Wessex Archaeology

HMS *Drake*, Church Bay, Rathlin Island

Undesignated Site Assessment

Ref: 53111.02r-2

December 2006

ARCHAEOLOGICAL SERVICES IN RELATION TO THE PROTECTION OF WRECKS ACT (1973)

HMS *DRAKE*, CHURCH BAY, RATHLIN ISLAND

UNDESIGNATED SITE ASSESSMENT

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Summary

Wessex Archaeology was commissioned by Environment and Heritage Service: Built Heritage Directorate, to undertake an Undesignated Site Assessment of the wreck of HMS *Drake*. The site is located in Church Bay, Rathlin Island, Northern Ireland, at latitude 55º 17.1500′ N, longitude 06° 12.4036′ W (WGS 84). The work was undertaken as part of the Contract for Archaeological Services in Relation to the Protection of Wrecks Act (1973).

Work was conducted in accordance with a brief that required WA to locate archaeological material, provide an accurate location for the wreck, determine the extent of the seabed remains, identify and characterise the main elements of the site and assess the remains against the non-statutory criteria for designation.

Diving operations took place between 28th July and 5th August 2006. In addition to the diver assessment a limited desk-based assessment has been undertaken in order to assist with the interpretation and reporting of the wreck. Research was conducted at the Public Records Office at Kew Gardens, the Caird Library at the National Maritime Museum in Greenwich, the Historic Photographs and Ships Plans Section of the National Maritime Museum at Woolwich Arsenal and the Maritime Collection of Southampton Central Library.

Following assessment it was apparent that the site consists of the dispersed remains of the armoured cruiser HMS *Drake* and of the dispersed wreck remains of the Fleetwood steam trawler *Ella Hewett*. HMS *Drake* was torpedoed and then sank with the bodies of 18 crew still on board on 2nd October 1917. *Ella Hewett* collided with the submerged remains of HMS *Drake* on 3rd November 1962, and sank the next day.

During the early 1970s the ammunition, explosives, mines, torpedoes and depth charges were removed from the remains of HMS *Drake* by the Scottish and Northern Ireland Bomb and Mine Disposal Team, over a 18-month period. Upon completion of clearance diving operations, the wreck remains of both HMS *Drake* and *Ella Hewett* were ringed with depth charges and '…blown to buggery' (Michael Fellows pers. comm.).

Wessex Archaeology is of the opinion that although the site is an important part of our maritime heritage it is not an appropriate candidate for designation under the Protection of Wrecks Act (1973). Alternative means of addressing the heritage issues that surround the site have been proposed.

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Acknowledgements

This investigation was commissioned by Environment and Heritage Service: Built Heritage Directorate, as part of the Contract for Archaeological Services in Relation to the Protection of Wrecks Act (1973). The assistance provided by Wes Forsythe and Rory Quinn of the Centre for Maritime Archaeology, University of Ulster at Coleraine is gratefully acknowledged.

Wessex Archaeology would also like to thank the following people:

- Mark Stafford of Keltic Waves dive charters;
- Mike Lafferty of Aquaholics dive charters;
- Andrew Choong, Curator Historic Photographs & Ship Plans, National Maritime Museum.

The fieldwork was carried out by Frank Mallon, Brian Hession, Niall Callan, Hanna Steyne and Graham Scott with the assistance of vessel skipper David Burden. Frank Mallon and Brian Hession supervised the fieldwork and Frank Mallon and Graham Scott supervised the diving. The report was compiled by Frank Mallon and Brian Hession. Kitty Brandon prepared the illustrations and the project was managed for Wessex Archaeology by Steve Webster.

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Stern section of the *Drake* showing frames, grille work and a hawse hole, taken during the diving investigation.

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Beefblock, ship's cat of HMS *Drake*.

HMS *DRAKE*, CHURCH BAY, RATHLIN ISLAND

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1. ASSESSMENT BACKGROUND

1.1. INTRODUCTION

1.1.1. This document constitutes an Undesignated Site Assessment for a programme of archaeological work undertaken as part of the Contract for Archaeological Services in Relation to the Protection of Wrecks Act (1973). The document has been prepared by Wessex Archaeology (WA) for the Environment and Heritage Service: Built Heritage Directorate. It constitutes an assessment of the wreck of HMS *Drake*: an undesignated site situated in Church Bay, Rathlin Island (**Figure 1**).

1.1.2. The work was conducted in accordance with a brief discussed via email between WA and Wes Forsythe of the Centre for Maritime Archaeology (CMA).

1.1.3. Diving operations took place between 28th July 2006 and 5th August 2006. Due to excessive wind conditions two and a half days were lost. **Appendix 1** contains all the relevant dive details.

2. AIMS AND OBJECTIVES

2.1.1. The overall aim for the work was for recording to Level 2a. This is defined as follows:

Level	Type	Objective	Sub-level	Character	Scope
2	**Evaluation**	A record that provides sufficient data to establish the extent, character, date and importance of the site.	2a	Non-intrusive	A limited record based on investigations that might include light cleaning, probing and spot sampling, but without bulk removal of plant growth, soil, debris etc.

2.1.2. This was further defined, specifying the following objectives:

- Confirm position, extent, stability and character (plotted by tracked diver survey) of the site;
- Assess the relationship of two wreck sites;
- Locate and accurately position (plotted by tracked diver survey) any visual archaeological material;
- Produce a structured record of field observations, preferably including a photographic record of the site and a basic site plan;

- Carry out detailed examination and recording (position by tracked diver survey, taped measurements, photographs and video and written database entries) of key artefacts;
- Assess the site against the non-statutory criteria for Designation under the Protection of Wrecks Act (1973);
- Due to the possible presence of live ordnance on the site, no material is to be recovered from the site.

3. EXISTING SITE DATA

3.1.1. The existing positional data available prior to the commencement of WA diving operations included the charted position for the wreck (with navigational buoy) on Admiralty Chart 2798 (dated 2003), and a position given in the Shipwreck Index of Ireland (Larn and Larn 2002), which is as follows:

Lat.	**55º 17.1500′ N**
Long.	**06° 12.4036′ W**
WGS 84	

3.1.2. A sidescan image of HMS *Drake* (**Figure 2**) was provided by CAM immediately prior to the assessment. This was georeferenced during the course of the diver investigations.

4. METHODOLOGY

4.1.1. The general assessment methodology was as follows:

- Prior to the fieldwork, research was conducted at the Public Records Office at Kew, where the court-martial reports into the loss of HMS *Drake* are held;
- Research was also conducted at the Caird Library, part of the National Maritime Museum at Greenwich. A number of original letters and documents relating to the construction of HMS *Drake* contained in the Rear-Admiral C.J. Barlow archive (who was Captain Superintendent of HM Dockyard, Pembroke when the *Drake* was constructed) were studied;
- The general position for the wreck site was obtained from Admiralty Chart 2798 (dated 2003) and from a position given in the Shipwreck Index of Ireland (Larn and Larn, 2002);
- A jpeg image of a sidescan survey undertaken in 2000 was provided by the CMA. This was geo-referenced on site using tracked diver data. This was updated and adjusted on a dive-by-dive basis using Arc 9 GIS software to produce an accurate position for the sidescan image;
- A swim-over survey combined with tracked swing-searches was used to investigate and plot the distribution of the visible wreck remains;
- A plan of the site was obtained by tracked diver survey, supplemented by detailed measured drawings of structural elements. Particular attention was given to the HMS *Drake* and *Ella Hewett* interface and of the exposed port propeller shaft;

- A digital stills photographic, video photographic and measured survey was carried out on selected archaeological features;
- Following the fieldwork, a limited desk-based assessment was carried out, which included further research at the Historic Photographs and Ship Plans section of the National Maritime Museum, Woolwich Arsenal.

4.1.2. A four-person diving team, using surface supplied diving equipment, was deployed during fieldwork operations from the diving support vessel *Xplorer*, a 12-metre inshore survey catamaran. A one-point anchoring systems was used on the site.

4.1.3. Digital still photographs were taken using a housed Canon G2 digital camera with a 0.56 wide-angle adapter using an Ikelite strobe. Video images were taken using a hat mounted single chip Colourwatch Digital Inspection Camera, recording onto miniDV tape.

4.1.4. All data acquired during diving operations, was recorded in real time within an MS Access database, and onto WA context and pro forma archaeological recording sheets.

4.1.5. Around the middle of the diving investigation, severe north-westerly winds, reaching force seven for extended periods resulted in around two and a half days of downtime.

5. RESULTS

5.1. INTRODUCTION

5.1.1. WA conducted fieldwork between 28th July and 5th August. The area inspected by WA ranged in depth from 14.3m to 18.3m. A total of 17 dives were undertaken, with a total bottom time of 867minutes.

5.2. SITE LOCATION

5.2.1. The site is located within Church Bay, Rathlin Island, and is comprised of the large metal wreck of HMS *Drake* and the metal wreck of a smaller fishing trawler the *Ella Hewett*. The following position was produced by tracked diver survey, it is accurate to within +/- one metre.

