Three minutes off Flamborough Head

An investigation by Nicholas Correia · The Wreck Explorer · 20 November 2026

YORKSHIRE COAST / THE LOSS OF SS MALVINA AND SM UB-107

A ship, a submarine and an unanswered question

At about a quarter past four on 2 August 1918, the Leith steamer Malvina was heading north past Flamborough Head. An explosion struck her starboard side. Her chief officer lived to give evidence. From the blast to the ship disappearing, he and his shipmates had about three minutes.

Nearly seventy years later, divers found a German submarine in the same patch of seabed. Part of Malvina's wreckage and what appear to be bags of hardened cement lie over the forward hull of UB-107. The steamer's bow lies apart. That discovery answered where the submarine ended her last patrol. It raised a harder question: how did the two vessels come together?

The chief officer believed Malvina had been torpedoed. Nobody whose account I could trace identified the submarine at the scene. The difference matters. A torpedo can be the best explanation for the steamer's loss while the last movements of UB-107 remain unknown.

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Based on the 2016 field survey, casualty and crew records, period reporting and later wreck identifications. Source links appear throughout.

The Flamborough double wreck

What sank SS Malvina, and how did UB-107 come to lie beneath her wreckage?

WITNESS / ABOARD MALVINA

The chief officer

He told the inquiry he was certain it was a torpedo. He had seen neither the weapon nor its track.

[1] §5.2.16 / ADM 137/4019

RESCUE / 2 AUGUST

The trawler Gaul

Half a mile away. Her crew picked up survivors. No account traced from anyone aboard identifies a submarine at Malvina.

[1] §5.2.17 / [6] HMT GAUL

NAMED SURVIVOR LEAD / SHETLAND

Andrew Henry

His 1920 service entry records a torpedoing aboard Malvina on 2 August. No first-person description is given.

[2] ROLL OF SERVICE, P. 176

EARLIER ATTACKS / 27 JULY

Chloris and John Rettig

Two convoy ships sank shortly before midnight south of the Head. Wessex considers UB-107 the likely attacker.

[1] §5.2.11

2 AUG 1918 / ABOUT 04:15

SS Malvina

Explosion on the right-hand side while northbound. She buckled, sank within three minutes and 14 people died.

Malvina’s wreckage overlies UB-107’s forward hull.

FINAL PATROL / FROM 26 JULY

SM UB-107

Her wreck lies off Flamborough Head. The date and cause of her loss are still open.

DISPUTED ATTACKER / 3 AUGUST

UB-104 and Cambrai

The 3 August victim was Cambrai. Earlier on 2 August, Dutch crews encountered a submarine much farther south.

[3] SHIP REGISTER / [4] DUTCH MASTERS

ALTERNATIVE CAUSE / 1 AUGUST

Loose mines

The local war channel reportedly closed the previous day because of loose mines. No particular mine has been tied to Malvina.

[1] §5.2.14, CITING YOUNG & ARMSTRONG

PHYSICAL EVIDENCE / WRECK SURVEY

The pressure-hull opening

Divers saw a substantial hole ahead of the gun. The surviving metal gives no clear indication of what made it.

[1] §§4.5.13–15

EARLIER SIGHTING / 27 JULY

Calvia and Vanessa

The trawler reported a surfaced submarine. The 1921 press abstract names Croucher. His identification remained uncertain.

[1] §5.1.2 / ADM 186/408, REPORT 16

Recorded connection

Inferred connection

Disputed connection

WORKING VERDICT — A torpedo leads for Malvina. No witness identifies the firing boat. The overlap alone cannot explain UB-107’s loss.

Which explanations hold up?

Read each row as a separate claim. The eyewitness account, the mine hazard and the wreck survey answer different questions.

SS MALVINA / Cause of the initial loss

EXPLANATION	WHY IT FITS	WHAT WEAKENS IT	ASSESSMENT
Torpedo strike	The casualty report describes a starboard strike. The chief officer told the inquiry he was certain of a torpedo.	He saw no weapon or wake. Both statements reach us through Wessex's reading of the same Admiralty file.	Leading, unproved
Loose mine	A loose mine could explain a sudden one-sided blast. The local closure gives this theory a specific basis.	No mine or mine strike has been identified for this loss. The chief officer favoured a torpedo.	Credible alternative
Collision before the blast	An accidental collision could link the two wrecks. One variant proposes that contact detonated a torpedo.	No witness places a collision before the explosion. The survey team did not inspect Malvina's fracture.	Weak
UB-104 fired	An account still widely repeated names UB-104 and gives 3 August.	Malvina sank on the 2nd. The corrected victim on the 3rd is Cambrai. UB-104's own diary also places her near North Hinder on the morning of the 2nd.	Old attribution contradicted
UB-107 fired	Her final patrol and the wreck itself make her a stronger named candidate than UB-104.	The surviving evidence supplies no identified launch, firing position or submarine sighting at Malvina.	Possible

SM UB-107 / Cause of the submarine's loss

EXPLANATION	WHY IT FITS	WHAT WEAKENS IT	ASSESSMENT
Hit by the sinking steamer	A descending hull or falling cargo could explain the contact. This could follow a torpedo or a mine.	No observed impact or matched damage. A crash dive prompted by Gaul would be a further unobserved step.	Plausible
Depth-charged off Scarborough	Oil and air followed the British attack on a submarine on 27 July.	The target was unidentified and the wreck lies elsewhere. A damaged boat drifting south lacks corroboration.	Immediate sinking there contradicted
Mine or internal accident	Either could damage the pressure hull. Loose mines were a known hazard.	No diagnostic inward or outward bending was seen. This would leave the overlap with Malvina to explain.	Possible, weakly supported
UB-107 was already down	Falling wreckage could cover a submarine already on the seabed.	It requires two losses at this precise spot. The survey cannot date the interval between them.	Possible
Ran into Malvina's wreck later	Wessex considered a submerged boat encountering a steamer already lost to a mine.	The pressure-hull hole and the distribution of cargo remain hard to account for. No one witnessed this sequence.	Weak

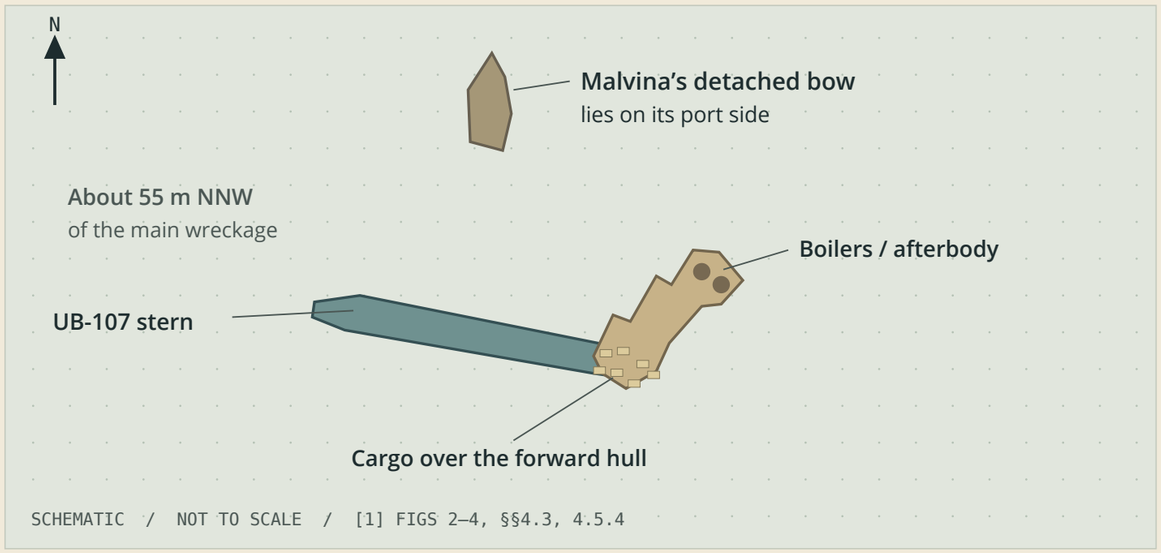
Sources [1] §§4.3, 4.5, 5.1–5.2, [3] Malvina and Cambrai entries, [4] Dutch masters, [5] Royal Navy. Assessments are editorial judgements.

