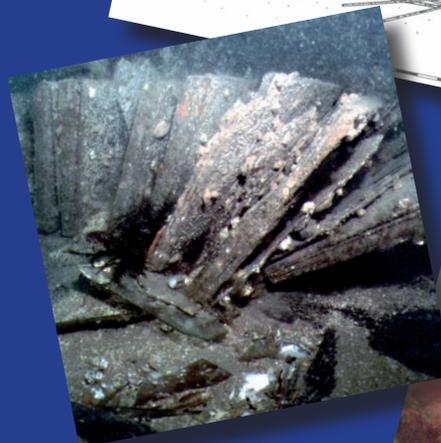
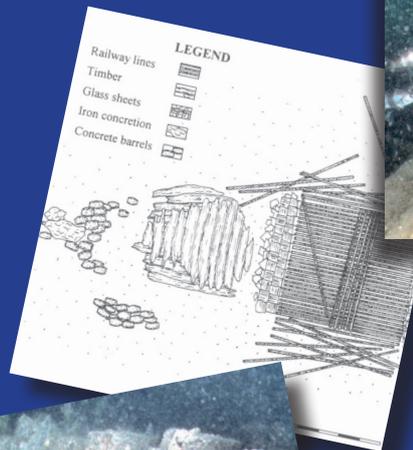




# Solent Maritime Heritage Assets

## The Fenna

### Site Assessment



September  
2010



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**II. DOCUMENT CONTROL**

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<i>This project design has been prepared in accordance with MoRPHE guidelines (English Heritage 2006)</i>	

**III. ACKNOWLEDGEMENTS**

This report has been generated under the banner of the ‘Solent Marine Heritage Assets project’ which was commissioned by English Heritage (EH) following a proposal from the Hampshire and Wight Trust for Maritime Archaeology (HWTMA). The project has been designed as a heritage partnership which promotes a mutually beneficial working relationship between EH and the HWTMA. The work undertaken is arranged in conjunction with other HWTMA research work, to allow most effective use of resources. The project also uses data and information gathered by the HWTMA over the past 19 years. The project results help fulfil the agendas of both EH and HWTMA.

This report has drawn on the archive held by the HWTMA related to the *Fenna* site, and it has also required additional staff resources which have

been funded through the Interreg IV project Archaeological Atlas of the Two Seas.

The HWTMA would also like to acknowledge a range of funders who, through their support of work on the sites included within the Solent Marine Heritage Assets project and other complementary research have helped make this project possible. These include: Hampshire County Council, the Isle of Wight Council, Southampton City Council, English Heritage, Defra's Aggregates Levy Sustainability Fund, the Crown Estate, the Heritage Lottery Fund, the Gosling Foundation, Herapath Shenton Trust, Daisie Rich Charitable Trust, Aiken Foundation, D'Oyley Carte Trust, Roger Brookes Charitable Trust, John Coates Charitable Trust and the Charlotte-Bonham Carter Charitable Trust. Additionally we would like to acknowledge the help and support of the wide range of organisations and individuals without whose help the HWTMA would not be able to achieve the results it has obtained.

The assistance provided by Mark Dunkley (now English Heritage - Heritage Protection Team) and Alison Hamer of the English Heritage Maritime Team is gratefully acknowledged.

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This report has been written by Julian Whitewright and Julie Satchell with contributions from Virginia Dellino-Musgrave. The Solent Marine Heritage Assets project has been managed by Julie Satchell.

#### **IV. COPYRIGHT STATEMENT**

This report has been produced by the HWTMA with the assistance of funding provided by English Heritage, Interreg IVA and other HWTMA funders (as shown in HWTMA Annual Report). Unless otherwise stated all images are copyright of the HWTMA.

#### **V. SUMMARY**

The Hampshire and Wight Trust for Maritime Archaeology have undertaken an assessment of the shipwreck site thought to represent the remains of the *Fenna*. This has been undertaken as part of the Solent Marine Heritage Assets project (funded by English Heritage) and the Archaeological Atlas of the 2 Seas Project (funded by European Interreg IVA).

The *Fenna* was a Dutch schooner, built in 1862 which foundered off the Isle of Wight on 10<sup>th</sup> March 1881 while en-route from Amsterdam to Messina and Trieste. The *Fenna* is recorded as carrying a cargo of iron and glass sheets.

As a vessel type, schooners played an increasingly important role in the facilitation of maritime trade in northern Europe during the 18<sup>th</sup> and 19<sup>th</sup> century. Around 3000 such vessels are listed in the National Monuments Record as being lost in English waters alone, prior to 1901. Of these, only twenty-four vessels, including the *Fenna* are of Dutch origin.

The site under assessment comprises the remains of a shipwreck, lying upright on the seafloor west of the Needles. The cargo of railway lines, glass sheets and concreted material formerly contained in wooden barrels is exceptionally well-preserved and remains stacked in-situ on the seafloor.

The seafloor environment of the site is flat, level and mainly comprised of sand and gravel. There is no evidence to suggest any current/recent alterations to this regime. The site is also home to a large amount of marine life. Although the site is currently stable, it is at risk, particularly from damage from sports divers or fishing activity. Such damage could substantially affect the site as its intact preservation is highly significant.

The HWTMA has dived on the site since 2002, following a report from Dave Wendes, a local maritime historian, who had been diving and researching the site since 2000. The site is currently listed in the National Monuments Record and in publications related to sports diving and local shipwrecks.

Diving on the site has allowed a correlation to be made between the preserved in-situ cargo and the historically recorded cargo of the *Fenna*. On this basis it seems highly certain that the site represents the final location of the *Fenna*, following its abandonment and subsequent sinking in March 1881.

This desk-based assessment draws upon the knowledge and experience generated by the HWTMA's diving operations on the site, in conjunction with that held by Mr Wendes derived from his own research into the site. This is supplemented by documentary research into sites and monuments records and historical source material held mainly in the UK.

As a result of this initial investigation, it is possible to set out a future research framework for this well preserved shipwreck that will shed significant light on shipbuilding, cargo stowage practices and trading systems in 19<sup>th</sup> century northern Europe.

Documentary sources, along with practical experience of the site has been used to generate a risk management assessment of the site according to the guidelines set out by English Heritage (Dunkley 2008). Assessment of the significance of the site against the Department for Culture Media and Sport's non-statutory criteria for the designation of shipwreck sites under the Protection of Wrecks Act (1973) has also been conducted and is included in this report.

In the case of the latter assessment, it can be concluded that the *Fenna* is a very rare site that exhibits a very high level of preservation, the site also has a high potential for future research. As such, the site of the *Fenna* should be considered of high significance with the UK's corpus of historic shipwreck remains.

## 1. Project Background

### 1.1 INTRODUCTION

The Solent has long been recognised for the importance of its marine heritage. The diversity and density of sites makes it one of the highest potential marine areas of England. The HWTMA are well placed to respond on a regional basis to sites and finds which require investigation and monitoring whether these are underwater or are in the intertidal zone. The Solent Marine Heritage Assets project has provided funding to enable the HWTMA to work together with EH to target work on marine heritage assets to enable more effective regional management and also provide a possible model for cost-effective support for developing national structures.

This report focuses on a shipwreck site, thought to be that of the *Fenna*, which has been under investigation by the HWTMA for the past eight years. This work and experience of the site has been drawn on during the process of developing this desk based assessment report, undertaken with reference to an agreed brief from English Heritage and designed to form the basis for an application for designation of the site under the Protection of Wrecks Act 1973.

### 1.2 SOLENT HERITAGE ASSETS PROJECT: AIMS & OBJECTIVES

The overall aim of the Solent Marine Heritage Assets project is for HWTMA and EH to work together to target work on marine heritage assets.

The project allows for the flexible targeting of site investigation, monitoring and reporting. It is supporting:

- Work on Solent Designated Historic Wreck Sites;
- Investigation and monitoring on non-designated wreck sites; and
- Investigation and monitoring of non-wreck sites.

The objectives comprise:

- To undertake investigation and monitoring of marine heritage assets to address specific management and/ or protection issues;
- To involve students and volunteer divers in the investigation of marine heritage assets;
- To report on condition of a range of marine heritage assets to relevant regional and national curators and advisory bodies;
- To provide locally based, reactive, ability to investigate submerged heritage assets in fulfilment of aims and priorities of both the HWTMA and EH; and
- To assess the effectiveness of the project as a model for the support of locally based investigation, monitoring and reporting for marine heritage assets.

### 1.3 THE *FENNA* OBJECTIVES

The aim of this study is to undertake a desk-based assessment of the site believed to be the *Fenna* in order to inform its future management.

The Objectives of the project are to include:

- Undertake desk based research to confirm the identity of the *Fenna* and research to identify other known losses of 19<sup>th</sup> century Dutch schooners.
- Confirm the position and extent of the site from archive dive logs, including likely accuracy of the position, and determine whether the site lies in an area of current environmental designation.
- Determine ownership of the site.
- Determine the location of material previously recovered from the site.
- Identify gaps in understanding of the site to inform any future site management.
- Undertake a Risk Assessment with reference to English Heritage's *Risk Management Handbook* (November 2008).
- Provide, as an appendix, an assessment of the site against the non-statutory criteria used to inform designation under Section 1 of the Protection of Wrecks Act 1973.