Lat.	**55º 17.1084′ N**
Long.	**06º 12.5136′ W**
WGS 84	

5.2.2. This position represents the approximate centre point of the remains of HMS *Drake*. It is an accurate position-fix on an upstanding deck support beam that is now used as a mooring point and down line for dive charter vessels. This is listed in **Appendix II** as **2020**.

5.3. SEABED

5.3.1. The seabed was found to consist of fine sand, with frequent shells, including large scallop and clam shells as well as the shells of smaller species. Occasional patches of fine silt lie in slight hollows in the seabed around HMS *Drake*.

5.3.2. Some patches of rusty brown staining were noted on the seabed. These may represent staining due to buried iron from the nearby wreck, or small areas of microscopic colony marine growth in the area.

5.4. FLORA AND FAUNA

5.4.1. The wrecks of HMS *Drake* and the *Ella Hewett* were heavily overgrown with various seaweeds. The majority of the weed was kelp, both *Laminaria digitata* and *Laminaria hyperborea* were evident and possibly some isolated *Saccorhiza polyschides.* The covering of weed also contained red weeds such as *Palmaria Palmata* and a weed that may be *Ceramium Rubrum.*

5.4.2. The wrecks provide shelter for a number of fish species including, wrasse, ling, pollock, saithe and conger eels.

5.4.3. Edible crabs are scattered widely over the wreck sites in small holes. A number of other small crab species were seen but not identified. Edible sea urchins also inhabit the site, and a number of starfish species were noted.

5.5. ARCHAEOLOGICAL FEATURES

5.5.1. All archaeological features that were recorded were given a context number and recorded in both an Access database and on a context sheet. A sketch or measured drawing was compiled for key features/artefacts. The full context record can be found in **Appendix II**, and plotted in **Figure 3**.

HMS *Drake* Wreck Remains

5.5.2. HMS *Drake* (**2001**) lies capsized, mostly on its starboard side, in a south-east to north-west orientation. The bow points north-west into the southern side of Rathlin Island.

5.5.3. The wreckage of the *Drake* extends for approximately 160m, and is 32m wide at its widest point. Analysis of the sidescan images combined with diving investigation suggests that the combined area of the HMS *Drake* and *Ella Hewett* wrecks is approximately 5,300m^2.

5.5.4. The wreck has been extensively damaged both by the original torpedo attack on the vessel in 1917, an incident in 1962 where a trawler, the *Ella Hewett* (**2002**) fouled on the wreck and sank, and the subsequent dispersal of both wrecks with explosives in the 1970s.

5.5.5. HMS *Drake* is partially overlain, near its bow end, by the broken-up and shattered wreck of the trawler *Ella Hewett*. The remains of the trawler are severely broken and difficult to interpret, but it appears to be lying almost north-south, with the stern of the vessel lying to the north and its bow in the wreckage of HMS *Drake*.

5.5.6. It is clear that HMS *Drake* has been considerably damaged since its sinking in 1917. Court-martial accounts of the sinking describe the torpedo hitting near boiler room two on the starboard side. **Figure 4** shows the track of HMS *Drake* after being torpedoed to its final anchorage and the site of her sinking. As the wreck had capsized, turning over on its starboard side, WA had no opportunity to inspect the damage inflicted by the torpedo strike.

5.5.7. The demolition of most of the wreck and the thick covering of kelp on the wreckage made detailed analysis of specific areas of damage impossible during the short time available for survey of the vessel. Discussions with a former Navy salvage diver who worked on the vessel reveals that holes were cut into the exposed hull in order to provide access to the fore and aft magazines for the recovery of cordite and other munitions in the 1970s (Michael Fellows pers. comm.). These appeared to match some of the more severely broken-up sections of the overall structure.

5.5.8. Despite the obvious damage sustained by the wreck some coherent structure remains, although in most cases the wreck has been damaged to some degree, probably mostly due to the explosives used to clear the vessel.

5.5.9. The first major feature was found during searches off the west of the main body of wreckage. Here one of HMS *Drake*'s anchors (**2003**) was identified lying on the seabed, with some chain visible and still attached to it. The remaining chain was buried. The anchor appears to be a form of improved Martin Type anchor, with a flat rounded stock and shackle fittings for stowing the anchor on the outside of the hull. It measured 3.3m long, and was sketched from measurements taken on the seabed.

5.5.10. The survey of the vessel did not locate any of the large guns housed in casemates on the *Drake*. **Plate 1** shows HMS *Drake* in 1909 when she still had two 6-inch guns in the side casemates. **Plate 2** depicts the *Drake* after the 1916 refit when the lower gun from each casemate was removed as it could not be fired in anything less than a calm sea.

5.5.11. The ram bow of HMS *Drake* was partially buried, with large sections of plating missing from the hull. A large paravane skeg (**2008**) used for mine clearance was still attached. This was cleaned of seaweed and examined. It is probable that HMS *Drake* was fitted with this paravane skeg during its refit in advance of its deployment on convoy duty in World War One. **Plate 3** shows the paravane skeg on the wreck of the *Drake*, and **Plate 4** shows an identical fitting on the USS *DeKalb* dating from 1918.

5.5.12. WA examined a section of the damaged and concreted armoured hull at the forward section of the wreck (**2009**) which appeared to be the 2-inch armour belt hull plating just above the forward quarter waterline. Moving back to amidships, part of the 6-inch armour belt was observed with an additional 16-inch backing of oak. The hull plating had split longitudinally along more intact and coherent sections of the wreck, and had the appearance of having sprung outwards from its attachment to the frames along long stretches of the surviving hull. The damage is probably a result of the explosive dispersal work carried out on the wreck.

5.5.13. The wreckage of both HMS *Drake* and *Ella Hewett* is heavily shattered and damaged where the two vessels are in contact. In order to confirm the relative positions of

each vessel, WA identified at least one area of wreckage where the thin hull plating of the *Ella Hewett* was lying over the thick 6-inch armour belt on the hull plating of HMS *Drake* (**2015; Figure 3**).

5.5.14. In the area of the interface between the two vessels, a boiler partially covered in debris was discovered. It was a large scotch boiler lying on its side with broken fire tubes protruding from the northern end, which contained the fire grate. Much of the boiler was inaccessible and hidden behind debris but at least two fire grates were noted, though further grates may be buried in the debris. At the boiler's southern end the boiler showed signs of warping and individual sections had come apart, probably as a result of the dispersal of the wreckage.

5.5.15. Due to the confused nature of the wreckage in this area, it is not immediately clear whether the boiler belongs to HMS *Drake* or the *Ella Hewett*. HMS *Drake* was fitted with 43 Belleville boilers, but it is unclear if these were replaced during any of the refits carried out on her.

5.5.16. Substantial parts of the stern survived as articulated elements of vessel structure (**2018**), but much of the outer hull plating appeared to be missing (**Cover photo**). A single hawse hole (**2017**) with grille features to either side was identified here, which matches with photographs of HMS *Drake* that show a single hawse hole in use on the vessel located centrally at the stern. The hawse hole measured approximately 0.35m in diameter.

5.5.17. The stern structure had collapsed and a number of upright frames (**2018**) with flared flat-topped ends may have supported the large section of the vessel that contains the hawse hole and its adjacent fittings, now lying inboard and just north of the upright frames. The frames were strengthened by horizontal beams run between them. At least one of these was loose, suggesting that the structure was starting to lose its rigidity.

5.5.18. Near the stern structures described above, a substantial part of the steering gear including the rudder (**2019**) was found largely intact. The rudder is of the 'balanced rudder' type, it lies at a shallow angle to the seabed and is partially buried. It appeared to be mostly intact, although some plating had come off the framing of the leading part of the rudder. The entry point of the rudder into the hull was exposed and intact, and the fittings and machinery for turning the rudder were visible.

5.5.19. The middle of the wreckage was heavily obscured by kelp and areas of plating, though buckled and split, appeared to cover the internal structure of the vessel over a wide area. Some breeches in the hull were accessible and in one of these areas a circular sectioned deck-support beam (**2020**) was standing upright and still attached to the main wreckage. At the time of the assessment this beam was being used to secure a mooring for local divers.

5.5.20. Further open internal spaces and bulkheads (**2021**) were noted to the south of the deck beam (**2020**). Brief diver observations of this area revealed at least one intact bulkhead. Detailed examination of these spaces was not possible due to the large amount of debris within the wreck. This hindered free access and posed an entanglement risk.

5.5.21. The partial remains of the port propeller shaft (**2022**) were found near the southwestern edge of the wreckage. The shaft was lying open to the water, with no coherent elements of internal ship structure enclosing it. The inboard end of the shaft was in excellent condition and the hexagonal nut that probably connected this part of the propeller shaft to the drive shaft was in place.

5.5.22. The propeller shaft showed signs of having been partially dismantled; a brass collar around the shaft at its inboard end had fittings missing. The outboard or southern end was heavily damaged, and the multiple casings around the propeller shaft were exposed. The nature and extent of the damage suggested that the propeller had been blasted off, probably during salvage operations on the vessel, and may subsequently have been stripped by sport divers.

ST *Ella Hewett* wreck remains

5.5.23. The wreckage of the *Ella Hewett* is described briefly here. Due to the severely damaged and broken nature of the wreckage where the two wrecks meet some time had to be devoted to distinguishing between the wreckage of this vessel and HMS *Drake*.