The physical and written evidence

What the wreck's position can tell us, what a survivor's record actually says, and which original records could change the verdict.

SEABED / FLAMBOROUGH HEAD

How the two wrecks lie



SCHEMATIC / NOT TO SCALE / [1] FIGS 2–4, §§4.3, 4.5.4

Looking forward, starboard is right and port is left. The reported explosion was to starboard. The detached bow lies to port. UB-107 itself leans 40–45° to starboard.

The survey puts the submarine's stern west, implying her bow faces east. The discussion reverses this. Her resting direction cannot tell us a firing bearing.

WITNESS / SHETLAND, 1920

Andrew Henry of Weathersta

ANDREW HENRY, Boatswain, M.M., H.M.O. "San Melito." Weathersta, Brae. Torpedoed off Flamborough Head, s.s. "Malvina," 2nd August, 1918.

[2] SHETLAND'S ROLL OF SERVICE, PRINTED P. 176 / SCAN EXTRACT

Henry's entry names Malvina and gives the date and place of his torpedoing. The boatswain rank appears alongside San Melito. The entry gives no narrative of the blast or sighting of a U-boat.

Where the primary evidence may be

• Malvina and Gaul. TNA ADM 137/4019, Home Waters casualty report. Search under SS Malvina, 2 August, about 04:15, Flamborough Head, and the trawler Gaul. Wessex cites the report. A folio and the original statements have yet to be verified.

• Scarborough. TNA ADM 186/408, Anti-Submarine Division monthly report 16, p. 13, and ADM 137/3917. Compare the sighting and the later identification.

• UB-104. Her typed diary and its handwritten margin can now be read on T1022 roll 41, scan 481. Page 17 shows where the name Malvina appears alongside the 3 August attack.

US National Archives microfilm guide, printed p. 55

Source register

[1] Wessex Archaeology · report 108280.31
Original assessment, January 2017. Link opens the related public case study.

[2] Shetland's Roll of Honour and Roll of Service
1920. Printed p. 176, scan p. 200. Henry's entry is reproduced above.

[3] uboat.net · Malvina
The vessel-specific entry corrects the UB-104 attribution to Cambrai.

[4] Nieuwe Tilburgsche Courant · 11 September 1918
The papers vary between Bolt and Boll. The Flevo X vessel register gives Willem Boll.

[5] Royal Navy · UB-107
2019 account of the designation. The cause of the submarine's loss remains unknown.

[6] uboat.net · HMT Gaul
Particulars of Hull trawler H 761, a likely match for the vessel Wessex names.

The lookout who called “Torpille!”

Two steamers passed Flamborough a day apart. Their officers left different accounts of the instant each ship was hit.

2 AUGUST 1918 / 04:15

Malvina’s chief officer

The Home Waters report, as read by Wessex, puts the explosion on the starboard side of the northbound steamer. The chief officer believed a torpedo hit her and saw neither the weapon nor its wake. Gaul was half a mile away and picked up survivors. No account located here says anyone aboard Gaul saw the submarine.

Wessex Archaeology • casualty report ADM 137/4019

3 AUGUST 1918 / 11:40

Lucien Gens aboard Cambrai

Gens, the French steamer’s second captain, heard a lookout call “Torpille!” as the explosion hit between the bridge and funnel. He named Édouard Herpe as the only other survivor. The published inquiry transcription says nobody saw a periscope. UB-104 is identified in the contributor’s commentary. The signed report still needs checking.

Read the French transcription • Olivier 12, 12 September 2017

4 AUGUST 1918 / 01:30

The trawler numbered 428

Gens recorded the time and number of his rescuer. If 428 was its Admiralty number, the vessel was Dragon II, a Grimsby minesweeper, fishing registration GY.201. Gaul carried Admiralty number 733 and Hull registration H.761. A British report of picking up Gens would independently test the match.

Dittmar & Colledge • entries for Dragon and Gaul

WRECK RECORD 6092 / 2002

The wreck of Cambrai

The UKHO recorded S. Old and B. Jolley’s identification from an engine plate and a marked cast filler. Her surveyed position is about 1.43 nautical miles southeast of the Malvina afterbody and UB-107. UKHO survey HI 1358 gives the double wreck’s main axis as 100°/280°. Those reciprocal bearings run along the same line and do not label the submarine’s bow.

UKHO • Wrecks.txt extract in the global data download

FIRST LIGHT AT FLAMBOROUGH / 2 AUGUST 1918

At 04:15 British Summer Time the Sun was about 7.4° below the horizon. If the report used GMT, it was close to sunrise. The clock convention and visibility on deck remain unverified. The chief officer saw neither torpedo nor wake. Gens’s account belongs to the following day.

The records behind the red strings

Three archive leads now have dates, names or file references precise enough for a remote enquiry.

THE 1918 REPORTS / UKHO 5839

Two contemporary position reports

The UKHO entry cites a VAEC report dated 3 August and BOT WR 8/97 dated 7 August. They put the loss about three miles NE and three to four miles NNE of the Head respectively. The old plotted location was retired in 1987. These source references could lead to the original reports and their informants.

UK Hydrographic Office • remote enquiries: research@ukho.gov.uk

THE CHIEF OFFICER / OFFICIAL NO. 79156

Two names on the crew list

Royal Museums Greenwich records J. Rosie of Orkney and Andrew Mouat of Shetland as first mate on different 1915 entries. Both are leads for the unnamed witness. CLIP lists 1918 papers at Kew under BT 99/3400 and at Memorial University in Newfoundland. The dates covered by those agreements need checking.

Royal Museums Greenwich • Malvina's 1915 crew entries

27 JULY / THE SCARBOROUGH ACTION

What Calvia saw

In 1923 E. Keble Chatterton wrote that a motor launch alerted Calvia. At about 8:30 p.m. Calvia saw a submarine surface and dive. He names Warter Priory and Commander Nasmith in the subsequent attack. His account identifies the target as UB-107, but supplies no observed hull number. The identified wreck lies off Flamborough.

Chatterton • The Auxiliary Patrol, printed pp. 298–299

2 AUGUST / THE DUTCH MASTERS

What Willem Boll's crew saw

A September 1918 report says the Flevo X master heard gunfire at 05:30, an estimated 40 miles east of Shipwash. His crew watched their ship sink under gunfire after their papers were seized. Remke's master Johannes Jonk gave a similar account. These witnesses give a place and time. Their testimony supplies no boat number.

Dutch press transcription • 12 September 1918

A request that can be answered from home

To the UKHO archive: Could you identify or supply the reports cited under wreck 5839 for SS Malvina, specifically the VAEC report of 3 August 1918 and BOT WR 8/97 of 7 August 1918? I am looking for the source of each position and any named reporting vessel, officer or survivor.

Newfoundland • request crew agreement scans at mhares@mun.ca

CLIP • archive holdings for Malvina, official no. 79156

Survey positions and record references derived from UK Hydrographic Office data, licensed under the Open Government Licence.

Were UB-107’s torpedoes still aboard?

The 2016 survey describes a missing stern tube. No verified count survives in the records examined here.

DESIGN / WESSEX TABLE 5

Five tubes, ten torpedoes

UB-107’s specifications list four bow tubes and one stern tube, with ten torpedoes in the standard outfit. No departure manifest or dated ammunition return for her final patrol was located. The American account reproduced in Appendix 3 describes UB-88, a sister boat. Its reference to torpedoes on the deck belongs to that vessel.