## 2. Methodology

### 2.1 APPROACH

The English Heritage Brief for this Assessment outlined that the recording level required for the work should be at Level 1a. This draws upon documentary, cartographic or graphic resources. Such resources may include photographic, geotechnical and geophysical surveys commissioned for purposes other than archaeology. In addition to this, the assessment draws upon the work of the HWTMA on the site since 2002 in conjunction with wider existing specialist research into the shipping of the period.

The assessment followed the Institute for Archaeologists Standard and Guidance for desk based assessments (November 2008).

### 2.2 RESEARCHING AND VISITING ARCHIVES AND COLLECTIONS

Methodologies have involved:

- Assessment of data provided by HWTMA
  - The HWTMA has an archive of information relating to the site, including diving investigation and survey since 2002.
- Review relevant records held by the Receiver of Wreck
- Assessment of primary and secondary sources
  - National Monuments Record
  - Documentary sources relating to the site and its origin
  - Principally the research and diving on the site by Mr Dave Wendes, undertaken since 2000.
  - Review of relevant specialist publications relating to the subject matter.

### 3. Site Description & Environment

The following section outlines the location of the site and attempts to resolve any discrepancy surrounding its location. A history of the investigations into the site is then provided, along with a description of the seabed structure, associated artefacts and the environment within which the site is located.

#### 3.1 SITE LOCATION

The shipwreck remains (referred to as 'the site' in this report) thought to represent the *Fenna* are located at 50°38.44'N and 1°40.47'W (WGS84) (UTM 593724.74, 5610705.2), 3.5 nautical miles WSW of the Needles (Figure 1). The site is at a depth of 17.9m (Chart Datum, 24m high water) and remains in an upright position, rising 2.5 metres above a flat seabed.

The site information given above has been provided by Mr David Wendes, a local maritime historian who has been diving on the site since 2000. Mr Wendes has confirmed the position and depth of the site using a combination of GPS and sonar equipment.

It should be noted that there is some discrepancy between the location of the site given by Mr Wendes and that given by the National Monuments Record (NMR);

- The NMR site centre is 125 metres to the south-east.

Following diving activity on the site, the HWTMA can confirm that the WGS84 position provided by Mr Wendes is an accurate one.

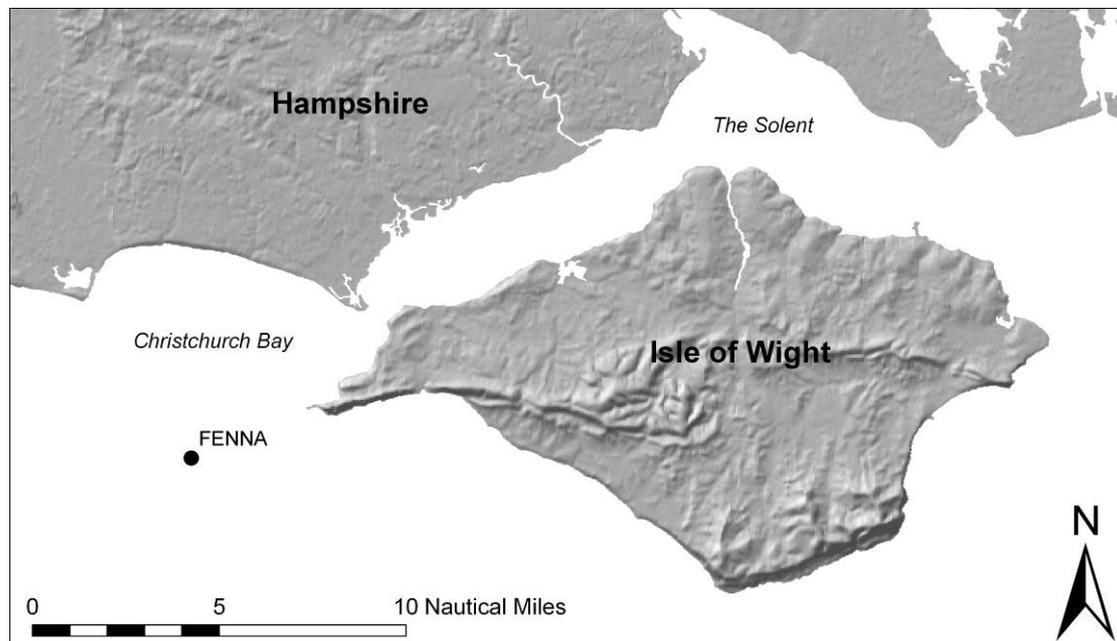


Figure 1. Location of the site, marked as *FENNA* to the west of the Isle of Wight. Location data has been provided by Dave Wendes and confirmed during diving by HWTMA.

### 3.2 HISTORY OF INVESTIGATIONS

The site was first noted in 1981 by the UKHO during soundings in the area and was examined again in 1988 using an echosounder when it was concluded that it was a small wreck or obstruction (NMR Monument Report, ID 832528). The site was first dived on in 2000 by Mr Dave Wendes (Pers.comm.). Mr Wendes informed the HWTMA of his discovery who then conducted a baseline survey of the extant remains (Figure 2) in July 2002 (HWTMA 2002: 17). On-going research into the site, by both the HWTMA and by Mr Wendes has concluded that the site represents the remains of the *Fenna*, a Dutch schooner that sank in 1881 (HWTMA 2002: 17; Wendes 2006: 24). The HWTMA have undertaken to monitor the site through occasional diving by HWTMA staff, the most recent visit taking place in April 2010. However, no formal monitoring points have been established on the site.

The site was also included in a project funded through Defra's Aggregates Levy Sustainability Fund, by funds distributed by (then) English Nature via the Hampshire and Isle of Wight Wildlife Trust. The project was entitled 'Offshore Aggregates and Species Inhabiting historic wreck Sites (OASIS)', which was a public dissemination project that produced a display of a range of sites in the aggregate rich West Wight area (HWTMA 2004: 11).

The site is considered by Mr Wendes to be a popular dive site. Diving activity on the site is likely to increase further following the inclusion of the site in a publication on shipwrecks in the region (Wendes 2006: 24). Recently, the planned installation of a dive trail (James 2009: 12-13) by the New Forest National Parks Authority (NFNPA) has been completed. The site will also be featured in a forthcoming DVD, 'Coastal Heritage of the New Forest' produced by the NFNPA. Both of these projects are likely to lead to an increase in the popularity of visiting the site which increases the need to undertake this archaeological assessment of the site to develop suitable protection mechanisms .

Enquiry with the Receiver of Wreck (RoW) has indicated that only a very small number of objects have been raised from the site and declared to the RoW. These consist of twenty-three 5" wrought iron nails and a heavy brass object (RoW, Droit 154/01). The latter is thought to be associated with minesweeping equipment, rather than the shipwreck. The relatively small number of artefacts that have been declared is probably a function of the fact that the surviving remains do not represent items that are easily removed by sports divers.

In June 2010, NFNPA oversaw the removal of a barrel from the site (Mark James, pers.com.). This activity was reported to the Receiver of Wreck (RoW, Droit 110/10), investigation of this item has been undertaken by Wessex Archaeology and is considered further in Section 3.3.

### 3.3 SEABED STRUCTURE AND ARTEFACTS

#### Hull

The vessel remains lie upright, partially subsumed into a flat seabed comprised of sand and gravel. The extant remains of the vessel measure 30m

in length by c.10m in width at the widest point. The upper elements and sides of the wooden hull have disappeared. These are now represented by copper fastening nails that are deposited around the edges of the site. It can be confirmed that some parts of the lower hull of the vessel are preserved and are visible between gaps in the cargo in the forward half of the vessel (Figure 2). Longitudinal elements of the hull, possibly the keel or keelson are visible protruding from the stern area in the north-east of the site. It is very likely that further elements of the lower hull are preserved beneath the dense cargo remains.

The probable bow of the vessel is indicated by the presence of surviving anchor and chain at the south-western end. Evidence for the fastening of the hull survives in the form of copper nails that are distributed around the edges of the site; deposited in this position as the upper works of the vessel degraded. A scatter of other artefacts, including pottery fragments, is also distributed around the exterior of the site (Mark James, pers.com.). No evidence for mechanical propulsion has been observed during diving on the wreck, suggesting that the vessel was propelled by sail alone.

### **Cargo**

The most striking feature of the remains is undoubtedly the cargo of the vessel, which even after deposition on the seafloor has retained its locational arrangement and contextual relationship within the vessel (Figure 2). The cargo rises 2.5 metres from the seafloor and consists of glass sheets (Figure 3) and iron (Figure 4). Recent diving has noted a mixture of artefacts overlying the cargo in the centre of the vessel. It is thought that these are remnants of the vessel's fixtures and fittings, rather than cargo remains (Mark James, pers.com.).

#### *Glass*

The glass elements of the cargo comprise glass sheets, originally packed in boxes and stacked in the hold of the vessel. The packing boxes have degraded leaving the glass sheets still stacked in-situ. In all observed cases the glass sheets were stacked vertically on their edges.

#### *Iron*

The iron remains of the cargo survives in two forms; iron girders and iron in barrels. This is consistent with contemporary accounts of the shipwreck of the *Fenna* that refer to the vessel carrying 'bar iron' and 'iron in barrels'. The iron bars/girders measure c. 6m (18') in length and are currently interpreted as railway lines (HWTMA 2002: 17).

