figure 40. Location of the site, marked as Serrana, to the west of the Isle of Wight. Location data has been provided by Dave Wendes.

3.6.2 Vessel History

SS *Serrana* was a steel screw steamer with one deck and a schooner rig. The vessel was built by John Readhead of South Shields in September 1905, was 353' 4" in length, 47' 6" in

width and 15' 3" in depth with a tonnage of 3,677. The *Serrana* had a triple expansion three cylinder engine with two single ended boilers. She was owned by Scrutton & Sons and was on course from London to Barbados with a general cargo of 300 tons, 500 tons of coal and 112 bags of mail. At the time of the wreck the vessel was armed with a stern gun and two howitzers (Wendes, 2006).

The captain of the *Serrana*, Albert George Maskell, reported that on Tuesday 22nd January 1918 at 4.35am an explosion occurred on the port side amidships and in less than 5 minutes water was washing across the deck. The *Serrana* was torpedoed approximately 10 miles south of St Catherine's lighthouse on the Isle of Wight by the German U-Boat, *UB-35*. Forty-three members of the crew were saved in boats, one dying after reaching land. Two passengers drowned and three stokers were killed in the stokehold (Wendes, 2006).

The Auxiliary Patrol Force vessel, *White Oak*, heard an explosion and reached the *Serrana* at 5.35am finding the vessel just after the boats had left. The *White Oak* sighted *Torpedo Boat No 21* and requested they signal the state of the *Serrana* and request more vessels aid in towing and beaching the *Serrana*. The tugs *Grappler* and *Walvisch* came and all three vessels began to tow the *Serrana*. SS *Serrana* reached the Bridge Reef but grounded and later broke her back on the reef. The stern section floated clear and sank. The two parts of the *Serrana* are still in the positions described in 1918, with the bow on the reef and the stern lying about 400 yards north west of the lighthouse (Wendes, 2006).

3.6.3 Survey Results

The stern section of the wreck site of the SS *Serrana* was subject to diver survey on Saturday 4th September 2010 from the dive boat *Wight Spirit*. Whilst over the site Dave Wendes recorded a side scan sonar image, on which the boilers, engine and propeller are visible (Figure 41).

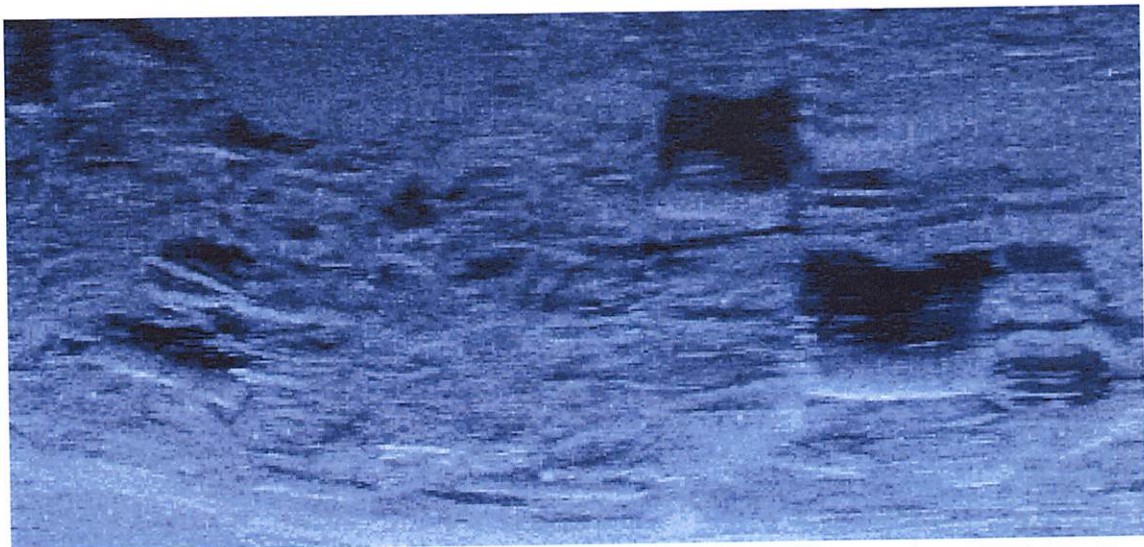


Figure 41. Side scan sonar image of Serrana site.
(copyright Dave Wendes)

The survey tasks were undertaken by divers in the window of near slack water with a slight tide. The main purpose of the diving activities was to confirm the extent, density and preservation of the site. Over the course of the dive a sketch of the larger features of the *Serrana* site and their relative positions was created (Figure 42).