Contemporary comparison • US Naval Institute, August 1923

STERN / §§4.5.6, 4.5.9, 5.2.30

One reported at the scrapyard

Wessex divers saw extensive damage at the stern and found no aft tube. Gordon Wadsworth relayed the account that a salvaged tube arrived at a scrapyard with a torpedo inside. The later story about disposal at Bempton was recorded as rumour. Even if the scrapyard report is correct, a loaded stern tube leaves the four bow tubes unaccounted for.

Wessex Archaeology • public case study, Investigation

BOW / §§4.4.1, 4.5.17–18

What the survey could establish

The 2016 team recorded 137 minutes of total bottom time in difficult conditions, including an aborted dive. It did not inspect the bow features beyond the cargo debris. Earlier divers described damage there. Loose metal tubes elsewhere were never identified as torpedoes. Neither observation establishes a weapon count.

Related public case study • original dive log in report 108280.31, Appendix 1

FINAL PATROL / 27 JULY TO 2 AUGUST

Could a missing torpedo identify Malvina?

Wessex considers UB-107 the likely attacker of Chloris and John Rettig on 27 July. If that attribution is correct, she had already fired on this patrol before Malvina sank. Even a reliable shortfall would still need a date and a target. The chief officer’s account remains the strongest evidence for the steamer’s loss.

Wessex Archaeology • Loss

Two records worth distinguishing

ADM 137/3900 contains British arrangement plans for the UB-103 to UB-117 batch, according to Wessex §5.2.5. Project 108280 is the reference for the Wessex field archive (§9.1.1). The report describes HD inspection footage. Earlier dated dive photographs or the original source of the scrapyard recollection would be particularly valuable for checking the salvage sequence.

Source: Wessex Archaeology, UB107, Flamborough Head, report 108280.31 (January 2017), Table 5 and sections cited above.

The telegram from Grimsby

What the Swedish press knew about the convoy attack, fifteen days after it happened.

HVAR 8 DAG / GOTHENBURG / 11 AUGUST 1918

The crew had been saved

On page 707 of the Swedish illustrated weekly Hvar 8 Dag there is a photograph of John Rettig. The caption sends the reader twelve pages forward. There, among the week’s news, is a short report based on a telegram from Grimsby.

Two steamers belonging to Erik Brodin’s shipping concern had been lost. One, Crimdon, had been carrying freight between England and France. John Rettig had been sailing from Sweden to Hull. She was torpedoed off Grimsby in the night leading into 28 July. News had reached Sweden that her crew had been saved. At the time of printing the paper still had no corresponding news of Crimdon’s crew.

That phrasing fits a loss late on the 27th. The report gives a route, a night and the fate of the crew. It leaves the rescue vessel and the attacker unnamed. Grimsby was where the telegram came from. Where the survivors were landed remains open.

See the ship photograph • printed p. 707

Read the Swedish news column • printed p. 719

THE WRECK / UKHO 8945

A probable identification

A 2023 archaeological report maps a roughly 93-metre wreck on a northeast–southwest axis. The surveyors describe it as broadly upright with a slight tilt and identify it as probably John Rettig. The sonar records the wreck’s shape. The attribution to UB-107 comes from the historical record.

Northern Endurance Partnership • wreck sheet 3

THE SURVIVORS / SWEDISH RECORDS

The master’s declaration

The ship appears as number 5727 in a Swedish vessel register. Riksarkivet directs researchers to Kommerskollegium, huvudarkivet, F IIIb, dossier group 17 for 1918 losses. A Swedish consul abroad could take a maritime declaration, or sjöförklaring. The ship’s individual file has yet to be located. A signed account might identify the rescuer or give the time of the attack.

Riksarkivet • guide to marine casualty records

The people behind the ship names

The chief officer survived Malvina. Fourteen of his shipmates lost their lives.

MALVINA / LEITH OFFICIAL NUMBER 79156

A steamer with two engines in her history

James & George Thomson launched yard no. 170 at Clydebank on 29 March 1879. Malvina was an iron screw steamer, registered at Leith that June for the London & Edinburgh Shipping Company. She began with a two-cylinder compound engine. Ramage & Ferguson of Leith fitted a three-cylinder triple-expansion engine in 1896. Both descriptions occur in records of the same ship.

She had survived another wartime explosion. In 1916 she was mined near the Kentish Knock lightvessel on the London–Leith passage and towed to Gravesend. Whether the officer who testified in 1918 had also been aboard in 1916 remains unknown.

The 1920 Shetland roll connects Andrew Henry of Weathersta to the final sinking. It also records the death of fireman Richard Imrie. These entries preserve how families and communities described the loss. Neither gives a submarine sighting.

Shipbuilding record and historical photographs

The earlier mine incident • 29 February 1916

The fourteen lost on 2 August

Thomas Harris	Master
William Brock	First engineer
Samuel Ferguson	Third engineer
Benjamin Brown	Steward
Gilbert Gray	Able seaman
Robert Graham · David Banks Ramsay Laing	Deck boys
Archibald Campbell · Richard Imrie	Firemen
John Fairweather McCombie · Robert Mercer	Firemen
Michael Scullion	Fireman
Andrew Robert Strachan McDonald	Greaser
Magnus Oakes	Leading seaman, RNR

Graham was 17 and Laing was 15. Oakes served in the Shetland Section of the Royal Naval Reserve, service number L 679. His separate naval entry helps account for the fourteenth death.

Merchant and naval rolls • MaritimeQuest

The men of UB-107

Wessex reports 37 men sailed. MaritimeQuest lists 38 names, including commander Eberhard von Prittwitz und Gaffron. The discrepancy remains open pending a final sailing muster.

Read the named German roll and the three Chloris casualties

The missing six days

A chronology of the last patrol, followed by the observations that could change the reconstruction.

2 MAY–11 JULY

UB-107’s earlier patrols

Hans Howaldt commanded the first war patrol. Wessex records two further east-coast patrols under Eberhard von Prittwitz und Gaffron. British intelligence material survives in ADM 137/3917.

26 JULY

Departure from Zeebrugge

UB-107 sailed for the English east coast and failed to return. A sailing date fixes the start of the patrol. The date of loss remains uncertain.

27 JULY, EVENING

Scarborough and the convoy

Calvia reported a surfacing submarine. Later that night Chloris and John Rettig sank farther south. Assigning those sinkings to UB-107 makes her immediate destruction in the earlier action difficult to sustain.

28 JULY–1 AUGUST

The gap in the patrol record

No verified position in the sources reviewed bridges the convoy attack and Malvina. Wessex cites a local channel closure on 1 August owing to loose mines. An original closure signal would strengthen that part of the reconstruction.

2–4 AUGUST

Three distinct witness accounts

Malvina’s officer describes the early loss on the 2nd. Dutch skippers describe a submarine farther south that morning. Lucien Gens gives 11:40 on the 3rd for the separate attack on Cambrai and 01:30 on the 4th for his rescue.

What would change the verdict?

Gaul’s account or the chief officer’s signed evidence could tell us what the crews saw. UB-104’s original diary is now traced (page 17). For UB-107, a dated position after 27 July or photographs taken before salvage could still change the reconstruction.

An attractive reconstruction has the submarine turning for another shot, or diving as Gaul approaches, and being caught beneath the steamer. None of those movements was witnessed in the accounts traced. Tides, dawn light and the present wreck headings cannot fix them without a reliable time standard, original survey data and evidence of the track.

Sources and further reading

Select an underlined title to open its public source. The notes identify where testimony, survey evidence and editorial interpretation enter the account.

The wreck and the two steamers

Wessex Archaeology · public UB-107 case study

Companion to UB107, Flamborough Head, Undesignated Site Assessment, report 108280.31, January 2017. The original report supplies the numbered sections cited in this edition.