Two sizes of barrels are found on the site, an example of the smallest size has been recovered from the group of barrels on the north-eastern corner of the site and measures c. 800mm by 400mm (RoW Droit 110/10). These are made from non-uniform staves, secured with withy bands (Mark James, pers.com.). In many cases the concretion from the contents of the barrels have leached through from the inside, giving the impression that the staves and bands have completely degraded. Description of this concretion has led some recent sources to report that the vessel was carrying barrels of

concrete. Historical sources and recent investigation of the site have now disproved this. Raising and investigation of one of the barrels by the NFNPA have revealed that they are packed with handmade iron nails (Mark James, pers.com.), these are 75mm (3") in length.

### Discussion

The cargo of the vessel still retains its original location within the vessel. The primary cargo seems to be the glass sheets, that take up the majority of the centre of the vessel. These are overlain by the iron bars/girders (railway tracks), which are stacked just aft of amidships. The position of these might indicate that they were to be offloaded at the vessel's first port of call. Finally, the barrels containing iron nails were located in the port and starboard quarters of the vessel and also in the bow area. Their relatively small size and portable nature would facilitate their use in ensuring that the vessel was correctly trimmed, when fully laden.

One obvious anomaly in the cargo remains is the large empty space in the forward half of the vessel, clearly visible in Figure 2. The heavy nature and good survival *in-situ* of the remaining cargo makes it unlikely that this area carried similar objects that have disappeared naturally. Two explanations may be offered. Firstly that a limited salvage of the vessel took place following its sinking. The reported presence of the vessel's masts above the sea as a navigational hazard would have made locating the vessel relatively simple. Secondly, the vessel may have also been carrying a cargo of perishable goods, that have since degraded, in this area of the hold. If the latter is the case, it is strange that such an item was not included in the list of goods given in the various historical sources relating to the site.

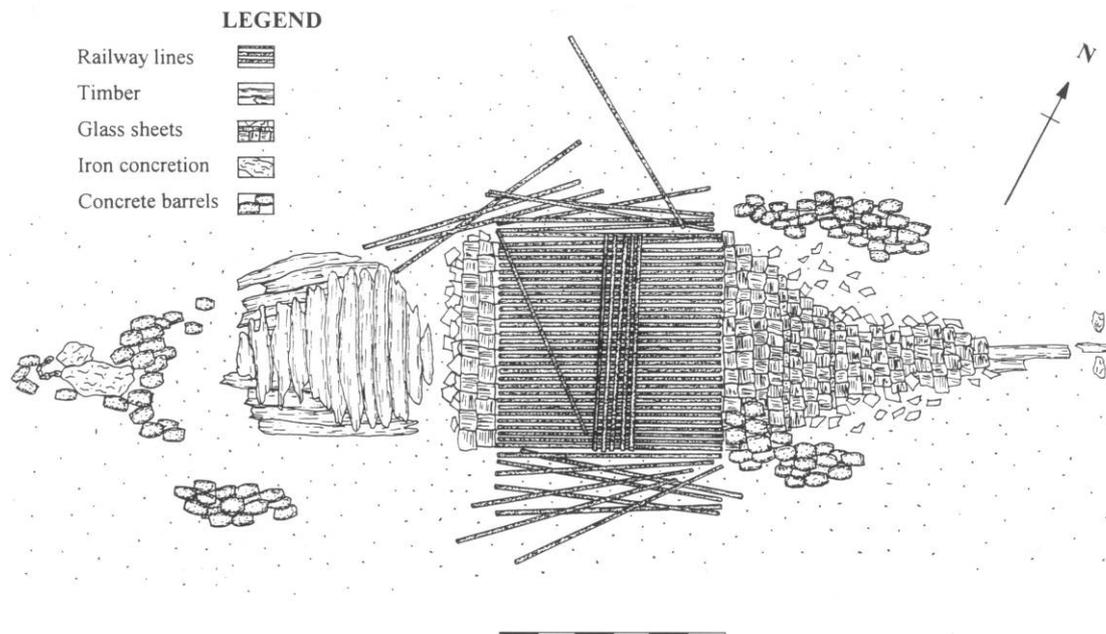


Figure 2. Provisional site plan of the shipwreck, recorded in 2002 by HWTMA, scale equals six metres.



Figure 3. Glass sheets stacked up in the hold of the vessel.



Figure 4. Iron bars/girders stacked in the midships area of the vessel.

### 3.4 SITE ENVIRONMENT<sup>1</sup>

#### Physical Environs

The site of the *Fenna* lies within the Greater Poole and Christchurch Bay region of the South Coast Regional Environmental Characterisation study. Christchurch Bay can be considered as a relatively shallow embayment, defined by Hengistbury Head in the west and Hurst Spit and The Needles in the East. The underlying geology of the area is of Wealdon Beds to the south of a line running between The Needles and Purbeck, a thin strip of Lower Greensand/Gault and Upper Greensand lies to the north of this. The remainder of the area to the north is comprised of Bracklesham Beds and Barton Group (cf. Velagrakis 2000: 23-25 & fig. 2). The site lies just to the south of the northern limit of the Wealdon Beds (Figure 5).

Wave and tidal current are the main source of sediment transport, although the tidal regime in Christchurch Bay is amongst the lowest in the region. This is particularly true in the vicinity of the site where tidal currents are generally slightly less than 1 knot. Wave action is predominantly from the south-west, with waves below one metre being observed for two-thirds of the time.

Areas of sediment accumulation are visible in the Dolphin and Shingles Banks. The site lies to the south-west of both of these features. The main sediment movement in the area is the south-westerly transport of gravel and sand in the Needles Channel (the east side of the Shingles Bank) and the north-easterly movement of gravel and sand along the western face of the Shingles Bank. There is more limited evidence for the westerly transport of sand along the Dolphin Bank and Sand.

The immediate seabed around the wreck site is flat and level, comprising a mixture of sand and gravel (as might be expected from the preceding discussion). This is poorly sorted and composed of 50-60% gravel and 40-50% sand. The sediment movement and tidal/wave regime does not seem to be impacting upon the wreck. The hydrographic echosounder survey of the site in June 1988 noted that there was no scour around the wreck (NMR Monument Report, ID 832528). Comparable surveys by Mr Wendes, conducted using a side-scan sonar unit, since 2000 also indicate that there is no scour around the wreck. This has been confirmed during diving on the site undertaken by the HWTMA. The site does not appear to have been subject to either sediment loss or accumulation during the past twenty-two years.

The impression of stability is further reinforced by reference to the recorded height of the vessel above the seafloor. Echosounder surveys conducted during Admiralty hydrographic surveys in 1981 and 1988 both record a difference of between two and three metres between the general depth and the least depth obtained during survey (NMR Monument Report, ID 832528). This is confirmed by the survey conducted by Wendes who reports a

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<sup>1</sup> A full and detailed description of the marine environment in this region is provided by the Standing Conference on Problems Associated with the Coast (SCOPAC) and is available at [www.scopac.org.uk](http://www.scopac.org.uk). Further information is available through the South Coast Regional Environment Characterisation (REC). The background information provided here is drawn from these sources.

difference of 2.5 metres (pers.comm.). Similarly, diver survey conducted by the HWTMA recorded the height of the remains above the seafloor as two metres (HWTMA 2002: 17).

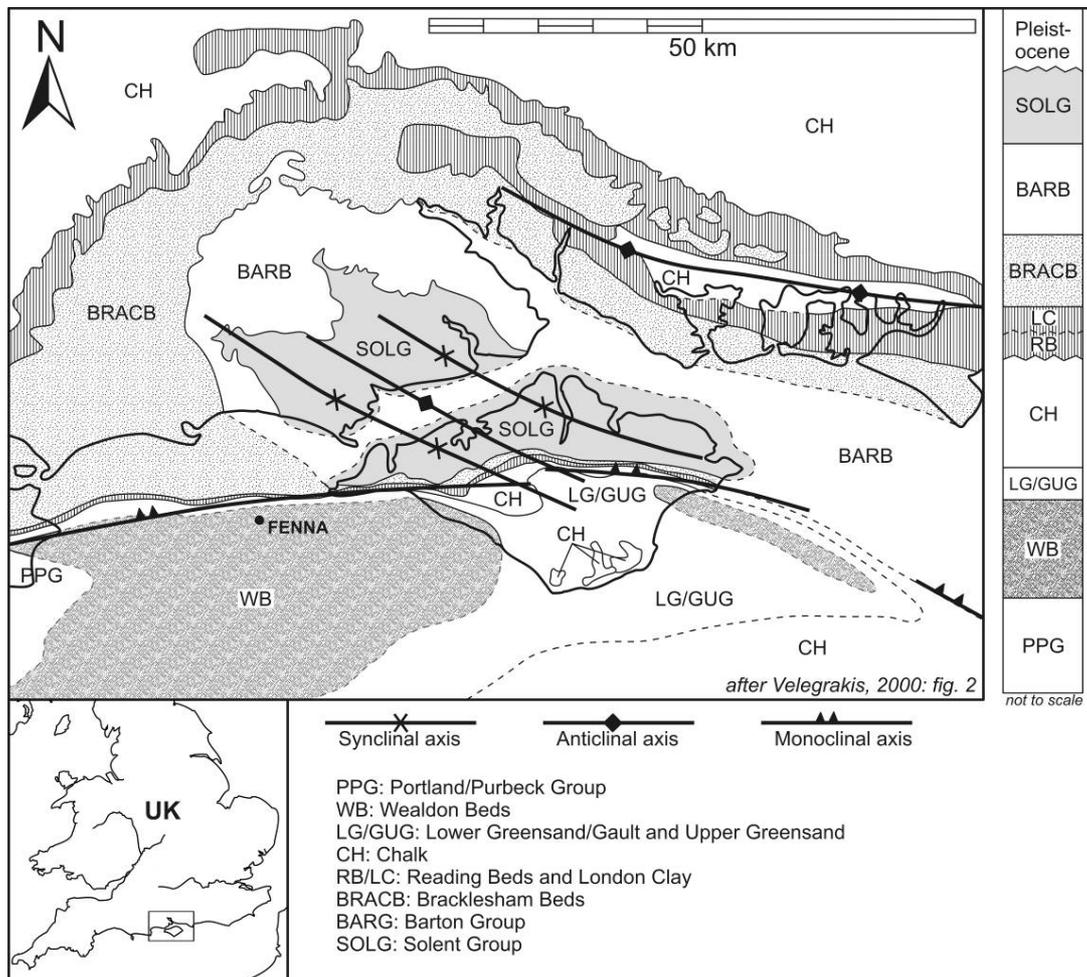


Figure 5. Overview of the underlying geology of the shipwreck site under assessment, marked as the *Fenna* (after Velegrakis 2000: fig. 2).

