

Forgotten Wrecks
of the
First World War



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2018

SS Molina
Site Report





**FORGOTTEN WRECKS
OF THE FIRST WORLD WAR**

***SS MOLINA*
SITE REPORT**

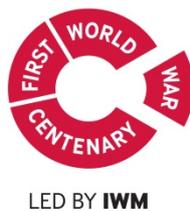


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ii Copyright Statement

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 which is 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 between Kent and Cornwall, which 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 the *SS Molina*.

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 Molina*.

2.1 Desk Based Historic Research

Research undertaken on the *Molina* and its crew identified a range of primary and secondary sources.

Online information/sources

Online research identified a range of resources:

Pastscape:	http://www.pastscape.org.uk/hob.aspx?hob_id=804934&sort=4&search=all&criteria=molina&rational=q&recordsperpage=10
Wrecksite EU:	http://www.wrecksite.eu/wreck.aspx?563
You Tube:	https://www.youtube.com/watch?v=HKzav4gFX6I https://www.youtube.com/watch?v=xOw1ga5TfJE
Uboat.net	http://www.uboot.net/wwi/boats/index.html?boat=UB 35
Other URL:	http://www.wightindex.com/shipwrecks/corner.htm https://digitaltmuseum.no/021015476963/molina-haugesund-capt-th-tangeraas?aq=&i=1 http://www.southseasubaqua.org.uk/trip-reports

Records at The National Archives

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

Documents relating to <i>SS Molina</i>	Ref.	Where	Date accessed
Admiralty Record English Channel: German Submarines 21-31 January 1918	ADM 137-1474	TNA	2017

Documents relating to people connected with <i>Molina</i>	Ref.	Where	Date accessed
Admiralty record English Channel: German Submarines 21-31 January 1918	ADM 137-1474	TNA	2017

Records at other archives/collections

The personal records relating to *SS Molina* of historian Dave Wendes were consulted with the kind permission of Dave Wendes.

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. A number of artefacts from the *Molina* were identified through reports during the Receiver of Wreck Amnesty (Oiling boxes and a bottle), and others are located at the Isle of Wight Shipwreck Centre and Maritime Museum (bell and builders name plate), see Section 5 for more details.

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.

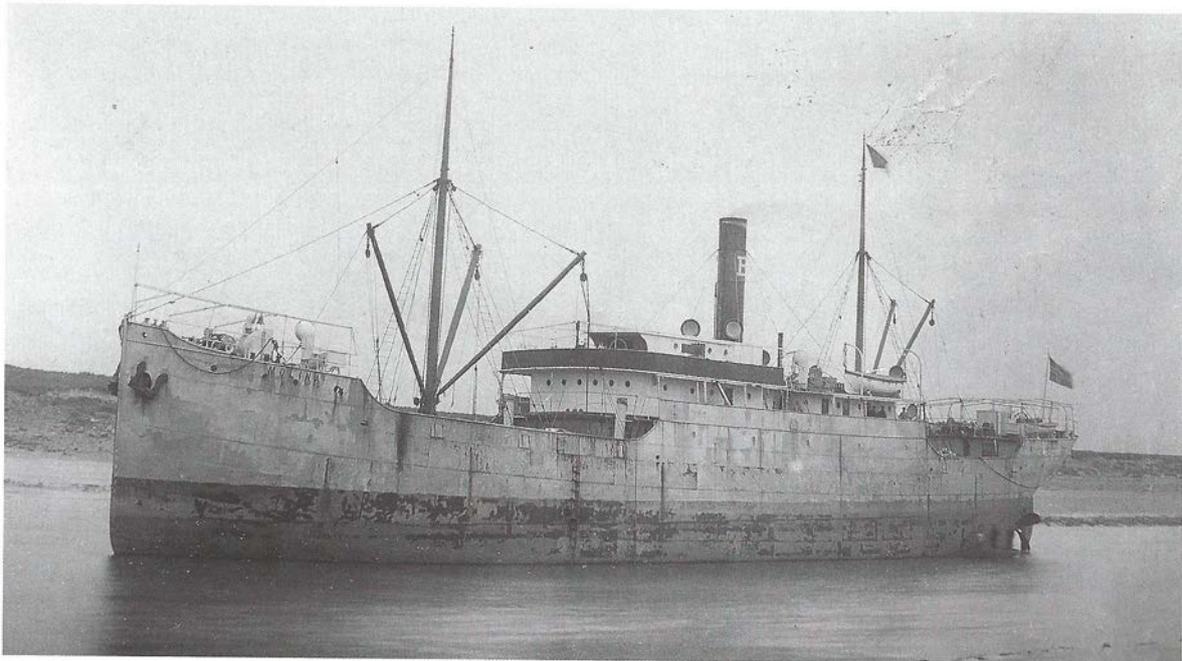
The most appropriate methods for site recording were chosen from the following, on a site-by-site basis: site sketch, measured survey, photography and/ or video.

