Forgotten Wrecks of the First World War







2018

War Knight Site Report







FORGOTTEN WRECKS OF THE FIRST WORLD WAR

SS WAR KNIGHT SITE REPORT





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i Acknowledgments

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ii Copyright Statement

This report has been produced by the MAT with the assistance of funding provided by the Heritage Lottery Fund through their Heritage Grants Programme. Unless otherwise stated all images are copyright of the MAT.

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1. Project Background

Forgotten Wrecks of the First World War is a Heritage Lottery Funded project dedicated to raising the profile of a currently under-represented aspect of the First World War. While attention is often focused on the Western Front and major naval battles like Jutland, historic remains from the war lie, largely forgotten, in and around our seas, rivers and estuaries.

With over 1,100 wartime wrecks along England's south coast alone, the conflict has left a rich heritage legacy and many associated stories of bravery and sacrifice. These underwater memorials represent the vestiges of a vital, yet little known, struggle that took place on a daily basis, just off our shores. The study and promotion of these archaeological sites presents a unique opportunity to better interpret them and improve physical and virtual access.

The project focuses on underwater and coastal sites from the Isle of Thanet in Kent, to beyond the Isles of Scilly, and over half way into the English Channel. The sites include merchant and naval ships, passenger, troop and hospital ships, U-boats, ports, wharfs, buildings and foreshore hulks. These sites, under water and on the foreshore, have been degrading and deteriorating due to natural and human processes for approximately 100 years and, as a result, are extremely fragile. In many cases, this project represents a final opportunity to record what remains on the seabed and foreshore before it is lost forever.

The project aims to characterise the nature and extent of the maritime First World War archaeological resource surviving on the south coast's seabed and around the coast. This will enable an understanding of maritime activity just off our shores during the conflict and provide a window onto some of the surviving sites. While it will not be possible to visit and record all c.1,100 vessels dating to the First World War lost off the south coast of England, a representative sample of sites have been selected for more detailed study, analysis and interpretation. This report collates information collected during the project, relating to one of the south coast's First World War wrecks, namely that of SS *War Knight*.

2. Methodology

General detail on the methodologies employed during the project are outlined within *Forgotten Wrecks of the First World War: Project Methodology Report*, this report section concentrates on approaches and resources relating specifically to SS *War Knight*.

2.1 Desk Based Research

Research to gather information on the *War Knight* and its crew took revealed a range of primary and secondary sources.

Online information/sources relating to SS War Knight

Research involved using a range of online resources which included those outlined in the table below:

Pastscape:	http://www.pastscape.org.uk/hob.aspx?hob_id=805357&sort=4&search=all&criteri				
	a=war knight&rational=q&recordsperpage=10				
Wrecksite	http://www.wrecksite.eu/wreck.aspx?78813				
EU:					
You Tube:	http://www.newforestnpa.gov.uk/info/20088/fascinating_history/47/coastal_h				
	eritage/6				
Other URL:	http://1914-1918.invisionzone.com/forums/index.php?showtopic=132777				
	http://www.calshotdivers.com/dive-sites/34-wreck-				
	dive/66-ss-war-knight.html				
	https://livesofthefirstworldwar.org/community				
	<u>/ 1 1 2 1</u>				

	http://h2g2.com/approved_entry/A89 4314 http://forgottenwrecks.maritimearchaeologytrust.org/war-				
	<u>knight</u>				
Historical	cal http://www.iwm.org.uk/collections/item/object/1060023115				
RFA:	: http://www.naval-history.net/WW1NavvBritishLGDecorationszzAlbertMedal.htm				

Records at The National Archives

Research was further extended through visits to view relevant material held at The National Archives (TNA) at Kew.

Documents relating to the War Knight	Ref.	Where	Date
			accessed
ADM 53/53099 Log of HMS Oberon	TNA	MAT	2014
ADM 137/2964 British Merchant Vessels sunk or captured by	TNA	MAT	2017
the enemy March to November 1919			
ADM 137/3450 Collision between SS War Knight and USS OB	TNA	MAT	2014
Jennings			
BT 110/438 Register for Transmission to Registrar-General of	TNA	MAT	2016
Shipping and Seamen.			

