

Forgotten Wrecks of the First World War



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2018

Hulks of the River Dart, Devon





**FORGOTTEN WRECKS
OF THE FIRST WORLD WAR**

**Hulks of Vessels used during the First
World War, River Dart, Devon:**

***Winifred, Six Brothers, Effort,
Esther (Irene), Fiery Cross, Glory and
Kingswear Castle***



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1 BACKGROUND TO THE PROJECT AND RIVER DART SURVEY

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 1,000 wartime wrecks and dozens of coastal sites along England's south coast alone, the conflict has left a rich heritage legacy and many associated stories of bravery and sacrifice. The 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 the record of maritime activity created during the conflict and provide a window onto some of the surviving sites. While it will not be possible to visit and record every site dating to the First World War along the south coast of England, a representative sample of sites have been selected for more detailed study, analysis and interpretation.

With particular regard to coastal, rather than fully submerged archaeological remains, it has been noted in wider commentaries on England's coastal heritage (Murphy, 2014: 94) that there are relatively few surviving sites because of subsequent reuse and/or destruction during or following the Second World War. As a result, from the perspective of identifying coastal research priorities an emphasis has been placed (Murphy, 2014: 119) on the need to differentiate First World War sites from those of the Second World War.

1.1 STUDY OF HULKS ON THE RIVER DART

This report focuses on project fieldwork undertaken on the River Dart, Devon (Figure 1), which surveyed seven hulked vessels which were known to have been in use during the First World War. Importantly, these sites represent vessel types, such as fishing boats and coastal traders, the remains of which are infrequently encountered in the wider shipwreck record from the offshore zone of the project. This report outlines the vessel histories, geographical context of the sites, the methodologies used to record them, and the individual results for each site. Figure 2 shows the location of these hulks within the Dart River system.

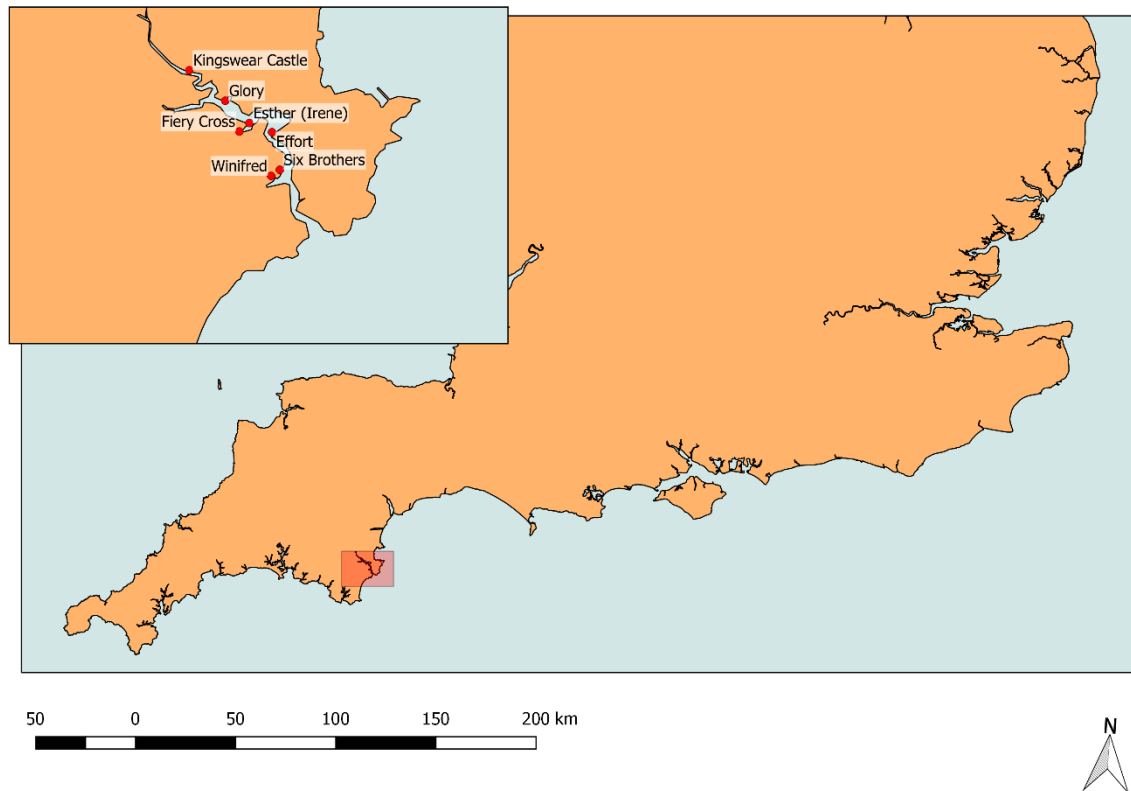


Figure 1: Geographic location of the River Dart, Devon

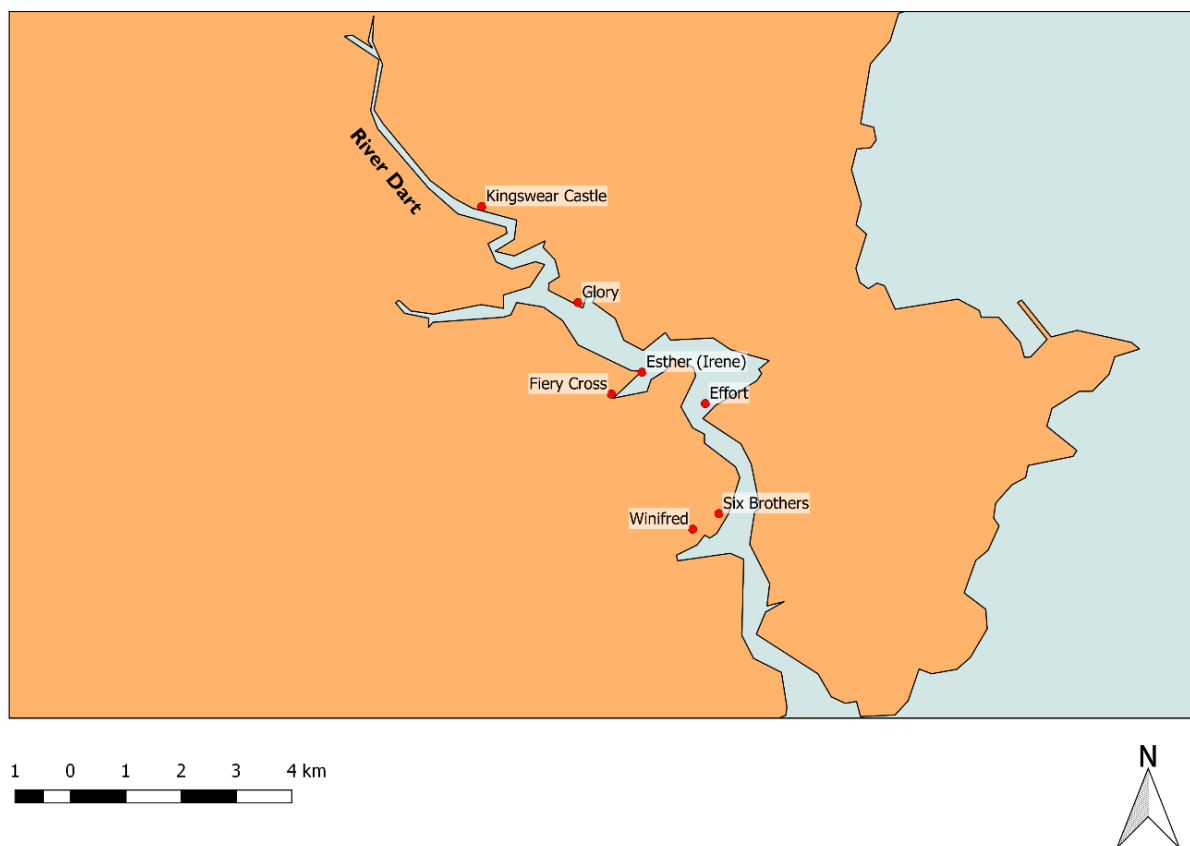


Figure 2: Location of the hulks surveyed on the River Dart

1.2 FIELDWORK METHODOLOGY

Forgotten Wrecks Project 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.

Intertidal/coastal fieldwork comprised a combination of the following (depending on the nature and extent of the site): initial site visit, characterisation of remains through detailed inspection, key measurements and sketch plan, full site survey (employing a drone where appropriate) and/ or creation of 3D model.

For further information about methodology, please refer to the MAT's *Forgotten Wrecks of the First World War: Project Methodology Report*.

2 HULK REPORTS

The following sections outline the results of documentary research and site survey of the hulk remains.

2.1 WINIFRED

Winifred was chosen as one of the Forgotten Wrecks case study sites because the vessel was typical of many of its period, survived the First World War, and then continued plying its trade until the Second World War when it assisted in the war effort. Subsequent to the Second World War, very little is known about *Winifred* despite spending its whole life within the Forgotten Wrecks Project area. *Winifred* after displaying impressive longevity for a small wooden vessel is now a charred wreck in the River Dart.

2.1.1 Vessel Type and Build

Completed by May 1897, the *Winifred* (Official Number: 108553) was built in Falmouth and registered as a sailing vessel at Plymouth. The ship was a small wooden coastal trader having a gross tonnage of 50 until 1940 when it increased to 53 when an auxiliary motor was fitted, consequently being re-registered as a motor vessel at Plymouth. The 64ft (c.19.5m) long ship had a beam of 19.3 ft (c.5.9m) and a depth of hold of 7.5 ft (2.3m). From 1897, *Winifred* was powered by sail in a ketch configuration until 1940 when the 25 bhp auxiliary motor was added (Crew List Index Project 2018).

2.1.2 Pre-war Career

Built for its Managing Owner Joseph Doney of Lostwithiel who owned it until 1915, *Winifred* operated along the south coast plying its merchant trade between ports in Cornwall to Hampshire. The subsequent Managing Owner, until 1937, was Frederick John Bowden of Devonport, Plymouth who continued with the same coastal trading. The Master of *Winifred* until 1910 was William Foote assisted by two or three crew, who initially were Frederick William Foote and Alfred Charles Foote but from 1913, the Master was Frederick Bowden, assisted in the beginning by John Joseph Bowden, George Mallet and Anthony Bootyman (Crew List Index Project 2018). A brief summary of the ship's voyages between 1897 and 1912 derived from entries in the British Newspaper Archive (<http://www.britishnewspaperarchive.co.uk/>) and Lloyd's List offers a clear indication of the voyages to and from South coast ports:

Arrived 28 July at Cowes from Plymouth	<i>Lloyd's List</i> - 29 July 1897
Arrived 11 October at Penryn from Falmouth	<i>Lloyd's List</i> - 12 October 1897
Arrived 2 May at Southampton from Plymouth	<i>Western Times</i> - 05 May 1902
Sailed 30 November from Cattewater for Penryn	<i>Western Morning News</i> - 01 December 1903

Arrived 18 April at Portland from Plymouth	<i>Lloyd's List</i> - 19 April 1904
Arrived 30 September at Cowes from Plymouth	<i>Lloyd's List</i> - 01 October 1904
Arrived 28 January at Portsmouth	<i>Lloyd's List</i> - 29 January 1906
Sailed 27 May from Plymouth for Fowey	<i>Lloyd's List</i> - 28 May 1908
Sailed 9 July from Cowes for Truro	<i>Lloyd's List</i> - 12 July 1910
Arrived 12 July at Truro from Cowes	<i>Lloyd's List</i> - 14 July 1910
Sailed 1 September from Cowes for Exeter	<i>Lloyd's List</i> - 02 September 1910
Sailed 1 February from Great Western Docks for Falmouth	<i>Western Morning News</i> - 02 February 1911
Arrived 3 April at Great Western Docks from Newhaven with general cargo	<i>Western Daily Mercury</i> - 04 April 1912

2.1.3 First World War Use

During the First World War, the *Winifred* continued its coastal trade and its Owner/Master remained as Frederick Bowden, but apparently with only one crew member at any one time. The following information about the crew during the war has been located (TNA BT 400/3522 and 400/3555 Agreements and Crew lists):

Frederick Bowden – born 1868 in Devonport
G. P. Philips – Mate for part of 1915, born 1875 in Lostwithiel
Samuel Trehanes – Mate for part of 1915, born 1873 in Plymouth
Sampson John Trehanes – Mate for part of 1915, born 1873 in Plymouth

None of these crew members appear in the Commonwealth War Graves Commission list of casualties, so even if they moved to a different ship, they are likely to have survived naval hostilities.

Winifred survived the war.

2.1.4 Post War Use

Winifred continued its coastal trading, and the resumption of newspaper reported sailings demonstrate this:

Arrived 6 May at Plymouth from Par	<i>Western Morning News</i> - 07 May 1919
Arrived 27 July at Plymouth from Falmouth	<i>Western Morning News</i> - 28 July 1920
Arrived 25 February at Plymouth from Salcombe	<i>Western Morning News</i> - 26 February 1924
Sailed 7 February from Plymouth to Truro	<i>Western Morning News</i> - 08 February 1927
Arrived 12 September at Falmouth from Plymouth	<i>Western Morning News</i> - 15 September 1934
Sailed 17 April from Plymouth for Penryn	<i>Western Morning News</i> - 18 April 1939
Arrived 28 July at Teignmouth from Paignton	<i>Western Morning News</i> - 31 July 1939
Sailed 14 August from Fowey to Newport I.O.W.	<i>Western Morning News</i> - 18 August 1939

In 1938, ownership of *Winifred* changed to an experienced master mariner, Captain Henry J. Purches of Par, Cornwall. Initially he was the Managing Owner, but he ceased to be manager in 1940 although he still owned the vessel (Crew List Index Project 2018).