5.5.24. The exact dimensions of the wreckage of the *Ella Hewett* are difficult to estimate precisely as the wreck is so badly damaged, but it appears to be approximately 50m long and 25m wide at its widest point.

5.5.25. Some elements of the internal structure of the *Ella Hewett* were noted during the survey of the area (**2005-2006**), with features such as bulkheads and cable fittings still intact.

5.5.26. A small companion-way (**2012**) and unidentified tube fitting (**2013**) were seen in the course of diving investigations, but the broken hull and debris on the site made further detailed examination impossible. Once the exact orientation and position of the *Ella Hewett* relative to HMS *Drake* had been confirmed further survey efforts were concentrated on HMS *Drake*.

Searches

5.5.27. WA undertook searches of the seabed to the west of HMS *Drake* as part of a separate survey for 17th century vessel remains (WA 2006 report ref: 53111.02r-3). During these searches, WA encountered some outlying material from HMS *Drake* and the *Ella Hewett*, which largely comprised of pieces of metal hull plating.

5.6. DOCUMENTARY RESEARCH

5.6.1. Documentary research was undertaken by WA prior to and after the fieldwork phase of the assessment. A large number of contemporary and secondary sources were reviewed and which shed light on the build, use and loss of HMS *Drake*.

Documents Relating to Build

5.6.2. The primary source for material relating to the construction of HMS *Drake* can be found at the Caird Library, and the Historic Photographs and Ship Plans section, which are both part of the National Maritime Museum, London.

5.6.3. The Caird Library holds a number of Dockyard Papers from Pembroke Dockyard, written for and by Rear-Admiral C.J. Barlow, who was the Captain Superintendent

of the Royal Naval Dockyard at Pembroke during the construction of HMS *Drake*. They are held under the following references: **BAR/7** and **BAR/14** – Barlow, Charles James, Rear-Admiral, 1848-1912.

5.6.4. These papers contain much detail, ranging from weights, heights and buoyancy to estimates and final costs of the build. There are also letters to and from the first Captain of HMS *Drake*, Captain J.R. Jellicoe, who was later to become famous as the Admiral of the Home Fleet at the Battle of Jutland.

5.6.5. In addition the portfolio of documents includes a number of blueprints and plans relating to the construction of HMS *Drake*, including some last-minute changes to the design while the vessel was still in dry dock. These are listed below:

- Sketch showing proposed tube to enable steering compass, engine room and mechanical revolution telegraphs, placed in a thoroughly protected position;
- Section through after stokehold;
- Sketch showing proposal to lower forward bridge to height of conning tower platform.

5.6.6. In addition to these plans, the Historic Photographs and Ship Plans section holds 14 plans and drawings relating to the *Drake*. These are as follows:

- Sheer Lines, 1898;
- Profile, 1903;
- Boat deck, 1903;
- Upper deck, 1903,
- Main deck, 1903;
- Lower deck, 1903;
- Orlop deck, 1903;
- Platform deck, 1903;
- Hold, 1903;
- Sections, 1903;
- Rig, 1916;
- Sectional drawings, 1898;
- Body, 1898;
- WT arrangement, 1903.

Documents Relating to Use

5.6.7. There are fewer readily available contemporary documents relating to the use of HMS *Drake*. One book in particular stands out: *The Cruise of* HMS *Drake*. It was written by a member of the crew, Signal Boatswain Joseph A. Minter and it sets out 'A record of an eventful Commission with the Second Cruiser Squadron' from January 1905 to May 1907.

5.6.8. In this book is listed the ports of call over the two years of the cruise, any engagements, crew, competitions, etc. and can be seen as a candid account of Joseph A. Minter's service on HMS *Drake*. For more details on the contents of this book see **Appendix III**.

Documents Relating to Loss

5.6.9. The court-martial reports relating to the loss of HMS *Drake* contain all the official records relating to the event, from the torpedo attack to the actual sinking in Church Bay. These were taken from HMS *Drake* itself, in each case the relevant pages from HMS *Drake* official books and logs were ripped out and bound into one volume that also includes transcripts from the actual courts-martial and its findings. This court-martial report can be found at the Public Records Office under reference **ADM 1/8500/223 '**Court-martial - collision of HMS *Drake* and SS *Mendip Range* after being torpedoed'.

5.6.10. The following list represents a summary of the contents of this report:

- Chart: the main navigational chart showing the track of HMS *Drake* after being torpedoed;
- Sounding Chart: detailed soundings chart of Church Bay showing the anchoring position of the *Drake* prior to her capsizing;
- Convoy Sailing Orders: Admiralty sailing orders and required positions for escort vessels;
- Signal Log: the last set of four pages from HMS *Drake* signal log. Has all signals transmitted to and from the *Drake* from the time the torpedo struck to the capsizing in Church Bay;
- Captain's Report: Captain Radcliffe's report to the Admiralty on the loss of the *Drake*;
- Crew List;
- List of the Dead (reproduced in **Appendix IV**);
- Court-martial findings;
- Admiralty commendations.

A Brief History of HMS *Drake*

5.6.11. HMS *Drake* was built between 1899 and 1902 at HM Pembroke dockyard, one of four *Drake* class cruisers to be built for the Royal Navy. Following trials and home duties she was commissioned at Portsmouth on 1st March 1905.

5.6.12. For the next two years HMS *Drake* served in the Mediterranean and further afield, often performing ceremonial and diplomatic duties. She was the Flagship of the 2nd Cruiser Squadron, Atlantic Fleet in 1906, becoming the Flagship of the 1st Cruiser Squadron in 1908. By 1910 she was transferred to the 5th Cruiser Squadron of the Home Fleet.

5.6.13. By 1913 HMS *Drake* was reduced and placed on the reserve list. However, she was re-commissioned in July 1914, due to the Royal Navy's dire need for capital ships, and was back in service in time for the Test Mobilisation and Fleet Review.

5.6.14. HMS *Drake*'s first escort duty of World War One was to accompany the *Olympic*, sister ship to the *Titanic*, who had sailed from New York with only a transport crew, into Liverpool.

5.6.15. In January 1915 she joined the 6th Cruiser Squadron, Grand Fleet, and was refitted in October. In 1916 *Drake* was refitted again, and performed convoy duties until her loss in 1917.

5.6.16. HMS *Drake* sank after being torpedoed five miles north-east of Altacarry Light on Rathlin Island on the morning of 2nd October 1917, after escorting a convoy of merchant vessels from America. Full details of the loss of HMS *Drake* and the sinking can be found in **Appendix II** and **Appendix III**.

5.6.17. All the survivors were taken off before the *Drake* capsized. However, 18 dead were left on board as Boiler Room No.2, where they were working, flooded immediately after the torpedo struck.

5.6.18. Salvage work began on the site in the 1920s and continued sporadically for a number of years. A picture of workmen's huts on the upturned hull of the *Drake* during this early salvage can still be seen in McCuaig's Bar on Rathlin Island.

5.6.19. In 1962 a Fleetwood steam trawler en route to the cod fishing grounds off Iceland was in collision with the wreck remains of HMS *Drake* on the night of 3rd November 1962. She sank on top of the *Drake* the next day. For details on the sinking of ST *Ella Hewett* see **Appendix VI**.

5.6.20. During the 1970s divers from the Scottish and Northern Ireland Bomb and Mine Disposal Team, conducted clearance operations over an 18-month period. Upon completion of operations the wreck remains of both HMS *Drake* and *Ella Hewett* were ringed with depth charges which were exploded with the intention of blowing down upstanding elements of both wrecks and therefore reducing the likelihood of more vessels running aground on the *Drake*.

5.6.21. A large-scale effort was made in 1978 to free and disperse the remaining fuel oil, which was leaking out and causing a pollution problem in Church Bay.

5.6.22. A sidescan survey of Church Bay was undertaken in 1999 and again in 2000 by the Archaeological Diving Unit (ADU) and the CMA, followed by diver inspections of subsequent sidescan anomalies. A jpeg image of this data (**Figure 2**) was georeferenced by diver survey and used during this assessment as a backdrop within the diver tracking system.

5.6.23. HMS *Drake* and *Ella Hewett* have become one of the most dived sites along the Ulster coastline. Diving on the site is not technically difficult: it is relatively shallow (a depth range between 19m and 15m was recorded during the WA site visit); visibility is normally good or excellent (generally 10m or more); and Church Bay itself remains sheltered from most wind directions.

5.6.24. WA received a brief to undertake an undesignated assessment of HMS *Drake* in April 2006. This document reports on that assessment.