BT365 Board of Trade and successors: War Risk Insurance Records

These War Risk Insurance records, comprising ledgers recording claims for values of ship cargoes lost by sinking during the First World War, were consulted at TNA. While they do not provide a complete list of cargo carried on a vessel, they can provide an interesting insight into the nature and insurance value of some of the cargo on board when the ship was lost. The MAT is grateful to Kyle Abbots for sharing his research collected over many years from The National Archives. There were two claim entries for the *War Knight* within the register, one for lumber and another for ash (see Section 3.3).

Records at Other Archives/Collections

The personal records of historian Dave Wendes relating to the *War Knight* were consulted and digitised with the kind permission of Dave Wendes, these records included a large amount of information relating to the ship and to the crew.

What	Ref.	Where	Date
			accessed
Albert Medal Awards	D Wendes	MAT	2014
Gallantry Award, The Times	D Wendes	MAT	2014
Mercantile Marine Letter	D Wendes	MAT	2014
New York Times Cuttings	D Wendes	MAT	2014
Sea Gives up Rubber – the Times 27 Dec 1963, p5	D Wendes	MAT	2014
Court Hearing – The Times, 8 May 1919	D Wendes	MAT	2014
US Launch Details	D Wendes	MAT	2014
Documents relating to the crew of the War Knight			
Information and images of 7 crew members	D Wendes	MAT	2017
Casualty list from the Great War Forum	D Wendes	MAT	2014
Two documents Casualty List	D Wendes	MAT	2014
Survivors List	D Wendes	MAT	2014

Desktop research included studying available marine geophysical survey datasets. As the site of the War Knight lies relatively close to shore the Channel Coastal Observatory 'near shore' bathymetry datasets were reviewed with a dataset from 2011 showing the site of the War *Knight*.

2.2 Associated artefacts

While the Forgotten Wrecks project had a non-recovery policy, where possible, the project aimed to 'virtually reunite' artefacts historically recovered from the Forgotten Wrecks. The following artefacts from the *War Knight* have been located and are considered further in Section 5:

RoW records:	Light fitting and cage, valve, 2 x shell caps, a switch gear and plate, leather shoe.
Martin Woodward collection:	Rubber piece from cargo, porthole.

2.3 Site Visit/Fieldwork

Forgotten Wrecks site visits and fieldwork aimed to:

- Provide opportunities for volunteers to access and take an active role in the recording and research of a range of different types of maritime First World War site.
- Record extant remains for heritage records.
- Record extant remains for public dissemination, enabling 'virtual' access for those not able to achieve physical access.

The most appropriate methods for site recording were chosen from the following, on a site-by-site basis: site sketch, measured survey, photography and/ or video.

Forgotten Wrecks funded diving from the dive boat *Wight Spirit* took place on the wreck of the *War Knight* on 2, 24, 25, 26 June and 7, 11 July 2014 and 25 June and 12 August 2015. Initial dives aimed to assess the condition of the remains and obtain a sketch drawing, then to build on this information with a measured sketch/survey and photographic recording with a view to producing a 3D model of some of the features of the site where possible.

In 2014 a total of 15 divers (five professional divers from MAT and ten volunteers) undertook a total of 1,035 minutes diving on the wreck over 6 days, and in 2015, 12 divers (five professional divers from MAT and seven volunteers) spent a total of 734 minutes diving on the wreck over two days. The dive team used self-contained underwater breathing apparatus (SCUBA) with a breathing gas of air and EAN (enriched air nitrox).

Diving conditions varied from 'black out' with virtually no visibility at all to around two metres visibility with low light in 2014 but conditions were much improved in 2015 with two to five metres visibility and improved light.

3. Vessel Biography: SS War Knight

War Knight (Figure 1) was chosen as one of the Forgotten Wrecks case study sites because of being the only merchant shipwreck within the project study area known to be fitted with a steam turbine engine (which can be seen in the wreck). It represents the remains of one of the 'War prefix' vessels which were part of the 'Standard Built Ships' programme, instigated by the British Government in response to the large volume of merchant ship losses. This programme aimed to standardise ships into a simple design with similar hulls and engines, however, initially the programme purchased ships that were already being constructed, so early examples of War Prefix vessels did not all fit the 'simple design' of later examples.