During the Second World War, having been fitted with an auxiliary motor, *Winifred* was one of the vessels employed on the Falmouth balloon barrage, reportedly servicing the other barrage vessels with gas bottles (Naval-history.net; Barrage Balloon Vessels 2018).

After the Second World War, there is scant information to be found including how or when *Winifred* became a charred but visible hulk on the river Dart. Reportedly, *Winifred* was for a period in the 1950s in Dartmouth harbour. Martin Langley & Edwina Small's book describes the "*remains as gaunt rather than photogenic in a tree shaded, picturesque cove*" (1988: 40). The narrative continues "*bow and stern have largely gone, bilge virtually complete, portions of the sides still stand, though all the beams are missing*". There has clearly been deterioration of the site between 1988 and 2016, the hull has

continued to degrade, although there are still significant amounts of lower parts of the hull in-situ including elements of the bow and stern.

2.1.5 Field Survey Results

A basic site plan (Figure 3) was created using on site survey measurements in combination with photographic survey. The use of GPS tagged photographs allowed them to be processed together to assist with developing the site plan.

The physical remains measure 19.20m (63ft) long, 5.5m (18ft) wide and up to 2m high. The site lies on a north – south alignment with the bow to the north (Figures 4 and 5). The hull is sitting on an even keel and is formed of wooden frames and planks with iron reinforcement and fastenings.

Planking and framing preserved on both sides to just past the turn of the bilge, the framing is paired (Figure 6). The sides have fallen away on the stern quarters. The keelson is in-situ along with two mast steps (Figure 7 and 8). The bulk of the stem and stern assembly are in-situ and preserved. Gudgeons are present on the stern post 4ft (1.22m) apart (Figure 9).

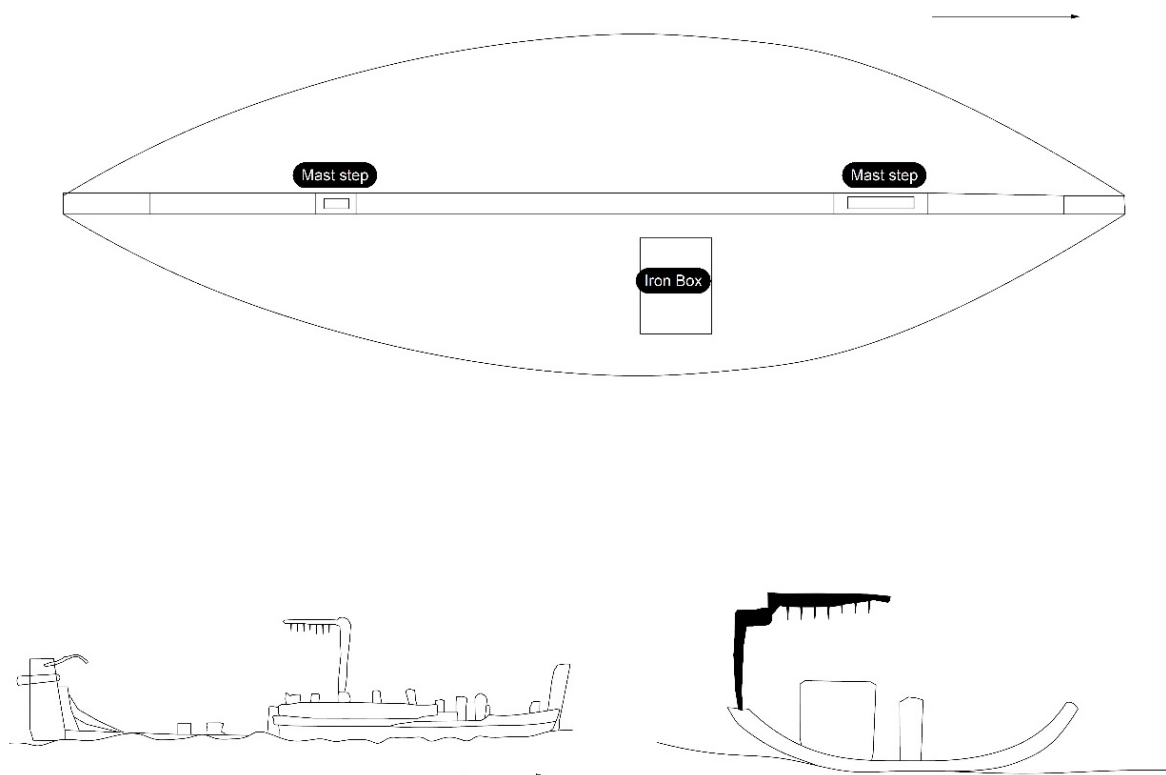


Figure 3: Site plan of the hulk Winifred (arrow indicates North)

A single iron knee survives around the midships position on the starboard side, this shows the original height of the deck which it would have supported.

Remains of an iron tank present on the starboard side in the mid ships area, likely to have been the ships water tank.



Figure 4: Hulk Winifred in an inlet of the River Dart



Figure 5: Forward half of the hulk Winifred, showing bow timbers and iron tank feature



Figure 6: The paired frames and outer planking of the hull



Figure 7: Forward mast step on the hulk Winifred



Figure 8: Aft mast step on the hulk Winifred



Figure 9: Stern of the hulk Winifred, gudgeons still in place on the stern post

2.1.6 Discussion

The *Winifred* appears to be a relatively 'typical' West Country trading vessel of the late 19th century. As with many sailing vessels, *Winifred* was later fitted with an auxiliary engine, providing the benefit of both methods of propulsion. Constructed in an era when metal steam powered ships were becoming the most common type of construction, *Winifred* represents the end of the tradition of regional wooden shipbuilding. In the early 20th century it was still possible for regional sailing vessels to make a profit from trading, a situation which did not continue for very long past the First World War.

2.2 SIX BROTHERS

Six Brothers (Figure 10) was prominent in local regattas, and during its commercial life was damaged more than once, the vessel also had a curious finale to its working life.



Figure 10: View of the midships and stern of the *Six Brothers*

2.2.1 Vessel Type and Build

Launched in 1897 or 1898, the *Six Brothers* (Official Number: 109291) was built by R. Jackman of Brixham (TNA BT 110/621/34). The ship was a ketch rigged fishing vessel having a gross tonnage of 49. The 67.2 ft (c. 20.5m) long ship had a beam of 18 ft (c. 5.5m) and a depth of 8.6 ft (c. 2.62m), and was powered by sail (Brixham Heritage Sailing Trawlers). *Six Brothers* was one of a typical popular type of small fishing vessel, called “Mule” class, to be found around Brixham (Langley & Small: 1988, 41-42).

2.2.2 Pre-war Career

Built for and operated by Managing Owner John Ellis of Brixham, the *Six Brothers* was initially registered for fishing at Dartmouth, bearing number DH441, until 1902 when it was re-registered at Brixham, number BM144 for the remainder of its working life. *Six Brothers* was fully engaged in commercial fishing, interrupted by the summer regattas at Brixham and Torbay, and by various incidents (Crew List Index Project).

Examples of the regattas are:

- August 1908 – The race was for ketch rigged trawlers over 40 tons. The rules were vessels must sail in ordinary fishing trim, with trawling gear and boat on deck, no sails or spars could be borrowed, the jib was not to exceed ten ordinary 2ft (c.0.6m) cloths, the crew was limited to five hands, but there was no limit to the length of the top mast. The race started at 11.00 and finished at 15.40, *Six Brothers* winning the Swansea Trophy by one minute from *Onyx*.
- August 1909 – In a special race for cutter-rigged trawlers, *Six Brothers* finished second of three entrants. The prize for first was £14 (which in 2018 is approx. £1,600).
- August 1909 – “Workman’s ran-dan” race – This was confined to working men on the river Dart, and rowed in ordinary working boats not exceeding 18 ft (c. 5.5m) in length and not less than 4 ft. 3 ins. (c. 1.3m) beam. The prizes for the first five places ranged from £1 15s to 7s 6d (approx. £200 to £45 in 2018). *Six Brothers* was unplaced.

- August 1912 – Ketch rigged trawlers, *Six Brothers* finished second in 2 hours, 29 minutes, 25 seconds, 7 minutes behind the winner *Dayspring*.
- August 1913 – Ketch rigged trawlers over 40 tons gross registered tonnage. This race was reported to have attracted much interest because the crews were limited to six hands, and *Six Brothers* finished fourth.

The reported incidents include:

- 15 February 1900 – Several Brixham trawlers experienced the full force of a winter gale on their way to the Western fishing grounds, the fishermen stating that the gale was one of the heaviest of the winter. Various trawlers had parts of their vessels damaged, and *Six Brothers* put back to Brixham on the following morning with sails burst and a boat smashed.
- The Torquay Times of 19 February 1904 (British Newspaper Archive) reported: *The skipper of the Brixham trawler Six Brothers, who arrived at Milford haven on Monday morning from the fishing ground in the Bristol Channel, describes the weather as something awful. On Friday and Saturday, they were lying to under double-reefed canvas, but the force of the wind was such that the mainsail had to be treble-reefed, and even then, their vessel heeled over almost on her beam ends. Heavy seas continually broke over the ketch, and for three days nothing was cooked, the crew of four hands having hardly anything to eat. While lying in an almost helpless condition in the trough of the sea on the starboard tack on Saturday, a heavy sea broke on board and swept everything from the deck, and threw the vessel over almost on its side. To righten her, the trawl, which had been washed overboard and was hanging to the ship, had to be cut away. The trawl, beam, and trawl head with all the gear attached, were thus lost, and none of it was covered by insurance.*

2.2.3 First World War Use

During the First World War, the *Six Brothers* continued with commercial fishing and survived the war. Two incidents were reported:

- On 10 December 1917 at Totnes County magistrates, John Ellis of *Six Brothers* was fined £20 (approx. £1,300 in 2018) for illegal trawling in Start Bay, along with several other skippers (Western Times).
- Two Brixham trawling ketches *Onyx* and *Six Brothers* were seriously damaged in October 1918 when they collided near Berry Head (Western Times, British Newspaper Archive).

From the information available on-line (Crew List Index Project) for 1915 only, the crew members were all from Brixham, being skipper John Ellis b. 1877, 2nd hand Charles Ellis b. 1881, 3rd hand Richard Ellis b. 1885, and apprentice Joseph Jordain b. 1899.

2.2.4 Post First World War Use and Demise

Six Brothers continued commercial fishing after the war, competed in regattas, and continued to experience incidents. Information has been gathered from a range of local newspapers accessed via the British Newspaper Archive online:

- 27 April 1919 – overnight heavy rain and a strong northerly gale broke over Brixham, causing several small trawlers in the outer harbour to drive on their moorings. *Six Brothers* drove down on the *Irex* and sustained damage to its stern (Western Morning News/ Western Times).
- August 1921 Brixham and Torbay Royal regatta – from four entrants, *Six Brothers* finished third, nearly nine minutes behind the second placed and 20 seconds ahead of *Elsie May* who entered a protest against *Six Brothers* (Western Morning News).
- On 1 November 1922, *Six Brothers* sustained damage to its mainsail, and was towed back to Brixham. The cause was not reported (Western Morning News).

- 4 October 1923 – at Brixham, the gale was the severest for 40 years, and reported as a hurricane. Various steamers dragged anchors in the harbour, and one, *Tuscanora*, was brought under control by splendid seamanship but not before four fishing smacks, one of which was *Six Brothers*, were against *Tuscanora*'s port side (Exeter and Plymouth Gazette).
- May 1924 – Headlined BRIXHAM SMACK'S NARROW ESCAPE: *Dense, foggy weather has been experienced in some parts of the Channel. The Brixham fishing smack Six Brothers, owned by Mr J. Ellis, had a very narrow escape from being cut through by the steamship Devon off the Start Point during the fog. The steamer struck the smack a sliding blow, which carried away her bowsprit. Skipper Soper and his crew launched their small boat for safety when the steamer's bow loomed above them. The impact was so great that one of the crew had the smack's lifebuoy knocked out of his hand* (Western Morning News).
- May 1929 – two similar articles appeared on 14th (Western Morning News) and 17th (Yorkshire Evening Post) in the newspapers concerning *Six Brothers*, with a follow up published on Tuesday, 21 May 1929 (Western Morning News). The ship was reported to have been purchased by a Newfoundland fishing company and to be sailed by a Plymouth crew across the Atlantic. However, when the crew arrived in Brixham the vessel was found with the 'for sale' sign in place and no engine installed, the supposed new owners had never appeared.

The sequel to this was that four months later on 16 September 1929, *Six Brothers* became a hulk, presumably remaining unsold, moored in its final resting place in the River Dart. *Lost Ships of the West Country* (Langley and Small 1988: 41-42) reports that the hulk was equipped with "legs" for low water and served as a landing jetty or mooring point for private craft, and in 1967 partly cut up during river clearance.

2.2.5 Field Survey Results

The hull remains measure 17.5m in length, with the full extent of remains (including steering gear etc) being 23m long. The remains are 5m wide (which include the debris field) and the maximum height of the exposed hull is 1.2m. A sketch plan (Figure 11) and photographic survey of the site were produced. The hull lies on an east – west alignment perpendicular to the river bank and leans over to the port side. The port side is badly degraded except in the fore quarter where it is preserved to an extended height for several frames (Figure 12).

The vessel consists of paired wooden frames (Figure 13) with iron reinforcement and fastenings. Floors and first futtock fragments survive on the starboard side in the bow half of the hull. The keel is present but buried in shingle. Fragments of keelson remains and a possible mast step is within a timber in the hulk which has been slightly displaced (Figure 14).