UK Hydrographic Office · wrecks and obstructions

Wrecks.txt records 5833 (Malvina bow), 5929 (afterbody and UB-107), 5839 (superseded position) and 6092 (Cambrai). Historical cause fields can retain older attributions.

Clyde-built Ships · Malvina, no. 79156

Caledonian Maritime Research Trust. Launch, yard number, registration and 1896 replacement engine. The loss entry repeats the disputed UB-104 attribution.

Shipwrecked Mariners' Society · Malvina

Later account of the London–Leith passage and the speed of sinking.

Wrecksite · submarine and diver material

Bill Woolford's site sketch is discussed in Wessex §5.2.34. Wessex's Figure 5 is a guide to the original observations.

Wrecksite · the steamer

Diver finds discussed by Wessex include a company plate, Leith earthenware and ink bottles.

Documentary footage referenced by Wessex

The reported battery-cap marking and aft mast are discussed in §§4.5.19 and 5.1.1. The footage supplies no firing record.

US Naval Institute · The Last Cruise of the UB-88

Contemporary technical comparison with a sister boat.

Royal Navy · 2019 designation announcement

The modern history of the wreck as a protected military site.

The crews and their accounts

Shetland's Roll of Honour and Roll of Service

1920. Andrew Henry, printed p. 176. The roll also records Richard Imrie and Gilbert Gray.

Royal Museums Greenwich · Malvina's 1915 agreement

Names J. Rosie, Andrew Mouat, Thomas Harris, William Brock and Benjamin Brown. The officers' ranks are evidence for 1915.

Tower Hill records · Malvina merchant casualties

Names and occupations. Gilbert Gray is recorded at Edinburgh (Seafield) Cemetery. The page misidentifies the submarine in its narrative.

Royal Navy casualty list · Magnus Oakes

The naval index identifies the Royal Naval Reserve rating and gives his service number.

MaritimeQuest · German and British rolls

Michael W. Pocock's 2017 account lists the men of UB-107, Malvina and Chloris. His proposed second attack is a reconstruction.

Hurd · The Merchant Navy, volume III

Gaul fought a submarine in April 1917. Hurd's account of skipper J. Kime's death is disputed. See the casualty and service records on page 22.

Dittmar & Colledge · British auxiliary patrol

Gaul no. 733, and Dragon II no. 428. The latter is a candidate for Gens's rescuer.

Pages 14–18 · Gens and the French inquiry

Published transcription. The signed deposition and British rescue entry remain to be checked.

Chatterton · The Auxiliary Patrol (1923)

Printed pp. 298–299. Compare his account of the body and the named submarine with the reservations in Wessex §5.1.2.

Sources and archive references

The routes below distinguish a record already examined from a catalogue entry that could lead to further testimony.

The convoy and German patrols

Hvar 8 Dag · 11 August 1918

Printed pp. 707 and 719. Contemporary photograph and Swedish report of the telegram from Grimsby. English account on page 8 is a paraphrase.

Swedish shipping register · John Rettig, no. 5727

The registration number provides a second search term for the Swedish loss file.

Northern Endurance Partnership · archaeology report

Report 254110.03, issue 4, July 2023, §5.3.55 and sheet 3. Survey of the probable John Rettig site.

Dutch maritime register · Flevo X

12 September 1918 report under this vessel. Boll's estimated position and reported time require care when compared with British clocks.

Dutch maritime register · Remke

Companion report on Johannes Jonk and Flevo X. Names and spellings vary between newspapers.

uboat.net · Malvina and the corrected attribution

Ship-specific entry assigns the 3 August victim to Cambrai. Some boat summaries still repeat the older attribution.

uboat.net · UB-107

Patrol and service outline. Its loss-date fields and historical notes need comparison with the wreck survey.

US microfilm guide · T1022 roll 41

PG 61859, UB-104. PG 61862, UB-107. A guide synopsis is distinct from the dated diary entries.

Bundesarchiv · Imperial Navy U-boats

Finding aid for German records. No final-patrol ammunition return or UB-107 firing report was verified.

Records still to be traced

National Archives · First World War naval operations

ADM 137/4019, Malvina, 2 August. Wessex read this casualty report. The precise folio, original chief officer's account and any Gaul statement have yet to be located.

UKHO Archive · remote research

For wreck 5839, request the VAEC report of 3 August 1918 and BOT WR 8/97 of 7 August. For identification, the register records A. Godfrey's letter of 11 March 1987, H1310/87/15.

Crew List Index Project · official no. 79156

1918 crew agreements indexed at BT 99/3400 and at Memorial University. Coverage of the final voyage remains unverified.

Memorial University · crew agreement scans

Request the agreement covering the final London–Leith passage, including officers, endorsements and any enclosures.

Riksarkivet · Swedish casualty records

F IIIb, dossier group 17, and the marine casualty index. Consular declarations may survive separately. No individual John Rettig declaration was located.

Scarborough action · contemporary honours notice

William Samuel Croucher appears in the Admiralty honours. For the action itself see ADM 186/408, monthly report 16, p. 13, and ADM 137/3917.

Historic England / Wessex · field archive lead

Project 108280. Original HD survey video, georeferenced figures and pre-salvage photographs would help resolve direction and damage. ADM 137/3900 contains batch arrangement plans.

Printed works cited in the archaeological assessment

Godfrey & Lassey, Dive Yorkshire (1988), p. 130. Grant, U-boat Hunters (2003), p. 77. Young & Armstrong, Silent Warriors, vol. 1 (2006), pp. 114–115. References traced through Wessex.

Two families after the loss

One record was published a week after Malvina sank. The other takes the story more than thirty years on, to a grave in Edinburgh.

BROXBURN / 9 AUGUST 1918

Samuel Ferguson

Samuel Ferguson was 23, the third engineer aboard Malvina and the husband of Chrissie Allan. A Broxburn memorial compilation transcribes the death notice from the West Lothian Courier. His family understood his death as a drowning through enemy action. The printed notice, as transcribed, leaves the ship’s name blank. It gives no weapon or submarine.

Read the local memorial transcription

EDINBURGH / SEAFIELD CEMETERY

Gilbert and Mary Gray

Able Seaman Gilbert Gray was buried at Seafield. Years later a firm of monumental sculptors asked whether his wife Mary Campbell Gray could be commemorated on his headstone. The Commission’s file records that the inscription was added. Its subject settles one question about a promising archive lead: the correspondence concerns the family grave. The catalogue describes no account of the sinking.

Read the Commission’s catalogue entry • CCM94887

For the circumstances on deck, the outstanding document remains the chief officer’s own statement. A signed name, position on the ship and the order in which he heard and saw events could change how the surviving evidence reads.

Finding the seabed survey

A survey number links the wreck assessment to the soundings taken aboard Xplorer. A grid-zone error in the published report matters for anyone mapping the site.

FIELDWORK / 7 JANUARY – 5 MAY 2011

Hydrographic Instruction 1358

The British Geological Survey identifies HI1358 as the survey from Spurn Point to Flamborough Head. NetSurvey was the contractor and East Riding of Yorkshire Council held the contract. Wessex gives the same contractor and start date, names the vessel Xplorer and records receiving GSF sounding files. The government entry indexes geological material. The wreck-scale soundings still need to be obtained from UKHO.

British Geological Survey • survey record HI1358

MAP CHECK / TABLE 4, FEATURE 7000

Read the grid as zone 30N

Table 4 gives 54.13900667° N, 0.078983333° W and a projected position of 690807 E, 6002931 N. Conversion from those geographic coordinates to WGS 84 / UTM zone 30N gives 690806.96 E, 6002931.06 N. The printed heading says 31N. Interpreting the same numbers in 31N puts the point near 5.921° E. In a mapping project use EPSG:32630 for this published pair. Read any downloaded survey's own coordinate metadata separately.