The loss of the *War Knight* is also an example of one of the many tragedies of the war at sea through an accident which was considered a marine risk rather than a war risk and only three of the *War Knight's* crew were recognised while the ultimate sacrifice of the majority of the ship's crew is not formally acknowledged.

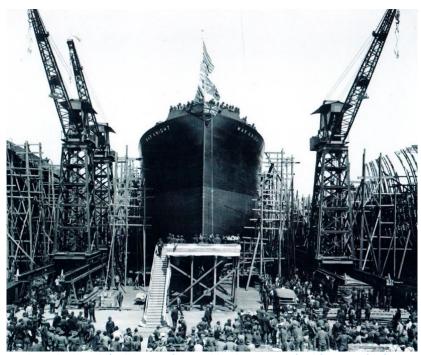


Figure 1: War Knight at the launch (Collection of the Oakland Museum of California. Gift of Herrington & Olson)

3.1 Vessel Type and Build

War Knight was built by Union Iron Works, in Aladmeda, USA and completed in May 1917. The ship had two decks and a shelter deck and was powered by a geared steam turbine engine and three single ended boilers. It was also fitted with electric lighting. War Knight had a gross tonnage of 7951, was 410 ft (c.125m) long with a beam of 56 ft (c.17m). It was fitted with a one x 6" stern gun.

War Knight Engines

As mentioned above the inclusion of a steam turbine engine in a merchant ship at this time is relatively unusual. Research undertaken by Andy Williams has established that the turbine engine was manufactured by General Electric Company, New York. The turbine was based on a design described in Patent No US591822 A granted on October 19th 1897 to Charles G Curtis and licensed by him to General Electric Company (GE) in the US and to John Brown Company in the UK.

The design combined the impulse turbine of De Laval with the reaction turbine design of Charles Parsons to give a less efficient turbine at the optimum speed but a turbine which was much more tolerant of part load and which was happy to run at a lower shaft speed, thus requiring a simpler reduction gearbox to the propeller shaft. GE were making vertical shaft turbines based on the "Curtis Wheel" from 1903 and they changed these to horizontal shafts in 1913. The Curtis Wheel was based on the Curtis patented steam nozzles with two rotors and a stator. The standard GE wheels had a 45 inch diameter (which is the size seen in *War Knight*). GE were increasing rotational speed for their power station turbines from 500rpm to 1800 rpm by 1913, but Curtis Wheels for marine use were optimised for the lower speed.

The War Knight engine also has a row of impulse turbines of the De Laval design along the shaft towards the stern gland. These are not easily explained, since they are after the main gearbox and would have been grossly inefficient at 500 RPM (a De Laval pelton wheel turbine needs to have its buckets moving at half the speed of the steam jet to be efficient, which can result in speeds of anything up to 30,000 rpm). These turbines probably represent a simple set of turbines to provide a reverse gear, when their inefficiency would have been irrelevant.

3.2 Pre-war Career

The War Knight was originally named Southerner while it was on the stocks being built, by the time the ship had been completed in May 1917 it had been renamed War Knight, and after purchase was given the official number 140335. The change of name occurred when the British Government purchased steamers under construction in the USA and they were all prefixed 'War'. War Knight was among the first four to be purchased, and it likely to have been the very first one as War Knight was the first to be completed, in May 1917, while the others were later in the year (Dave Wendes pers. comm. (June 2018), based on details on an index card from the Mariners Museum, Newport News, Virginia, USA).

3.3 First World War Use & Loss

The SS *War Knight* was a British vessel, owned by Furness Withy & Company Ltd., and was operated at the time of loss by the Shipping Controller (Furness Withy & Company Ltd., Managers (official number 140335). At the time of the sinking the *War Knight* was on route from Philadelphia and New York bound for London and was carrying a cargo of 999 tons of fuel oil to aid the war effort in the double bottom, and a general cargo including foodstuffs, bales of rubber and drums of chemicals. War Insurance Risk Records provide details of two of the cargo items – spruce lumber and ash.