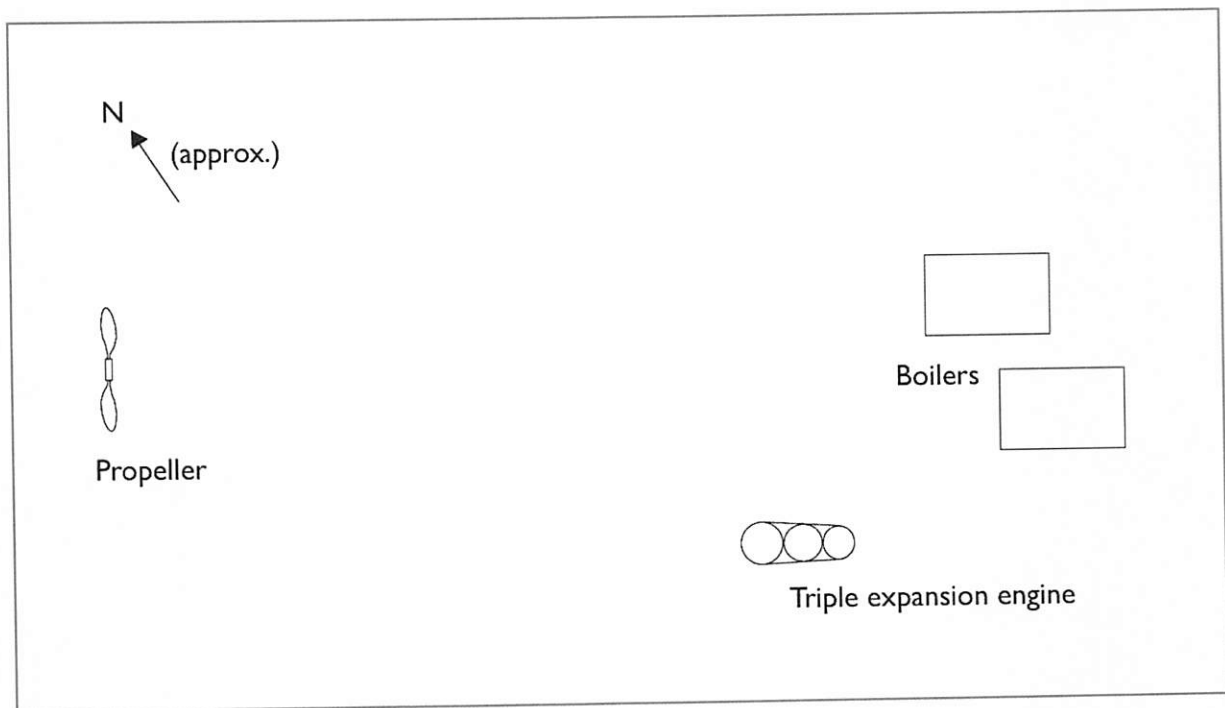