Measurements for hull elements and features include:

- Floor measurements: 5" (12.7cm) sided, 7" (17.8cm) moulded.
- 1st futtocks: 5" sided, 6" (15.24cm) moulded.
- Frames fastened with ¾" (1.9cm) iron bolts.
- Planks are fastened to the frames with ½" (1.3cm) iron bolts.
- The keelson measures 7" sided, 9" (22.86cm) moulded.
- Ceiling planking/ stringer is 15" (38.1cm) wide and 1 ½" (3.81cm) thick. The outer planking is also 1 ½" thick.
- The iron knees are 3" (7.62cm) wide and 1" (2.54cm) thick.

Located close to the port side of the vessel are iron knees (Figure 15), and these show the original curve of the hull and the height that the deck would have been.

Hand-drawn sketch of a ship's hull and internal structure on grid paper. The sketch shows the hull from the bow to the stern. Key components labeled include: Bow, 5m (height), Keelson, Engine Block, Mast Step, Iron knee, extended framing, Iron knee (curved), AB (cross-sections), 17.5 (length), 22m (length), Steering Gear, and Stern. The hull is shown in profile, with internal structural elements like the keelson and engine block indicated.

A photograph of a rocky beach with several large, weathered wooden posts or pilings protruding from the ground. The posts are covered in green algae or moss. The foreground is covered in seaweed and small rocks.

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Figure 13: Pairs of frames showing the lateral bolts between floors and first futtocks



Figure 14: Possible mast step within the Six Brothers



Figure 15: Iron knees that have become detached from the vessel, they show the curve of the hull up to deck level



Figure 16: Area thought to have housed the engine block



Figure 17: The remains of the steering gear delineate the stern of the vessel

2.2.6 Discussion

As a ketch rigged fishing vessel *Six Brothers* was typical of those used out of the West Country. Their sailing ability is demonstrated by their regular participation in regattas. It is unclear if the vessel was originally fitted with the engine as auxiliary propulsion or if this was a later addition. *Six Brothers* was used for fishing for almost 30 years, showing the longevity of these ships.

The hulk remains provide important physical evidence of this type of vessel. Within the Forgotten Wrecks study there are records of at least five other ketch rigged fishing vessels of around 50 tons lost offshore, with four of these being from Brixham. To date no physical remains of any of these vessels have been located.

2.3 EFFORT

Effort (Figure 18) was chosen as one of the Forgotten Wrecks case study sites because, having being built by an accomplished ship builder, it is a good example of a coastal trader during the last quarter of the 19th century and through to the Second World War when it contributed to the War effort by being a tether vessel for the River Dart balloon barrage. It survives as a hulk in the River Dart adding to the West Country history of locally built vessels.

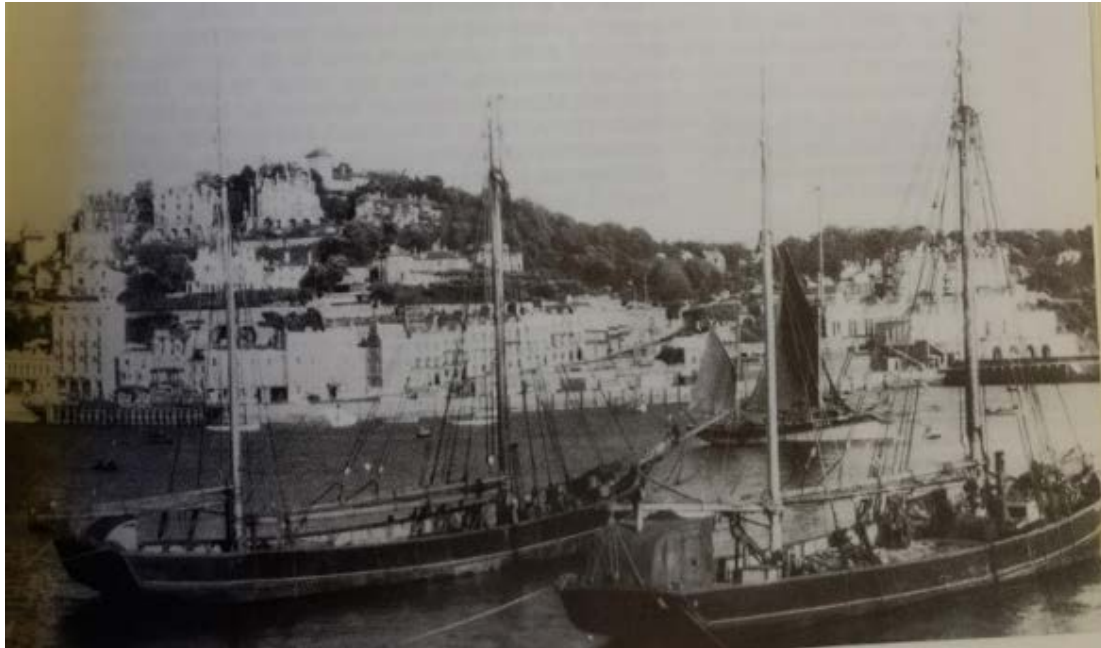


Figure 18: *Effort* and *Mizpah*, two ketches of the same owner in Torquay Harbour (Source: *Lost Ships of the West Country* by Martin Langley & Edwina Small, photo date prior to Second World War, out of copyright)

2.3.1 Vessel Type and Build

Registered on 24 November 1880 at Salcombe, the *Effort* (Official Number: 81757) was built by William Date of Kingsbridge in his Shipwrights Yard, attributed as being one of the greatest of all the builders of sailing ships in the West Country (CLIP 2018). The ship was a wooden ketch rigged trading sailing vessel having a nett tonnage of 66. There is one reference attributing the tonnage as being 85 but of unspecified designation. The 67 ft 7ins (c. 20.6m) long ship had a beam of 18 ft 6ins (c. 5.64m) and a depth of 8 ft 2ins (c. 2.5m), and was powered by sail. It had, at least in 1939, tiller steering equipped with a tiller house.

The *Effort* remained with the above registered nett tonnage until 1925 when an auxiliary motor of 30 b.h.p. was added, revising the registered tonnages to 67/53 (gross/nett), and changing again in 1929 to 60/31 when the motor was upgraded to 50 b.h.p. (TNA BT 110/1365/13).

2.3.2 Pre-war Career

Built for and operated initially by Henry Grant of Kingsbridge, by 1882 *Effort's* owner was William S. Hanniford of Salcombe until ownership reverted to Henry Grant by 1888 who remained its owner until the first World War. Confusingly, the same source also states that Grant was uninterrupted as the owner. To add to the confusion, another source quotes that the ship was built for WS Hanniford & Co, a butcher of Salcombe, with other shareholders Edison Laphorne master mariner and captain; and from Kingsbridge Henry Grant, corn merchant, William John Thomas, ship owner but also William Date, John Lidstone, sailmaker, and Thomas Rich a ropemaker. However, Grant and Edwin Laphorn are listed repeatedly in archives held at held at Devon Archives and Local Studies Service (South West Heritage Trust).

The *Effort* plied its merchant trade, often but not exclusively, between Wales and Salcombe. The Master was Edwin Laphorn initially, with James Ball Rider briefly as Master during September to November 1881 with Edwin Laphorn acting as Purser, then Edwin Laphorn again was Master through until 1913 when the 23-year younger William Edwin Laphorn, who had been for several years Boatswain on *Effort*, became Master.

A brief summary of the ship's voyages between 1880 and outbreak of the First World War offers a clear indication of the travels:

- September 1881 – Salcombe to Gijon (Northern Spain)
- May 1882 – Salcombe to Liverpool
- April 1883 – Salcombe to Liverpool
- September 1883 – Salcombe to Newport
- June 1884 – Newport to Truro

On 30 April 1896, the High Court of Justice delivered its judgement in a case arising out of a collision between the 106-ton brigantine *Clara* of Belfast and *Effort*, due to the port chain of *Effort* breaking, which had happened on 24 December 1895. The collision had occurred in the harbour at Milford Haven, where *Effort* had put in to shelter on 22 December from a storm during a voyage in ballast from Salcombe to Portmadoc. There is a long and detailed newspaper statement of the judgement which can be summarised thus:

- *Effort* was lying at anchor at a clear and proper berth in Milford Haven, and normally carried a crew of five including the Master but the crew was not on board when the collision occurred.
 - There was a strong gale with the tide at half ebb and, until the wind increased to "hurricane" force, *Effort* was properly anchored.
 - As the gale increased, *Effort* dragged her anchors and at about 12.30 am on the 24th, the port chain broke and *Effort* was seen to fall across the bows of the *Irene*, whose bowsprit entered between the two masts of the *Effort*, and whose stern struck the *Effort* causing serious damage to her side and covering board. Her topping lift was carried away, and her main boom then fell and smashed her only boat, and also smashed the pump. The chain cables of the *Irene* were sawing under the bilge of the *Effort* and those on board her, apprehending that the cables would cut through the planking and she would sink, in order to save their lives, boarded the *Irene*. Just afterwards, the bowsprit of the latter broke, and the *Effort* immediately went adrift and quickly disappeared in the darkness. *Effort*, without lights, was observed from *Clara* some 50 to 60 yds distant bearing down broadside on *Clara* and with risk of collision. Attempts were made to steer *Clara* clear but collision was unavoidable, and the *Effort*, with her starboard rigging, caught the bowsprit of the *Clara*. The vessels remained in contact for about one hour until the bowsprit of the *Clara* gave way. Subsequently, *Clara* needed the assistance of the tug *Blazer*, at an expense of 75/- (approx. £500 in 2018) to take her into Pembroke dock. (The newspaper does not mention what happened subsequently to *Effort*).
 - The crux of the case revolved around the strength of the chains, which had had 15 years of service and parts of it had worn down. The chains were judged to be unsuitable and the *Effort* was held alone to blame for the collision and judgement therefore made against *Effort*. The plaintiffs applied for costs which were certified by the court President on the High Court scale.
-
- December 1886 – Sharpness (River Severn) to Torquay, carrying salt.
 - July 1887 – Salcombe to Par
 - April 1888 – Salcombe to Liverpool
 - June 1888 – Newport to Salcombe
 - December 1891 – Newport to Salcombe
 - February 1896 – Milford to Newport
 - October 1896 – Newport to Kingsbridge
 - July 1897 – London to Salcombe
 - October 1897 – Salcombe to Newport
 - August 1898 – Newport to Salcombe

- May 1899 – Newport to Kingsbridge
- March 1900 – Cardiff to Salcombe
- April 1904 – Newport to Salcombe
- January 1906 – Ilfracombe to Newport
- March 1907 – Salcombe to Plymouth
- October 1908 – Swansea to Kingsbridge
- April 1909 – Cardiff to Plymouth
- February 1910 – Portsmouth to Middlesbrough
- April 1910 – Milford to Britonferry
- October 1910 – Teignmouth to Dublin
- November 1910 – Newport to Salcombe
- August 1912 – Falmouth to Portsmouth
- July 1913 – Portsmouth to Preston with whiting
- May 1914 – Newport to Plymouth with coal

Newspaper sources used to compile the information on the vessel history from the British Newspaper Archive online include:

Lloyd's List - 17 September 1881, 23 April 1888, 19 June 1888, 21 February 1896, 30 April 1896, 13 July 1897, 02 October 1897, 25 April 1904, 27 January 1906, 18 March 1907, 15 October 1908, 13 April 1909, 07 February 1910, 19 April 1910, 05 October 1910, 12 November 1910.

Shipping and Mercantile Gazette - 11 May 1882, 10 April 1883, 20 September 1883, 16 June 1884.

South Wales Daily News - 19 December 1891, 15 October 1896, 16 August 1898, 02 May 1899, 08 March 1900.

Gloucester Citizen - Saturday 04 December 1886. *Western Morning News* - Monday 04 July 1887.

Portsmouth Evening News - Saturday 24 August 1912 and Wednesday 23 July 1913. *Western Mail* - Saturday 30 May 1914.

2.3.3 First World War Use

During the First World War, the *Effort* apparently continued with its coastal trade surviving hostilities, but information is scant, and two newspaper reports (*Western Morning News*) indicate the following sailings:

- August 1914 – Laira to Salcombe (Laira is near and east of Plymouth)
- April 1916 – Plymouth to unidentified destination (wartime security)

In 1915, the crew consisted of William Edwin Laphorn as Master and William Eason, born in USA, as Mate who had joined in 1913. In 1915, Grant was listed as the Owner changing in 1917 to a John Lidstone but with no other details (CLIP 2018 and TNA BT 400/3394/10 & BT 400/3394/11). In 1917, there is the first record of an International Call Sign being allocated, listed as J.M.K.W. In 1934, the letters changed to M.F.Z.X., and the owner and tonnage were both unchanged.

2.3.4 Post First World War through Second World War and Demise

Following the end of the First World War, ownership changes to Norman S. Furneaux, of Penryn but again, information is very scant, the first being an advertisement in October 1923 (*Western Morning News*). 1924/5 sees the addition of a 30 b.h.p auxiliary motor which was upgraded to 50 b.h.p. in 1929.

In 1925, the owner became Edwin A. Langmead of Torquay and he is listed as the owner until 1940 but there are no details subsequently. Newspaper reports of sailings were not found but there is one report in August 1934 that *Effort* participated in and won a "Shovel" race at Babbacombe regatta for boats not less than 4 ft 3ins (c. 1.3m) beam (*Western Morning News*). (A maritime "Shovel" race involves using large shovels, typically those used for snow clearance, to propel a small boat).