Forgotten Wrecks funded diving from the dive boat *Wight Spirit* took place on the wreck of *SS Molina* on 7 July 2014. 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 where possible.

A total of seven divers spent 269 minutes diving on the wreck during one day. The dive team used self-contained breathing apparatus (SCUBA) with a breathing gas of enriched air nitrox (EANx) using accelerated decompression procedures. Diving conditions on the day were reasonable with visibility around 4-5m enabling photography of some features.

3. Vessel Biography: *SS Molina*

SS Molina was chosen as one of the Forgotten Wrecks case study sites because it is an example of a Norwegian Steam Ship (Figure 1). The vessel represents one of a number of ships sunk that were under the flag of a neutral nation during the First World War.



SS Molina.

Courtesy Norwegian Maritime Museum.

Figure 1: *SS Molina*

(Courtesy Dave Wendes collection and permission from the Norwegian Maritime Museum <https://marmuseum.no/en>)

3.1 Vessel Type and Build

SS Molina was built by Nylands Vaerksted, in Christiania and completed in 1905, the vessel class was DAV1A1. The ship was a steel screw steamer with one deck, it was fitted with electric lights and had a gross tonnage of 1122. The 229 ft (c.70m) long ship had a beam of 36ft (c.11m) and was powered by a three cylinder triple expansion engine with two single ended boilers and 109 nominal horse power (WreckSite EU, 2001-2017; Wendes, 2006).

3.2 Pre-war Career

The *SS Molina* was built for the first owner in Kristiania (Oslo), in 1905. Thereafter it changed hands a number of times before being taken over by the final owner (Ringens Rederi Aktin) in November 1915 (Pastscape, 2015). The previous owners were:

- 1905 – 1915 - Bryde G. M. - Galveston Steamship Co., Oslo (old Christiania).

- January 1915 - Frimann & Pedersen (Vestlandet D/S A/S), Bergen.
- August 1915 - Lindvig Jacob M. H., Oslo (old Christiania).
- October 1915 - Ringens J. Rederi A/S - J. Ringen, Haugesund.

3.3 First World War Use & Loss

The SS *Molina* was a Norwegian vessel, owned by Ringens Rederi Akties (J Ringen, Manager) and was operated at the time of loss by the same owner (Building no 161). At the time of the sinking the *Molina* was on route from Le Havre bound for Swansea and was in ballast under the command of Captain T Tangeraas. The ship was unarmed (ship of a neutral nation).

The *Molina* was crossing the channel bound for Swansea in ballast from Le Havre on 21 January 1918. Steaming along at nine knots 3½ miles off St Catherine's Light at around 1.30 am on 22 January, all seemed well, although the two lookouts had not sighted anything to be concerned about, a German U-boat UB-35 had spotted them. UB-35 (Oberleutnant Stoter) had sunk the *Mechanician* two days earlier and now had the *Molina* in its sights and fired a torpedo. Steering north-west at nine a half knots, the master reported hearing an incredible explosion in the stern end of the ship and the ship started to sink immediately as water started to enter the holds and the engine room via the propeller shaft tunnel. The crew took to the lifeboats and it was apparent that the whole stern of the ship had been destroyed and was sinking very quickly by the stern, it was reported by Gerhard Johnsen, the second mate, that after remaining in a vertical position for 10 – 15 minutes, it finally sank. The torpedo had hit on the port quarter below the waterline. The crew of 17 were later picked up from the lifeboats and a motorised launch by *Lady Cloe* a passing steamer and landed at St Helens on the Isle of Wight (Wendes, 2006, Pastscape, 2015).

It is stated that the *Molina* was insured for 1.2 million at the time of loss (Skipshistorie.net). The currency is not stated but probably Krone, and if so, that equates to 111,662 GBP which equates to £12,478,863 as at 2017.