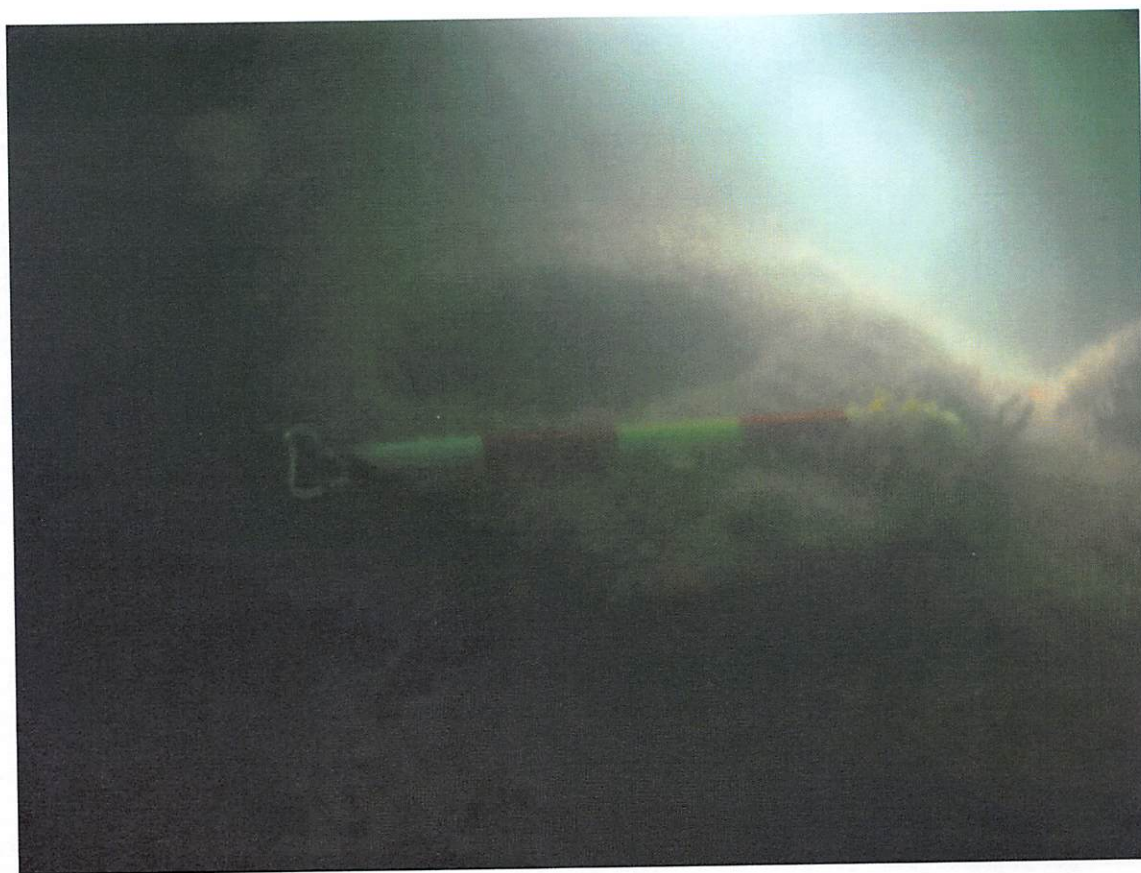