The next newspaper report is on Saturday 5 March 1938 *Western Morning News* when the *Effort* and *Mizpah* were both advertised for sale:

“YACHTS, BOATS, &c. FOR SALE. Sea-going Auxiliary Motor Ketch MIZPAH; 80 tons dead weight fitted 2 26hp Kelvin engines, steam boiler, steam winch, Tangye bilge pump, electric light; easy converted to a cruising yacht. Also, Ketch EFFORT 100 tons dead weight; hull suitable for houseboat or coal hulk. Price and orders to view, Apply Secretary Langmead Bros., Ltd., Windsor Chambers, 63 Ellacombe Road, Torquay”.

The fitting of the auxiliary motor broadened the capability of the *Effort*, and two sources provide the information that *Effort* was used to convey sand and gravel from the Dart to Torbay for the enlargement of Torquay harbour, but without a timeline or other details. One of the two sources state that *Effort* was still trading in 1939 on the gravel run from Dartmouth to Torquay and the other source states that *Effort* in WW2 was “moored in the Dart as a balloon barrage vessel, and the modification to her bows for this purpose could still be seen” in 1989. A WW2 timeline for *Effort* cannot be found so exactly when trading changed to barrage balloon tether remains unknown.

Effort has not been found listed as a mooring vessel at Dartmouth but this does not preclude that *Effort* was employed in this way. The mooring source continues “Whilst performing this humble duty, she was the victim of a near-miss by a German aircraft which “started” her planking. Repair was considered uneconomic and she was run ashore in her present position”. Bombs are known to have dropped near Dartmouth on 25 August 1942 (Yorkshire Evening Post) but it is unknown if these were responsible for causing damage to *Effort*.

Effort was removed from the register in 1948. With details still scant, reportedly, the remains of the hulk *Effort* were bought in June 1952 for 31 10s. (approx. £40 in 2018) and the buyer broke part of her up for timber as depicted in Figure 19.



Figure 19: *Effort* being broken up in 1952 (Source: Kingsbridge Estuary U3A)

2.3.5 People Associated with the *Effort*

Apart from the Mate, William Eason in 1915, crew members were mostly local, and numbering four all told. In the first half of 1882, there were six, surprisingly with three cooks on board. In 1889, the numbers increased to seven, again with three cooks. Later in 1889, there were eight on board, and the first non-local from Preston. By way of contrast, in 1913 only the Master was local, the others being from USA, Hereford, and two from London. At the end of 1913, there were only three crew, and not a designated cook. In the cases where there were multiple cooks, these crew were mostly teenagers, in all probability hired as apprentices. Thereafter, details not available on-line (CLIP 2018).

2.3.6 Field Survey Results

Using an RPAS (drone) a series of aerial photographs were obtained which were processed through photogrammetric software to produce a scaled orthographic image of the site. An offset survey collected detailed measurements of the ground plan which, together with the photographs, enabled scaling of the images to create a site plan (Figure 20).

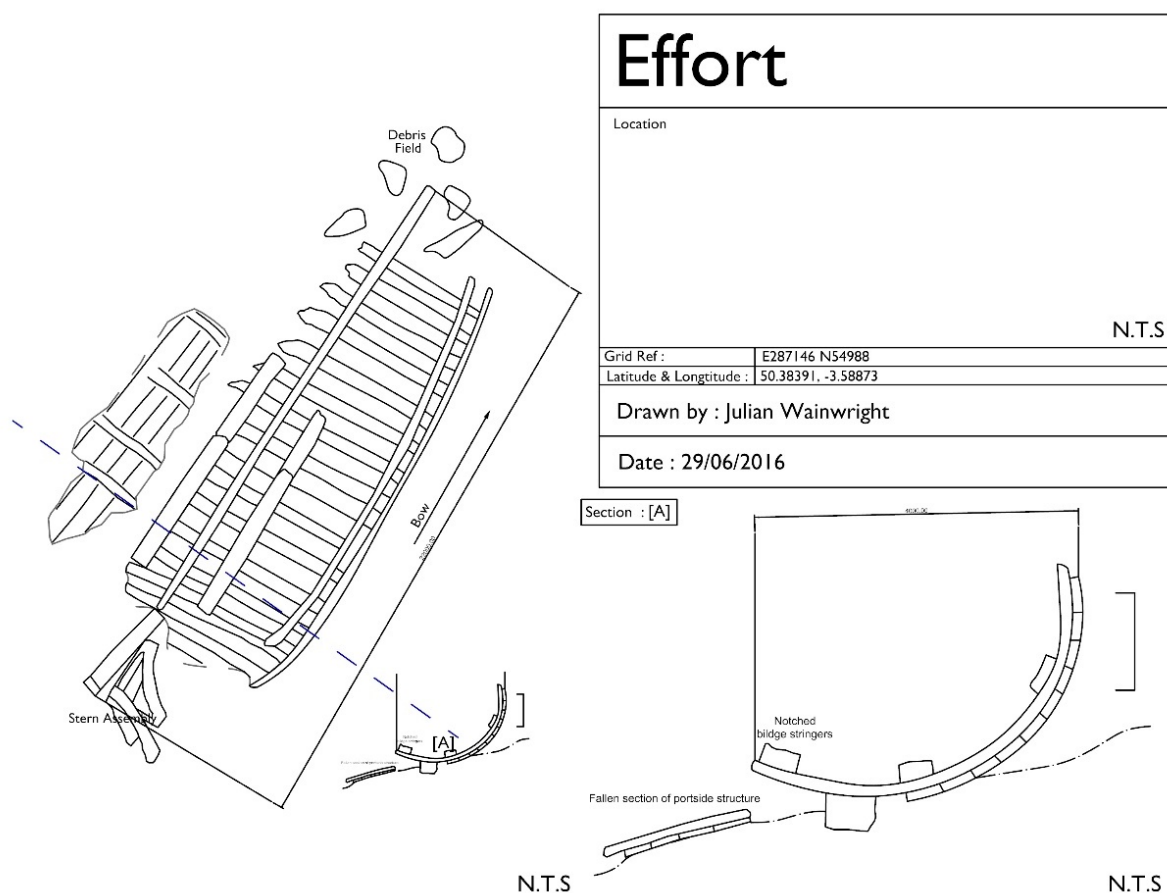


Figure 20: Site plan of the remains of the *Effort*

The physical remains on the site measured 22.2m of hull structure, with 25m length including the debris field, the hull is 4m wide with debris taking site width to 6m, the wooden remains are a maximum of 1.2 m high (Figure 21). The hulk is of wooden hull construction and has iron fastenings and reinforcement. The bow points to the north east and stern to the south west.

The vessel has listed to starboard with much of the starboard planking and framing still in-situ and fairly coherent at least past the turn of the bilge (figure 21). Some of the port side framing and planking has fallen outboard.

The keel/ keelson and stern post/ deadwood assembly are present although disjointed. The bow area is more disarticulated and dispersed. Engine block keelsons are also preserved in situ (Figure 22). The framing consists of floors and futtocks (Figure 23), with some apparent iron reinforcement. All visible fastenings are iron. Frames are also laterally bolted with iron bolts. The outer planking is also fastened with iron bolts with two bolts per plank per frame offset from each other (Figure 24).



Figure 21: The remains of the Effort



Figure 22: Hull remains, paired frames on the far side of the hull, notched engine keelson in foreground



Figure 23: Hull side with paired frames, fastenings can be seen where ceiling planking has gone, lateral fixings between frames also visible



Figure 24: Outer hull planking showing the pattern of fastenings through to the frames

2.3.7 Discussion

Having been built in 1880 and worked through until at least 1939 as a coastal trader, *Effort* had a long career in its intended use. As with many sailing vessels built at the end of the 19th century it was fitted with an engine in the 1920s which is likely to have helped extend its use. In later life *Effort* was used as a barrage balloon tether during the Second World War prior to becoming a hulk by the end of the 1940s. It is not surprising the vessel was not converted to a houseboat or other use having had a lifespan of 60 years – a significant time for a wooden vessel.

Although ketch rigged sailing vessels are relatively common in the historical record, they are much less common in the archaeological record, particularly offshore where wooden remains rarely survive. Within the Forgotten Wrecks project area there are seven other records of ketch rigged sail trading vessels (although there are other examples of ketch rigged sailing vessels, but they are not specifically indicated as trading cargo at the time of loss). Of the seven vessels only three are under 70 tons in size, interestingly these are also on voyages to or from the West Country (Cornwall or Devon), although they are not all registered there.

Care should be taken when analysing the category of ‘ketch rigged sailing vessel’ as although a recognised type in terms of propulsion, there were differences within the construction characteristics from different shipyards and in different regions. With intertidal hulks often providing the most coherent archaeological remains of these vessels they are significant sites for understanding more about these regional differences.

2.4 **ESTHER (IRENE)**

Esther (Figure 25) was chosen as one of the Forgotten Wrecks case study sites because it is an example of a 19th & early 20th century schooner rigged sailing vessel. Although only actively trading during the early part of the War, it was subsequently converted into a houseboat.



Figure 25: Hulk Esther in the River Dart

2.4.1 **Review of Identity**

The identity of this hulk in the River Dart was examined by Martin Langley & Edwina Small in their book *Lost Ships of the West Country* who conclude that, “while its name as a sea going vessel remains a mystery, she may well have been *Esther*, a topsail schooner”. The book continues and mentions that “in July 1931, a well-appointed 10-berth houseboat was towed from the River Yealm to the Dart and moored near the Anchor-Stone”. They conclude with a mention that the “houseboat may have been called *Irene* by the final owner and that it is probable, though not proven, that *Irene* was the former *Esther*, and that it was driven ashore in Dittisham Creek”.

With the houseboat *Irene* moored at the ‘Anchor-Stone’, it would have been possible for the vessel to have broken its moorings and depending on wind direction and tide, to have drifted around the bend in the river to its current location.

Confirmation that a 10-berth houseboat was sold and then towed from the Yealm to the Dart is given in two newspaper reports (*Western Morning News*) in June and August 1931 respectively – the mooring is quoted as being between Dittisham and Dartmouth which is consistent relative to the

Anchor-Stone although much nearer Dittisham than Dartmouth. However, this houseboat is clearly named *Serena* and, if the former *Esther*, it was named accordingly post off-register by the owner(s) previous to the final owner, Joe Tapley. Tapley may have renamed it *Irene* or have used *Irene* as a term of endearment.

Survey by the Maritime Archaeology Trust in 2016 measured the visible remains of the hulk as approximately 20m x 5m (although due to access this was remotely, so a degree of inaccuracy is expected), and this compares with the registered data for *Esther* of 24.4m x 5.8m. Due to the problems with measuring remotely, the dimensions would be broadly consistent for the *Esther*.

A review of registered vessels in the Mercantile Navy list does not suggest any of the many vessels named *Irene* are of similar size and tonnage, and there are no other schooners of similar size except one which never made the register in the National Archives. *Esther* did not have any other name while registered. There is one *Serena* of comparable size and 7 tons heavier grt, a Brixham 1925 built ketch with auxiliary motor, renamed *Fretless* and off-register in 1949, but as there is no mention of a motor in *Lost Ships of the West Country* or other sources, that vessel is unlikely.

The conclusion drawn is that the hulk is probably *Esther* but not proven, consequently renamed post off-register as *Serena* and possibly *Irene* subsequently.

2.4.2 Vessel Type and Build

Registered on 10 December 1856, the *Esther* (Official Number: 17069) was built at Shaldon, Teignmouth (CLIP 2018). The ship was a schooner having a gross tonnage of 94. The 80.2 ft (c. 24.4m) long ship had a beam of 19ft (c. 5.8m) and a depth of 10 ft (c. 3.05m), powered by sail. The ship is listed as being re-registered in 1874 at Plymouth, and International Signal Letters M.F.C.V. were assigned in 1860, remaining unchanged during its registered service. Schooners, which had up to six masts but usually only two, were in use from late 17th century through to early 20th century and vessels of *Esther's* vintage were common but often larger.

2.4.3 Pre-war Career

Built for and operated initially by Theophilus Hoskin of Calstock, Cornwall, the *Esther* was quickly plying its merchant trade. A brief summary of the ship's voyages between 1866 and 1912 has been gained through Newspaper reports (British Newspaper Archive) and the Crew List Index Project (CLIP), offers a clear indication of its regular areas of sailing:

- July 1863 – John Jones, Ordinary Seaman, age 19 fell overboard and drowned in the English Channel.
- 12 April 1866 – Carrying copper ore, went ashore at the back of the Swansea west pier but was towed off and into the harbour the same day (Shipping and Mercantile Gazette).
- 24 May 1869 – Anchored at Deal (Shipping and Mercantile Gazette).
- 7 March 1870 – Experienced very rough weather the past week in the Bristol Channel. The tugboat *Warrior* went in search of *Esther*, and succeeded in bringing *Esther* into Hayle with mainmast gone, and broken rigging and sails rent in places (Western Morning News).
- 21 December 1877 – Signalled the Lizard, passing east, wind SE to S, moderate, weather thick (South Wales Daily News).
- 15 February 1879 – A telegram was received at Calstock from Captain Bone, *Esther's* Master, bound Calstock to Swansea, stating that when passing the Lizard, Charles Old, an Ordinary Seaman about 20 years of age, fell from the jibboom and was drowned (Western Morning News).
- 13 August 1880 – At the Calstock regatta, *Esther* was lent by the Master, Captain Bone, as the regatta committee vessel (Royal Cornwall Gazette).