### Marine Life

The characteristics of the site mean that it plays the role of a reef, within an otherwise featureless seabed. As a result of this the site has been colonised by a range of marine life, much of it recorded under the OASIS project (section 2.2). Of particular relevance to the archaeology is the noted presence of both Shipworm (*Teredo Navalis*) and Gribble (*Limnoria Lignorum*), recorded during the OASIS environmental survey. A large number of lobsters have also been noted on the site as part of the same survey. Additionally a large number of Bib (members of the Cod family that grow to around 40cm in length) are common on the site.

### Site Stability

The sediment regime across the site should be considered as relatively stable. Analysis of the hydrographic office side-scan/echosounder surveys as well as those carried out by Mr Wendes suggest that there has been little change to the site in the past twenty-five years. In contrast to this, it may be

noted that the general absence of any extant wooden remains, especially around the sides of the cargo, illustrates that the degradation of exposed wooden remains is significant. It can be surmised that this has mainly been caused by the marine borers noted during previous environmental surveys. The site does not lie in any areas of current environmental designation.

In summary, it may therefore be concluded that the sediment regime in which the site is located is relatively stable. In contrast to this, wooden remains that become exposed are likely to be very unstable, and to suffer from rapid degradation due to biological factors.

## 4. Site Identification

The following section reviews the current evidence that contributes towards the identification of the site as that of the *Fenna*. The observed cargo and characteristics of the site in relationship to the *Fenna* are discussed as well as the location of the present site and the last known location of the *Fenna*. An overview of the known history and the circumstances of its sinking are also included.

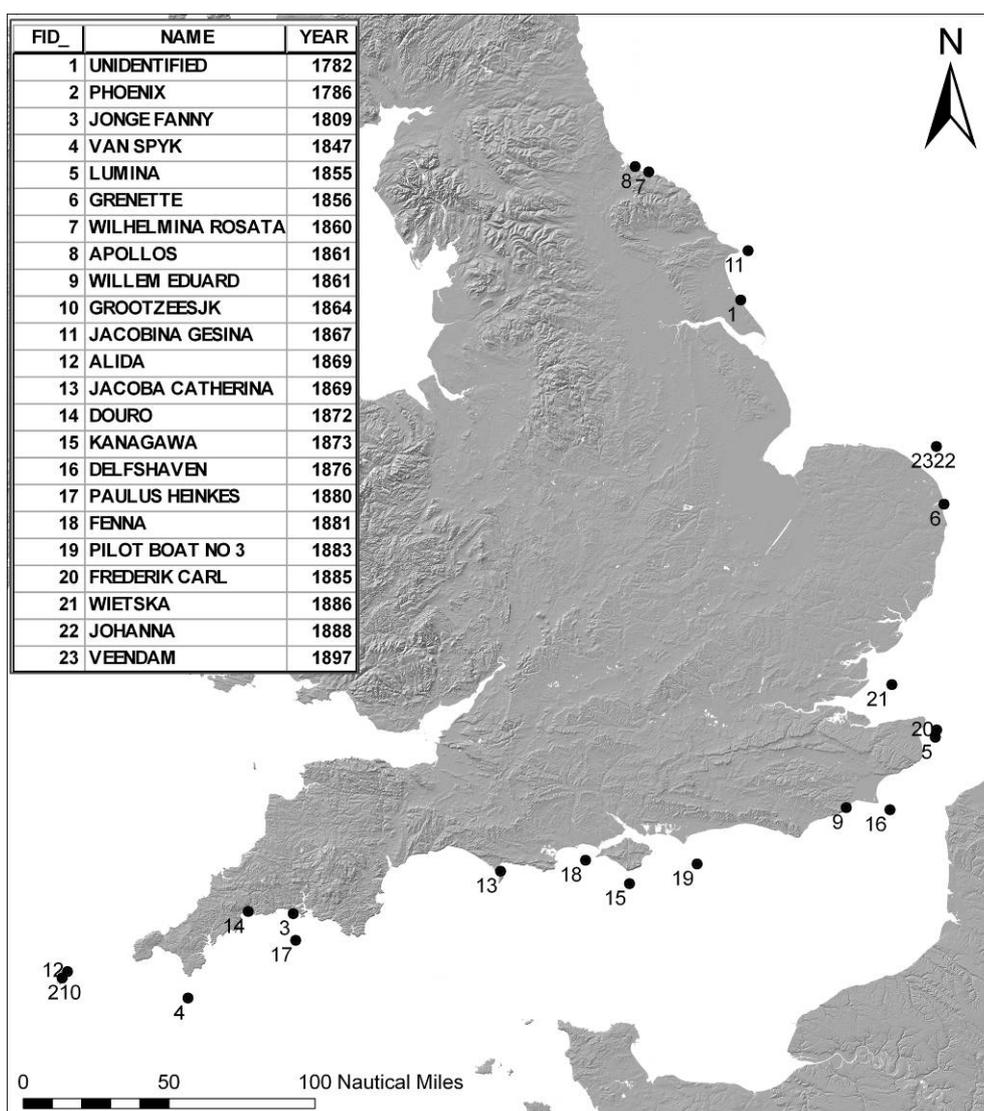


Figure 6. Recorded Dutch schooner losses in English territorial waters between 1782 and 1897. All positions are derived from the those given by the NMR, except for the *Fenna* whose location has been established by Dave Wendes/HWTMA.

### 4.1 REVIEW OF HISTORICAL LOSSES

Records of ship losses in the vicinity of the site were requested from the NMR. This produced no results other than for the site itself (NMR ID 832528). This NMR entry correlates the remains found on the site with those of the *Fenna*. On the basis of this and in keeping with the project objectives, a wider NMR search was conducted for Dutch registered schooners lost prior to 1901 around the coastline of England. This produced twenty-three casualties

between 1782 and 1897, including that of the *Fenna* (Figure 6), twenty of these losses date to the second half of the 19<sup>th</sup> century (Table 1). These numbers can be placed in context by considering that losses of all schooners in English waters prior to 1901 stands at 3026. There are currently four merchant schooners included in the UK National Register of Historic Ships, all of which were built after the sinking of the *Fenna*.

Name	Date	Wrecked	Departure	Destination	Cargo	Tonnage
Van Spyk	1847	S. of Lizard Point	Surinam	Amsterdam	Coffee & Cotton	
Lumina	1855	Goodwin Sands				
Grenette	1856	Yarmouth			Oats	
Wilhelmina Rosata	1860	Cleveland	Hamburg	Middlesbrough		
Apollos	1861	Cleveland			Coal	
Willem Eduard	1861	Rye, East Sussex	Buenos Aires	London	Tobacco & Hides	185
Grootzeesjk	1864	Isles of Scilly	Buenos Aires	Antwerp	Hides	
Jacobina Gesina	1867	Flamborough Head			Iron & Pit Props	
Alida	1869	Isles of Scilly	Swansea	Tarragona	Coal	
Jacoba Catherina	1869	S. of Weymouth	Shields	Barcelona	Coal	130
Douro	1872	Par Sands, Cornwall	Newcastle	Charlestown (Cornwall)	Coal	
Kanagawa	1873	ESE. Isle of Wight	Rotterdam	Jakarta	Coal, Bones, Tallow and Wool	1204
Delfshaven	1876	Dungeness	Hamburg	Rio Grande do Sol	General	
Paulus Heinkes	1880	Eddystone Rocks				
Fenna	1881	Christchurch Bay	Antwerp	Messina & Trieste	Iron & Glass	172
Pilot Boat No 3	1883	Arun, West Sussex	Zeeland	Zeeland		60
Frederik Carl	1885	North Sand Head, Kent	Groningen	Gloucester	Oats	
Wietska	1886	Knock Sand, Kent	London	Groningen	Coke & Guano	144
Johanna	1888	Haisborough Sand, Norfolk	Narva	Delfshaven	Deals & Softwood	208
Veendam	1897	Haisborough Sand, Norfolk	Blankaholm	Chatam	Timber	175

Table One: Summary of Dutch Schooner losses in English waters between 1847 and 1901. Data derived from the NMR, not all classes of information are available for every case.