UK Hydrographic Office • seabed mapping service

DIVE VIDEO / PLATE 3

The frame worth locating

The report records an inspection of the western end of the junction. Plate 3 shows what the text describes as apparent cement bags above the pressure hull. Plate 4 shows the batteries. Plate 3 has no visible timecode, and Appendix 1 gives only broad tasks. The published image cannot yet be assigned to one of the dives. The video leading into and out of that frame may give a wider view.

Wessex Archaeology • published case study

LATER COVERAGE / 2020

A possible second survey

A Dogger Bank South engineering report describes 2020 UKHO bathymetry extending up to 15 km offshore between Withernsea and Flamborough Head. Figure 8-3-2 shows the regional coverage. A comparison with HI1358 would be valuable if a later tile crosses both pieces of the wreck at a useful resolution. No 2020 survey footprint in the public UKHO catalogue examined on 19 November 2026 contained the wreck point. The two matching footprints are mapped on page 16.

Dogger Bank South • marine physical processes report

A depth grid can show where one mound of wreckage crosses another. It records the surfaces exposed when the survey vessel passed overhead. What lies buried, and which ship arrived first, remain separate questions.

An Edinburgh fireman and a cargo record

Following the loss ashore brings us to a family in Edinburgh and to an insurance record that could test an interpretation of the seabed.

FOUNTAINBRIDGE / EDINBURGH

Archibald Campbell

Archibald Campbell, a fireman aboard Malvina, was 34. An Edinburgh memorial history names his wife Helen Blaney and records his employment at the North British Rubber Company. The family and street details match his casualty record, which spells her first name Hellen. These details help identify the family in the Edinburgh press. The memorial's account of a submarine attack gives no named eyewitness.

Read the Gorgie memorial history

Campbell's casualty record • Tower Hill

LLOYD'S OF LONDON / WAR LOSS RECORDS

What was in the hold?

The archaeology raises a question an insurance clerk might have answered in 1918. Did Malvina's cargo include bagged cement? Lloyd's describes manuscript war-loss records giving a ship's voyage, cargo and position of loss. A 1990 facsimile exists. Malvina's own entry has yet to be checked. An explicit listing of cement would corroborate the divers' interpretation. A generic entry for cargo would leave the question open.

Read the description of the war-loss records

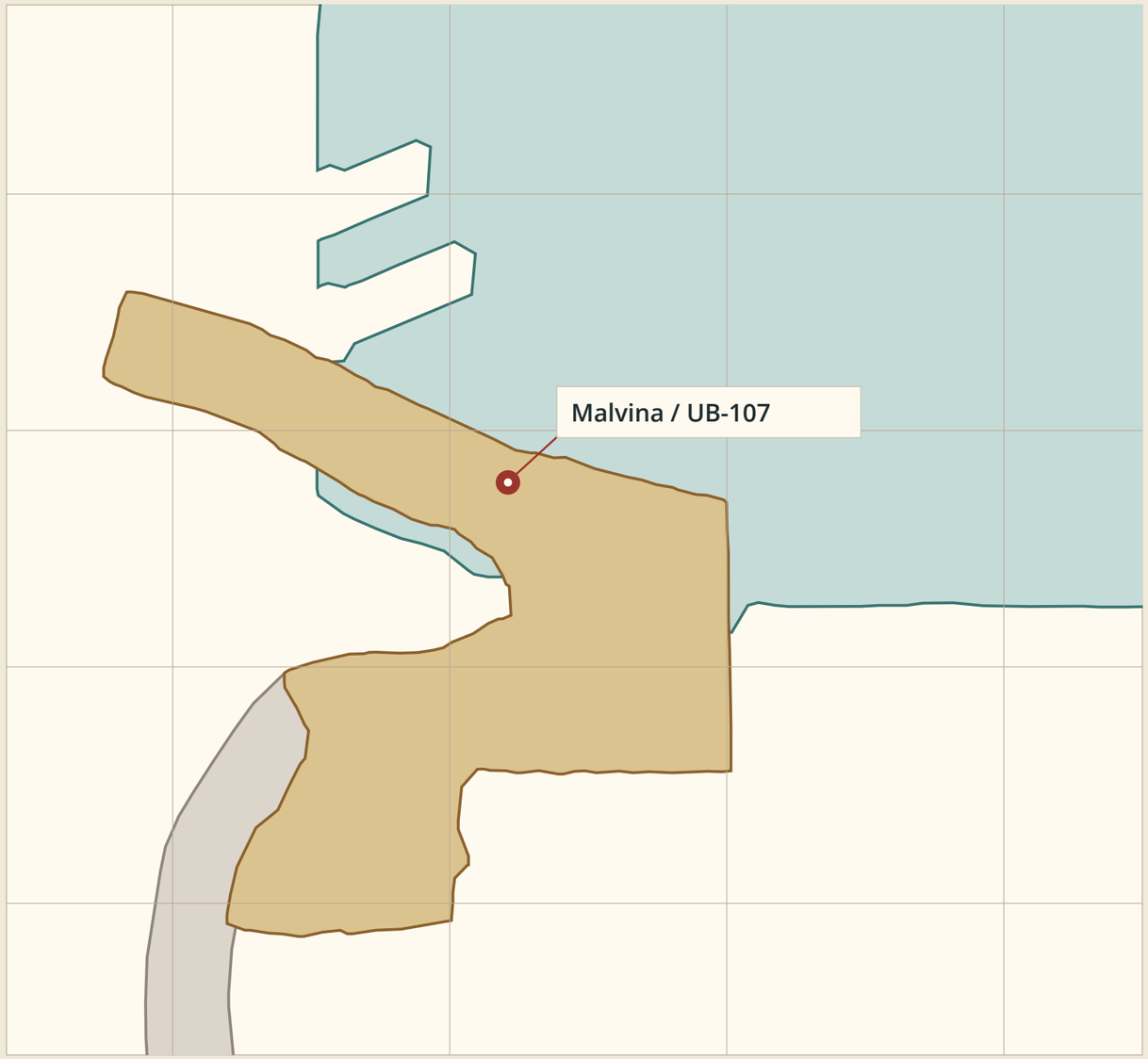
Facsimile edition • ISBN 1850443149

The separate search for the chief officer continues. Only a record covering the final voyage, or evidence naming the officer who spoke, can distinguish among the men who held that rank aboard Malvina.

Which survey covers the wreck?

The published position of Wessex feature 7000 falls inside two survey footprints in the UK Hydrographic Office catalogue.

NORTH UP / DETAIL AT FLAMBOROUGH HEAD



Survey boundaries overlap. Gold is drawn on top. Dot marks the published wreck position.

THE CATALOGUE MATCH

HI1358, Block 1

UKHO lists a 2 m gridded survey and one 223,474,970-byte file. Its footprint contains the wreck point. Block 2 of the same 2011 survey ends farther south. At this spacing the broad wreck layout can register. An individual dent or thin plate would be difficult to resolve.

THE EARLIER OVERLAP

HI730, Block 2

The older survey ran from 13 May to 24 September 1997. The public listing gives an equivalent scale of 1:400,000. It gives no grid spacing in metres. Only the positions of the catalogue boundaries have been checked. The detail captured on the wreck in 1997 is still unknown.

Open UKHO's Seabed Mapping Service

UKHO public footprint catalogue • machine-readable source

Survey metadata checked 19 November 2026. Depth files require sign-in. The original GSF files supplied to Wessex may differ from the gridded product.

The name in the margin

UB-104’s patrol diary puts two different encounters on a single microfilm image. Only one carries the handwritten name Malvina.

2 AUGUST 1918 / NORTH HINDER

Two Dutch sailing vessels

At 05:30 the diary places UB-104 near North Hinder in the southern North Sea. The crew recorded two Dutch sailing vessels. In a September press report, skipper Willem Boll recalled hearing gunfire at 05:30, an estimated 40 miles east of Shipwash. The Dutch account names his vessel Flevo X and the other vessel Remke.