- 3 December 1883 – Passed the Swansea Bay signalling station and Mumbles Lighthouse, sailing westwards (South Wales Daily News).
- 19 April 1884 - Bound from Plymouth to Swansea with copper ore, put into Padstow with slight damage, having been in collision with an unknown vessel 10 miles SW of Trevoze Head (Shields Daily Gazette).
- 23 September 1885 – Passed Lundy signal station, sailing westwards (South Wales Daily News).
- 9 August 1887 – Bound up, signalled to Prawle Point (Western Morning News).
- 21 May 1890 – Bound from Calstock for Port Talbot, lost mainsail and split staysail, carried away bowsprit and damaged quarter, having been in collision four miles SW of the Lizard with the schooner *Enterprise* which was en route Fowey to Glasgow and which lost its jibboom. One of the crew of *Enterprise* fell on deck of the *Esther* with a broken thigh and was landed at Falmouth (Shields Daily Gazette & Aberdeen Press and Journal).
- 13 April 1894 - En route from Malaga to Hull, *Esther* fouled in the Downs the barque *Overdale* voyaging from London to Mauritius, but afterwards cleared and proceeded (South Wales Daily News).
- 1 January 1901 - In an article referring to lifeboat services in 1900, *Esther* is listed as having five persons saved, but without further information (Western Daily Press).
- 6 November 1902 at Hayle – *Esther* has loaded with sand and awaits a favourable wind to proceed to sea (Cornishman).
- 31 December 1903 at Newlyn – En route from Plymouth to Llanelly with scrap iron, *Esther* put into the harbour wind-bound for six days, having arrived from Falmouth (Cornishman). The same paper continues to report that wind-bound *Esther* is still in Newlyn for over five weeks until the 11 Feb 1904 when it sails.
- 15 May 1906 – an advert in the Western Morning News for the sale of *Esther* indicated the ship had been thoroughly overhauled – the sale price of £275 is approx. £32,000 in 2018 (Western Morning News).
- 11 October 1910 – en route from Glasgow to Kingsbridge with coal, *Esther* grounded twice in fog after proceeding down from Tail of the Bank (an anchorage in the upper Firth of Clyde immediately North of Greenock and Gourock). *Esther* grounded a third time but was towed off by a tug and taken back to Tail of the Bank, examined by divers and found apparently undamaged so free to proceed (Lloyds List).
- 30 July 1912 – *Esther* reported as lying at Weymouth Roads, laden, with pumps choked and making water (*outcome not found*) (Belfast News-Letter)

While many voyages are not specifically recorded, it is clear that *Esther* spent much of its time voyaging around the south coast of England, with frequent trips to Wales. Longer voyages were also undertaken with Spain and Scotland recorded as being visited.

2.4.4 First World War Use

During the First World War, the *Esther* is reported as being laid up in 1915 and came off the register that same year (TNA BT 400/3358/3 and BT 110/301/30). As the ship was built in 1856, it is not surprising that by the early years of the First World War it was no longer regularly seagoing.

2.4.5 Post First World War, Change of Use, and Demise.

The *Esther* disappears from contemporary news and next appears as probably the houseboat *Serena* advertised from 23 July 1927 due to then owner, identity unknown, leaving the district. Further reports from the Western Morning News provide information on the vessels use. It was ascribed to be 80 tons, in excellent condition, just thoroughly overhauled, sleeping 10, with electric lighting and oil stove and large deck saloon, moored in the river Yealm opposite the Yealm River hotel.

The purchaser, assumed to be a G.S. Harris because the *Serena* again is advertised for sale, on 18 December 1930, due to the death of this owner, so as to close the estate. Despite further advertisements promoting that it was fully equipped with furnishings and electric light, able to sleep 10 persons, it remained unsold until auctioned on 17 June 1931.

It is next reported on 18 August 1931 as having been towed from the River Yealm, where it had been for many years, to the River Dart.

2.4.6 People associated with the *Esther*

The owners of *Esther* while registered (as currently available from online sources, largely CLIP 2018) are listed as:

- 1863 – Theophilus Hoskin, Calstock, Cornwall.
- 1876 – Managing Owner Thomas S. Grenfell, Calstock, Cornwall.
- 1879 – Henry L. Wilkinson, Calstock, Cornwall.
- 1897 – Managing Owner William Hy. Bone, Calstock, Cornwall.
- 1906 – Managing Owner, John Westcott, Commercial Yard, Plymouth.

It is not known from on-line sources if Wescott remained as owner until 1915, but *Lost Ships of the West Country* (Langley and Small 1988: 39-40) implies that he did.

The Masters of *Esther* are listed as:

- 1863, May to August – E.B. Thomas of Padstow with four hands from Cardigan, Dundee, London and Swansea.
- 1863, October to December – Michael Burns from Mevagissey, with four hands from Poole, two from London, and one from Woodbury.
- 1876 onwards – W.H. Bone from Boscastle, with in 1886 variously between eight and eleven hands from Boscastle, Porthleven, Portreath, Swansea, Langport, Yarmouth, Port Isaac, two each from Devonport, Plymouth and Cardigan, and three from Calstock.
- 1913, January to June – W Cornish who had been with the ship previously, from St. Johns, Newfoundland, with up to fourteen hands variously from Berkshire, Burnham, Belfast, Penzance, Tenby, Ipswich, Cork, Penarth, Preston, London, Chirk, West Mailind, and two from Waterford.
- 1913, July to December – Frederick Franks from Penarth, with up to eleven hands from Berkshire, Preston, West Mailind, Kilburne IoW, London, Guernsey, Portsmouth, Ryde IoW, Littlehampton, and two from Jersey.

Fatalities – the two known fatalities from *Esther* are John Jones, Ordinary Seaman, age 19 who fell overboard and drowned in the English Channel in July 1863, and in February 1879 when passing the Lizard, Charles Old, an Ordinary Seaman about 20 years of age, fell from the jibboom and was drowned. A review of the crew as listed in 1913 who might have served in the First World War in a seafaring capacity did not discover any entries on the Commonwealth War Graves listings.

Post off-register, up to 1927 the owner(s) are unknown, then G.S. Harris until 1930 continuing as part of his estate until bought by Henry Gilbert Joe Tapley in 1931. *Lost Ships of the West Country* mentions that Tapley's wife prophesised, that "*All we shall get from this ship is bad luck*". This bad luck started with Ethel Tapley suffering a stroke "*within 24 hours*", and she died at the cinema which her husband Joe owned in Totnes on 17 January 1932 (Western Morning News). Sometime later, *Esther* parted its moorings in a storm and became a wreck, and not only that, the cinema in Totnes was gutted by fire on 1 March 1944, and the newspaper reported that the only thing saved by the proprietor was his parrot (Nottingham Journal).

2.4.7 Field Survey Results

Due to the location of the hulk being inaccessible on foot an RPAS (drone) was used to obtain a series of aerial photographs which were processed through photogrammetric software to produce a scaled orthographic image of the site (Figure 26). It has also enabled the production of the 3D model of the site, which is available here: <https://sketchfab.com/models/3a7afc8ea263407ca1b7ecb38a01ba9f>



Figure 26: Orthographic image of the hulk Esther (Irene)

The physical remains of the site measure approximately 20m long by 5m wide with 1-2ft (0.3 – 0.6m) upstanding. Although the amount of upstanding remains is limited, the vessel is clearly delineated and appears to be intact at both the bow and stern. The covering of weed on the timbers makes it difficult to interpret the structural remains, although due to its position in such deep mud the timbers below the surface are likely to be very well preserved and they could represent a relatively large amount of the original hull.

There is a feature lying within the vessel, close to one end, that appears to be a winch or capstan, this would have been present at deck level and provides further suggestion that a substantial amount of the vessel is preserved (Figure 27).

There is also some large structural material on the foreshore comprised of iron right angle knees and timber, but it is unclear if it is related to the main site (Figure 28). This is thought to be unlikely due to the amount of the hull thought to be preserved at the main site.



Figure 27: Feature, thought to be the capstan, within the hulk of Esther



Figure 28: Disarticulated structure on the foreshore that could be related to Esther

2.4.8 Discussion

Being built in 1856 and having a sailing career spanning more than 60 years at sea, and further time used as a house boat until at least 1931, *Esther* demonstrates the potential longevity of wooden sailing vessels. The wealth of historical information about the vessel contributes to its significance and there is further potential to use these data – such as the detail on the crews and their origins - for research into the operation of regional trading vessels during this period.

Within the Forgotten Wrecks dataset there are 31 merchant sailing schooners recorded as lost during the First World War (there are other ships recorded as sailing schooners but their use at time of loss is not always known). Of these only eleven were built between 1850 and 1870 and only four of these vessels are recorded as being between 80 and 110 tons. These statistics demonstrate that *Esther* is an important survival of a type of vessel which is not common within the historical records of losses during the period, and even less common within known archaeological remains of such vessels.

The potential for a substantial amount of the hull of this vessel to be preserved within the mud, provides further avenues for physical investigation in the future. More research into other possible hull remains of contemporary and comparable vessels would help determine more clearly the special significance of the site.

2.5 *FIERY CROSS*

Fiery Cross was chosen as a case study due to its use as a fishing trawler during the war, and its initial area of work was out of Ramsgate (later Brixham), with later use as a house boat.

2.5.1 Vessel Type and Build

The *Fiery Cross* was a wooden ketch rigged fishing trawler (Dandy), built in Porthleven, Cornwall in 1905 at the yard of John Bowden for the Ramsgate trawl fleet of Mr Paynter. Its official number was 119391, it had a tonnage of 38.49 gross. Length 61.3ft (18.68m) x beam 17.6ft (5.36m) x 8.35ft (2.55m) depth.

2.5.2 Vessel History

Most information about *Fiery Cross* comes from Langley and Small 'Lost Ships of the West Country' (1988: 38-39). *Fiery Cross* was first registered for fishing in Ramsgate and had the portmark of R291 and fished here until U-boat activity meant a lot of east coast boats transferred to work out of Brixham. In 1923 *Fiery Cross* was advertised for sale and bought by skipper Harry Davie of Brixham. *Fiery Cross* was then registered as BM145, had Bob Soaper as its mate and worked in the English Channel fishing grounds for 10 years.

Langley and Small quote Harry Davie as saying "*Fiery Cross* was a nice boat but beamier than the Brixham built Trawlers, and had a round stern" (1988: 38-39). Mr Davie used the sails, capstan and fishing gear from *Fiery Cross* on another vessel and put it up for sale. The ship was sold as a houseboat and used until February 1937 when it was sold for breaking. However, at the outbreak of the Second World War *Fiery Cross* was still afloat in Dittisham Creek, but by the end of the war was entirely derelict. It is said that much of the timber was salvaged to make furniture.

2.5.3 Field Survey Results

Using an RPAS (drone) a series of aerial photographs were obtained which were processed through photogrammetric software to produce a scaled orthographic image of the site (Figure 29). Measured survey on site enabled the production of annotated sketch plan of part of the structure (Figure 30).

The wooden remains of the *Fiery Cross* are fastened with iron bolts. More of the hull structure survives towards the stern of the vessel. The hull remains include crooked rising floor timbers, first and second futtocks with concrete ballast (Figure 30 and 31). Floor timbers and futtocks are cross bolted with iron bolts 15mm (1/2 inch) diameter.

The keel is still in place and measures 6 ½" (16.5cm) sided on the top and 9" (22.86cm) moulded. There are rabbets in the keel 1 ½" (3.81cm) deep to accommodate the floor timbers. The keel is also rebated to accommodate the garboard strake, which is still well preserved along both sides of the vessel.

Floor/ keel bolts are ¾" (1.9cm) diameter set at a spacing of 17" (43.18cm) centre to centre.

Floors measure 3 ½" (8.89cm) sided, 10" (25.4cm) moulded on keel, then 6 ½" (16.51cm) moulded.

1st futtocks measure: 3 ½" sided (keel) and head 4", 6 ½" moulded.

2nd futtocks measure: 3 ½" sided, 6 ½" moulded (keel), 6" (15.24cm) (head).

The bow deadwood measures 6" sided, 10" (25.4cm) moulded and is 9' 8" (24.89cm) in length.

The stern post and internal deadwood timbers are located at the river-ward end of the remains. The stern post, at the height of the floor top, measures 14" (35.56cm) wide and 7" (17.78cm) thick. There are a series of stepped deadwoods which are around 5" (12.7cm) thick (Figure 32). A surprising survival is the rudder which lies where it has fallen from the stern. The metal bands holding the rudder together are still visible, and the stump of the tiller is still located in place (Figure 33).

The garboard is in-situ on the starboard side, it has slightly fallen away on the port side, it measures 1' (30.48cm) wide and 1 ½" thick. Outer planking on the port side is 2" (5cm) thick and 8" (20.32cm) wide. Planking is fastened with iron bolts, which are corroded, they appear to be 1" diameter, but may have been ½" originally, there are two bolts per plank, per frame.