The group of vessels summarised in Table 1 represents an insight into the nature of maritime trade in the second half of the 19<sup>th</sup> century, of which the *Fenna* was very much a part of. A range of routes and cargoes are recorded, from long distance (eg. Rotterdam to Jakarta) to relatively short (eg. London to Groningen). Likewise, cargoes include low value bulk commodities (eg. coal and timber) as well as higher value products (eg. tobacco). It is also clear that Dutch schooners did not restrict themselves to carrying goods to and from the Netherlands. A number of examples exist of vessels engaged in carrying the products of another country, to another international destination (eg. the *Douro*, carrying a cargo of coal from Newcastle to Charleston in Cornwall in 1872).

The *Fenna* is therefore situated within a wider, albeit limited in quantity, corpus of Dutch schooners lost in English waters during the late 19<sup>th</sup> century. As such, identification of the archaeological remains of the *Fenna* may be illustrative of this group of vessels in particular and mid/late-19<sup>th</sup> century maritime trade in general.

## 4.2 SITE IDENTIFICATION AND OWNERSHIP

### Cargo

The site is identified as being that of the *Fenna* by Dave Wendes (2006: 24). This identification is based on the correlation between the location and nature of the vessel remains with the known history of the *Fenna* (Section 4.3). In particular, the good preservation of the cargo has allowed accurate comparison with historical records of the *Fenna*'s known cargo manifest. The Lloyds List entry notes the cargo as 'railway tracks, glass and manufactured goods'. A local newspaper report<sup>2</sup> refers to 'bar iron, iron in barrels, and sheet glass in cases'. This corresponds very closely with the cargo noted on the wreck site and summarised in Section 2.2. The decay of the wooden barrels and cases on the site has left the glass sheets still in-situ and the iron contents of the barrels concreted in place. A close correlation is therefore visible between the seabed remains of the site under investigation and the historically documented cargo of the *Fenna*. This correlation between the cargo observed on the site and the recorded remains of the *Fenna* has also been noted by the NMR, who assign an entry to the recorded loss of the *Fenna*, at an arbitrary Named Location (Portland Bill) and a separate entry to the remains of the *Fenna* (the present site).

### Vessel structure and characteristics

Comparison may also be drawn between the observed seabed remains and the likely dimensions/attributes of the *Fenna*. No evidence for mechanical propulsion has been observed in the seabed remains, this correlates with the classification of the *Fenna* as a sailing schooner. In broad terms, the recorded tonnage of the *Fenna* also correlates with the extent of surviving remains of the site. The Dutch schooner *Veendam*, stranded at Haisborough Sands in Norfolk on 10<sup>th</sup> September 1897 (Table 1; NMR UID 928327), was built in 1865, three years after the *Fenna* and with a similar tonnage of 175. The *Veendam* had a recorded length of 99 feet, very similar to the seabed remains under assessment here (section 2.3). The *Veendam* is recorded as being built by H. Hooites at Groningen, only fifteen kilometres from Hoogezand, the build-site of the *Fenna* (section 4.3). The *Veendam* may share the same building tradition (and possibly builder) as the *Fenna*, the link between these two vessels is undoubtedly a line of future research into the site.

### Location of sinking

The position of the site is harder to correlate with that of the *Fenna*, principally because the last position of the *Fenna* before sinking is only roughly recorded (a common feature in contemporary reports of shipwreck losses). The Lloyds List and one newspaper report (section 4.3) both refer to the location at which

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<sup>2</sup> The newspaper in question is the *Bournemouth Visitors' Directory*, from the 12<sup>th</sup> March 1881. The newspaper carries reports from two correspondents in relation to the sinking of the *Fenna*. The text of the report is repeated in full in section 4.3.

the crew abandoned the vessel, some 20-24 miles off the Dorset Coast. A second correspondent in the same newspaper refers to the sinking of the vessel as taking place 'off the Isle of Wight'. Likewise, the original NMR entry for the *Fenna* simply used a Named Location, which places the vessel on the southerly tip of Portland Bill. Three possible locations are therefore available;

- Portland Bill.
- 20-24 miles off the Dorset Coast.
- Off the coast of the Isle of Wight.

The high level of correlation between the known cargo of the *Fenna* and the identified seabed remains suggests that the latter of these three possible locations is the most likely.

Further discrepancy between the reports can be traced in the timing of the sinking, according to the newspaper reports; one referring to a time of 6.30pm on Thursday night and the other to the ship sinking in the early afternoon. The circumstances of the sinking of the vessel are considered further in Section 4.3.

### **Ownership**

The owner of the *Fenna* at the time of sinking was J. A. Hooites of Hoogezand. The *Fenna* was one of forty-nine ships under the ownership of Hooites at various times between 1851 and 1896 ([www.scheepsindex.nl](http://www.scheepsindex.nl)). No lines of enquiry, including those undertaken by the Receiver of Wreck, have revealed a likely current owner of the remains. It is therefore currently unclear who ownership of the *Fenna* resides with.

### **Identification**

The main identification of the site as that of the *Fenna* therefore rests on the very close correlation between the recorded cargo of the *Fenna* and the seabed remains of the site currently under assessment. The recorded location of the abandonment and sinking of the *Fenna* is subject to some inaccuracies, but remains within the vicinity of the present remains. There seems no reason to doubt the identification by Wendes, that the present site represents the remains of the *Fenna*. This identification has also been adopted by the NMR for the remains found on the site.

## **4.3 KNOWN HISTORY OF THE FENNA**

### **Background**

The *Fenna* was a two-masted sailing schooner of 172 tons, built in 1862, probably in Hoogezand by J. A. Hooites. The vessel was also owned by J. A. Hooites, possibly in conjunction with T. A. Hoviks and registered in Amsterdam (NMR Monument Report, ID 901153; [www.scheepsindex.nl](http://www.scheepsindex.nl)). The vessel carried a crew of six and at the time of sinking the master of the vessel is named as J. H. Mulder (master from 1871). The previous master, between 1863 and 1871 was H. B. Young (NMR Monument Report, ID 901153).

### **The final voyage of the *Fenna***

The final voyage of the *Fenna* was from Amsterdam to Messina and onwards to Trieste. After leaving the Netherlands, the *Fenna* experienced bad weather

and began to leak. This situation became so bad that by the time the vessel had reached the south coast of England, the skipper and crew were forced to abandon ship. The *Fenna* sank a short time afterwards. The fullest account of the sinking of the vessel on the 10<sup>th</sup> March 1881 comes from a Bournemouth local newspaper (The Bournemouth Visitors' Directory);

### **Loss of a Dutch Vessel: Safety and arrival of the crew at Poole**

On Thursday night last the Dutch schooner *Fenna* foundered in the English Channel, but we are glad to say that the disaster was not attended with loss of life. The vessel, J. H. Mulder, master, was bound from Amsterdam to Messina and Trieste, with a cargo consisting of bar iron, iron in barrels, and sheet glass in cases, 230 tons in all. She experienced heavy gales after leaving her port of departure and became leaky, and the water gained so much that at half-past six o'clock on Thursday night the crew consulted with the master and finally determined to abandon the vessel. About half an hour after they had left her in the boat she foundered off the Dorset coast, some 20 miles from land. They rowed about till they perceived the red light on the end of Bournemouth Pier, and they there received direction by which they rowed to Poole, arriving at this port about nine o'clock yesterday (Friday) morning. They had saved scarcely anything beyond their personal effects. The master and crew, five in number, proceeded to the Red Star Coffee Tavern, where they are now staying.

A correspondent sends us the following: - On Thursday about midnight, a rather deeply laden boat came to Bournemouth Pier, two of the men landing to inquire their whereabouts and seek refreshments. They purported to be the captain and crew of a Dutch schooner, laden with iron and glass, bound from Antwerp to Trieste, and which had gone down early in the afternoon off the Isle of Wight, having become disabled and waterlogged during the recent gales; have succeeded in obtaining refreshment and directed to proceed to Poole, they left for that destination, there to get assistance from the Dutch consul.

- *Bournemouth Visitors' Directory, 12<sup>th</sup> March 1881.*

The Lloyds List account of the sinking records a similar sequence of events. It records the vessel as foundering 24 miles off the Needles before drifting and sinking. It goes on to record that the crew and master survived but that following sinking, the mastheads of the vessel could still be seen above the surface and posed a danger to navigation.

### **The sinking of the *Fenna***

The contradictions between the various accounts relating to the location of the abandonment and sinking of the *Fenna* were noted above. These discrepancies may be investigated further by reconstructing the tidal cycle and weather in Christchurch Bay at the time of the sinking. From 11.30 GMT on

10<sup>th</sup> March 1881 the neap tide ran in an easterly direction from Purbeck towards the Needles. The rate of this peaked at between 1.2 and 1.4 knots by around 4pm. Following this, the tidal stream began to flow in a westerly direction from about 7pm, peaking at 1.4 knots between 10pm and 11pm. The weather is reported as being a westerly Force 9, although this must have abated somewhat, allowing the crew to row in a westerly direction towards Bournemouth. The weather and tidal condition make it likely that the last hours of the *Fenna* took place to the west of its eventual sinking location.

Even with a strong wind and tide, it seems unlikely that a foundering vessel could drift from around twenty miles offshore to within three miles of the Needles in a relatively short space of time; particularly the half hour given by one source. A more plausible account is the one offered by the second 'correspondent' in the *Bournemouth Visitors' Directory*. This would allow for an abandonment, drifting and sinking of the *Fenna* over the course of the afternoon, moving from west to east with the wind and tidal flow. This scenario may also be confirmed by the identification of the south-west end of the site as the bow of the vessel, indicating that the vessel drifted 'head to wind' as might be expected.