6. ASSESSMENT AGAINST NON-STATUTORY CRITERIA

6.1. ASSESSMENT TABLE

6.1.1. The overall character of the exposed material on the seabed can be summarised as follows:

Area and distribution of surviving ship structure:	The wreck of HMS *Drake* has the wreck of a trawler, *Ella Hewett* partially overlying it towards its bow and lying to the north-east side of HMS *Drake*. Despite the dispersal of both wrecks with explosives in the 1970s the wreckage is still reasonably contained and cohesive, although heavily shattered. There is some outlying material, largely comprised of fragments of metal plating. This material probably relates to the capsize and dispersal of HMS *Drake*. Based on analysis of sidescan images, supported by diving investigations of the wreckage, both vessels cover an area of approximately 5,300m^2.
Character of ship structure:	A number of intact elements of ship structure were found during the survey of the vessel. The vessel lies capsized with the lower part of the port side lying partially exposed. An intact paravane skeg, and part of the bow as well as the rudder and parts of the steering mechanism are in good condition and only partially damaged. There are areas where the ship's hull has been blown open and internal parts of the vessel are exposed, including a boiler, part of a broken propeller shaft and some interior spaces. However, the surviving ship structure is collapsed in many areas. Both intact and collapsed hull plating covers many parts of the site, preventing diver access.
Depth and character of stratigraphy:	The sites lie on a flat sandy seabed covering clay. WA did not undertake any detailed stratigraphic investigation around the wreck, concentrating instead on identifying elements of the vessel's surviving structure. It was noted that there is some sand build-up in the open parts of the wreckage, and the rudder and bow are partially buried.
Volume and quality of artefactual evidence:	During diver investigation few artefacts were noted although it is likely that considerable artefactual remains survive within the currently inaccessible vessel structure. Few portable artefacts were seen, except for a number of large calibre shells on the western edge of the site. Reports from local divers suggest that small artefacts (including hand grenades) have been taken from the wreck in the past.
Apparent date of ship's construction and/or loss:	HMS *Drake* was completed in 1902. HMS *Drake* was on convoy duty in World War One when it was torpedoed by U 79 north of Rathlin Island. It subsequently capsized in Church Bay, Rathlin Island on October 2nd 1917.
Apparent function:	HMS *Drake* was a Royal Navy heavy-armoured cruiser, one of four *Drake* Class cruisers of this type.
Apparent origin:	HMS *Drake* was built at H.M Dockyard Pembroke between 1899 and 1902.

6.2. ASSESSMENT SCALE

6.2.1. For each criterion, one of the following draft grades has been selected. The non-statutory criteria are 'scored' in accordance with the following scale:

- Uncertain - insufficient evidence to comment;
- Not Valuable - this category does not give the site any special importance;
- Moderately Valuable - this category makes the site more important than the average wreck site, but not exceptional;
- Highly Valuable - this category gives the site a high degree of importance. A site that is designated is likely to have at least two criteria graded as highly valuable;
- Extremely Valuable - this category makes the site exceptionally important. The site could be designated on the grounds of this category alone.

6.3. ASSESSMENT

6.3.1. This is solely an assessment of HMS *Drake*; the trawler *Ella Hewett* partially overlies HMS *Drake* but is not included in this assessment. The salvage of ordnance and the dispersal of the wreck using explosives are taken into consideration here.

Period

6.3.2. Moderately valuable. HMS *Drake* was built by the beginning of the 20th century, a period when large metal warships were well established in the world's navies, but had not yet reached their full potential.

6.3.3. HMS *Drake* also represents a wartime loss, as she was sunk by a U-boat during World War One. Numerous vessels were lost in this period, so the loss of HMS *Drake* at this time is not exceptional.

6.3.4. HMS *Drake* can be considered a vessel after its prime. The *Drake* had already had a career in various cruiser squadrons, undergone refits and entered a period as a reduced navy vessel before it was re-commissioned to serve on convoy duty. The history of the *Drake* testifies to the fast pace of development, use and obsolescence so common in military technology in this period.

Rarity

6.3.5. Highly valuable. HMS *Drake* is one of only four *Drake* Class armoured cruisers built by the Royal Navy and was the flagship of the class. The *Drake* Class were in essence modified Cressy Class warships. Both HMS *Drake* and HMS *Good Hope* were lost in World War One (HMS *Good Hope* was sunk by German cruisers *Scharnhorst* and *Gneisenau* off Chile during the Battle of Coronel), while HMS *King Alfred* and HMS *Leviathan* were sold for scrap in 1920.

6.3.6. HMS *Drake* was built at the beginning of the 20th century, and represents one of the many different and often short-lived warship designs during an important transitional period in the development of large steel warships. No examples of early 20th century British cruisers survive afloat today; all the vessels were either lost in enemy action or sold for scrap.

6.3.7. The *Drake* class required modification during their active service, as the design of cruisers had not been perfected at the time of its build, and it clearly represents a rare and short-lived transitional vessel in the story of warship design and use.

Documentation

6.3.8. Highly valuable. A large amount of information related to HMS *Drake* survives in the form of plans, written records and photographs. Letters and documents relating to the vessel's construction and service are accessible. Detailed records of the court-martial that took place following the vessel's sinking, including charts and interviews, are available at the National Maritime Museum.

6.3.9. A number of photographs survive of HMS *Drake* on various deployments around the world, and the photographic record of the vessel extends from images of the vessel being evacuated only hours before its sinking, to a portrait of the ship's cat Beefblock (**Back Cover Photo**) (http://www.battleships-cruisers.co.uk).

Group Value

6.3.10. Moderately Valuable. This wreck forms part of a small wartime group of vessels that sank within hours of each other, all following a U-boat attack by U 79 on convoy HH24. Other vessels lost include SS *Lugano* and HMS *Brisk*.

6.3.11. SS *Lugano* is believed to have struck a contact mine laid by U 79 on the 29th September. The vessel sank almost immediately without loss of life (Larn and Larn 2002). HMS *Brisk* is also believed to have struck another of the mines laid by U 79. The explosion blew off the vessel's bow, which then sank killing 31 seamen; the stern remained afloat and was later broken up (Larn and Larn 2002).

6.3.12. Another vessel, SS *Knightsgarth*, was torpedoed in 1918. Thus HMS *Drake* forms part of a wider group of World War One vessels within the area.

6.3.13. HMS *Drake* also forms part of a wider group of vessels lost off the south of Rathlin. These include:

- ST *Ella Hewett* (1962);
- SS *Bouncer* (1921);
- SV *Lindron* (1891);
- PS *Her Majesty* (1849).

6.3.14. HMS *Drake* has a group value representative of the military, mercantile and passenger traffic in the area off Northern Ireland during the 19th and 20th centuries. There are additional, as yet undiscovered, vessels in Rathlin Sound, and HMS *Drake* has an additional group value when considered as part of this group, which represents maritime activity in the area over a longer period of time.

Survival / Condition

6.3.15. Not valuable. A large amount of HMS *Drake* survives on the seabed. The site of HMS *Drake* covers an area thousands of square metres in extent. The vessel capsized at anchor in Church Bay following its evacuation, and went over on its starboard side. The vessel lies nearly fully capsized, but with more of its port side lying exposed on the seabed.

6.3.16. The wreck sustained substantial damage during the initial torpedo attack in 1917, and then suffered a collision with a merchant vessel *Mendip Range*, apparently with no obvious damage. It was probably further damaged during its capsize. The vessel lay in relatively shallow water for some time and was subjected to salvage in the 1920s, when temporary hut structures were erected on the upturned hull of the *Drake*. Further degradation has occurred through time and the action of natural marine processes in this shallow water environment.

6.3.17. The collision of ST *Ella Hewett* with HMS *Drake* in 1962 undoubtedly inflicted further damage on HMS *Drake*, but the largest impact on the condition of the site was the salvage of ordnance from the vessel in the 1970s. The salvage operation required cutting open the hull for access to the magazines. Following the salvage operation the wreck was dispersed with depth charges, which contributed hugely to the collapse of the structure.

6.3.18. Since the dispersal of the wreck the most significant impact on the site has probably been natural decay and the removal of small pieces of the wreck and portable artefacts by divers.

Fragility / Vulnerability

6.3.19. Not valuable. The site appears to be largely stable, although there are some areas where upstanding frames and sections of plating may be in a hazardous condition and in a position to be damaged by mooring, anchoring or inconsiderate diving.

6.3.20. The wreck is easily visited, and lies in shallow water with little strong current. It is a straightforward dive for the novice diver. The wreck can be considered vulnerable to salvage by inconsiderate divers although few portable artefacts were seen during the short survey made by WA.

6.3.21. WA did note the presence of large calibre shells within an inaccessible part the wreck. While these were inaccessible, it is possible that future decay or collapse on the wreck to allow interference with further explosive materials, which may be potentially hazardous to divers and the integrity of the wreck.

6.3.22. It is widely known that in strong winds, the site can still be dived, but boats at anchor are readily blown off the site. The risk of anchor damage can therefore be considered fairly high.

Diversity

6.3.23. Extremely Valuable. The design and construction of warships in the late 19th and early 20th centuries underwent rapid changes as various countries competed to perfect warship design. As an intermediate design of armoured cruiser, HMS *Drake* represents a very specialised form of ship construction that became quickly obsolete, but which influenced later large warship construction.

6.3.24. HMS *Drake* was built during a long period of British first-class cruiser construction, which began with the largely unsuccessful Shannon class cruiser of the 1880s (Lambert 1992: 128). Between 1897 and 1901 Britain constructed four classes of armoured cruiser (26 ships in total); all based on designs by Sir William White the Director of Naval Construction (DNC).