There is a 3D model of the site available:

<https://sketchfab.com/models/1892219e3db54f10a42817c7c666b6e3>

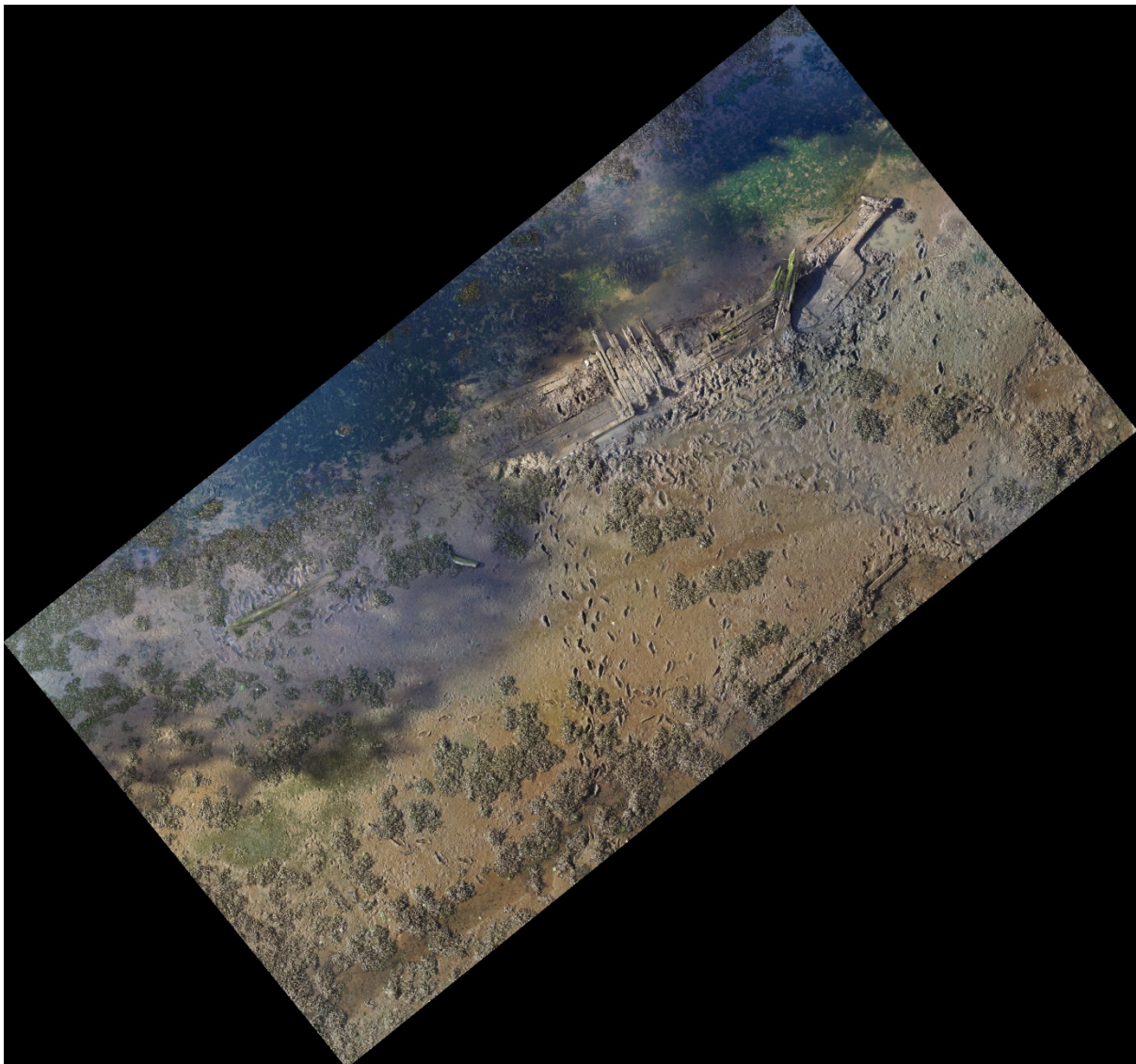


Figure 29: Orthorectified image from photographs of the Fiery Cross showing full site extent

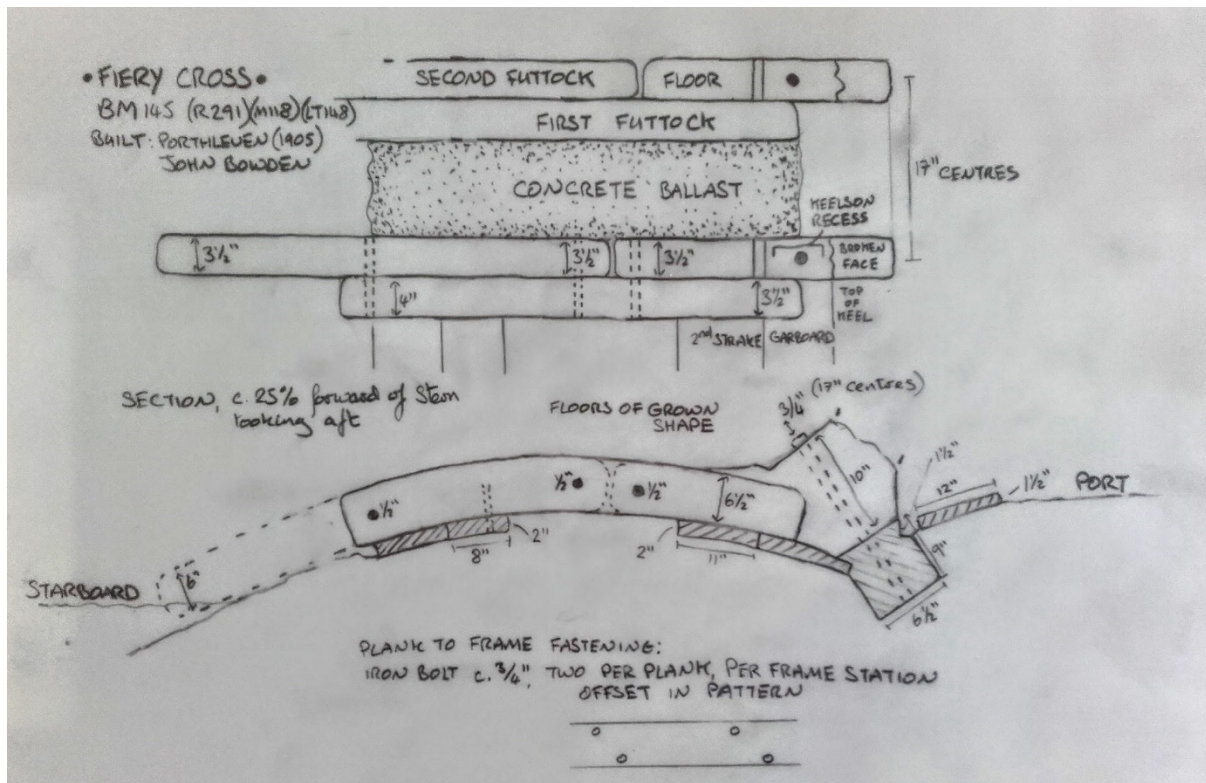


Figure 30: Detailed sketch plan of the framing of the Fiery Cross



Figure 31: Section of hull framing



Figure 32: Vessel stern, sternpost and rudder



Figure 33: Detail of stern post and rudder

2.5.4 Discussion

Fiery Cross was used for the duration of the First World War as a fishing trawler, initially out of Ramsgate and then later due to U-boat threat out of Brixham. Although built in Cornwall it was designed for the Ramsgate fleet and was slightly different in design than most Brixham trawlers being broader in beam and having a rounded stern. As such it provides an interesting example of this type of vessel. The vessel spent twenty years as a fishing trawler before being converted into a house boat and used for a further twelve years.

Within the Forgotten Wrecks project area there are nine other vessels recorded as ketch rigged sail powered vessels that were used for fishing at the time they were lost. Five of these vessels were of a similar size to *Fiery Cross* in terms of tonnage, with four being registered at Brixham.

The physical remains of the site are significant as representing the design of the Ramsgate trawler fleet, of special importance is the survival of the rudder on site, a feature that rarely survives with hulk remains.

The remains can be compared to those of the *Glory* (Section 2.6 below) which represents a similar sized Brixham trawler which was also later converted into a house boat.

2.6 GLORY

Glory was chosen as one of the Forgotten Wrecks case study sites because of its varied life from a ketch-rigged Brixham trawler (Figure 34) including racing at local regattas, conversion to a houseboat then holiday camp feature before falling out of use. *Glory* was in use during the First World War and is an example of a type of local fishing craft active at sea during the war.



Figure 34: Typical Brixham trawler of the period, Terminist (Brixham Heritage Museum, out of copyright)

2.6.1 Vessel Type and Build

Completed by 14 March 1906, the *Glory* (Official Number: 122881) was built by Sanders & Co. of Galmpton (TNA BT 110/524/24). The ship was a wooden square stern Mule class Brixham trawler, with Fishing registration BM16, having a gross tonnage of 34.14. The 62.5 ft (c.19m) long ship had a beam of 15.5 ft (c.4.7m) and a moulded depth of 7.6ft (2.3m), powered by sail which was ketch-rigged. The hull is reported to have been pale green (Brixham Heritage Sailing Trawlers Archive). Although formally classified as a Mule class vessel, this class was known locally as Big Sloops, normally crewed by four men and a boy (CLIP 2018; Langley & Small 1988: 33-34).

2.6.2 Pre-war Career

Built for and operated throughout its registered career by Samuel Ellis of Brixham who was also often the skipper, the *Glory* was involved in fishing alongside the large fishing fleet operating out of Brixham (South West Heritage Trust: a and b). *Glory* participated in the annual summer Brixham regatta, racing against other mule class ketch rigged Brixham trawlers, for trawlers of less than 40 grt, and won its class in 1907 (Western Morning News 26 August 1907).

The previous year on 28 October 1906, apprentice William Sheldon who was 16 years old absconded but he was caught by a Slapton policeman and returned. On 21 July 1910, Thomas Coysh was skipper when *Glory* was caught fishing illegally in Start Bay, having slipped her trawl when seen and was subsequently fined £10 (approx. £1,100 in 2018) (Brixham Heritage Sailing Trawlers Archive).

2.6.3 First World War Use

During the First World War, there is scant information but *Glory* continued to land fish and survived the war. In 1915, Samuel Ellis who was born in 1876 at Brixham was skipper, with only two crew. For part of that year, B. Geogery (born in 1876 at Brixham) was the second hand with J. Thantee (born in 1866, also at Brixham) as third hand. Later in the year, the second hand was William Pitman with Robert Geogery as third hand, both born in 1872 at Brixham (TNA BT 99/3143/25 and BT 99/3143/26).

An extract from the *Western Morning News* of 07 August 1916 (British Newspaper Archives) portrays an illuminating act during hostilities:

“TRIPS IN TORBAY: The trawling ketches *Sanspareil*, *Best Friend*, *Ebenezer*, *Glory*, *Boy Fred*, *Seafarer*, and *Wendew*, of Brixham left port on Saturday with a spanking breeze for Torquay, where they took on board several hundreds of wounded soldiers and gave them a cruise in Torbay. Ample provision was made for them by the crews of the trawlers and at dusk all were landed at Torquay, after a most enjoyable trip. The wind died away to a dead calm at about 8pm, and the steam tug *Denoade*, of the Deneby Coaling Company, went out and took the whole of the seven vessels in tow. But for that help they must have passed the night at sea”.

2.6.4 Post War, Change of Use and Demise

Fishing and racing at the annual regatta continued. All however was not plain sailing and fishing could be dangerous – BRIXHAM BOAT IN TROUBLE was the headline in the *Western Morning News* of 2 October 1919 which continued: “*The Brixham mule Glory, owned by Mr S. Ellis and skippered by Mr W.H. Roberts, arrived at Brixham yesterday afternoon dismasted. During a squall the crew were preparing to get the gear on board, when the mast fell. Assistance was rendered by the smack Reward, and the Glory was towed to Brixham. One of the crew, Richard Hall, sustained very bad injuries to his head and shoulders through being struck by the falling spars. The Glory is one of the racing favourites at the Brixham regatta*”.

The *Western Morning News* of 24 August 1920 led with the headline TORBAY REGATTA and included an account of the race for Ketch-Rigged Brixham Trawlers under 40 tons grt. *Glory* was one of nine entries, and the race consisted of three times round a 30-mile course which took some four hours. *Glory* was the only vessel not mentioned in the list of final times.

Another calamity befell *Glory* on 30 March 1928. The Western Morning News of 2 April 1928 reported that when in boisterous weather *Glory*, and another vessel *Valerian*, each parted their warps in sunken wreckage.

Glory's commercial life concluded on 11 October 1929 when, with spars removed, the ship was auctioned at Brixham quay to a Lieutenant Commander Bewley RNR who converted and used *Glory* as a houseboat until 1932 when the vessel broke its moorings. Re-floated and towed to the River Dart, *Glory* was sold in 1933 and was the floating part of Pontin's holiday camp, but in 1938 was damaged by fire, becoming a hulk. Reportedly, local fishermen carried out some salvage (Pastscape 2018).

2.6.5 Field Survey Results

Using an RPAS (drone) a series of aerial photographs were obtained which were processed through photogrammetric software to produce a 3D model of the site remains (Figure 35). An offset survey collected detailed measurements of the ground plan which enabled scaling of the images for the model which is available online:

<https://sketchfab.com/models/912b27534ac34de996d0d38ca5291228>

The physical remains of the *Glory* measure 17.6m in length by 3.4m wide and a height of 0.90m. The bow faces south. The vessel consists of a relatively coherent wooden hull with iron fastenings. The stem (Figure 36) and stern posts and assembly (Figure 37) are both in-situ along with a run of frames on both sides. The vessel is listed to starboard with much more of the starboard side preserved than the port.

The frames are floors/ futtocks and are laterally fastened with iron bolts. It is difficult to discern which are floors and which are futtocks as they are truncated at a similar level, but the timbers are generally 4" (10.1cm) sided and 6" (15.2cm) moulded. 1st futtocks are 3 ½" (8.9cm) sided and 5" (12.7cm) moulded (detail of the frames can be seen in Figures 39 and 40). Frames are on 18" (45.7cm) centres consistently through the vessel. Bottom/ hold/ bilge cross beams are visible towards the bow and are 2 ½" (6.4cm) sided, 4" (10.2cm) moulded.

Some ceiling planks are visible (Figure 39) and are 1" (2.54cm) thick and at least 7" (17.8cm) wide. Some external planks are visible on the port side and are 1 ¼" (3.2cm) thick and 8" (20.3cm) wide. Planks and frames are fastened with ½" (1.3cm) iron bolts which are now corroded.