The reversal of the tidal flow and possible abatement of the wind over the course of the evening would then have naturally seen the crew reach Bournemouth and finally Poole as the night wore on. Added to this is the fact that the second newspaper correspondent is the only informant to have located the final site of the *Fenna* (off the Isle of Wight) with any accuracy. All the accounts agree that the vessel was damaged in an earlier episode of bad weather. The captain and crew must have persevered with their leaking ship before eventually abandoning her in the bad weather of the 10<sup>th</sup> March.

The *Fenna* was nearly twenty years old at the time of sinking and similar vessels must have been a common sight around the shores of Northern Europe; engaged in the shipping of raw materials and manufactured goods. Figure 6 highlights the even distribution of Dutch schooner losses around the coasts of England during this period. The historical records presented in Table One indicates that the final intended voyage of the *Fenna* (from Antwerp to Messina and then Trieste) was by no means an unusual distance for such a vessel to have been trading on.

## 5. Analysis of the *Fenna*

The following section sets out initial analysis and interpretation of the site of the *Fenna*. In particular this focuses on relating the vessel to its wider context, specifically in relation to various maritime practices at the time; shipbuilding, trading patterns and cargo stowage. These themes also inform much of the possible future research agenda for the site that is put forward in Section 7. It is worth noting here that the Dutch origin of the *Fenna* provides an opportunity for comparative research between Dutch and British schooners from the period, as well as comparison with those vessels of other nations deposited in English waters.

### 5.1 THE DEVELOPMENT OF THE SCHOONER

A schooner is usually defined in simple terms as a two-masted vessel, carrying fore-and-aft sails on each mast of which the aftermost is the mainmast, the main sails are generally gaff sails and square-topsails are often carried on the foremast (MacGregor 2001: 11-12). The masts are generally comprised of two pieces, rather than three. The earliest recorded reference to a 'schooner' comes from New England in about 1713 (MacGregor 2001: 13). However, vessels carrying a 'schooner' rig are depicted in Dutch paintings from 1600 and a Dutch origin for the rig seems the most likely (MacGregor 2001: 13-14, 124; Bennett 2005: 77).

The main area of adoption for the schooner rig seems to have been in North America, where it became commonplace, in contrast to Europe where schooners were relatively rare until the early/mid-19<sup>th</sup> century (MacGregor 2001: 124). With regard to Dutch schooners it is telling that of the eighty-four engravings of various rig types published by Groenewegen at Rotterdam in 1789, only one depicts a schooner (MacGregor 1980: 84; 2001: 124). In 1768, the Swedish naval architect Chapman illustrates a schooner rig that he assigns to eight types of hull; a frigate, a bark, two 'packet boats', two 'pleasure vessels' and two privateers (Chapman 1768: pl. LXII, no. 6; cf. MacGregor 1980: 84). The majority of Chapman's hulls for both warships and merchant ships were rigged with variations on the square-rig.

The schooner began to greatly increase in popularity from the 1830's, in many cases these became fully fore-and-aft, without the square-topsails (MacGregor 1984a: 62-3). Although MacGregor (1984a: 139) also notes that north European schooners tended to carry more square-sails than their British contemporaries. MacGregor (1984a: 127-8) concludes that a more comprehensive description might be 'schooner-brigantine' to take into account the three-piece nature of the masts and the square course rigged on the foremast. North European schooners also tended to be of shallower draught, a result of their usual ports of trade in the Baltic and Dutch/German waters, deeper draughted vessels were built if intended for voyages further afield (MacGregor 1984b: 92). By the mid-19<sup>th</sup> century the hulls of Dutch schooners had developed to the point that they no longer needed to carry leeboards to aid their windward sailing (MacGregor 1984b: 92). Such vessels retained their distinctive rounded hull shape, particularly at the stern, in contrast to the more

familiar transom sterns of similar sized vessels of other nations (see Chapman 1768: pl. LIV; Paris 1882: pl. 45).

During the nineteenth century, the schooner rig continued to develop and shipbuilders began to experiment with three-masted rigs as well as the more usual two-masted rig. In some cases a vessel may have begun life as a two-masted schooner before being converted to a three-masted schooner at a later date (eg. MacGregor 1984b: 99). The United States developed this trend much further, with the building of four, five and even six-masted schooners. This culminated with the building in 1902 of the steel hulled, seven-masted, 5218 ton *Thomas W. Lawson* (Bennett 2005: 83). In Europe, Denmark was unique as the only country outside of the United States where large numbers of four-masted schooners were constructed (MacGregor 2001: 131).

Sailing schooners such as the *Fenna* comprised a significant part of the north European merchant fleet during the late nineteenth century, particularly that element engaged in short/medium distance trade routes. Such vessels would have been ubiquitous in most of the ports of Europe, North American and the Mediterranean. As with any shipwreck, it is highly likely that the remains of the *Fenna* will be representative of the local or regional tradition in which the vessel was built and used. As such, the *Fenna* represents a potential insight into the archaeological reality of north European shipbuilding practices at this time and Dutch merchant building in particular. Similar Dutch vessels retained a distinctive hull form (at least according to historical documentation (Paris 1882: pl. 45)) during this period. Opportunities to compare construction methods or techniques with examples of schooners from the UK and other countries (eg. the *John Preston* (see Webster 2007) or the Danish built *Thomas Lawrence* (Wessex Archaeology 2007), wrecked in British waters may offer a particularly fruitful line of research.

## 5.2 NINETEENTH CENTURY SHIPBUILDING

The mid-19<sup>th</sup> century was a period of relatively rapid innovation and change in terms of the way that merchant ships were constructed. The main theme of this is the continued development and integration of iron as a building material into naval and merchant building. Initially this was confined to reinforcement of the framing elements of vessels, but soon developed into the composite construction of vessels with iron frames and wooden planking. Eventually, sailing vessels were built entirely of iron, the first iron vessel included in the Lloyds Register was the 77 ton ketch *Goliath*, built at Liverpool in 1836 (MacGregor 1984a: 148). Much larger iron vessels soon followed. This process was certainly not uniformly linear in the rate of change or adoption in either different ship types or regions; sailing ships with no iron elements continued to be built until the end of the age of sail.

Although these changes are seemingly well-documented by historical sources such as contemporary shipbuilding treatises,<sup>3</sup> archaeological remains are

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<sup>3</sup> A good example of this is the work of Creuze (1841) on wooden shipbuilding, acknowledged as being a valuable piece of work. It had, by the 1860's been overtaken by technological developments to the extent that a revised version had to be published in 1863 (Murray *et al.* 1863). This retained Creuze's original account of wooden shipbuilding but incorporated work

poorly represented. The limited investigation that has taken place on the site so far gives no indication that any iron elements were used in the construction of the *Fenna*, or if the vessel was sheathed. This may provide a direct contrast with contemporary British merchant vessels of this period and area of operation that were reinforced with iron elements and/or carried hull sheathing (eg. Adams *et al* 1990; Auer & Belasus 2008; Satchell & Whitewright 2010; Webster 2007). Similarly, comparison with contemporary schooners from other nations (eg. the Thomas Lawrence) would be of interest. The *Fenna* may represent an important example of the ongoing use of purely wooden hull construction in the mid-19<sup>th</sup> century. It may also serve to illustrate the differing rates of adoption of iron shipbuilding in the various European maritime powers of the 19<sup>th</sup> century.

### 5.3 CARGO AND TRADE ROUTES

As noted above, the most striking feature of the *Fenna* is the well-preserved cargo that still retains the position in the ship in which it was originally stowed, to a height of 2.5 metres. This situation is due to the upright nature of the vessel remains on the seabed in conjunction with stable nature of the site.

This preservation has the potential to be hugely informative about aspects of maritime activity that are usually poorly represented in both the archaeological record and historical sources. In particular the way in which cargo is stowed in relation to; hull shape, deck hatches, cargo dimensions/weight and intended ports of call. These are all areas of investigation for which the *Fenna* can provide an almost uniquely detailed record. A comparative archaeological source can be found in the schooner *John Preston* which sank in the Sound of Mull in December 1882. The vessel's cargo of slates has been heavily salvaged. This cargo was originally stacked in boxes, with the slates themselves stacked vertically on edge (Webster 2007: 55). The authors note that this had become common practice by the 19<sup>th</sup> century in order to reduce the strain on the ship. A similar pattern of stowage is visible in the glass sheet elements of the *Fenna*'s cargo (Section 3.3). This may provide the opportunity to investigate comparisons between the stowage of Dutch and British ships at this time.

The nature of the cargo itself also has the potential to provide information on the type of materials being shipped around Europe at this time. Additionally it can inform us of the distances, potential locations and reasons for shipping specific materials/products to specific places. The *Fenna* represents the well-preserved remains of a common class of vessel engaged in the shipping of a relatively standard cargo. With this in mind, the irregular construction of the barrel staves and the use of withy, rather than iron hoops, further hint at the day-to-day origins of the vessel.

The route of the vessel is not particularly unusual and similar contemporary Dutch vessels traded to destinations much further afield than the intended route of the *Fenna* (see examples in Table One). The type of cargo carried on

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by A. Murray and R. Murray on Iron shipbuilding and Steam-ships respectively. Even in the preface to this work, it was acknowledged that rapid, on-going development in many areas of shipping would lead to future development (Murray *et al* 1863: i-v).

board and its intended destinations can inform on the types of material being shipped around Europe in the mid/late 19<sup>th</sup> century. Additionally, the intended final voyage of the *Fenna* indicates the practice of requisition and shipping of specific cargoes between specific points, rather than a coasting or tramping trade. The *Fenna* may therefore be considered against the background of the emerging 'global economy' that was taking place at this time.