Date of settlement	Steamer	Insurer	Claimant	Nature of goods	Value (£)
02/12/1918	War Knight	Cant + Kemp	Cant + Kemp	Spruce Lumber	1462
02/12/1918	War Knight	Duncan Ewing + Co.	Tyser + Co.	Ash	340

On 24 March 1918 War Knight was amongst a convoy of 16 merchant ships escorted by six destroyers led by HMS Syringa on route to Britain from New York (Figure 3). While passing the Isle of Wight the convoy had received warnings about a possible German submarine in the area, as a result of these warnings the convoy began travelling without lights and the signal was given for the convoy to alter course. Due to the size of the convoy, receiving the signals and reacting upon them was a slow process and the War Knight did not react with the speed of other members of the convoy.

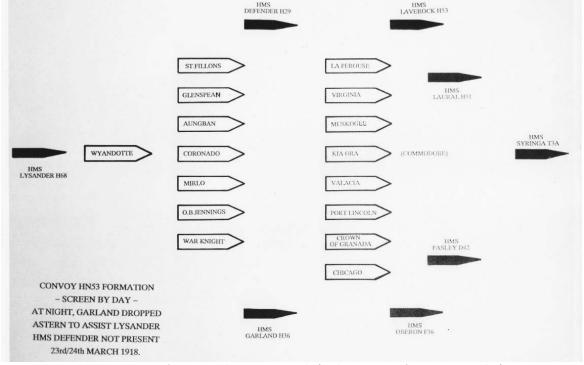


Figure 2: Convoy formation plan SS War Knight (with permission from Dave Wendes)

Around 2.15am the order to alter direction was given again causing the convoy to split into two groups as only some of the convoy had reacted. The captain of the *Syringa* attempted to unite the two groups but in doing so brought the *War Knight* and the *O.B. Jennings* closer together as the convoy regrouped. The master of the *O.B Jennings* recognised that the *War Knight* was turning towards them but the *O.B. Jennings* was unable to move out of the way in time and *War Knight* struck its side resulting in the release of the naptha cargo from *O.B. Jennings* which flowed across the deck of the *War Knight*. The nature of the cargo meant that a fire began on both ships and on the surrounding water (Incident report ADM 137/ 3450, p. 1) (Figure 3). Of the crew of 47 only 11 survived, and some of those succumbed in hospital later as a result of their wounds.



Figure 3: War Knight ablaze after the collision (Courtesy of the National Maritime Museum and from the Dave Wendes Collection)

The War Knight was towed towards shallow water by the destroyers while still ablaze. During this process the War Knight crossed a minefield laid by UC-17 (which had accounted for the loss of the New Dawn the day before). Two mines exploded beneath the War Knight and a third in contact with the towing wire. The vessel was then beached in Watcombe Bay off the Isle of Wight (Figure 4), and sunk by gunfire to extinguish the fires (Wendes, 2006:183; Pastscape, 2015; Wrecksite EU, 2001-2016).

An amazing live video of the stranding of the *War Knight* is available to see at the Imperial War Museum Library website. It shows the ship stranded in the bay until it is nearly covered by the rising tide. The link to the video is found below Figure 4.



Figure 4: 'The Stranding' (© IWM (IWM573) non-commercial licence) http://www.iwm.org.uk/collections/item/object/1060023115

3.4 Associated Vessels

O.B. Jennings was the world's largest oil tanker (10,050 tons) carrying naptha, a flammable liquid mixture of hydrocarbons. The ship was carrying a crew of 72 and had been commissioned by the United States Shipping Board to join the convoy. After the collision destroyers had pulled up alongside the O.B. Jennings to rescue crew and only one member of the crew was lost (Figure 5). O.B. Jennings was then sunk by destroyers to prevent it causing damage to surrounding vessels. The ship was later re-floated and taken for repairs (Figure 6) but eventually sunk after being captured, shelled and sunk by U-140 in the Atlantic on 4 August 1928 (Auke Visser, 2018).