Figure 35: Remains of the *Glory*, image from 3D model created from site photographs



Figure 36: Site of the Glory, bow in foreground



Figure 37: Stern of the Glory including stern post and gudgeons and external planking



Figure 38: Bow of the Glory



Figure 39: Frames and external planking of the Glory



Figure 40: Paired frames showing fastening hole arrangement where ceiling planking has been removed

2.6.6 Discussion

At 35 tons, *Glory* was one of the smaller Brixham trawlers with 50 tons being the common size of the larger vessels. The relatively intact nature of the hull remains makes this a significant site representing archaeological evidence of the construction of this type of vessel. There are eleven Brixham trawlers within the National Historic Ships Register, which provide further examples of vessels of varying sizes. The *Golden Vanity*, was built in 1908 at the same yard as *Glory*, but is smaller at 12.80m long (15 tons).

Glory's career as a fishing vessel continued through the war, but not all Brixham trawlers were so lucky during the conflict. In the Forgotten Wrecks project area there are 17 sailing vessels recorded as having had Brixham as a port of departure and having been fishing when they were lost. Most of them were scuttled after being approached by U-boats. The archaeological trace left on the seabed from these vessels would be slight, meaning none have yet been identified offshore, further demonstrating the importance of hulked examples and the National Historic Ships fleet to provide physical evidence of their form and construction.

Glory is noted within the report *Assessing Boats and Ships 1914-1938* (Wessex Archaeology 2011) as being significant for being the only example of a vessel recorded as 'domestic', this refers to its time as a house boat at the end of its working life. Within the River Dart there are other examples of vessels used during this period that have also been converted into house boats. However, the remains of examples of working vessels converted into 'domestic' house boats are rare, and very few have been archaeologically investigated.

2.7 KINGSWEAR CASTLE

Kingswear Castle (Figure 41) was chosen as one of the Forgotten Wrecks case study sites because it was a steam powered paddle ship, its use for a short period as a hospital isolation venue, the re-use of its engine and as the archaeological remains are present on the River Dart where it was used for all its career.

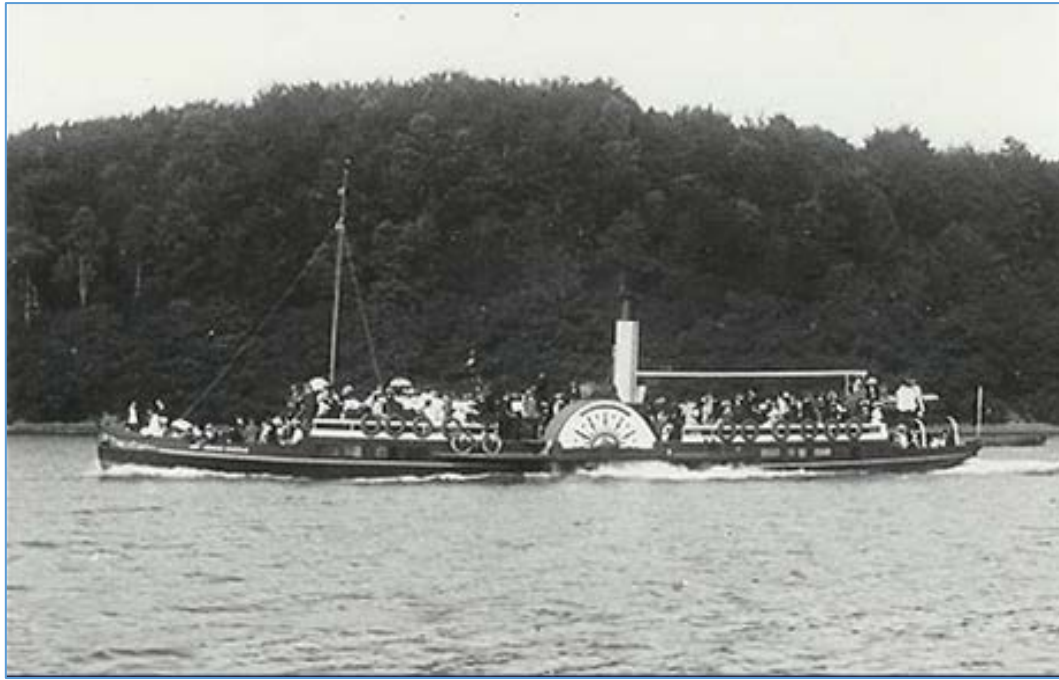


Figure 41: Kingswear Castle on the River Dart (Source: <http://www.simplonpc.co.uk/RiverDartSBCo.html>)

2.7.1 Vessel Type and Build

Launched on 23 June 1904, trialled on 2 August, registered at Dartmouth on 8 August, and delivered to Dartmouth on a 7.5-hour voyage from Falmouth on 14 August 1904, the *Kingswear Castle* (Official Number: 117405) was built by Cox & Co of Falmouth. The ship was a steel passenger paddle steamer having a gross tonnage of 85. The 107 ft. 6 ins (c. 32.7m) long vessel had a beam of 15 ft. 1 ins (c.4.6m) with an additional width of about 10ft. (c. 3m) for the paddle boxes, 10 ft (c.3 m) diameter paddles and a draught of 3 ft (c. 0.91m), this shallow draught being necessary for its intended use. It was powered by a two cylinder compound reciprocating diagonal engine from Cox & Co. of Falmouth, with one Scotch Return Tube boiler giving 130 hp and driven by a paddle each side, the ship had a speed of around 6 to 8 kts. *Kingswear Castle* had a shallower draught than other vessels in use at the time, enabling it to operate at lower states of the tide.

The ship had two large saloons, the main one fitted with mahogany and richly upholstered. The forward saloon was equipped with a spacious refreshment bar including hot water appliances. Aft, there was a ladies' cabin, and the after-well had a shelter deck. The vessel reportedly had accommodation for about 400 people.

Small paddle steamers are eminently suited to calm and relatively shallow waters such as the River Dart because of the shallow draught. However, the smaller paddle steamers are unsuited to long distance cruising due to the fact that the consumption of coal alters the effective depth and hence efficiency of the paddles, and for the same reason, loads are generally confined to passengers and light goods such as mail. Uneven lateral loading of the vessel may cause the paddle on one side to emerge partly or wholly out of the water. Choppy waters can cause repeated changes in paddle depth, again losing efficiency. Despite these drawbacks, paddle steamers were used for ferry services between Southampton and Cowes for many years.

2.7.2 Pre-war career

Built for and operated initially by the River Dart Steamboat Co., Ltd., of Dartmouth, the *Kingswear Castle* was quickly plying its merchant trade between Dartmouth and Totnes on the River Dart. The

vessel was the fourth purpose-built vessel excursion steamer acquired by the River Dart Steamboat Co.

Captain G. Clift, the manager of the River Dart Steamboat Co., Ltd., christened *Kingswear Castle* and subsequently he was in charge for its maiden voyage from Falmouth to Dartmouth. The crew for the initial invitation-only voyage included:

- Company Manager Captain George Clift
- Captain Heal as skipper
- Second Officer Mr Brooking
- Superintending Engineer Mr J.R. Parsons
- In Engine room, the Balkbams, father and son
- Catering by Mr Dawe, Miss Thorne and a young lad (Dartmouth & South Hams Chronicle 19 August 1904)

Captain Heal took over for the regular trips, and the first, on 19 August 1904, was an invitation-only trip with around 30 guests, but such was the pressure that day on the other fleet steamers, around 30 members of the public were admitted as paying customers as it departed Dartmouth at 15.10. The official party was entertained on board including access to the bar, but the paying passengers were unable to use the bar facilities as a licence had not been procured so nothing could be sold. Against a flood tide, the return trip took an impressive 55 minutes and everyone was highly satisfied, including the company's superintendent engineer, Mr J.R. Parsons who spoke highly of the new vessel's capabilities. A newspaper report headlined details of the trip with "Mistress of the Little Fleet".

Another newspaper mentions that there were plenty of seats, and wrote "*The Kingswear Castle ploughs the Dart in a thoroughly workman-like way and even when at her highest speed, glides steadily along and affords not the slightest pretext to the most delicate person for indulging even in imagination in the luxury known as mal-de-mer*".

The sailing timetable was frequently advertised in local newspapers along with adverts for trips on the various 'Castle' steamers. The *Kingswear Castle* was advertised on 5 July 1907 for a special trip to Totnes Regatta the following day, leaving Dartmouth at 13.45 and returning from Totnes at 17.20, for a return fare of 1 shilling (Nearly £6 in 2017).

The popularity of excursions up and down the Dart between Dartmouth and Totnes increased year by year. On 10 August 1908, two parties numbering in total 500 from Halifax and Blackburn enjoyed the trip, and on 12 August the SS *Majestic* arrived at Dartmouth from Bournemouth with over 300 passengers who travelled to Totnes and back on the *Kingswear Castle*. A less welcome but novel trip aboard *Kingswear Castle* occurred on 30 September 1908 when, having departed Totnes at 18.15, it shortly afterwards encountered dense fog and when off Dittisham, Captain Heal deemed it unwise to proceed and anchored – the passengers were provided with light refreshments, made as comfortable as possible in the circumstances, and arrived at Dartmouth at 06.00 the following morning. A pattern of voyages was thus established lasting through to the First World War.

2.7.3 First World War Use

During the First World War, the *Kingswear Castle* was not requisitioned and continued its commercial voyages up and down the River Dart, although the frequency reduced.

Shortly before cease of hostilities, some well known railway managers were aboard *Kingswear Castle* on 4 October 1918 from Dartmouth to Totnes, enjoying the scenery in the "*most pleasant conditions and were able to appreciate the beauty of the river.*" The visitors boarded a Great Western Railway motor bus from Totnes to Paignton and Torquay (Western Times 8 October 1918).

2.7.4 Post War, Change of Use and Demise

Voyages up and down the Dart continued. However, the end of its service was nearing as the replacement *Kingswear Castle* was reported in January 1924 to be well in hand and expected to be in service from Spring. This was at a time when prospects in the Dartmouth shipbuilding industry had much improved with the anticipated arrival in April 1914 of a floating dock capable of taking vessels of 2,500 tons.

The original *Kingswear Castle* was taken out of service, and after its engine had been removed for re-use in the slightly longer successor (also called *Kingswear Castle*), it was moored in Dartmouth harbour as a hospital isolation ship. By May 1927, this use had terminated, arrangements having been made for treating patients on shore – cases of infectious disease would be sent to Paignton Isolation Hospital and smallpox cases would be dealt with at Upton Pines. This was against a background of the medical officer for the port of Dartmouth, Dr J.H. Harris, having reported that in the foregoing year, 557 steamships and sailing vessels from around the world calling at Dartmouth had been visited, without finding any cases of infectious diseases.

The original *Kingswear Castle* was towed to its final resting place and left to rot as a hulk, to be seen on the East bank of the Dart and pointed out by commentators on the passing pleasure vessels.

The advertised return fare in 1907 as previously mentioned was the equivalent of about £6 in 2017. This can be compared with the 2017 adult return fare of £25 for the restored *Kingswear Castle*. The restored vessel (Figure 42) is a member of Britain's historic fleet, and is officially listed as being of pre-eminent national importance. Powering this vessel are the historic original engines of the original *Kingswear Castle*, although its boiler has been replaced.



Figure 42: The restored *Kingswear Castle* (1924) on the River Dart in 2016

2.7.5 Field Survey Results

The remains of the original *Kingswear Castle* were visited by staff and volunteers from the Maritime Archaeology Trust at low tide on 26 June 2016. The vessel is pushed up against the bank, port side to shore with grass growing inside the hull (Figure 43 and 44).



Figure 43: Kingswear Castle from the stern

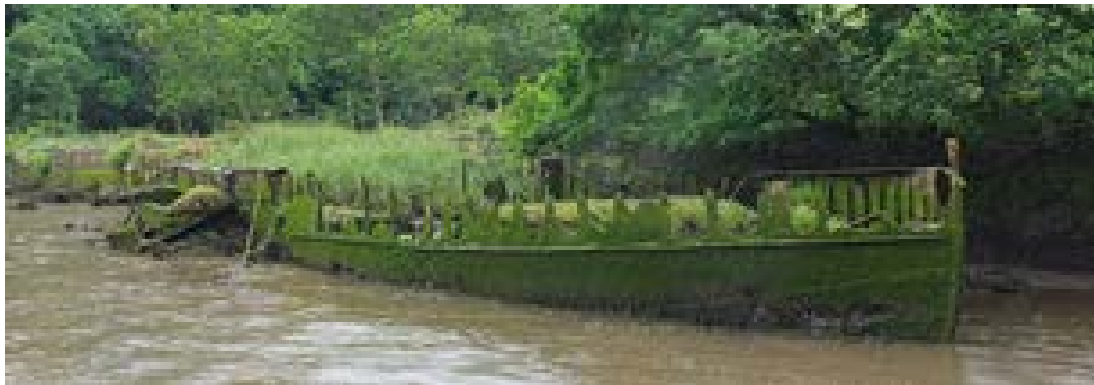


Figure 44: Kingswear Castle, starboard forward quarter

The remains comprise the steel hull, bows lying to the west, stern to the east. The hull is approximately 34.5m in length, 4.7m breadth with a height above the mud at the bow of 2.3m and 1.3m at the stern (Figure 45).