## 6. Management Considerations and Assessment

### 6.1 THREATS: NATURAL AND CULTURAL

The ongoing, occasional survey/monitoring of the *Fenna* that has taken place over the past 25 years seems to indicate that the site is relatively stable (Section 2.4). Natural threats to the integrity of the site would seem to be limited to an expected level of degradation occurring to wooden remains located on the seafloor for an extended period of time. The cargo of the vessel also seems to be relatively stable, as witnessed by its continued coherence over the last eight years.

The main threat to the site must be considered to be cultural threats, occurring from sports diving, fishing activity or accidental damage due to the anchoring of vessels on the site. The highly coherent nature of the remains, in particular the cargo, means that even minor damage has the potential to greatly reduce the archaeological potential of the *Fenna*. The site lies outside of any marine nature/conservation areas and so damage from fishing activity must remain a possibility, although this is partly mitigated as the site lies inside the six mile limit within which commercial vessels over twelve metres in length may not operate. Likewise, accidental damage sustained from the casual anchoring of vessels must remain a possibility.

Interference from diving activity must be seen as the biggest threat to the *Fenna*. Diving is likely to increase further following the installation of a diver trail by the New Forest National Parks Authority. Any increase in uncontrolled human contact with the site is likely to increase the threat of interference with the coherent arrangement of the cargo within the site, through the removal of objects. Even if such objects are subsequently declared to the Receiver of Wreck, their original archaeological context will have been lost.

English Heritage have suggested that the diver trail established by the NFNPA could act as a method for controlled responsible access to the site. It is certainly the case that diver trails have been used on other sensitive historic wreck sites to enable public access, such as the Warship *Hazardous* (Holland et al 2005) and *Colossus* (<http://www.cismas.org.uk/colossus-dive-trail.php>). However, these examples are Protected wreck sites which enables access to be managed, whereas without statutory protection the *Fenna* diver trail is currently providing unmanaged access. The HWTMA has developed a diver trail on the Alum Bay wrecks, which are currently unprotected (Satchell 2005), however, this was managed access as part of a package which included talks on the marine historic environment and a visit to the Underwater Archaeology Centre on the Isle of Wight. While fully supporting the principles of enabling access to heritage assets it must be considered that the current situation of unmanaged diver trail access to the *Fenna*, currently a non-protected wreck site, remains untested in relation to the potential effects on the integrity of the heritage asset.

## 6.2 SITE RISK ASSESSMENT

This risk assessment has been completed according to the guidelines set out by English Heritage (Dunkley 2008).

<b>Wreck/Site Name</b>		<b>SI Number</b>													
Fenna															
<b>NMR / UKHO No.</b>	<b>EH Region</b>	<b>Restricted Area</b>						<b>Principal Land Use</b>							
NMR 901153 & 832528	South East							Coastland 1							
<b>Latitude (WGS84)</b>		50°38.44'N													
<b>Longitude</b>		1°40.47'W													
<b>Class Listing</b>				<b>Period</b>				<b>Status</b>							
Merchant Sailing Schooner				Victorian				Non-Designated Wreck Site							
<b>Licensee</b>				<b>Nominated Archaeologist</b>				<b>Principal Ownership Category</b>							
								Other – Unknown at Present							
<b>Seabed Owner</b>						<b>Navigational Administrative Responsibility</b>									
Crown Estate						Nil									
<b>Environmental Designations</b>															
none															
<b>Seabed Sediment</b>						<b>Energy</b>									
Sand and Gravel						Low									
<b>Survival</b>															
medium															
<b>Overall Condition</b>				<b>Condition Trend</b>				<b>Principal Vulnerability</b>							
Generally satisfactory but with minor localised problems				Stable				NAT, ANCH, DIVE							
<b>Amenity Value: visibility</b>															
Substantial above bed structural remains that are highly visible and 'legible' without further information															
<b>Amenity Value: physical accessibility</b>						<b>Amenity Value: intellectual accessibility</b>									
Full						C, B is planned.									
<b>Management Action</b>		Legal protection should be sought to preserve integrity of site													
<b>Management Prescription</b>		A	B	C	D	E	F	G	H	I	J	K	L	M	N
										X					
<b>Notes</b>		<p>The shipwreck lies upright at a depth of 24 metres in an area of flat seabed. The majority of the remains, comprising wooden remains and cargo, are in an area approximately 30 metres by 10 metres.</p> <p>Survival of wooden remains is limited to the lower elements of the hull and seem to be subject to ongoing natural degradation. The cargo remains largely intact and in-situ and comprises stacked iron bars/girders, glass sheets and barrels of iron.</p> <p>The site is stable, but must be considered very vulnerable because of the highly preserved nature of the artefactual relationships of the cargo. Interference from divers, fishing or anchorage should be considered as the main threat and have the potential to substantially degrade the contextual value of the site and cargo assemblage.</p> <p>Risk should be considered as MEDIUM</p>													

## **7. Recommendations for Future work**

The following section outlines and discusses a number of recommendations for future work relating to the site. This draws on the assessment of significance of the vessel in relation to the criteria used by DCMS which is included as appendix one. This encompasses management strategies such as formalised monitoring of the site in addition to work more concerned with researching and understanding the site. This gives rise to a number of strategies and approaches that could be applied in the future to further determine and refine the significance of the *Fenna*.

### **7.1 ONGOING MONITORING OF THE SITE**

It is suggested that the baseline extent of the site should be established with a modern multi-beam bathymetric survey. This would serve to update the previous geophysical surveys referred to in section 2.4. The high level of preservation of the site, in particular the coherence of the cargo, means that the most effective way of monitoring the site is by regular diver survey. The installation of monitoring points on the site, together with survey of key elements and areas would provide a benchmark against which future monitoring surveys can be measured. This methodology would be sufficient to detect the subtle changes to the site caused by interference from diver disturbance or removal of elements of the site.

### **7.2 HISTORICAL RESEARCH**

The preliminary documentary research that has accompanied the preparation of this assessment report has indicated that this may be a significant line of future research. In particular, it seems likely that Dutch archives and documentary sources may produce further information relating to the context in which the *Fenna* was built and operated, including information about the shipyard and contemporary Dutch Schooners. This information may be of particular value if it can be combined with an increased appreciation of the hull and cargo of the vessel (7.3, 7.4 & 7.5 below). The town of Hoogezand, where the *Fenna* was built, and its surrounding area has remained an important shipbuilding centre within the Netherlands with at least six shipyards still in operation. Consequently the area may have good historical resources relating to the 19<sup>th</sup> century.

### **7.3 DETAILED SURVEY OF EXTANT HULL REMAINS**

The current site plan of the *Fenna* was created during the initial survey of the site in 2002. Updating of this plan could feed into the HWTMA's on-going monitoring of the site (above). Additionally it is desirable to further characterise the site by investigating the observable hull remains in greater detail; dimensions, fastenings, framing configuration and scarfs, planking arrangement and mast-step location all require assessment. Planned diving survey by the HWTMA in 2010 and 2011 is likely to recover elements of this data, but in some cases information may not be obtainable without archaeological excavation. Further investigation of the hull remains should also serve to confirm whether or not the builders of the *Fenna* incorporated any iron reinforcement into the vessel and whether or not the hull is sheathed. Ultimately, investigation of the hull should be able to provide a

characterisation of the type of merchant ships being built by the yard at Hoogezand and how this compares or relates to the available historical documentation.

#### **7.4 SAMPLING OF THE REMAINING HULL STRUCTURE**

Where identifiable, it is desirable to sample targeted, specific elements of the hull structure (frames, planking, etc) in order to provide an identification of timber species. Such sampling may also be able to provide information concerning the availability of timber resources to mid-19<sup>th</sup> century Dutch shipbuilders, as well as the sources of such timber. This is of interest because of the perception that high-grade timber resources for British shipbuilders were growing increasingly scarce during the 19<sup>th</sup> century (eg. Adams 1990: 107).

A sampling strategy for the hull fastenings and any identified sheathing should also be developed. Work by the HWTMA on the Mystery Wreck in the Eastern Solent (Satchell & Whitewright 2010) has illustrated the potential value of such sampling and investigation as a way of shedding greater light on the wider contextual background of a shipwreck.

#### **7.5 SELECTED SAMPLING OF THE CARGO**

The coherent and seemingly complete nature of the *Fenna's* cargo has been noted throughout this report. In order to underpin analysis of these remains a coordinated sampling program of limited elements could be conducted. This may facilitate the identification of the manufacturing origins of the glass and iron that comprise the main elements. Such information would certainly enhance any investigation into the wider significance and context of the *Fenna's* cargo. The information resulting from the retrieval of one of the barrels by the NFNPA has already indicated the value of such activity.

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## 9. Appendix 1: Assessment of Significance

Appendix One details an assessment of the significance of the *Fenna* against the non-statutory criteria set out by DCMS for assessing the importance of wrecks or the sites of wrecks. In each case the criteria is defined before an assessment of the *Fenna* against this criteria is made.