6.3.25. Heavy cruisers like HMS *Drake* were quickly superseded by the large battle cruisers, developed under Admiral Sir John Fisher the First Sea Lord between 1904-11, who also instigated the *Dreadnought* big gun ship revolution.

6.3.26. However, the poor performance of the new British battle cruisers at the Battle of Jutland (1916) led to great criticism of the type, and Navy design and development largely concentrated on other vessel types such as light cruisers after this (Roberts 1997: 7).

Potential

6.3.27. Moderately Valuable. The indications are that the wreck has the potential to be reasonably important as a local heritage resource. The site is already regularly visited by divers and the story of the vessel is well known in the locality. Further study and monitoring of the wreck could be undertaken by recreational divers willing to record any features or observations of interest on the vessel in the course of their dives.

6.3.28. A great deal of material clearly survives on the seabed, and more features and artefacts on HMS *Drake* could be identified relatively easily, during periods of lower kelp growth, by visiting divers supplied with recording materials such as dive slates and a plan of the site

6.4. ASSESSMENT SUMMARY

6.4.1. HMS *Drake* presents a difficult case for assessment. She clearly has a number of highly and extremely valuable aspects worthy of consideration in terms of designation. The vessel type is rare, and the *Drake* is the only one of her class accessible to divers.

6.4.2. Most of the Royal Navy's armoured cruisers were sold for scrap, but the following armoured cruisers of different classes are known to have been located and already accessed by divers:

- HMS *Aboukir*, HMS *Hogue* and HMS *Cressy* (all Cressy class vessels) can be visited in 25m-35m of water. All were sunk by U9 while on patrol n the North Sea in 1914 (http://www.ukdiving.co.uk/wrecks/wreck.php?id=202).
- HMS *Argyll* ran aground off Bell Rock lighthouse in Scotland in 1915. It has been visited by divers. A civilian salvage crew retrieved the vessels propellers in 1970 (http://www.bellrock.org.uk/misc/misc_argyll.htm).
- HMS *Hampshire* was lost while carrying Lord Kitchener to Russia in 1916. The remains lie in 65m+ of water in Scapa Flow, Orkney, but can be visited by divers. This is now a controlled site under the Protection of Military Remains Act (1986).
- HMS *Black Prince* was lost at the Battle of Jutland off Denmark in 1916 (http://www.divernet.com/wrecks/jutland1000.htm).
- HMS *Natal* was lost in the Cromarty Firth in 1915. This is now a controlled site under the Protection of Military Remains Act (1986).

6.4.3. Other armoured cruisers were lost but do not appear to have been located:

- HMS *Good Hope* (*Drake* class) and HMS *Monmouth*, lost off Chile during the Battle of Coronel in 1914.
- HMS *Cochrane*, wrecked in the Mersey Estuary in 1918.
- HMS *Warrior* and HMS *Defence*, sunk at the Battle of Jutland 1916.

6.4.4. HMS *Drake* therefore represents a rare example of an easily accessible warship of its class from that period, and a substantial amount of documentary material relating to the wreck still exists. However, the large amount of damage already inflicted on the wreck since its sinking militates against the case for designation.

6.4.5. In addition, the wreck appears to be reasonably stable and there are no significant identifiable threats to the site at the present time. The wreck site is also one of the most dived-on wrecks in Northern Ireland and, apart from anecdotal reports of sport divers retrieving portable artefacts from the wreck, the large amount of diving activity does not appear to have caused any notable harm to the site.

6.4.6. In light of these considerations the case for designation is not seen as particularly strong or appropriate. The main recommendations regarding HMS *Drake* are outlined below.

7. EXISTING DESIGNATIONS

7.1.1. There are no known existing designations covering the area of Church Bay, Rathlin Island. However, there are some inconsistencies regarding the fate of the bodies of 18 crew members, which may have relevance to HMS *Drake*'s status.

7.1.2. In Captain Radcliffe's report to the Admiralty regarding the loss of HMS *Drake* he mentioned that 'Nobody except the dead remained on board the *Drake*, when I left her for HMS *Delphinium*…'. We know 18 crew were killed instantly in boiler room 2 when the *Drake* was torpedoed and that the boiler room was instantly flooded, preventing recovery of the dead (**Appendix III**).

7.1.3. Current diving information regarding HMS *Drake* seems to contradict this. One description states that '[it is] not a war grave, as bodies of 19 [sic] killed in torpedo explosion were removed before she sank' (http://divernet.com/wrecks).

7.1.4. Taking into account the controlled site status of other armoured cruisers such as HMS *Hampshire* and HMS *Natal*, and the fact that HMS *Drake* may still contain 18 bodies in the area of boiler room 2, the designation of the wreck under Protection of Military Remains Act (1986) cannot be discounted.

7.1.5. Further research is required to ascertain whether salvage operations retrieved the dead following the loss of HMS *Drake* and to further assess its suitability for protection under the Protection of Military Remains Act (1986).

8. RECOMMENDATIONS

8.1.1. WA recommends that the remains of HMS *Drake* are not a candidate for designation under the Protection of Wrecks Act (1973) (PWA).

8.1.2. The *Drake* has been substantially damaged by salvage and clearance activities making much of the vessel inaccessible and therefore unlikely to require protection from further intrusion. The wreck does not appear to be under any immediate threat of substantial decay as much of the originally intact vessel has been blown down to a broken yet coherent and stable wrecksite, so designation can offer the wreck little in terms of physical protection.

8.1.3. Due consideration must also be given to the popularity of HMS *Drake* as a dive site. The *Drake* is possibly the most popular dive site in Northern Ireland and enforcement of diving restrictions on the site is likely to be very difficult despite its visibility and location. Apart from a clear danger to divers from ordnance or instability, there appear to be no reasons to seek any restrictions on diving either through designation under the PWA or other means at the present time.

8.1.4. In light of these observations it is suggested that HMS *Drake* can be effectively managed and monitored by a means other than designation under PWA.

8.1.5. Given the importance of the site as a diving resource and the fact that it is one of the few examples of British armoured cruisers that can be dived, an integrated approach to the protection and survey of the wreck is recommended. This may take the form of the production of a dive guide, using the WA survey data as a base, that could be built upon by visiting divers. This could be led by the local dive charter companies under advisement from the CMA, and possibly representatives of the Environment and Heritage Service.

8.1.6. Care must be taken not to interfere with ordnance on the wreck. During the WA site visit two 6-inch shells were observed on the wreck, and there is the strong possibility that more remain on site. According to local tradition several divers over the past three decades have removed various pieces of ordnance as souvenirs; some have even recovered hand grenades to use as paper weights.

9. ARCHIVE

9.1.1. The project archive consisting of an Access database, a GIS work space containing shape files and other data linked to the database and other computer records, together with digital photographs, DV tapes, dive logs and miscellaneous hardcopy photographs are currently stored at WA under project code 53111.

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History and images of HMS *Drake*: http://www.northantrim.com/HMS*Drake*.htm.

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http://www.ukdiving.co.uk/wrecks/wreck.php?id=202.

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Diving on the *Drake*: http://divernet.com/wrecks/best61799.htm.

APPENDIX I: DIVE RECORDS AND OPERATION PLANNING

Date	Diver	Max depth	Bottom time	Current	Visibility
28/07/06	Steyne	15m	92min	Slight	15m
30/07/06	Hession	15m	16min	Slight	15m
30/07/06	Callan	19m	49min	Slight	15m
30/07/06	Hession	16m	54min	Slight	15m
31/07/06	Scott	16m	71min	Slight	15m
31/07/06	Scott	15m	16min	Slight	15m
03/08/06	Mallon	18m	54min	Slight	15m
03//08/06	Scott	18m	46min	Slight	15m
03/08/06	Steyne	17m	48min	Slight	15m
03/08/06	Hession	16m	55min	Slight	15m
04/08/06	Mallon	18m	54min	Slight	15m
04/08/06	Hession	16m	54min	Slight	15m
04/08/06	Steyne	16m	45min	Slight	15m
05/08/06	Mallon	16m	54min	Slight	10m
05/08/06	Hession	16m	55min	Slight	10m
05/08/06	Scott	16m	50min	Slight	10m
05/08/06	Steyne	17m	54min	Slight	10m

17 dives with a total bottom time of 867 minutes.