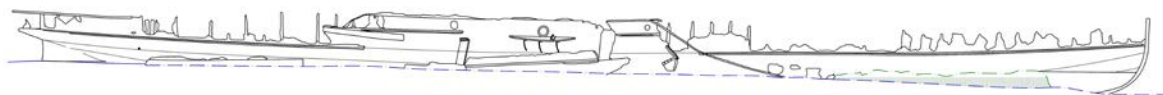


Figure 45: Kingswear Castle in 2016

Four bulkheads survive, three forward of the paddle-wheel boxes, one aft. The bulkheads comprise overlapping steel sheets riveted to each other and onto the vessel's frames, with the rivets visible from the inside (Figure 46).



Figure 46: Bulkhead on the starboard side, from aft

In places, the upper hull plating survives to the gunwhale and the internally riveted overlapping hull plating can be clearly seen (Figure 47).



Figure 47: Starboard side, internal hull plating

In general, the lower hull plating survives slightly better and in places only frames remain on the upper part of the hull (Figure 48).



Figure 48: Starboard side, towards the bow

The paddle-wheel boxes are in-situ on both sides (Figures 49 and 50), and the starboard one can be seen to be falling away from the side of the vessel (Figure 50).



Figure 49: Port paddle-wheel box against the bank



Figure 50: Paddle wheel box, breaking away from starboard side of the hull

Porthole openings can be seen where upper hull plating survives (Figure 51).



Figure 51: Port side forward of paddle-wheel box

The port bow is relatively intact up to and including the gunwale (Figure 52).



Figure 52: Port bow

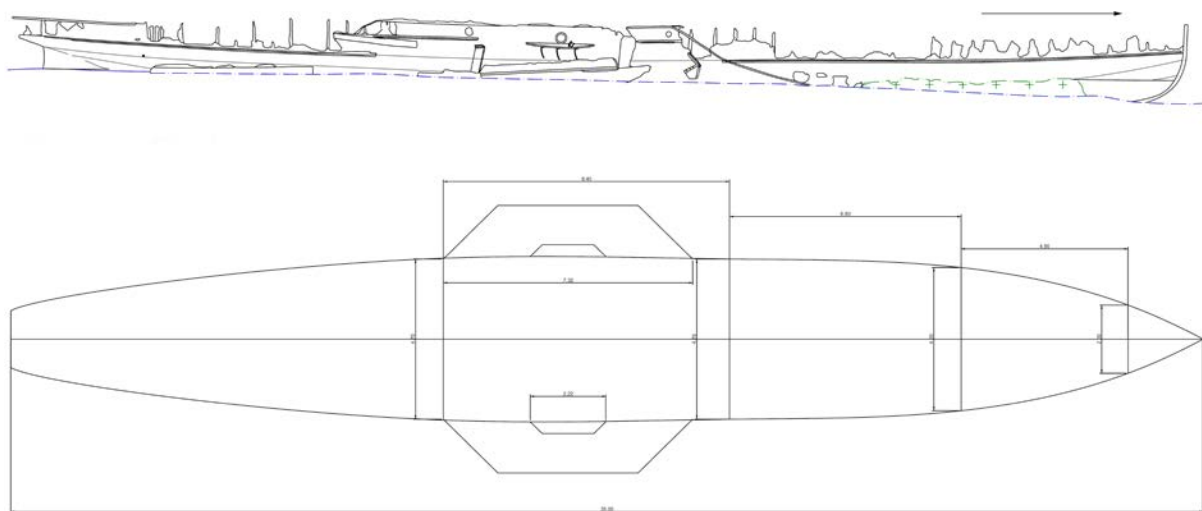


Figure 53: Measured plan of Kingswear Castle in 2016

2.7.6 Discussion

The *Kingswear Castle* is a rare survival of a paddle steamer used in shallow rivers from this period. This type of propulsion was not common and very few examples of paddle steamers survive in the UK. Within the Forgotten Wrecks project area there are only four other vessels recorded as paddle steamers which were lost during the war. Three of these were Admiralty mine sweepers (HMS *Kempton*, HMS *Redcar* and HMS *Ludlow*), the other was the *Empress Queen* which had been requisitioned as a troop ship. All of these vessels were much larger than *Kingswear Castle* being at least twice its length.

The *Kingswear Castle* also has particular significance to the local area of the River Dart as it spent its entire career working on the river and its successor with the original engines transferred from the hulk is still a popular attraction there.

3 DISCUSSION AND CONCLUSIONS

The vessels from the River Dart studied as part of this project were selected for being in active use during the First World War, and although there are other hulks within the estuary, some were not built at the time of the First World War or are currently unidentified that are part of the wider geographic group.

The seven vessels studied were:

- *Winifred*: a 50 ton, 19m long sailing ketch, built in Falmouth and used as a regional trading vessel.
- *Six Brothers*: a Brixham mule class trawler, built in Brixham, 50 tons, 20m long, fished through the war.
- *Effort*: a ketch rigged trader 66 tons, 20m long, built in Kingsbridge. Long trading career including through the war, used as WW2 Barrage Balloon tether.
- *Esther (Irene)*: a schooner rigged, 24m trading vessel, built in Teignmouth. Had a long career then converted to a house boat.
- *Fiery Cross*: a Ramsgate Dandy trawler, 18m, 38 tons, built Porthleven. Converted to a house boat after fishing career.
- *Glory*: a Brixham trawler, 19m long, 35 tons, built Glampton. Later converted to a house boat.

- *Kingswear Castle*: rare UK paddle steamer, built at Falmouth. Used all its life on the Dart.

In terms of fishing trawlers, there is a larger Brixham trawler (*Six Brothers*) and an example of the smaller, mule class, (*Glory*), and there is also a Ramsgate trawler (*Fiery Cross*). These are an interesting collection of three trawlers, with *Fiery Cross* having a slightly different design with a rounded stern. *Fiery Cross* is a similar size to *Glory*, while *Six Brothers* represents the larger sailing trawlers.

Effort and *Winifred* are both similar sized ketch rigged traders, with the *Esther* (*Irene*) being a slightly larger schooner rigged trader. The Ramsgate trawler *Fiery Cross* is recorded as Dandy rigged. This demonstrates how vessels with often similar hull construction methods would be distinguished through their sail configuration which was adapted for their particular function and area of operation.

Kingswear Castle constitutes an example of a shallow river vessel with a less common type of propulsion. It provides valuable evidence of steel paddleboat construction techniques at the beginning of the 1900s.

As a collection they represent many of the types of regional trading and fishing craft active around the south coast of England during the First World War. They have an important group value in terms of their geographic location where they were hulked, but also as examples of west country built, regionally operated vessels of the late 19th and early 20th century.

The hulks of the River Dart, along with hulks from other estuaries, are vital for providing archaeological evidence of the many different smaller vessels that were operating during the First World War. Many of these vessels were not specifically engaged in war work, but are typical of the continuing local and regional ships and shipping that continued to help keep the country operating.

Wooden vessels lost offshore often do not leave much of a physical trace due to the action of marine boring organisms; they can be difficult to locate relying on high resolution survey or diver investigation of net snags. While there is potential for wooden remains to be buried under the seabed, this requires excavation to investigate further. In the intertidal zone there is often more wooden structure surviving due to the preservation qualities of inter tidal mud. This makes hulks, such as those on the River Dart, of special significance for the study of vessel construction and form.

4 BIBLIOGRAPHY

Barrage Balloon Vessels. 2018. [On-line]. Accessed 26 January 2018. Available at <http://www.bbrclub.org/Barrage%20Balloon%20Vessels.htm#plym>

British Newspaper Archive. 2018. [On-line]. Accessed 31 January 2018. Available at <http://www.britishnewspaperarchive.co.uk/> Newspaper *Western Times* - 08 October 1918

British Newspaper Archive. 2018. [On-line]. Accessed 31 January 2018. Available at <http://www.britishnewspaperarchive.co.uk/> Newspapers *Royal Cornwall Gazette* - 23 June 1904, *Totnes Weekly Times* - 02 July 1904, *Dartmouth & South Hams chronicle* - 12 August 1904

British Newspaper Archive. 2018. [On-line]. Accessed 31 January 2018. Available at <http://www.britishnewspaperarchive.co.uk/> Newspaper *Taunton Courier, and Western Advertiser* - 11 July 1923, *Western Morning News* - Monday 16 May 1927.

Brixham Heritage Sailing Trawlers Archive. 2018. [On-line]. Accessed 20 February 2018. Available at http://www.freedom-computers.co.uk/zone6/Vessels_291.html

Brixham Heritage Sailing Trawlers Archive. 2018. *Glory* [On-line]. [Accessed 25 January 2018]. Available at <http://www.tuugo.co.uk/SiteViewer/0300003114944?url=http%3A%2F%2Fwww.freedom-computers.co.uk%2Fzone6%2F> (and search for *Glory*)

Crew List Index Project (CLIP) 2018. Effort: Ship whose Official Number is 81757. [On-line]. Accessed 26 February 2018. Available at <http://www.crewlist.org.uk/data/vesselsnum?officialnumber=81757&submit=search>

Crew List Index Project (CLIP). 2018. [On-line]. Accessed 26 January 2018. Available at <http://www.crewlist.org.uk/data/vesselsnum?officialnumber=108553&submit=search>

Crew List Index Project. 2018. Esther, Ship whose Official Number is 17069. [On-line]. Accessed 2 March 2018. Available at <http://www.crewlist.org.uk/data/vesselsnum?officialnumber=17069&submit=search>

Dartmouth & South Hams chronicle - 19 August 1904. British Newspaper Archive. Accessed 31 January 2018. Available at <http://www.britishnewspaperarchive.co.uk/>

Kingsbridge Estuary U3A, 2018, *William Date, Shipwrights Yard and the Fruit Schooners: Effort*. <https://u3asites.org.uk/files/k/kingsbridgeestuary/docs/williamdateanddatesboatyard.5.pdf>

Langley, M., and Small, E., (1988). *Lost Ships of the West Country*.

National Historic Ships UK. 2018 [On-line]. Accessed 14 August 2018. Brixham Trawlers: https://www.nationalhistoricships.org.uk/the-registers/find-a-vessel?search_api_fulltext=brixham&f%5B0%5D=vessel_type2%3Abrixham%20trawler
National Historic Ships UK. 2018. [On-line]. Accessed 31 January 2018. Available at <http://www.nationalhistoricships.org.uk/register/35/kingswear-castle>

Naval-history. ROYAL NAVY SHIPS, January 1942 (Part 2 of 4). 2018. [On-line]. Accessed 26 January 2018. Available at <http://www.naval-history.net/xDKWW2-4201-40RNShips2Home.htm>

Paddle Steamer Kingswear Castle. 2018. [On-line]. Accessed 31 January 2018. Available at <https://www.paddlesteamerkc.co.uk/>

Paddle Steamer Preservation Society. 2018. [On-line]. Accessed 31 January 2018. Available at <https://www.paddlesteamers.org/ships/kingswear-castle/>

Paddlesteamers.info. 2018. [On-line]. Accessed 31 January 2018. Available at <http://www.paddlesteamers.info/KingswearCastle.htm>

Pastscape. 2018. [On-line]. [Accessed 25 January 2018]. Available at http://www.pastscape.org.uk/hob.aspx?hob_id=1464562&sort=4&search=all&criteria=Glory&rational=q&recordsperpage=10

PortCities Southampton. 2018. [On-line]. Accessed 31 January 2018 at <http://www.plimsoll.org/diversityofships/shipsofthesteamage/theearlysteamships/theearlysteamships.asp#2>

River Dart Steamboat Company. 2018. [On-line]. Accessed 31 January 2018. Available at www.simplonpc.co.uk/RiverDartSBCo.html

River Dart Steamboat Company. 2018. [On-line]. Accessed 31 January 2018. Available at www.simplonpc.co.uk/RiverDartSBCo.html

South West Heritage Trust (a): Devon Archive Catalogue. Register of Shipping, 1894-1917. 2018. [On-line]. Accessed 25 January 2018. Available at <http://devon-cat.swheritage.org.uk/records/DSR/BRI/1/4>

South West Heritage Trust (b): Devon Archive Catalogue. Register of Sea-Fishing Boats, 1902-1979. Accessed 25 January 2018. Available at <http://devon-cat.swheritage.org.uk/records/DSR/BRI/2/1>

The National Archives (TNA). BT 110/621/34 - *Ship Six Brothers*, official number: 109291. When built: 1897. Registry closed: 1929.

TNA BT 110/1365/13. 1946 to 1955 - Ship: *Effort*, Official Number: 81757. When built: 1880. Registry closed: 1948.

The National Archives. BT 400/3394/10 & BT 400/3394/11. 1915 - Ship: *Effort*; Official number: 81757.

TNA - BT 110/551/26 - Ship *Kingswear Castle*, official number: 117405. When built: 1904. Registry closed: 1924.

TNA. BT 400/3358/3 – 1915 - Ship: *Esther*; Official number: 17069. Ship laid up, no names recorded. BT 110/301/30 - Ship *Esther*, official number: 17069. When built: 1856. Registry closed: 1915.

TNA - BT 110/524/24 - Ship *Glory*, official number: 122881. When built: 1906. Registry closed: 1929.

TNA BT 99/3143/25 – 1915 – Agreements and Crew lists.

TNA BT 99/3143/26 – 1915 – Agreements and Crew lists.

Wessex Archaeology, 2011. Assessing Boats and Ships 1914-1938: Archaeological Desk-based Assessment. Accessed March 26, 2018. http://archaeologydataservice.ac.uk/archiveDS/archiveDownload?t=arch-1044-1/dissemination/pdf/Assessing_Boats_and_Ships_1914-1938.pdf

Wikimedia. 2018. [On-line]. Accessed 31 January 2018. Available at [https://commons.wikimedia.org/wiki/Category:Kingswear_Castle_\(ship,_1924\)](https://commons.wikimedia.org/wiki/Category:Kingswear_Castle_(ship,_1924))