### 9.1 PERIOD

*The historic interest of all types of wreck which characterise a category or period should be considered, and the selection of sites for protection should include wrecks which illustrate important aspects of social, political, economic, cultural, military, maritime, and technological history. In identifying sites to be protected, regard will be had to the currency of any particular wreck type (the length of time over which any particular vessel type was constructed and used or any cargo type transported) and its representativeness (whether the vessel or cargo type was one of few or many types representative of that period).*

The *Fenna* was built in 1862 and wrecked in 1881. Although built in Holland, the sinking of the shipwreck in UK waters means that the wreck can be considered to fall in the Victorian Period (1837-1901).

The period of the 19<sup>th</sup> century when the *Fenna* was built was one of ongoing technological change and development in the building and use of merchant ships. Iron continued to replace wood as the principle building material and steam began to be increasingly adopted in lieu of a reliance on wind powered sailing vessels. As a wooden sailing vessel the *Fenna* should therefore be considered of medium significance in illustrating the way in which such developments were taking place in European shipbuilding at this time.

The mid-19<sup>th</sup> century also witnessed the ongoing development of trade on a global scale. While the *Fenna* does not seem to have been engaged in very long-distance international trade, the final voyage of the vessel serves to illustrate the connectivity witnessed by European regions at the time. The *Fenna* has medium significance in this regard as an example of the type of 'ordinary' vessel that facilitated this trade and communication on a regular basis

*Overall Period significance should be considered MEDIUM.*

### 9.2 RARITY

*There are some wreck categories which, in certain periods, are so scarce that all surviving examples that still retain some archaeological potential should be preserved. The age of a vessel is often closely linked to its rarity. The older a vessel is, for example, the fewer comparable vessels are likely to survive either in use or as wrecks, and the more likely it is to have historic interest. The loss of one example of a rare type of site is more significant than the loss of one example of a very numerous class of site. In general, however, a selection for protection must be made which portrays the typical and commonplace, as well as the rare. This process should take account of all aspects of the situation and distribution of a particular type of wreck in a regional, national or international context.*

The *Fenna* represents the remains of a Dutch Sailing Schooner from the mid-19<sup>th</sup> century. It lies in an upright position on the seafloor, its cargo of railway lines, glass sheets and iron remains largely *in-situ*. These elements of the cargo still retain their precise locational context within the hull of the ship.

Sailing schooners were commonly built by many north-European countries from the mid-19<sup>th</sup> century onwards. A search of the NMR indicates that 3026

schooners are recorded from the post-medieval period (up to 1901) within English waters, of which only twenty-three are Dutch. There are currently four merchant schooners included in the National Register of Historic Ships, all of which were built after the sinking of the *Fenna*. There are no merchant schooners currently included on the UK list of designated shipwrecks. Other identified shipwreck examples, eg. the *John Preston* do exist (Webster 2007: 46-57). As a result of this, the *Fenna* can be considered to be of high significance.

The highly coherent state of the remains of the cargo of the *Fenna* are very rare. There are virtually no comparative European examples of vessels that remain upright on the seafloor with their cargo still stacked in-situ in its original location, largely undisturbed by site formation processes, yet unprotected from threats which could affect their integrity. This element of the *Fenna* must be considered to be exceptionally rare and of almost unique significance within UK waters, if not internationally.

*Overall Rarity significance should be considered VERY HIGH.*

### **9.3 DOCUMENTATION**

*The significance of a wreck may be enhanced by close historic association with documented important historical events or people, or by the supporting evidence of contemporary records or representations. Historical records are generally only relevant to monuments of recent date, although it is important to recognise that some types of recent vessel may not be served by any historical records. The range of contemporary records that might be expected for a particular type of vessel needs to be considered so that the value of any known records which relate to it can be assessed. The importance of a wreck may also be enhanced by the existence of records of previous archaeological recording or survey work.*

The *Fenna* dates to a period when documentary resources offer an increasingly large resource for conducting historical research. Within the UK documentation of the *Fenna* includes purely maritime records such as the Lloyds List as well as more mainstream records such as newspaper reports. Due to a lack of response from the contacted Dutch authorities, searches of Dutch archives have so far been limited to internet based sources. These indicate that historical, documentary records, similar to those that might be expected in the UK, relating to the building and use of the *Fenna* should be available.

*Overall Documentation significance should be considered MEDIUM.*

### **9.4 GROUP VALUE**

*The value of a single wreck may be greatly enhanced by its co-location with other similar vessels (for example at the site of a battle) or by its association with other contemporary features such as port facilities or defensive sites. Association with vessels of other periods (for example on long-standing navigation hazards) may also enhance the value of a site. In some cases it is preferable to protect the complete group of archaeological remains, rather than to protect isolated features within the group.*

The remains of the *Fenna* cannot be immediately located with any other vessel type. In broader terms, the *Fenna* is representative of a common type of vessel (the schooner) within 19<sup>th</sup> century maritime trade. Vessels of this type, from this period are not currently represented within the UK's list of designated shipwrecks. The *Fenna* provides an opportunity for this class of vessel to be represented with the UK's protected shipwrecks.

*Overall Group Value significance should be considered MEDIUM.*

## 9.5 SURVIVAL/ CONDITION

*The degree of survival of a wreck is a particularly important consideration. In general, early wrecks are less likely to survive well than later examples, and in assessing the survival of any site, it is important to consider the likely normal degree of survival of vessels of that date or type. Assessments of survival should consider the degree of intactness of a wreck, the likelihood of the preservation of constructional and technological detail and the current condition of the remains.*

The remains of the *Fenna* lie upright on the seafloor with the cargo still *in-situ*. Although the upper elements of the hull have degraded the cargo remains highly coherent. It is likely that further hull remains are preserved beneath the cargo and/or immediately below the seabed, although the condition/extent of these is presently unclear. There are currently no shipwrecks on the UK list of designated sites that exhibit this degree of contextual preservation of the cargo.

*Overall Survival/Condition significance of the cargo of the Fenna should be considered VERY HIGH.*

*Overall Survival/Condition significance of the hull of the Fenna should be considered MEDIUM.*

## 9.6 FRAGILITY/ VULNERABILITY

*Highly important archaeological evidence from some wrecks can be destroyed by the selective or uncontrolled removal of material, by unsympathetic treatment, by works or development or by natural processes. Some vessel types are likely to be more fragile than others and the presence of commercially valuable objects within a wreck may make it particularly vulnerable. Vulnerable sites of this type would particularly benefit from protective designation.*

Observation of the site of the *Fenna* suggests that it is in a stable environmental condition. A slow process of natural degradation is occurring to the exposed timber elements, although this should be expected on most wooden shipwrecks. The most vulnerable aspect of the site is to disturbance of the cargo resulting from cultural threats (eg. fishing, anchoring, diving). The highly coherent nature of the site dictate that even a small level of disturbance has the potential to significantly reduce the archaeological value of the site.

*Overall Fragility/Vulnerability significance should be considered HIGH.*

## 9.7 DIVERSITY

*The importance of wrecked vessels can reflect the interest in their architectural design, decoration and craftsmanship, or their technological innovation or virtuosity, as well as their representativity. Consideration should be given both to the diversity of forms in which a particular vessel type may survive and to the diversity of surviving features. Some vessels types may be represented in the surviving record by a wide variety of building types and techniques which may be chronologically, regionally, or culturally conditioned. The sample of protected sites should reflect this wide variety of forms. In addition, some wrecks may be identified as being of importance because they possess a combination of high quality surviving features or, occasionally, because they preserve a single important attribute.*

The wreck of the *Fenna* represents the coherent remains of an 'ordinary' mid/late 19<sup>th</sup> century Dutch merchant schooner, engaged in European wide trade and shipping. A range of features relating to the cargo of the vessel are well-preserved, *in-situ*. It is likely that a range of constructional features relating to the lower hull of the vessel are also preserved underneath the extant cargo remains.

Vessels such as the *Fenna* were built within a broad spectrum of European shipbuilding practices at this time. As a result of this, no single vessel can be considered to be representative of all such vessels. However, the *Fenna* can be considered to be representative of the Dutch aspect of this shipbuilding and mercantile activity. Ideally, similar vessels from the UK and other European Nations can also be preserved and protected to form part of a wider maritime archaeological resource.

*Overall Diversity significance should be considered MEDIUM to HIGH.*

### **9.8 POTENTIAL**

*On occasion, the nature of archaeological remains cannot be specified precisely but it still may be possible to document reasons anticipating their existence and importance and so to demonstrate the justification for identifying a site for protection. For example, each type of site may provide a slightly different range of contexts for the preservation of archaeological and palaeoenvironmental evidence, and the environment of a site may provide strong indications of its likely level of survival. Sites may also be significant in terms of their potential to provide information on site formation and decay processes and the examination of physical, chemical and biological processes on cultural remains or through its potential for public education.*

The *Fenna* represents an almost unique example within UK waters of a sailing vessel preserved in a stable environment on the seafloor with its cargo largely intact and coherent (Section 3). As such, the *Fenna* has high potential for future research into many different aspects of mid/late 19<sup>th</sup> century shipbuilding, cargo handling, vessel use and shipping practices (Section 5). The *Fenna* provides the potential to investigate ordinary human activity within the maritime context of the 19<sup>th</sup> century. Such an approach is rare and should be considered highly desirable to provide balance to the strong emphasis on warships and vessels associated with unique historic events promulgated by the current list of UK Protected shipwrecks.

*Overall Potential significance should be considered HIGH.*