Figure 42. Sketch of the major features on the Serrana site.

The stern section consists of the boilers, engine, after holds, gun and propeller. The boilers form an identifiable feature at one end of the site (Figures 43 and 44) though some sections of ship structure are visible forward of these lying mainly flush with the seabed. The engine is to the aft and starboard of the boilers, lying on its side (Figure 45). Between the boilers and the propeller are large sections of hull structure forming the remains of the hull and the aft holds. The propeller forms the stern extent of the site (Figure 46). To the stern of the vessel a gun also remains on the site, though this was not observed in the course of the project dive. The gun is evidence of the common practice of fitting merchant vessels with armament post-1915.



*Figure 43. Fire tubes visible within Scotch boiler.
(copyright Michael Pitts)*



*Figure 44. Opening for steam drum on top of Scotch boiler.
(copyright Michael Pitts)*



*Figure 45. Bolts from engine on the Serrana.
(copyright Michael Pitts)*



*Figure 46. Propeller at stern of Serrana site.
(copyright Michael Pitts)*

3.6.4 Conclusions

The *Serrana* offered an ideal site for the sharing of experience in underwater archaeological survey, being at a depth that offered access to divers of all levels of qualification and having

clearly identifiable elements of upstanding structure. A sketch of the site was produced, but this could be a future target for more detailed photography and measurements, offering the advantage of its accessibility in terms of depth and the often good visibility to be found on site.

4. Interpretation and Assessment

The aim of the project was to undertake archaeological surveys of wreck sites that had not been subject to previous archaeological assessment. The objectives were:

- to undertake survey of wreck sites through diver recording;
- to maintain and develop survey and post-survey skills of project members; and
- to contribute to the knowledge of the archaeological sites through production of a field report.

During the course of the project five sites were surveyed and were subject to diver recording and the production of site plans or sketches:

- the wooden collier;
- SS *Londonier*;
- SS *Lapwing*;
- 19th century wooden sailing ship;
- SS *Serrana*.