APPENDIX II: ARCHAEOLOGICAL FEATURES LOG

Context No.	Site sub-division	Description
2001	HMS ***Drake*****:** General	Main body of HMS *Drake* wreckage. Measures 165m (157m actual length at waterline) from the bow to the stern; the extra 8m can be explained by the amount of dispersal operations carried out on the wreck. The amidships breadth measures 30.5m, but this represents the breadth of wreckage (from keel, across the port side of the vessel to where the wreckage disappears into the seabed, which is where the deck level will be located), and not the actual beam of the vessel when sitting on an even keel.
2002	***Ella Hewett*****:** General	Main body of ST *Ella Hewett*. Coherent wreck structure measures around 49m in length (50.87m actual length). It was not possible to get an accurate length measurement due to the wreck dispersal operations at the interface point between *Ella Hewett* and HMS *Drake*. The breadth of wreckage measures around 15m (actual beam 8.93m). The discrepancy between the actual beam and the breadth measured on the seabed can also be explained by the dispersal operations, and by the fact that *Ella Hewett* developed a 55º list after it struck the *Drake* and finally sank '…over on beam ends' (Lloyd's, 1962).
2003	Seabed: Off port bow of HMS *Drake*	Anchor. 25m west-south-west of the bow of the wreck a large 'navy pattern' anchor was located during seabed searches. It was intact, and had a length of chain attached to the end of the shank (less than 1.5m exposed, after which the chain becomes buried in the seabed).
2004	*Ella Hewett*: Internal hull section.	Internal hull section of the *Ella Hewett*. Probably represents the inboard amidships section of the hold, and sections of the bulkhead (see **2005** and **2006**).
2005	*Ella Hewett*: Internal features.	Transverse section of bulkhead inside *Ella Hewett.* Has small cable tunnel running through it.
2006	*Ella Hewett*: Internal features.	Secondary, partially detached section to **2005**.
2007	Seabed: West of amidships of HMS *Drake* wreckage	Hollow cylinder made of thin metal plate/sheet. Single pad eye attached to middle of cylinder. Possible drum or float. Crushed on one side and open. Appears empty (part sand and shell filled). Not buried. Possibly remains of fishing gear from *Ella Hewett*.
2008	HMS ***Drake*****:** Bow section	Bow section of HMS *Drake*. A large metal fin was observed lying bolted to the keel of the ram bow along the keel. Identified as a paravane.
2009	HMS ***Drake*****:** Bow section	Armour plating. Measured 0.06m thick armour plating (concreted), part of the 2 inch armour belt outer hull plating (forward quarters, just above the waterline).
2010	HMS ***Drake*****:** Bow section	Armour plating. Measured 0.12m thick armour plating (concreted), part of the amidships 6 inch armour belt hull plating. One section of armour plating is missing at this point, exposing the 0.12m thick wood backing (oak).
2011	HMS ***Drake*****:** wreck interior, amidships	Two 6 inch shells, partially buried, underneath broken sections of plating.
2012	***Ella Hewett*****:** Internal hull section.	Ladder or steps for a companionway, inside the hull section of *Ella Hewett*. Inside this section there is a lot of debris, highly corroded and very fragmentary, obviously damaged by the clearance operations.
2013	***Ella Hewett*****:** Internal hull section.	Large metal tube/cylinder of unknown function. Initially thought to represent the remains of one of the two torpedo tubes from the *Drake*. However, the internal diameter of this tube/cylinder is 38cm (15 inch), too small to be one of the 18 inch torpedo tubes from the *Drake.* In addition, this feature was located in the middle of the *Ella Hewett* wreckage, and may represent part of the internal machinery or engine. It was not possible to obtain any further observations or measurements as this feature is largely buried in metal wreck debris and broken hull and bulkhead plating.
2014	***Ella Hewett*****/**HMS ***Drake*****:** Interface	Large marine scotch boiler, measuring 3.3m long by approximately 4.5m in diameter. There was a considerable number of broken fire tubes protruding from the fire grate end of the boiler. 15 stay nuts for the boiler were also observed at this end. At least two fire grates were observed, however, as the boiler was lying on its side and partially obscured by metal debris, it was not possible to count all the fire grates. It is possible to partially enter one of the fire grates and heating chambers. Moving on to the other end of the boiler, the backing plates to the stays were observed. Sections of the boiler have parted in this section.
2015	***Ella Hewett*****/**HMS ***Drake*****:** Interface	Hull structure of both the *Ella Hewett* and HMS *Drake*. At this point it was possible to see the remains of the *Ella* lying on top of the 6 inch armour belt hull plating of the *Drake*.

Context No.	Site sub-division	Description
2016	HMS ***Drake*****:** Stern	Stern section of the *Drake*. A number of features were recorded here, ranging from the remains of a hawse hole (**2017**), some grille work on the side of the vessel, and three upstanding iron frames with attached knees (**2018**).
2017	HMS ***Drake*****:** Stern	Hawse hole at stern of wreck. Circular, with a broad flange protruding through the hull and sticking out in the interior. Round section metal bracing on either side with circular section metal loops of the same diameter on either side. To the east side of this was a grille. An identical grille probably existed in the hull on the west side also, but there was only a hole where the grille would have fitted on this side. Timber was noted between the plates in this section of hull. The hull plating was not very thick.
2018	HMS ***Drake*****:** Stern	Three upstanding frames. Upstanding 2m from the seabed at a 60º angle, one was loose. They broadened out into a broad flat face at the end of the frames at their top ends; these were strengthened by horizontal metal beams connecting the frames.
2019	HMS ***Drake*****:** Stern	Rudder with steering gear. Upper part of rudder revealed by removing marine growth (including part of trailing edge), the rest buried. Linkages, rudder trunk (with section of hull plating observed) and coupling present, plus possible quadrant type casting. Rudder still attached to linkage, but the whole assembly is on its side, with the base of the rudder facing west. Linkage is broken and fragmentary.
2020	HMS ***Drake*****:** Amidships	Deck support beam. Substantial upstanding metal cylindrical deck support beam with rectangular base plate on the upstanding end of the beam, located roughly near the centre point of *Drake* wreck material. The beam has an approximate diameter of 0.25m, and is upstanding by around 3.5m. This is currently being used as a permanent mooring for local dive charter boats, and is more than adequate for the purpose.
2021	HMS ***Drake*****:** Internal	Internal section with bulkhead. Close to the centre point of *Drake* wreck material and about 30m south-east of **2020**.
2022	HMS ***Drake*****:** Stern	Propeller shaft. Remains of the port propshaft and inboard linkage. The shaft consists of 8.6m of propshaft contained within the propshaft housing. The inboard end of the shaft terminates with a large hexagonal nut (0.14m in diameter with 0.06m long sides). This nut would have received the drive shaft coupling that would have provided power to the prop. Just forward of the coupling end of the propshaft there is a brass collar to the housing, with at least one external fitting removed, leaving two brass bolts remaining. Behind this there is what appears to be the remains of hull plating, and the propshaft and housing extends out past the line of the hull for another 5m where the shaft terminates in a broken end. It can be assumed that this broken end is the result of salvage operations, with the propeller having the appearance of being blown off.

APPENDIX III: NOTE ON HMS *DRAKE*

HISTORY OF BRITISH ARMOURED CRUISER DEVELOPMENT

Cruisers were developed during the 19th century into a class of warship that, whilst powerful, was not intended for duty in the battle fleet. Instead they were specifically designed for scouting, commerce warfare and showing the flag – the roles that had previously been fulfilled by frigates, corvettes and sloops. Compared with battleships, cruisers were characterised by greater speed and endurance, but lighter armour and armament.

By the 1890s cruisers fell broadly into three overlapping groups of large, medium and small vessels, known in the Royal Navy as First, Second and Third Class cruisers. Until the development of Harvey and then Krupp armour in the 1890s, most cruisers relied upon an arched steel deck to protect their vitals from plunging shot. These 'protected cruisers' were particularly vulnerable to attack from quick firing (QF) guns, the shells of which had a flat trajectory. During the late 1870s and 1880s some attempt was made to fit vertical side armour (the so-called 'belted cruisers'). However, it was not until the development of the new armour that it became possible to provide cruisers with less vulnerable vertical side armour over a large area without an excessive increase in displacement. Despite their large size and cost, from 1895 these 'armoured cruisers' almost completely supplanted the construction of small cruisers in the majority of the worlds major navies.

Large British armoured cruisers tended to carry a mixed armament of 9.2-inch, 7.5-inch and 6-inch guns. Main belt armour was typically 6-inch Krupp KC (as much as some lightly armoured battleships of the time), which was thought capable of keeping out all 6-inch, high capacity HE and most 9.2-inch shells at 'battle range' (approximately 3000 yards). Although intended to be capable of a variety of roles, they were thought capable of playing a supporting role in the line of battle, using their heavy guns as opportunity offered and using their speed to escape if caught in an awkward situation.

Armoured cruisers evolved into the battlecruisers of the early 20th century. By the advent of the First World War they were largely obsolete, their fleet role having been supplanted by battlecruisers.

The first British armoured (or 'belted') cruiser was HMS *Shannon*. The *Shannon* was too slow for use as a cruiser and too lightly armoured for fleet work, and was therefore the only example of its class. She was powered both by sail and steam, completed 1875 and sold for scrap in 1899.

Following on from HMS *Shannon* was the **Nelson Class**, with two being built: HMS *Nelson* (completed 1881. Sold for scrap in 1910); and HMS *Northampton* (completed 1878. Sold for scrap in 1905). The *Nelson* Class was an enlargement of the *Shannon* Class, with more powerful machinery, improved armour and armament. Nevertheless neither class had sufficient speed or endurance to act as effective cruisers and were inadequately armed and protected to fight battleships.

Both the *Shannon* and the Nelson Class vessels were often referred to as 'cruising ironclads'.