The German note gives the numeral as IX. The Dutch register gives X. The encounter, the second vessel and the cargo of lamps bound for London connect the two accounts. Neither clock has been converted.

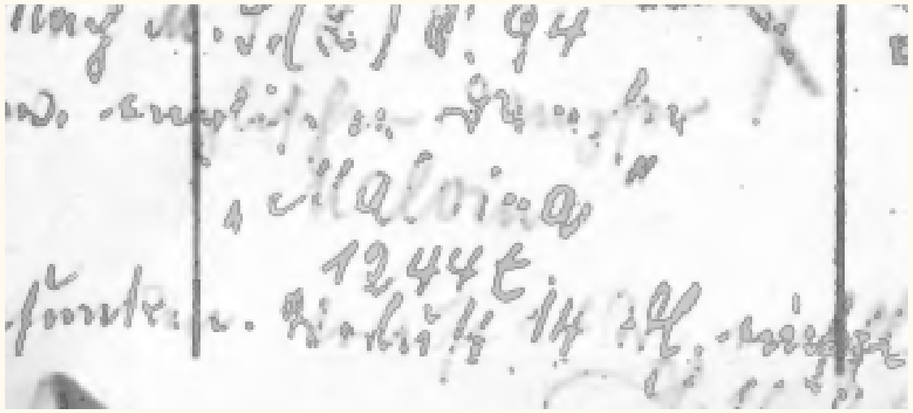
3 AUGUST 1918 / FLAMBOROUGH HEAD

An unnamed steamer in the typescript

The typed description calls the steamer English as far as the crew could tell. A hand in the margin supplies “Malvina” and 1,244 tons. The US finding aid repeats that name, tonnage and date. The page leaves the writer and date of the note unknown.

Malvina had sunk on 2 August. The corrected shipping record identifies UB-104’s victim on the 3rd as the French steamer Cambrai. Her second captain, Lucien Gens, described the attack in the French inquiry account on page 5.

FACSIMILE / HANDWRITTEN MARGINAL NOTE



Detail from the left side of scan 481. The note sits beside the 3 August entry. The name and tonnage are legible even where the surrounding handwriting fades.

Read alongside the facsimile

German diary • NARA T1022, roll 41, scan 481

Dutch maritime register • Willem Boll’s reported account

US finding aid • PG 61859, printed page 55

Corrected ship record • Malvina and Cambrai

German record: BArch RM 97/1620, filmed as PG 61859. Scan numbers throughout are PDF page numbers. The full rolls are large downloads.

What Lieutenant Croucher reported

A British sighting reached UB-107’s German file through a London newspaper and a German military press digest.

27 JULY 1918 / THE NAVAL ACTION

The men aboard Calvia saw a submarine

Lieutenant W. S. Croucher said he commanded Calvia that day. The German abstract of his prize-court evidence places Calvia off the mouth of the Tees with the trawlers Warter Priory and Commander Nasmith. A ship in a convoy had reportedly been torpedoed earlier. Calvia sighted a submarine. HMS Vanessa joined the trawlers.

The report describes oil, air bubbles and wreckage reaching the surface. It then gives the identification as a belief. Its German wording is “Man glaubte, daß es ‘UB 107’ gewesen sei” — they believed it had been UB-107. The account records an award of £175 to the four vessels.

Innes McCartney matched the Admiralty’s 1919 loss list (ADM 239/26) against its prize journal (ADM 238/2). His table credits Calvia’s group, gives 54°24' N, 0°24' W and dates the payment into the fund to May 1921. That reported position is roughly 19 nautical miles (36 km) from the wreck point on page 14. It measures the distance between two records. Any movement between them remains unobserved.

HOW THE ACCOUNT REACHED THE FILE

13 April 1921

British prize court hears claims for the destruction of submarines.

14 April 1921

The Times reports the hearing, according to the source named in the German abstract.

22 April 1921

German military press digest dates its summary. A copy survives with UB-107’s records.

DETAIL FROM THE 1921 PRESS ABSTRACT / SCAN 670


festgestellt. Es wurden weitere
wurde zerstört; Öl, Luftblasen und Wrackstücke kamen hoch. Man glaubte, daß
es „UB 107“ gewesen sei, mit einer Besatzung von 35 Mann.

Read the German copy • roll 41, scan 670

McCartney • Table 1, UB107 and the May 1921 payment

Chatterton’s 1923 account • pp. 298–299

Wessex Archaeology • the reported Scarborough action

The German file preserves a British claim. Counting it as a second national confirmation would give one line of evidence twice the weight.

Before the boat went missing

The command diary and UB-107’s surviving file give a sequence on shore. They leave a gap after she sailed.

EARLIER JULY PATROL / FLANDERS COMMAND

Influenza aboard UB-107

The command record gives an unexpected reason for the previous patrol ending early. Kapitänleutnant von Prittwitz and half his crew had fallen seriously ill with influenza. The entry describes men returning to port. It gives no medical information for the patrol that sailed on 26 July.

Flanders command diary • T1022, roll 153, scan 176

12–25 JULY / UB-107’S FILE

Ostend, Bruges, Zeebrugge

The closing page lists yard work at Ostend from 12 to 23 July, outfitting at Bruges on 24 July and departure for Zeebrugge on the evening of 25 July. These entries bridge the earlier return and the final sailing. “Outfitted” supplies no itemised list of stores or torpedoes.

UB-107 • T1022, roll 41, scan 669, left side

26 JULY / THE LAST DEPARTURE

An overdue boat

The file records UB-107’s departure from Zeebrugge for the southern North Sea and the English east coast. The orders give a maximum of twelve days before return. The closing entry records that she failed to come back. This is a record of a missing boat compiled ashore. It supplies no last message from the submarine at Flamborough.

UB-107 • PG 61862, closing page and orders

2 AUGUST / THE GAP THAT REMAINS

Who saw the submarine?

Gaul is the named rescue vessel. Wessex cites her as half a mile away and records her crew picking up survivors. Croucher’s sighting six days earlier supplies no identity for a boat here. No firing report, eyewitness identification at Malvina or final-patrol torpedo inventory has been verified.

Wessex Archaeology • Home Waters casualty report discussion

Archive identifiers: UB-107, BArch RM 97/1623, PG 61862. Flanders command journal, PG 62061, roll 153. The German source links open the entire rolls at the cited scans.

The rescue, the cargo and the camera

Where the search has reached on land, and what remains visible in the 2016 dive archive.

THE RESCUE / A CHECK ON LOCAL RECORDS

Flamborough’s lifeboat

The RNLI’s published wartime service list records Flamborough No. 1 lifeboat standing by the steamer Genesee on 21 July at 5:40 p.m. The sequence gives no 2 August entry for Malvina. It is a list of lifeboat services. A rescue made by a trawler could readily fall outside its coverage. Gaul remains the named rescue vessel.

RNLI • The Life-Boat, February 1920, pp. 29–30

THE CARGO / WHAT THE DIVERS RECORDED

What looks like cement

Plate 3 shows material over the forward pressure hull. The survey text calls it apparent hardened cement bags. The sample mentioned in section 4.5.20 was seawater near the conning tower. Cargo summaries list general cargo. An itemised manifest or a cargo claim specifying cement would provide independent evidence of what the steamer carried.

Malvina’s cargo entry • shipping register

THE 2016 DIVES / ARCHIVE ENQUIRY

Three dives, 44 video files

Wessex Archaeology confirmed that about 35.4 GB of unedited GoPro footage survives in three folders. The cameras recorded the dives, including deck time. Visibility was limited. Wessex identified no separate high-resolution underwater photographs from the inspection. The fieldwork was undertaken by Wessex Archaeology for Historic England.