In the case of the wooden collier and the *Lapwing* these sites had not been subject to any previous archaeological survey. The first diver survey data relating to these sites are the site sketches produced and the information gathered by this project. The *Londonier* was surveyed by the HWTMA during the course of the 2010 dive season, but they have undertaken only one dive on the site to date in low visibility conditions so the information gathered by this project forms a core part of the ongoing investigation and assessment of the site. All of these three sites were at a maximum depth of 40m so only experienced divers took part in the assessments. This did not however limit the opportunity to develop the skills of project members as a number of the divers that took part in these surveys had not previously used underwater survey techniques or taken observations in the course of the dive that they later reported

The 19th century merchant sailing vessel and the SS *Serrana* were both selected as sites to be surveyed by this project due to their depth allowing divers of all levels of qualification to take part in the diving on the sites. These sites were both subject to survey and assessment as part of the New Forest Coastal Zone Assessment by the New Forest National Park Authority and Wessex Archaeology in the 2010 dive season. The 19th century merchant sailing vessel was a previously unknown site, and so the information gathered during the three dives undertaken on the site as part of this project have added to the ongoing development of a detailed picture of the seabed archive. The *Serrana* is a popular sports diving destination, but previous to 2010 has not been subject to archaeological assessment. The good visibility on site and the large upstanding features made this an ideal target for training purposes, allowing the development of archaeological skills amongst those not previously experienced in underwater survey techniques.

Post-survey skills of project members were maintained through the reporting of dive observations and the creation of the site plans available in this report. The information in this report will be made available to the HWTMA to be added to their archive of site information relating to the Solent region and south of the Isle of Wight. By providing this information to HWTMA it will be fed into heritage management datasets, and through this the sites we have assessed will become part of the available data resource for any future research.

5. Possibilities for Future Work

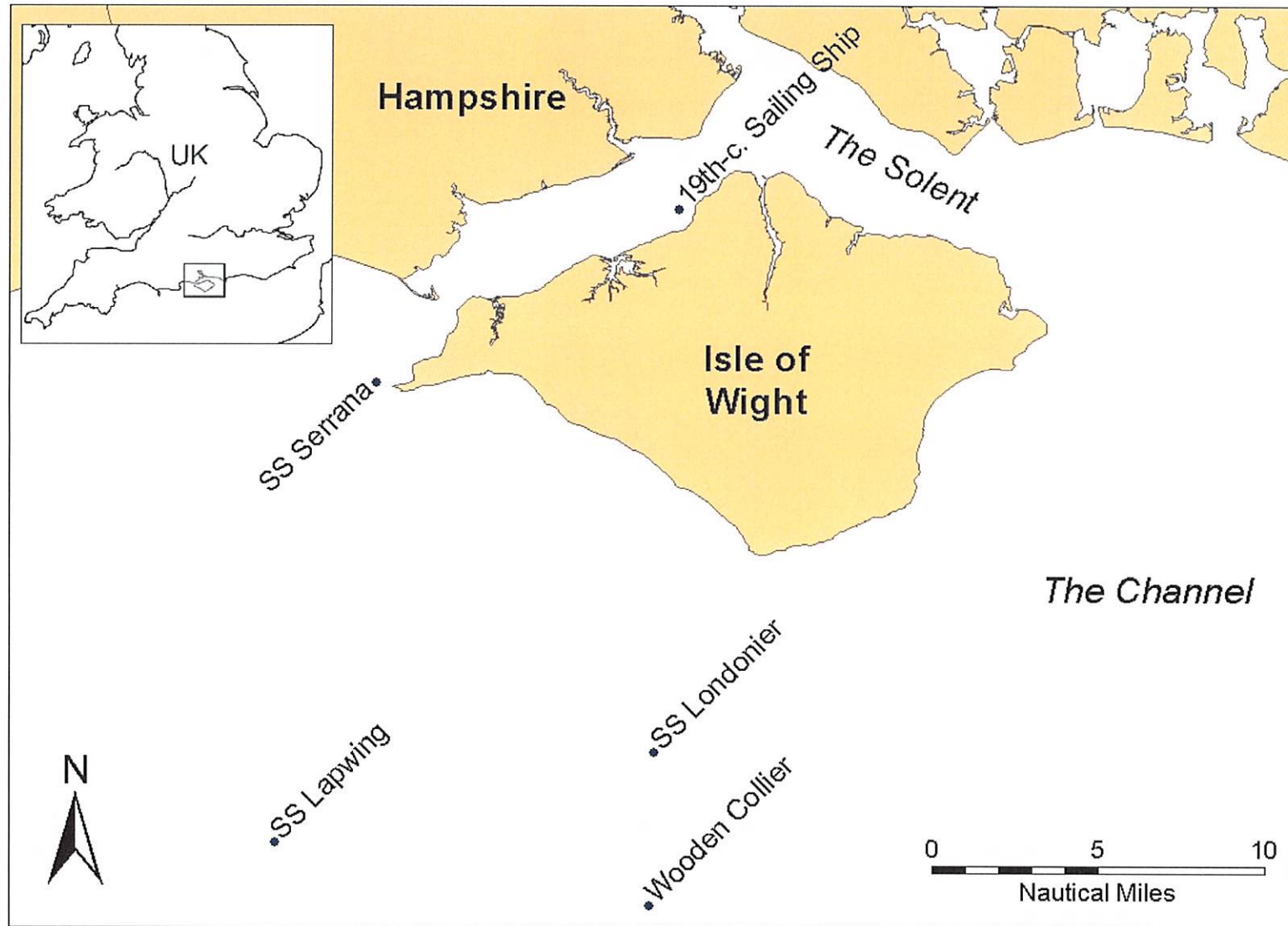
During the course of the current project the aim of protecting and sustaining historic wrecks for future generations through investigation and preservation by record has been achieved. There are now site plans and sketches of five wrecks with associated observations recording their condition and notable features at the time of survey. If possible SADSAC would like to continue to carry out archaeological surveys on wreck sites in the Solent for which there is little current recorded information.