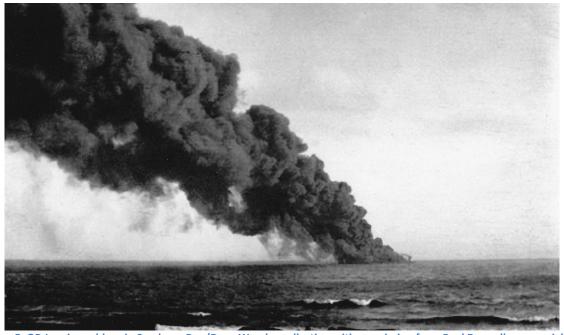


Figure 5: OB Jennings ablaze in Sandown Bay (Dave Wendes collection with permission from Paul Donnellan, copyright unknown)

HMS *Garland* under the command of Lieutenant Fegan, went to the assistance of the *OB Jennings* and rescued men from a swamped lifeboat, then proceeded alongside the ship which was still blazing, and rescued those who were still on board. Lieutenant Fegen was said to handle his ship in a very able manner under difficult conditions with Chief Petty Officer Patrick Driscoll at the helm. Both these men received the Silver Medal for gallantry from the King for saving life at sea as recommended by the President of the Board of Trade (Naval-history, 2014).

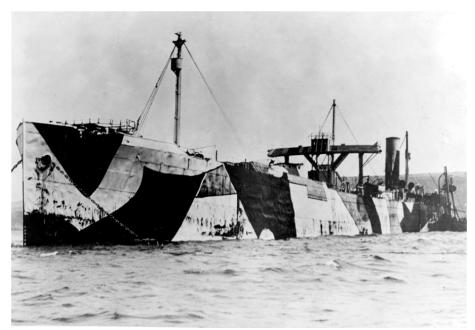


Figure 6: OB Jennings with camouflage colours undergoing temporary repairs after collision with the War Knight 1918 (Auke Visser's International Esso Tanker Site http://www.aukevisser.nl/inter/id384.htm thanking Aryeh Wetherhorn)

SS War Monarch (previously Rydal Hall), a British steamer of 7887 tons, was the sister ship to the War Knight, built in 1917 by Union Iron Works co., Alameda. A month before the War Knight was lost the War Monarch was sunk by a torpedo from the German submarine UB-57 (Captain Johannes Lohs) on 14 February 1918. The ship was on a voyage from Hull to Italy with a cargo of coal when it was hit, and sank 11 miles east of the Royal Sovereign light vessel. There were no casualties.

3.5 People associated with the War Knight

The severity of the fire which broke out on the *War Knight* resulted in only 11 survivors of the 47 crew. Two of the men on board the *War Knight* received medals: Chief Engineer David Falconer and Apprentice Reginald Clayton received the Albert medal posthumously after succumbing to their wounds in hospital. Falconer was recognised for his gallantry in rescuing men affected be the fumes below deck and giving up his own lifejacket to save a fellow crew member, whilst Clayton's efforts to flood the magazine were rewarded.

Only three of *War Knight*'s crew are recognised on memorials on the south coast, as they were military personnel. *War Knight*'s loss was considered a marine risk rather than a war risk, so the contribution and sacrifice made by the majority of the ship's civilian crew is not formally recognised.

Dave Wendes, Southampton based dive boat skipper and historian, has been researching the crew of the SS *War Knight* for many years. Through his extensive research he has managed to contact a number of family members of *War Knight's* crew, who have kindly shared photographs and other details about their relatives. Dave has also tracked down the merchant navy record cards of some of the crew who survived. Information and photographs of the crew can be seen at the 'Lives of the First World War' website (https://livesofthefirstworldwar.org/community/1121), and also at the Forgotten

Wrecks of the First World War website (Maritime Archaeology Trust, No date), this includes photographs which are reproduced with the kind permission of Southampton City Archives (SCA).

In common with most merchant ships of the time, the *War Knight* had an international crew, coming from England, Ireland, Scotland, Wales, Norway, Sweden, Belgium, Newfoundland, Jamaica, USA and Australia.

3.6 Post-loss Activity

In July 1919 The Shipping Controller claimed damages of over £1,000,000 from the owners of the *OB Jennings* in the Admiralty Court (The Times, 1919). The case was dismissed with costs. One report in the Yorkshire Telegraph and Star quotes the Judge, Mr Justice Hill, as saying there were only two *War Knight* on duty survivors who were the "third engineer and an A. B."