Historic England-funded project • published case study

THE SITE PLAN / PROVENANCE

Jackson and Racey’s sketch

Wessex identified Andy Jackson and Carl Racey as the authors of the site sketch published on Wrecksite. The report also discusses observations by Bill Woolford. Any drawing used for an exhibition should carry the credit attached to that particular drawing. Original multibeam data are held by UKHO. Wessex also identified Historic England as a possible source for the dive video.

Wrecksite • wreck record and associated material

Archive availability is from correspondence with Wessex Archaeology. No footage was examined for this edition. Access costs and permission to exhibit particular clips or drawings remain to be confirmed.

Gilbert Gray of the Malvina

A photograph from a Shetland household survey and a manuscript lead for tracing the men who made it ashore.



Gilbert Gray, bottom right. Shetland's Roll of Honour and Roll of Service, edited by Thomas Manson, Lerwick, 1920, printed page 36.

The address that identifies him

The caption names Gilbert Gray as an able seaman and gives his wife's address as 5 Hope Terrace, Leith. The Commonwealth War Graves Commission names his wife Mary at the same address. The roll gives his age as 49 and the Commission records 48. Gray died when Malvina sank.

The editor describes a house-to-house search in Shetland after an appeal by post. The compilers collected 560 photographs and circulated proofs for families to check. That explains how a sailor living in Leith came to appear in a Shetland memorial.

A register to check for survivors

Royal Museums Greenwich holds the Shipwrecked Fishermen and Mariners' Society Relief Office case book for 1912–1919, reference SAH/62/7. Its catalogue describes entries recording the ship, where the men came from and the assistance given.

A precise enquiry is possible. Look for the Leith steamer Malvina, official number 79156, in the weeks after 2 August 1918. Andrew Henry of Weathersta is one name to check. A dated entry could identify a recipient or lead to family papers. The catalogue alone cannot establish that anyone from Malvina applied.

View the original memorial volume

Greenwich catalogue • SAH/62/7

Who was aboard Gaul?

The trawler’s records span a fight in 1917 and a rescue in 1918.

24 APRIL 1917 / AN EARLIER ACTION

The skipper in Hurd’s account

Archibald Hurd calls Gaul’s skipper J. Kime and says he was killed in the fight. Don Kindell’s casualty list names Robert G. Nixon, John Ward and Henry Watts under Gaul. It places Skipper Thomas Ashley aboard Margate, another trawler in the action. This discrepancy leaves Hurd’s account of Kime’s death in doubt.

Hurd • The Merchant Navy, volume III

ROYAL NAVAL RESERVE / 670 WSA

John Kime, DSC

The London Gazette of 20 July 1917 records John Kime and his service number. Both the July and October 1918 Navy Lists include John Kime, DSC, as a temporary chief skipper with seniority from 1 July 1917. A dated appointment to Gaul would be needed to place him at Malvina’s rescue.

The London Gazette • page 7424

THE VESSEL / OFFICIAL NUMBER 121030

From Hull to Tiree

The Hull trawler Gaul carried fishing number H.761 and Admiralty number 733. The civilian crew agreements indexed under her official number include 1914, 1915, 1921, 1922 and 1925. There is a gap over the rescue. Lloyd’s casualty return places the 270-ton steam trawler on the north side of Tiree on 30 March 1926.

Lloyd’s Register • casualty returns, 1926, scan 9

30 MARCH 1926 / A DIFFERENT CREW

The two survivors on Tiree

Tiree’s museum names deckhand George Pratt and deck trimmer Edward Thomson as survivors of Gaul’s own loss. The museum catalogues four contemporary newspaper cuttings. A Scottish fatal accident inquiry index records an Oban inquiry on 16 July 1926 under master Carl Peter Johnson. Neither survivor has yet been placed aboard Gaul in August 1918.

An Iodhlann • four newspaper accounts, object 2020.15.1

Crew agreements • 121030

Wartime Navy Lists • 1918

Fatal accident inquiry index • Oban

Tiree museum • account naming Pratt and Thomson

The periscope in Scarborough

The 2017 site assessment traces one object from the wreck to a local clubhouse. Its damage is harder to date.

OBJECT RECORD / DROIT A/3132

The surviving periscope base

Wessex records a sawn-off periscope base at Scarborough BSAC and cites its declaration under the 2001 Wreck Amnesty. That dates the declaration. The recovery date and present custody still need checking. The club lists its address as 25 St Mary's Street, Scarborough. The object, its label and the original declaration could identify the finder and an early photograph.

Scarborough Sub-Aqua Club • clubhouse and contact

CONDITION / UNDATED DAMAGE

An inward displacement

Gordon Wadsworth reported the displaced eyeglass. The assessment also records accounts of destructive salvage at the stern, including removal of the aft tube. Neither observation dates the eyeglass damage. A photograph taken before recovery or an account by the finder would help establish when it was first seen.

Wessex Archaeology • submarine case study

HYDROGRAPHIC RECORDS / TWO DATES

The Porter Packet

Fishermen knew a wreck here by this name. UKHO reference H0146/39 is cited for knowledge of a wreck by 1950. Divers freeing lobster pots found a submarine in 1985. B. Winfield reported the discovery in 1986, reference H1310/86/20. The 1987 Godfrey letter is a separate record. These are dates of observation and reporting.

Wessex assessment • sections 5.2.28–31 (see also appendix)

LAYOUT / AN OLDER DIVE DESCRIPTION

Where the bow enters the wreckage

Kendall McDonald describes the submarine crossing the steamer at roughly a right angle. He places its bow by Malvina's engines, behind two boilers. Compare those three landmarks with the site sketch and survey. The main wreck axis alone cannot identify both bows or recover the course of either vessel before it sank.

Divernet • Kendall McDonald, entry 49

Wessex also credits Carl Racey with publishing photographs of a brass gimbal bracket dated 1917 and a brass compass cover. The current holders of the originals and photographs remain to be established.

Which claims change the case?

Evidence for a burial, a naval posting or an earlier patrol answers a different question from who fired on 2 August.

GILBERT GRAY / EDINBURGH

A grave with a precise reference

Gray's burial at Seafield, grave A.337, is documented. Where he was recovered, whether he was the only body recovered and whether a Yorkshire coroner held an inquest remain open. A report of another loss off Filey cannot stand in for his. A burial register entry giving the place of death or person arranging burial could narrow the search.

Gray's grave • cemetery reference and family details

MAGNUS OAKES / ROYAL NAVAL RESERVE

Rank and duty are separate questions

Oakes is recorded as a leading seaman, service number L 679. The reported entry describing Malvina as defensively armed and torpedoed without warning still needs a page image from British Vessels Lost at Sea. Even an explicit armament entry would leave his role and his watch at 04:15 unresolved. Search under both L 679 and 679 L.

National Archives • Royal Naval Reserve personnel

PRIOR PATROL / 8 JULY 1918

Chicago and War Crocus

Both losses are attributed to UB-107 on 8 July. They establish an earlier patrol off Flamborough. The exact position of the boat on 2 August remains unknown. The contemporary evidence against UB-104 is set out on page 17. The later loss of UC-70 on 28 August does not locate her on 2 August. A dated patrol track would do that.

uboat.net • July 1918 losses

GERMAN RECORDS / JANUARY–NOVEMBER 1918

The fifth volume of Spindler

Volume V of Der Handelskrieg mit U-Booten appeared in 1966. Its patrol narrative, charts and references are worth collating against the diaries. Specific pages and the reported English translation have yet to be inspected. Positions proposed for UB-120 and UC-40 need dated records. Excluding selected boats would still leave the wider patrol picture to establish.

Bibliographic record • Spindler, volume V

A regional minefield or an attribution for UB-41 would establish a local hazard. To connect a mine to this loss requires evidence for its location and timing at Malvina.

The mate who came from Ravenna

A previous ship in a crew agreement opens a second line of enquiry into the identity of Malvina’s chief officer.