In addition, in the course of the sharing of experience and skills during the current project it has become apparent that not all divers are able to accurately identify wrecks parts and features in the underwater environment. A future project would therefore be to use archaeological survey skills and professional and highly skilled photographers to allow the development of a series of photographs and drawings that will be used to help recreational divers recognise the way specific bits of a wreck might look underwater. The end result would be to develop a guide following the model set in D.L. Stone's *The Wreck Divers Guide to Sailing ship Artefacts of the 19th Century* illustrating what the structures and artefacts that divers see underwater are, and what they would have looked like as ship components prior to the wrecking event.

Appendix I – Project Team

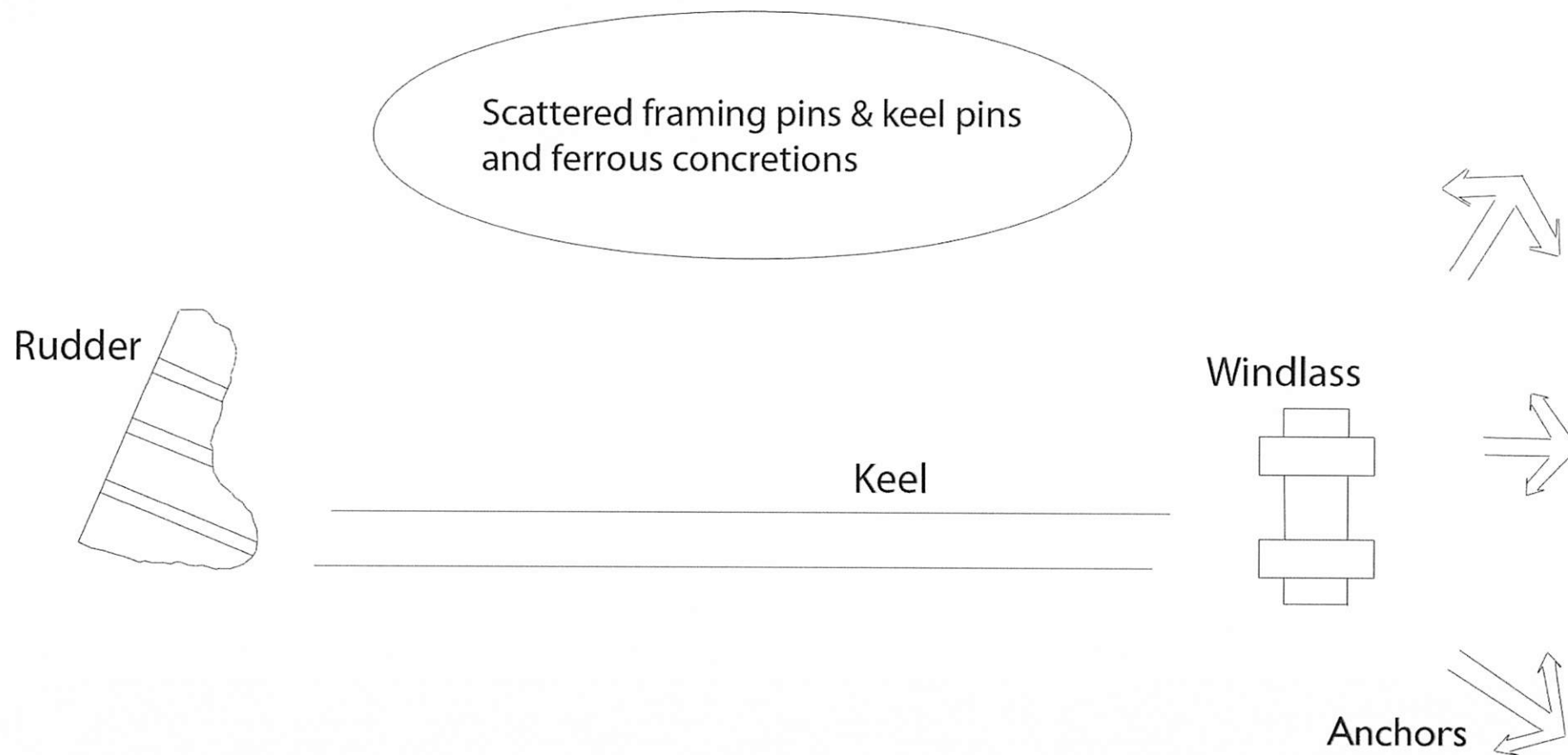
Victoria Millership	SADSAC Member, Project Co-ordinator, Maritime Archaeologist
Jane Maddocks	SADSAC Member, Maritime Archaeologist
Daniel Pascoe	SADSAC Member, Maritime Archaeologist
Jan Gillespie	SADSAC Member, Maritime Archaeologist
Dave Robbins	Project Volunteer, Photographer
Lauren Tidbury	Project Volunteer, Maritime Archaeologist
Philip Alcock	Project Volunteer
Doug McElvogue	Project Volunteer, Maritime Archaeologist
Steve Kent	Project Volunteer
Olivia Chalwin	Project Volunteer, Maritime Archaeologist
Steve Gaynor	Project Volunteer, Maritime Archaeologist
Mark Hobbs	Project Volunteer
Rebecca Causer	Project Volunteer, Maritime Archaeologist
Rachel Bynoe	Project Volunteer, Palaeolithic Archaeologist
Christin Heamagi	Project Volunteer, Maritime Archaeologist
Trevor Pepper	Project Volunteer
Julian Hale	Project Volunteer
Nick Beaubien	Project Volunteer, Maritime Archaeologist
Chris Ringrose	Project Volunteer
Craig Bishop	Project Volunteer