A first-hand account of what Fred Mew saw of the wreck can be read in his book *Back of the Wight Yarns of Wrecks and Smuggling*, published in 1934. Fred Mew lived on the Isle of Wight spending most of his time on the coast and was a member of the LSA (Life Saving Apparatus Company) at Blackgang. He was an officer's servant to the RE officer at Cliff End Battery at the time and he recalls seeing the *War Knight* beached in Freshwater Bay, near the cliffs. The cargo of bacon, lard, flour, oil and rubber was washed up on the shore and for weeks the area was busy with people finding all the salvageable cargo to take home. Food was scarce at the time so the meat was especially popular.

The wreck was extensively salvaged in the 1960's to obtain its non-ferrous fixings. The 6" gun was recovered but was lost under tow in the Western Solent (Wendes, 2006:183). Being in shallow water close to shore *War Knight* is regularly dived by recreational sports divers.

4. Seabed Remains

4.1 Site Location and Environment

The War Knight was beached in Watcombe Bay close inshore on the south side of the Isle of Wight before being sunk by gunfire to extinguish the fires. It was hoped the ship could be raised and repaired but this never happened. The remains of the wreck are in position 50.665 -1.5173 WGS84 (UKHO) (Figure 7).

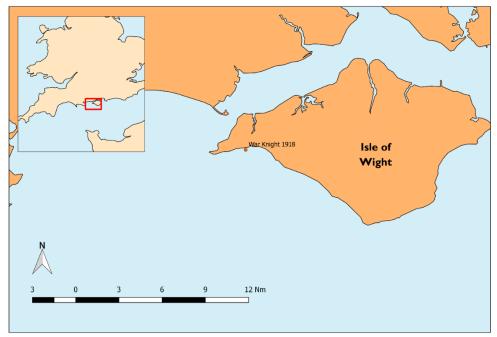


Figure 7: Location of the War Knight

The wreck sits upright in around 13m of water amongst the rocks on the seabed interspersed with shingle. The boilers and chain locker stand around 3m high above the seabed.

4.2 Archaeological Methodology

A range of survey methods were used to survey the *War Knight* as follows: Visual survey

- Identify key features for more detailed recording through photograph and video
- Confirm the nature of the seabed

Photographic survey

- Gather general photographs of the wreck and divers on the wreck
- Photogrammetry survey of the steam turbine engine to produce a 3D model

Video survey

- Conduct general video of the wreck and divers on the wreck
- Gain footage of key features of the wreck

Measured survey

• Measure key features and gain and length and beam measurement of the wreck where possible.

4.3 Description of Surviving Vessel Remains

On a clear day it is possible to see the outline of the hull of the *War Knight* sitting upright on the seabed close inshore in a depth of around 13m of water despite being heavily salvaged. The outline of the ship is also visible within geophysical survey data from the Channel Coastal Observatory (Figure 8). The ship's three boilers dominate in the mid-section of the wreck (Figures 8 & 9) standing 3m high with approximately another 1.5m below the level of the seabed. The diameter of each of the three boilers is 4.4m with 0.6m between the middle boiler and the two outer ones.

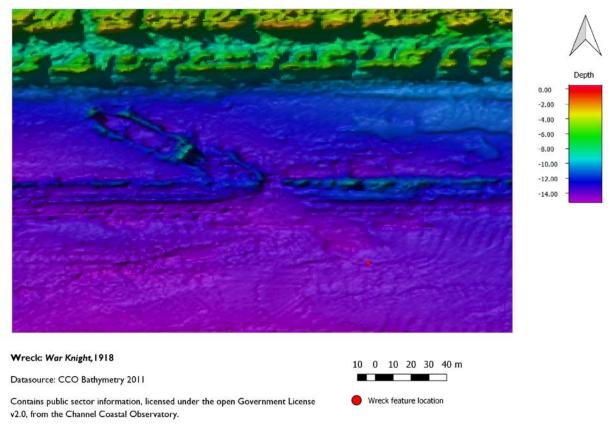


Figure 8: The War Knight site shown within 2011 bathymetry dataset (CCO)



Figure 9: Two of the three boilers on the War Knight site



Figure 10: Bollards within the wreckage of the War Knight (photo Martin Davies)

Bollards lie within the wreckage (Figure 10) and forward of the boilers there are a series of bulkheads before reaching the chain locker which is still standing upright at the bow. The anchor windlass and hawse pipes lie near the chain locker (Figure 11).