MALVINA / OFFICIAL NUMBER 79156

Rosie and Mouat changed roles

One 1915 entry names J. Rosie, 41, born in Orkney, as first mate and Andrew Mouat, 53, born in Shetland, as second mate. Another records Mouat as first mate with D. Matthew as second. In a further entry Rosie, then 42, gives Ravenna as his previous ship. Neither officer can yet be placed on the final voyage.

Greenwich • Malvina crew agreements

STAFFA / OFFICIAL NUMBER 115658

The Leith connection

Staffa’s agreement names James Dawson and D. Mathew as having served on Ravenna of Leith and gives her official number, 95206. Mathew was a second mate from Edinburgh, aged 64. The same age, birthplace and rank appear beside D. Matthew in Malvina’s agreement. The matching particulars strengthen the identification of the Ravenna worth searching.

Greenwich • Staffa crew agreements

RAVENNA / OFFICIAL NUMBER 95206

Three references to follow

The Crew List Index Project lists Kew references BT 99/3094 and BT 165/1014 for 1915 and BT 165/1762 for 1918. The 1915 papers could give Rosie’s full name or certificate number. A dated 1918 entry could place him aboard another ship. Only an overlapping voyage would exclude him from the Flamborough rescue.

Crew List Index Project • Ravenna

A LEITH HOUSEHOLD / 66 KIRKGATE

Andrew McDonald

The Clan Donald roll records Andrew M’Donald, 36, born in Leith, as the greaser lost on Malvina on 2 August 1918. It gives his home as 66 Kirkgate. A 1915 Malvina agreement lists a fireman, A. McDonald, aged 33 and born in Leith. The age and birthplace fit. The 1915 initial leaves the identification provisional. The address is a precise search term for death notices.

National Library of Scotland • Clan Donald roll

The decisive record remains a dated crew agreement covering 2 August or the chief officer’s own statement. A ship listed as a previous posting can help identify a man even when the current agreement abbreviates his name.

Did Malvina take her attacker down?

A working interpretation of the loss off Flamborough Head on 2 August 1918.

THE WRECK EXPLORER / WORKING THEORY

I think UB-107 torpedoed Malvina and part of the steamer struck the submarine as she went down. The first event has a surviving witness to the explosion. The second is my reading of the wreck.

ABOARD MALVINA / THE STRONGEST EVIDENCE

Why I favour a torpedo

Wessex's account of ADM 137/4019 places the explosion on the northbound ship's starboard side at 04:15. Her chief officer believed a torpedo had struck. He saw neither the weapon nor its wake. The ship buckled and disappeared within three minutes. A mine remains a credible rival cause in these waters.

Wessex • casualty report and local mine hazard

THE ATTACKER / A CIRCUMSTANTIAL IDENTIFICATION

Why UB-107 is my first choice

UB-107 probably sank two ships south of the Head on 27 July. Her wreck lies against Malvina. The dated diary and the French account identify Cambrai as UB-104's victim on 3 August, a day after Malvina sank. No witness identified the boat at Malvina.

UB-104 • diary image discussed on page 17

ON THE SEABED / THE WEAKEST LINK

Why I think the steamer struck her

Wessex recorded steamer debris across the submarine and what appeared to be cement bags on the forward pressure hull, close to a large opening. That arrangement fits a falling section of Malvina. It would also fit wreckage settling over a submarine already on the bottom. The divers could not establish when the hull opened.

Wessex • report 108280.31, §§4.3.7, 4.5.13 and plate 3

THE OBJECTION / DISTANCE AT THE EXPLOSION

How did the two come close enough?

Nobody whose evidence we have traced positioned UB-107 at the instant of the blast. Gaul's reported half-mile distance belongs to the rescue trawler. Wessex §4.5.4 places UB-107's stern to the west, while §5.2.17 puts her bow there. The direction the submarine was moving when Malvina sank remains unknown.

Wessex • published discussion of the competing explanations

How far in three minutes?

The casualty report starts the clock at the explosion. What could UB-107 have covered before the steamer disappeared?

DISTANCE THROUGH THE WATER

If the boat held a steady speed

One knot is one nautical mile (1,852 m) an hour.

SPEED AND CONDITION	1 MIN	2 MIN	3 MIN
4 knots · endurance benchmark	**123 m**	**247 m**	**370 m**
7.5 knots · submerged maximum[1]	**232 m**	**463 m**	**695 m**
8 knots · submerged maximum[1]	**247 m**	**494 m**	**741 m**
13.3 knots · surfaced maximum[1]	**411 m**	**821 m**	**1,232 m**
13.6 knots · surfaced maximum[1]	**420 m**	**840 m**	**1,259 m**

[1] Wessex gives two published values for each maximum. Distances are rounded to the nearest metre. Use speed in knots × 1,852 × minutes / 60.

HISTORICAL SPECIFICATIONS

The boat’s speed

Wessex gives 13.3–13.6 knots surfaced and 7.5–8 submerged. A technical table for UB-103 to UB-117 gives the upper figures. The 4-knot figure is from a published underwater endurance estimate. No record traced gives UB-107’s speed at a launch off Flamborough.

UB-103 to UB-117 • batch data

TORPEDO SPEED / PERIOD COMPARISON

A separate clock

The German 50 cm G/6 torpedo is listed at 27 or 35 knots, about 50 or 65 km/h. The documentation reviewed gives no model, speed or launch time for a weapon at Malvina. Any torpedo journey would already have ended when the three-minute account begins.

NavWeaps • German G/6 specifications

WHAT THE CALCULATION MEANS FOR A COLLISION

At a steady 4 knots the boat covers 370 m in three minutes. Even at the higher submerged maximum, she covers only 741 m through the water. This leaves room for a collision if the two vessels were already close. Their separation, courses and Malvina’s remaining movement are unknown. A turn or time spent accelerating reduces progress in a given direction. The reported disappearance also leaves open how long wreckage took to reach the seabed.

Wessex • class specifications and casualty account, printed pp. 12–14

Distances assume constant speed. Tidal drift is excluded.

Where to look for a witness

A named Shetlander and a surviving Admiralty form suggest two ways back to the people aboard Malvina.

SHETLAND / PRINTED PAGE 176

Andrew Henry of Weathersta

The 1920 Shetland roll names Andrew Henry of Weathersta, Brae, as boatswain on San Melito. The same entry records his torpedoing on Malvina off Flamborough Head on 2 August 1918. It gives his address and a second ship to search. His job on Malvina, his dates on San Melito and what he personally saw are still unknown.

Shetland’s Roll of Honour and Roll of Service • Delting

SAN MELITO / OFFICIAL NUMBER 136669

The crew agreement to check

The Crew List Index Project lists BT 99/3514 for 1919 and logbooks BT 165/1868 for 1918 and BT 165/1968 for 1919. It also lists 1918 papers in Newfoundland. A dated entry for Henry giving Malvina as his previous ship would connect the two records. His name has yet to be verified in any of those papers.

Crew List Index Project • San Melito

ADM 137/4019 / THE CASUALTY RETURN

A clue from the loss of Oronsa

A typed extract of an Admiralty Form S.A. for Oronsa survives in a related volume, ADM 137/4015. A request for Malvina can therefore specify the casualty return, questionnaire or typed extract for the Leith steamer, official number 79156, lost on 2 August. The format, pagination and signature of Malvina’s entry still need checking.

People’s Collection Wales • Oronsa document

BT 99/3400 / THE FINAL VOYAGE

Who was serving as chief officer?

The index lists 1918 papers at Kew and at the Maritime History Archive for Malvina, official number 79156. The Kew reference is BT 99/3400. The exact voyage dates and document type still need checking. A crew list spanning 2 August could name the officer whose account Wessex summarised.

Crew List Index Project • Malvina

The most valuable detail for the timing question would be a second observer giving a time and relative position for a submarine or the falling steamer. A name in a crew list gives us someone whose papers we can search.