The **Imperieuse Class** was next, with two examples being built: HMS *Imperieuse* (completed 1886, sold for scrap in 1913); and HMS *Warspite* (completed 1888, sold for scrap in 1905).

They were built with minimal armoured protection, and proved to be too slow due to extra weight added during their construction. In 1905 HMS *Imperieuse* was renamed HMS *Sapphire II* and became a destroyer depot ship at Portland.

The **Orlando Class** followed, and proved to be more successful than its predecessors. Seven Orlando Class armoured cruisers were built:

Aurora (completed 1889, sold for scrap in1907);
Australia (completed 1889, sold for scrap in 1905);
Galatea (completed 1889, sold for scrap in 1905);
Immortalite (completed 1889, sold for scrap in1907);
Narcissus (completed 1889, sold for scrap in 1906);
Orlando (completed 1888, sold for scrap in1905);
Undaunted (completed 1889, sold for scrap in 1889).

The Orlandos were enlarged versions of the Mersey class protected cruisers, and were true armoured cruisers, with a shallow 10-inch belt amidships. They largely served in the Australia, China and Mediterranean Stations in a trade protection role. However, due to design changes during construction, their draught was increased with the result that the armoured belt was submerged, rendering it largely useless. As a result of this the Royal Navy concluded that the provision of a satisfactory arrangement of side armour was not possible in a cruiser and for the next 13 years built nothing but protected cruisers.

Developments abroad and the introduction of the new types of armour persuaded the Admiralty to once again build armoured cruisers. Under the direction of the DNC Sir William White, four classes of armoured cruisers were designed between 1897 and 1901.

The first of these was the **Cressy Class**, designed in 1897 and completed between 1901 and 1902. They were to become the immediate precursor to the Drake Class cruisers, atotal of six were built:

Aboukir (completed 1902, torpedoed and sunk by Otto Weddigen in U9 on the 22/09/1914 off the coast of the Netherlands);
Bacchante (completed 1902, Mediterranean Fleet 1903, North America/West Indies station 1906, sold for scrap in 1920);
Cressy (completed 1901, also sunk by Otto Weddigen in U9 on the 22/09/1914; he was to sink three British Cressy cruisers within one hour that day: the *Aboukir, Cressy,* and *Hogue*);
Euryalus (completed 1904, Australia station 1904, North America/West Indies station 1906);
Hogue (completed 1902, torpedoed 22/09/1914 by U9);
Sutlej (completed 1902, Channel Fleet 1902, sold for scrap in 1920).

Both the Cressy and the later Monmouth Classes were primarily intended to counter French construction, but were also inspired by the Garibaldi Class of highly successful Italian armoured cruisers that were intended to operate with the battle fleet.

The **Drake** Class was based on the Cressy Class. Displacement was increased from 12,000 to 14,000 tons in order to increase the speed from 21 to 23 knots. Designed in 1898, a total of four were completed between 1902 and 1903:

HMS *Drake (*completed 1902, torpedoed 02/10/1917 and sank in Church Bay, Rathlin Island);
HMS *Good Hope* (completed 1902, was originally to have been named HMS *Africa*, sunk by gunfire from the German cruisers *Scharnhorst* and *Gneisenau* off the Coast of Chile in the battle of Coronel, 01/11/1914, with the loss of all hands);
HMS *King Alfred* (completed 1903, Flagship of the China station between 1906 and 1910, sold for scrap in 1920);
HMS *Leviathan* (completed 1903, China station between 1905 and 1906, then assigned to the Channel Fleet, sold for scrap in 1920).

The **Monmouth** and **Devonshire Classes** followed between 1903 and 1905. Their main role was trade protection. They were built to a smaller and cheaper design than Drake Class vessels in order to increase numbers in response to foreign powers who had themselves started large construction programmes. A total of ten Monmouths were built:

HMS *Bedford* (completed 1903. In command of Captain Edward S. Fitzherbert when she ran aground on Quelpart Island, Korea (China station), and became a total wreck, 18 stokers lost when the stokeholds suddenly flooded. The wreck was sold for scrap soon afterwards for £3000);
HMS *Berwick* (completed 1903. During night exercises with the Portsmouth division of the Home Fleet of the Isle of White the *Berwick* collided with the destroyer HMS *Tiger*, and cut it in two. A total of 35 crew lost.);
HMS *Cornwall* (completed 1904, sold for scrap in 1920);
HMS *Cumberland* (completed 1904, sold for scrap 1921);
HMS *Donegal* (completed 1904, sold for scrap 1920);
HMS *Essex* (completed 1904, sold for scrap 1921);
HMS *Kent* (completed 1903, sold for scrap 1920);
HMS *Lancaster* (completed 1904, sold for scrap 1920);
HMS *Monmouth* (completed 1903. Sunk by gunfire from the German cruisers *Scharnhorst* and *Gneisenau* off the coast of Chile in the battle of Coronel, 01/11/1914. All hands lost.);
HMS *Suffolk* (completed 1904, sold for scrap 1920).

Between 1906 and 1909, a further three classes of armoured cruiser were built, but in much smaller numbers. They culminated in the three ships of the **Minotaur Class**, each displacing 14,600 tons, designed to be capable of operating with the battlefleet.

The above information was taken from a number of sources:
Beeler, J., 2001, *Birth of the Battleship: British Capital Ship Design 1870-1881*, Chatham Publishing.
Brown, D.K., 1999, *The Grand Fleet: Warship Design and Development 1906-1922*, Chatham Publishing.
Gardiner, Robert, 1979, *All the worlds fighting Ships 1860-1905*, Conway.
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Warships on the Web moderated by Andrew Cashmore.

HMS *DRAKE*: BUILD

HMS *Drake* was built at the HM Dockyard at Pembroke between 1899 and 1902. During the fitting out of the vessel she was commanded by Captain John Jellicoe who went on to formulate the fleet deployment at the Battle of Jutland, and became Viscount Jellicoe of Scapa and Admiral of the Fleet in 1919.

During the build he was to take a very 'hands-on' approach to the construction of HMS *Drake* and was concerned over a number of defects that he identified. Original letters from Captain Jellicoe to Captain Superintendent of HM Dockyard, Pembroke (Rear-Admiral C.J. Barlow), followed by his reply, illustrate this:

HMS Drake
Cruiser Squadron
4.12.03

My dear Admiral,

I was about to write to you when your letter came. I took the report to the C. in C. last Saturday, and he had a long talk with me, and he told that I had made his hair stand on end to such an extent that he wanted me to go to the Admy. to try and do the same thing there. I went on Tuesday last. The Controller after hearing me said that he had gathered from you that you did not recommend the abolition of doors. I replied that our report recommended it as strongly as possible and that I thought you were of the opinion expressed in the report.

I told him that I was permanently closing 5 sliding doors in Drake. After a long talk with him he sent me to see the D.N.C. and I said the same to him. I suggested they should go through the new designs and cut out doors right and left. I have written today to the controller to rub in again our opinion, quoting from the report to show how strongly we put it. As regards Drake I flooded a small passage on Wednesday 191-198. The after door leaked freely about as badly as Prince Georg's (sic) E.R. door (engine room) after last trial.

This door had been taken down by the dockyard, cleaned, burrs removed, and C. and was in as good order as possible, but the clips are not properly adjusted. On putting it up we could close it ¼ inch more by hand than by gearing showing that the top and bottom pinions do not agree or else that a shove gives more power than by gearing.

My bunker doors are fairly tight, I have flooded two bunkers. Plenty of other leaks, rivets, etc., except through a ventilation exhaust pipe. In this case the upper part of the flange was not bolted to bulkhead at all, but was standing three eights of an inch! There were no bolt holes in the flange at upper part. I got 3 inches of water in the spirit room through clip door when I flooded the passage, and water down into 6 inch magazine through the hole shafting of ventilation valve, quite a big leak. The other leaks were not serious though numerous.

Yours, etc.
(Sd) J.R. Jellicoe

5.12.03

My dear [sic] Jellicoe,

Thanks for yours yesterday. The controller apparently did not understand me, I gathered from him (he read over quickly our report when I was with him) that he did not think we put it strongly enough, in fact I thought he had hoped we would have said that all doors below water should be down away with, and at the moment I could the par. of our letter I quoted in my letter to you.

It is quite impossible to do away with all doors below L.W.L but many undoubtedly can and should be done away with, I only hope our report may bear fruit and that compartments may be properly tested and doors as far as possible be done away with. Glad to hear your leaks were no worse but I would like to test a lot more compartments. Let me hear if you find out any further defects.

Yours, etc.
(S.d) C.J. Barlow.