Figure 11: Anchor windlass (courtesy of Michael Pitts)



Figure 12: Broken muddled structure (courtesy Michael Pitts)

Sections of the hull still stand high near the forward part of the ship while other sections have collapsed. Structural components are mixed and muddled around the midships to foredeck area, some of which can be seen in Figures 12, 13 and 14.



Figure 13: Parts of the hull still stand high (courtesy of Michael Pitts)



Figure 14: Areas of collapsed hull structure (courtesy of Michael Pitts)

Aft of the boilers are the steam turbines (for more information on these see Section 3.1). A distance of 11.7m was measured between the back surface of the boilers and the beginning of the propeller shaft which measures 30cm in diameter. Photogrammetry was carried out over the aft section of the site by MAT and an interactive 3D computer model of the steam turbine engine (Figure 15) produced which can be seen on the Forgotten Wrecks of the First World War website (Maritime Archaeology Trust, 2015). A detailed measured survey of the steam turbine components was undertaken by Andy Williams, the results of which are shown in Figure 16.

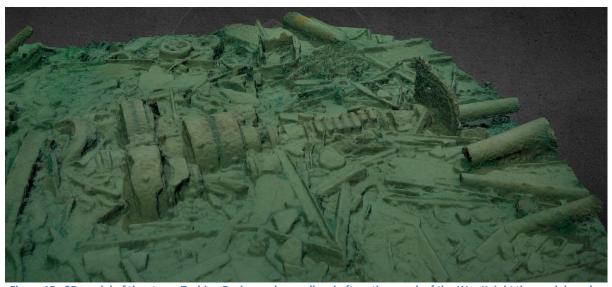


Figure 15: 3D model of the steam Turbine Engine and propeller shaft on the wreck of the *War Knight* the model can be viewed at https://sketchfab.com/models/e2e26a778cdd4744be357056b8fdad1b

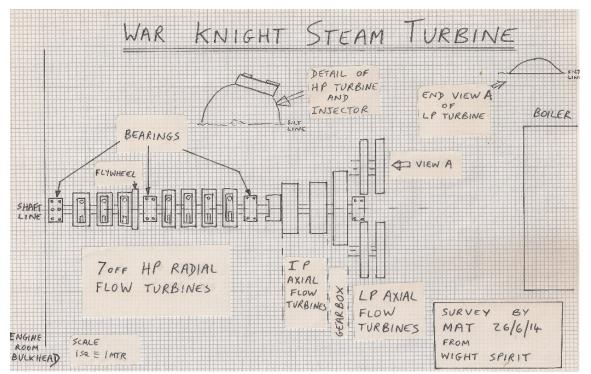


Figure 16: Scale plan of the steam turbine engine on SS War Knight (drawing courtesy of Andy Williams)

A measured sketch was produced (Figure 17) of the aft of the vessel to the bulkheads just forward of the boilers, the propeller tunnel can be seen in Figure 18 and 19.

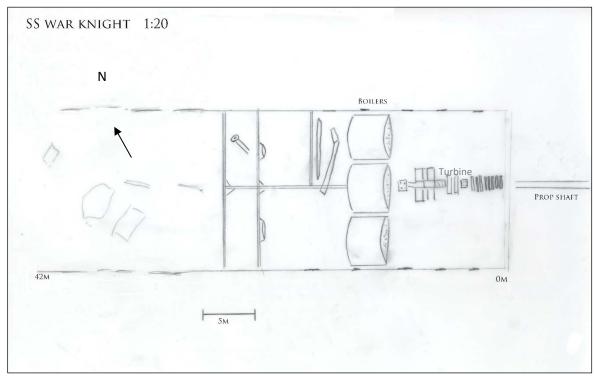


Figure 17: Measured sketch of aft-midships section of War Knight



Figure 18: Looking into the propeller tunnel (photo Roland Brookes)



Figure 19: Propeller shaft and tunnel arches

The wreck lies close inshore amongst rocks on the seabed, shingle is interspersed between the rocks. The remains of the *War Knight* are in reasonable condition and the extent remains are still very distinguishable having endured fire, a mine explosion and gunfire sinking. Many features are still identifiable considering the wreck has been heavily salvaged, and the wreck has also survived the natural process of being in an area of shallow water close to shore for 100 years. Some features of the wreck, such as the turbine engine, are still moderately preserved (Figure 20).