Appendix II – Site Locations

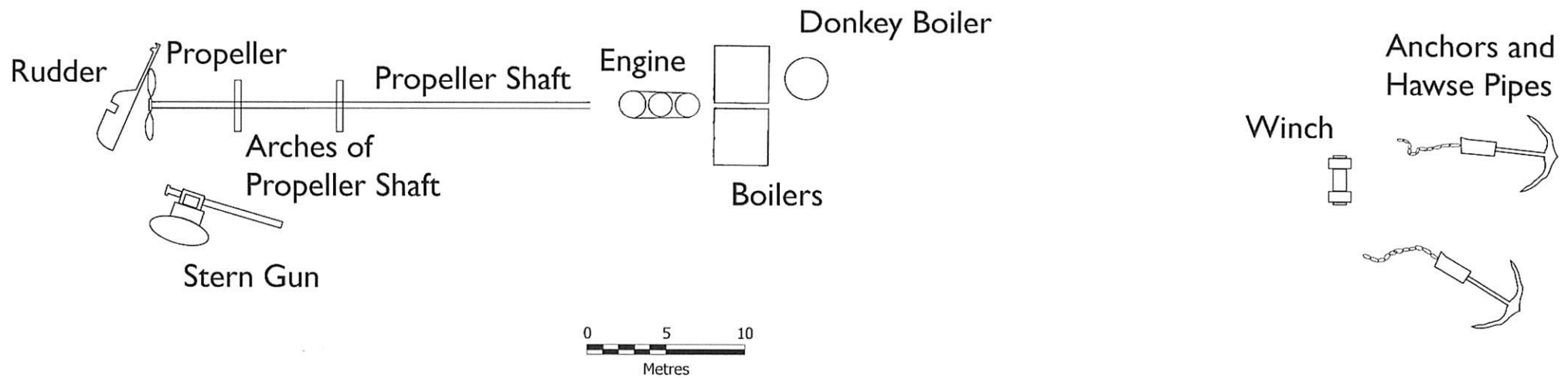


Appendix III – Site Plans

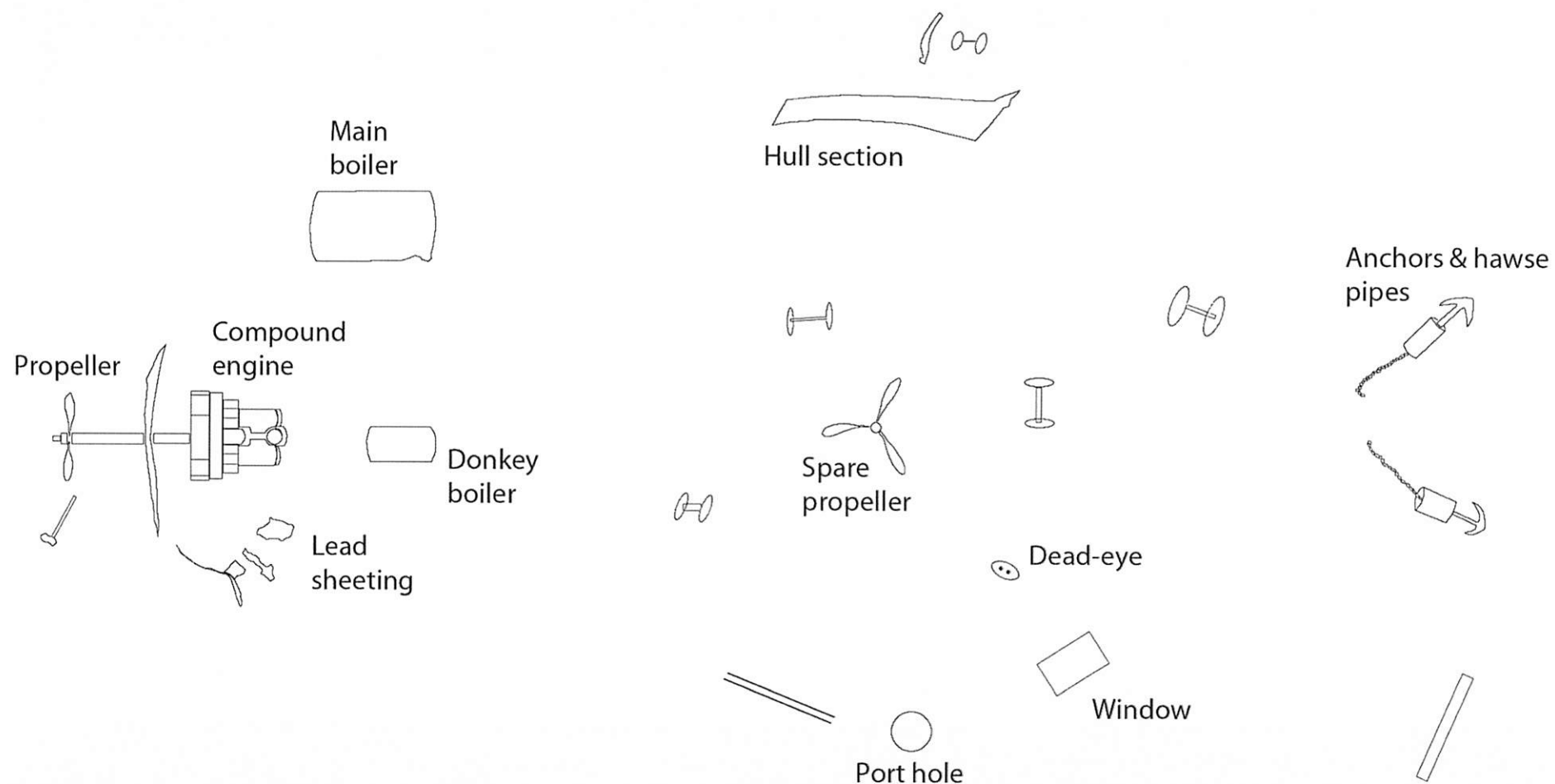
III.1 WOODEN COLLIER



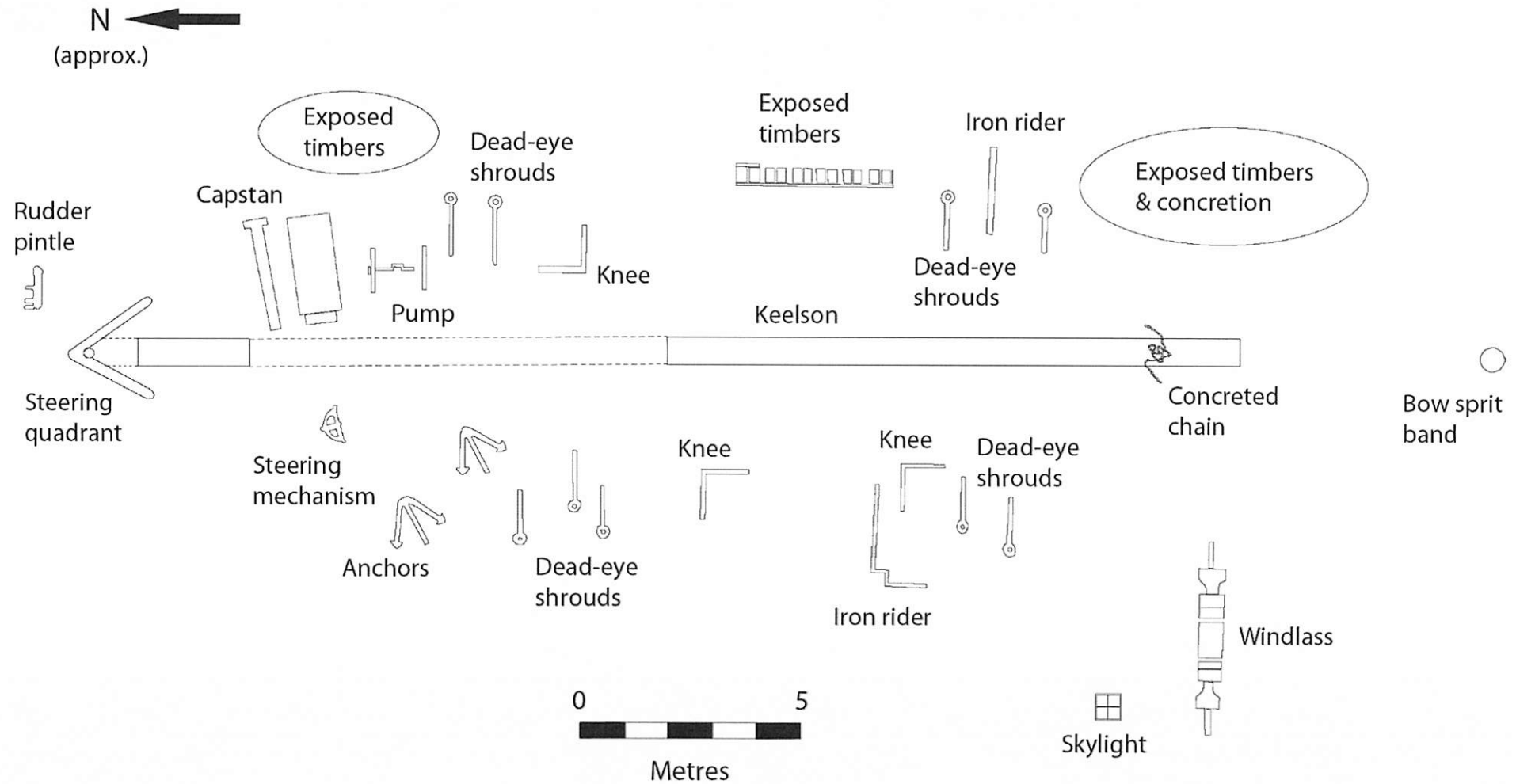
III.2 SS *LONDONIER*



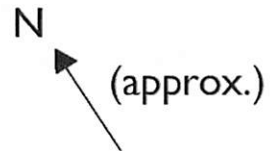
III.3 SS *LAPWING*



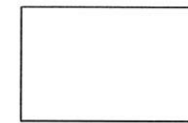
III.4 19TH CENTURY WOODEN SAILING SHIP



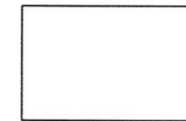
III.5 SS *SERRANA*



Propeller



Boilers



Triple expansion engine