3.4 Associated Vessels

The German submarine UB-35 that sank the *Molina* was depth charged on 26 January 1918 by HMS *Leven* at position 5103N 0146E. 26 men perished and two survived the sinking initially, *Leven* subsequently sighted seven men in the water but only managed to recover one, who died on board a short time later. Two crewmen that sailed on UB-35 were captured on January 25, 1918 when the British patrol vessel P34 appeared while they were on a Greek vessel preparing to scuttle it. The wreck of UB-35 has been located and identified by divers (Uboat net, 1995-2017).

There are some discrepancies with the above numbers as Uboat net states that this type of submarine was designed for 23 men, comprising two officers plus 21 hands. As the space on UB class submarines was very limited, it is possible that there were less than 28 on board as reported above.

3.5 People Associated with the SS *Molina*

Of the crew of 17 on board SS *Molina*, as listed on the crew list in ADM 137-1474 at The National Archives (Admiralty record 'English Channel: German Submarines 21-31 January 1918'), all but six of them were Norwegian. The other six consisted of two Danish, two Swedish, one American and one Mexican. Fortunately, all of the crew survived.

3.6 Post-loss Activity

Professional diver Martin Woodward located the *Molina* (which was uncharted at the time) whilst carrying out a magnetometer survey of the area south of the Isle of Wight in 1979. Martin positively identified the wreck by recovering the bell from the foredeck which bore the ships name. The ship was

reported as very intact at that time (Wrecksite EU, 2001-1017, from Martin Woodward's Sport Diver article early 1990s).

The bronze propeller minus two blades have been salvaged from the wreck (Wrecksite EU, 2001-2017).

4 Seabed Remains

4.1 Site Location and Environment

The position the ship was struck is 50.56278 -1.4827 WGS84 (UKHO), three miles west of St Catherine's Point (Figure 2). It rests on a sand and shingle seabed.

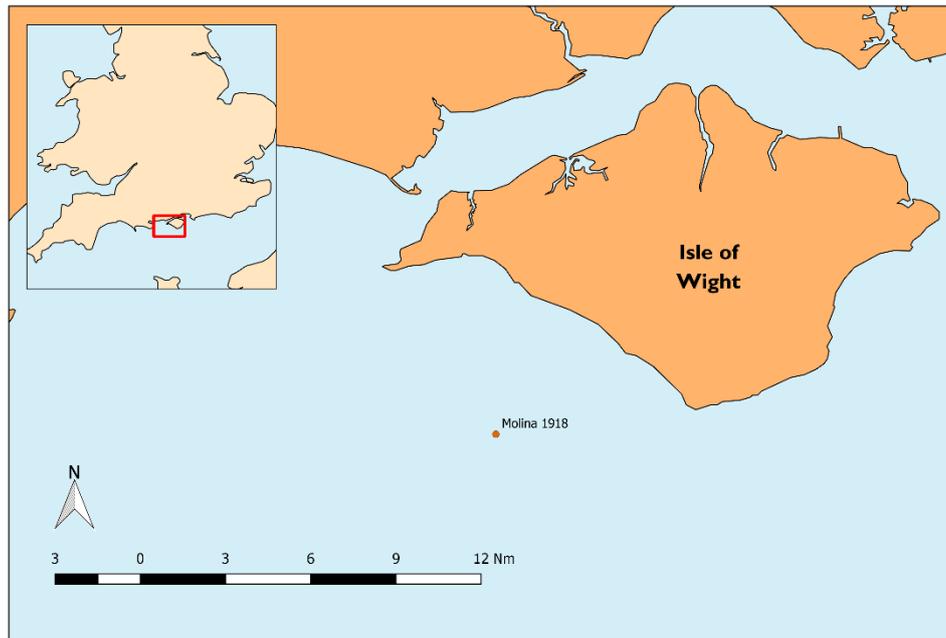


Figure 2 Position of the *Molina* shipwreck

4.2 Archaeological Methodology

Methods employed on site included:

Visual survey

- To identify key features of the vessel for more detailed recording through photography and video.

Photographic survey

- To gather general photographs of the wreck and divers on the wreck
- Photograph key features with archaeological scale from multiple angles

Video survey

- Conduct general video of the wreck and divers on the wreck
- Gain footage of key features of the wreck
- If conditions allow conduct a video 'tour' of the length of the wreck

Measured survey

- Measure the remains of key features where possible

4.3 Description of Surviving Vessel Remains

The *Molina* sits upright on a seabed of sand and shingle in around 35m of water. It is orientated NE/SW with the bows to the NE. A multibeam survey in January 2012 reported the length of the wreck at 65m and the width 13m, with scour 2.5m deep to the north and south of the wreck (PastScape). The forward end is fairly intact from amidships forward, whilst the aft end of the ship is flattened. The

highest part of the wreck stands around 6m high which is the boiler and the triple expansion engine which can be seen in Figure 3. The approximate measurements of the three pots of the engine (in diameter) are 50cm first pot, 80cm middle pot and 122cm top pot (Figure 4).