Figure 20: Diver inspects the turbine engine (photo Roland Brookes)

5. Recovered Archive

Known and accessible artefacts obtained from the wreck of the *War Knight*, or otherwise related to it, were recorded by volunteer teams trained and led by MAT staff. Collections were either visited or obtained for inspection and recorded using the projects data collection form and guidance pack.

A piece of rubber cargo and a porthole are held in Martin Woodward's collection at the Shipwreck Centre on the Isle of Wight (Figures 21 and 22). An extract from The Times on 27 December 1963 (p5) reads 'Freshwater, Isle of Wight Dec 26. Beachcombers in the south-west of the Isle of Wight reaped a rich harvest for Christmas by salving scores of bales of raw rubber washed up from the wreck of the cargo vessel *War Knight* which sank off Freshwater Bay in 1918. The finders received a £4 a bale salvage money for the rubber, described as being as perfect as on the day it was shipped'.

Artefacts recorded at the Shipwreck Centre and Maritime Museum from Martin Woodwood's collection (Figure 21 and 22):

FW ID No	Material	Class	Held by/owner	Level of Recording
FW 1105	Rubber oblong piece	Cargo	Martin Woodward	Photograph with scale
FW 315	Brass Porthole	Fixtures and fittings	Martin Woodward	Photograph with scale



Figure 21: Rubber cargo from Martin Woodward's collection



Figure 22: A porthole from the War Knight on display at the Shipwreck Centre (Martin Woodward collection)

The Receiver of Wreck records detail the following objects from the wreck reported during the Amnesty 2001:

Fixtures and Fittings: a light fitting and cage (Droit A/076), a valve (Droit A/1229), a switch gear and plate (Droit A/2777).

Armament: two shell caps (Droit A/1417)

Personal Belongings: a leather shoe (Droit A/4579)

6. Site Significance & Potential Further Research

A great deal of information has been researched about the *War Knight* and during this project a 3D model has been produced of the stern section of the ship, in particular its unique steam turbine engine. Further research and photogrammetry of the rest of the ship to produce a 3D model of the complete vessel before the remains deteriorate any further would enhance the archive and preserve the ship for future generations of researchers. It would also serve to add to the memory in commemoration of those who lost their lives.

The War Knight is a highly significant vessel and exhibits a range of factors which make it of special interest for historical and archaeological reasons. The report 'Assessing Boats and Ships 1914-1939' (Wessex Archaeology: 2011), reviewed vessels within the whole of English territorial waters and put forward factors of special interest which included a number relevant for the War Knight:

War Knight illustrates a number of key narratives of the war:

"Vessels lost during the period of unrestricted warfare in 1917-18 may have special interest because they represent of a new form of warfare which not only came close to winning the war against Britain but also influenced the conduct of the Second World War" (2011: 24). War Knight was lost in the period of unrestricted submarine warfare, it is illustrative of the 'Standard Built Ships Programme' that was instigated by the British Government due to the high levels of merchant vessels lost. In particular War Knight is likely to have been the first United States vessel launched as part of this programme.

War Knight was lost while in convoy:

"Vessels which travelled in convoy at their time of loss may be regarded of special interest" (2011: 64). Illustrating another key narrative of the war, *War Knight* was lost while in a convoy. The ship and the site demonstrates the hazards of the convoy system and manoeuvring ships in close proximity.

War Knight was fitted with a steam turbine engine:

"Modernisation in terms of steam engine machinery in this period [1914-1938] was largely confined to the adoption of the steam turbine engine. Whilst the steam reciprocating engine was reliable and relatively easy to construct, the steam turbine engine offered many advantages over the reciprocating engine, such as no vibration and less space required for the same amount of power" (2011: 10). "Cargo vessels equipped with reciprocating, turbine and oil-fired engines are likely to be regarded of special interest on the basis of their rarity during this period (2011: 38).

Archaeological investigations on site have enabled the *War Knight's* steam turbine engine to be recorded and a 3D model produced. The rarity of this feature within cargo vessels is further underlined by the fact there are only five examples in the whole of English territorial waters for the period 1914-1938.

The above factors demonstrate the historical significance and rarity of the engine type of the *War Knight* and suggest that the site should be considered for heritage protection.

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