Figure 3: Divers at the triple expansion engine (image Roland Brookes)



Figure 4: Divers measuring the engine pots (image Roland Brookes)

Forward of the engine lie the two boilers and there is also a donkey boiler present (a small boiler which is used to run the ships auxiliary engines when the main boilers are cold) (Figure 5).



Figure 5: Donkey boiler (image Roland Brookes)

On travelling towards the stern of the vessel the remains begin to flatten as more ribs become apparent and the sides of the vessel are collapsing (Figure 6). Lots of structure is still recognisable including hatches and combings but further dives would be required to generate a full plan of the vessel. Go pro video footage was taken by divers around the wreck and a short annotated video tour produced and posted on You Tube (Maritime Archaeology Trust, 2017). The deck is evident in many places and its possible to look down amongst the fallen structure into the holds.



Figure 6: Ribs on Port side (image Roland Brookes)

Towards the stern a deck winch lies with two bollards nearby (Figure 7). At the stern, the bronze propeller is reported to have been raised by salvage divers and it had two blades missing (Wendes, 2006). No armament is present as *SS Molina* was sailing under the neutral flag of Norway, and therefore, was unarmed.



Figure 7: Winch near the stern (image Martin Davies)

The bell, bearing the ships name, was recovered from the foredeck by Martin Woodwood, this helped to positively identify the wreck. The bell is on display at the Shipwreck Centre and Maritime Museum at Arreton on the Isle of Wight.

The condition of the *Molina* is consistent with what might be expected of a wreck that has survived the natural processes within the area in which it lies for nearly 100 years. Although the remains are partially broken down particular at the stern of the ship which is reported to have been destroyed by the torpedo, some aspects of the ship are still quite well preserved.

5. Recovered Artefacts

Artefacts recorded by the Receiver of wreck during the Maritime and Coastguard Agency Amnesty (2001) included:

- Fittings: Two oiling boxes (Droit A/1425)
- Storage: Bottle (Droit A/3298)

Artefacts recovered by Martin Woodward on public display at the Shipwreck Centre and Maritime Museum on the Isle of Wight:

- Fixtures and fittings: Brass ships bell bearing the ships name and 'Christiania' (330mm high) and builders nameplate.



Figure 8: Ship's bell on display at the Shipwreck Centre and Maritime Museum, Isle of Wight

6. Site Significance & Potential Further Research

The significance of this site is that it is an example of a vessel that was neutral in the First World War being a Norwegian ship. It has a triple expansion engine and is still somewhat intact but it is now just over 100 years old and is beginning to break down. Further diving on this site to obtain a site plan and possible photogrammetry to record it in more detail when conditions allow would be a lasting legacy for the record and future generations, and preserve the ship for historical research and public information.

The report 'Assessing Boats and Ships 1914-1938' (Wessex Archaeology: 2011), reviewed vessels lost within the whole of English territorial waters and put forward factors of special interest. It outlines that "Norway continued to trade with Britain during WWI, exporting copper ore and fish to Britain in return for cargoes of coal. With their well-established involvement and familiarity with North Sea trade routes and seafaring conditions, Scandinavian vessels were crucial to the continuing battle to get coal supplies through the North Sea minefields to London. This attracted the attention of German submarines, and Norwegian vessels trading with Britain became exposed to the U-boat offensive. The loan of Norwegian vessels to Britain under the 'Tonnage Agreement' in 1917 further subjected these vessels to unrestricted warfare". And ".....analysis suggests that Norwegian vessels lost during WWI may also be regarded as being of special interest. Those wrecks are representative of the involvement of a key non-belligerent element of the British war machine" (Wessex Archaeology 2011: 18).

As a Norwegian loss during the First World War the *SS Molina* has special significance, it is one of 140 Norwegian ships lost within English waters during the war.

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8. Appendices

8.1 Site video

Publishing date:	25/8/17	Publisher:	MAT
URL:	https://www.youtube.com/watch?v=xOw1ga5TfJE		
Last accessed:	2018	License:	Standard YouTube License
Length:	59 seconds	Description:	Dive footage
Notes: Short underwater tour of the shipwreck <i>Molina</i> with annotations around the boilers, engine and hull frames.			