HMS *DRAKE*: SPECIFICATIONS

The following specifications are derived from a number of primary and secondary sources. A number of original documents from the personal papers of Rear Admiral C.J. Barlow who was in charge of H.M. Dockyard, Pembroke, during the construction of HMS *Drake*. They are

held in the Caird Library, National Maritime Museum, Greenwich, London. These papers included the letters cited above, and additional documents are listed as follows:

1: Weights.
2: Capacity of bread rooms, and floor areas of offices, pantries, & c.
3: Heights.
4: Summary for deep load condition.
5: Buoyancy due to filling out fore part to a straight line in the horizontal plan.
6: Proposal for alterations, showing increase or decrease of weight if approved.
7: Estimates for alterations.
8: Results of boring armour. From the Assistant of Construction to the Chief of Construction.
9: Armour of *Drak*e and *Essex* (Monmouth Class cruiser also constructed at H.M dockyard, Pembroke. It was being built as work was being completed on the *Drake*).
10: Armour of *Drake* – Remarks on above (semi-official). From Capt. Supt. to Controller.
11: Armour of *Drake* – Confidential report.
12: Supply of water to reserve tanks.
13: Remarks on HMS *Drake*.
14: Fittings required in *Drake*. From Capt. Dockyard Reserve to Admiral Supt.
15: Report relative to above. Asst. Const. to Chief of Const.
16: Papers relating to cost of building HMS *Drake*. Asst. Const. to Ch. Const.
17: Report on watertight compartments. From Captain of *Drake* (Jellicoe) to Rear-Admiral Cruiser Squadron (Barlow).
18: Sketch showing proposed continuation of boat deck, also additional hammocks which can be berthed and stowed thereby.
19 Reports on the ventilation of HM ships *Majestic* and *Magnificent*.
20 Reports on the ventilation of HM ships *Majestic* and *Magnificent*.

The specifications are as follows:

General	
Builder	Humphrys & T.
Place of build	H.M. Dockyard, Pembroke
Laid down	April 1899
Completed	1902
Displacement	15 190.5 tons
Length (waterline)	515 feet (157m)
Beam	71 feet (21.64m)
Max. Draught	28 feet (8.53m)
Length (overall)	529½ feet (161.39m
Machinery	2 sets of 4 cylinder vertical inverted triple expansion (Yarrow-Schlick-Tweedy system). 2 screws. Boilers-43 Belleville.
Horse Power	Designed to have 30,000 H.P, with a speed of 23kts.
Coal	Normal capacity: 1250 tons. Maximum capacity: 2500 tons.
Coal Consumption	Average of 11 tons an hour at 19kts; and 19-20 tons an hour at 30 000 H.P. (24kts).
Engineering Notes	Machinery boilers with water, weighing 2500 tons. Boiler rooms 185 feet long (56.39m). All the class are excellent steamers, the *Drake* holding the record. Fitted with 'Penny' screws. Heating surface of 72,000 square feet. Grate area 2313 square feet.

Armament	
Number	**Description**
2	9.2 inch, IX., 45 cal. (AA(
16	6 inch, VII., 45cal. (D)
14	12 pounder
3	3 pounders
2	Maxims
Gunnery notes	Loading positions – big guns all round. Hoists: electric for 6 inch guns

Armour (Krupp)
6 inch belt (amidships
3 inch belt (bow)
8 inch bulkheads (aft)
3 – 2 inch Deck slopes
Protection to vitals:
6 inch Barbettes
5 inch Turrets to these
6 inch Casemates
12 inch conning tower
Armour notes: Belt is 11½ feet wide by 400 feet long
(Total weight about 2700 tons)

HMS *DRAKE*: USE

The *Drake* was launched in 1901 and completed in 1902. After a series of trials and home duties she was commissioned by the King at Portsmouth on 1st March 1905. In the following two years the *Drake* was to sail to various destinations in the Mediterranean and abroad for a number of ceremonial tasks. These included receiving the Kings and Queens of Spain, Portugal, and Greece, and hosting a ball by Prince Louis in New York.

HMS *Drake* was the Flagship of the 2nd Cruiser Squadron, Atlantic Fleet in 1906, and went on to become the Flagship of the 1st Cruiser Squadron in 1908. In 1910 she was transferred to the 5th Cruiser Squadron, Home Fleet. Three years later the *Drake* was reduced and placed on the reserve list. However, due to the pressure on the Royal Navy for capital vessels at the start of World War One, she was re-commissioned in July 1914 in time for the Test Mobilisation and Fleet Review.

Shortly after the start of World War One she had her first escort duty when she escorted the *Olympic*, sister ship to the *Titanic*, into Liverpool after the *Olympic* had sailed from New York with transport crew only.

In January 1915 she joined the 6th Cruiser Squadron, Grand Fleet, and was refitted in October. From 1916 until the time of her loss she was used for convoy escort duties, and was again refitted. One of the defects to the design of the Drake Class cruisers was the fact that the lower 6-inch casement guns (located fore and aft, port and starboard) could not fire in any sea state other than calm. This was redressed during the 1916 refit when all the lower 6-inch guns were removed, being replaced by four 6-inch guns in shields on the shelter deck, port and starboard.

HMS *DRAKE*: LOSS

On 2nd October 1917 HMS *Drake* had just completed escort duties for a convoy from America, convoy HH24, (and had in fact just issued the 'convoy to disperse and independent

steam to designated port' signal) when she was torpedoed by Lieut. Cdr. Otto Rohrbeck in U-79.

The area around Rathlin Island, designated as the North Western Approaches during both World Wars, was well known to U-boat commanders as a much-travelled convoy route and marshalling point. U-79, a type UE mine-laying U-boat, was on patrol around north-west Ireland and the western Scottish Isles when the convoy and escorts were approaching. According to the U-79 war diary, on the night of 29th of November, between 23:10 and 23:38 Otto Rohrbeck recalls dropping 11 moored contact sea mines in a wide sweep across the channel, from Bull Point on Rathlin Island out to the south-west, effectively blocking access into Rathlin Sound from the west and north-west.

The timeline of incidents that occurred that day can be found in **Appendix V**, but to summarise, the main events are as follows:

08:03 Convoy disperses.
09:15 HMS *Drake* is torpedoed under the second funnel on the starboard side.
10:37 HMS *Drake*, with restricted manoeuvrability, is in collision with the cargo ship *Mendip Range*.
11:30 HMS *Brisk*, one of the escorting destroyers, is either torpedoed by U79, or more likely, hits one of U79's recently laid mines.
11:46 HMS *Drake* anchors in Church Bay and awaits salvage vessels.
14:35 HMS *Drake* capsizes at anchor.

The exact time of the sinking of the *Lugano* is unknown, but it is thought to be some time shortly before or shortly after the loss of HMS *Brisk*. It is likely that the *Lugano* also sank after striking one of U-79's recently laid mines.

According to Captain Radcliffe's confidential report on the loss of HMS *Drake* to the Admiralty, the *Drake* was torpedoed: '…abreast No. 2 Boiler Room the starboard side, the boiler room was immediately flooded, killing everyone there except one man who was blown on to the upper deck and landed there unhurt, and another who climbed up through the Stokehold hatch.'

The Captain's report makes further reference to the sailor who had been blown out of the stoke hold: 'O.N. C.S.D.M. 24810 Act. E.R.A. (Acting Engine Room Artificer) Bridson was blown up from No.2 Boiler Room and landed on the upper deck unhurt; he at once went below to No.3 Boiler Room and reported for duty where he remained until the ship was abandoned. I beg to submit his name as being worthy of special recognition.'

After the attack HMS *Drake* had her steam steering gear disabled, and the ship had to steer by propellers until the hand wheel could be connected and manned. As the communication between the conning tower and the hand wheel flat was broken, orders for the helm had to be passed by signals and messengers.

Captain Radcliffe initially thought that he would be able to coax the damaged *Drake* into Belfast and conduct repairs at the Harland and Wolfe shipyards, but this was not to be. He reports: 'As the ship seemed to be proceeding comfortably, I hoped to be able to make Belfast and shaped course accordingly, but after consultation with the Engineer Commander I decided to make for the nearest anchorage which was Rathlin Island and course was altered to do so.'

This lack of manoeuvrability undoubtedly had a part to play in the collision with the cargo ship *Mendip Range*, although it must be stated that HMS *Drake* was doing everything she could to warn other vessels of her plight. Captain Radcliffe states: 'As the ship [the *Drake*] was turning to Starboard to round the south point of Rathlin, S.S. *Mendip Range* was observed on the starboard bow coming through Rathlin Sound. Her bearing at the time was altering slightly so that she would have crossed from Starboard to Port. As it was evident she would approach close, the not under control balls were hoisted, the steam syren [sic] could not be blown to indicate which way course was being altered as the pipe had gone, but the ship was swinging fairly rapidly to starboard and had a considerable list, and was quite evidently not under proper control. The *Mendip Range* starboarded his helm which closed him considerably, the *Drake* had too much swing on to steady her down in time with the slow working of the hand wheel, the engines were stopped and put into full speed astern and were going astern for two minutes before the ships collided. A glancing blow at an angle of about 35 was struck, the *Drake's* bow penetrating the *Mendip Range* abreast No. 2 hatch. The Master signalled that he was proceeding to Ballycastle Bay to beach the ship, which was carried out. If the *Mendip Range* had altered course to starboard in the first case instead of to Port, the collision would not have occurred.'

In the report Captain Radcliffe goes onto recall all the remaining events prior to the vessel capsizing. After anchoring, the majority of men were taken off by motor launches from the various destroyers and sloops who were laying a submarine screen around HMS *Drake*. What happened next is cited in detail in his report as follows: 'It was hoped before anchoring to be able to keep the ship afloat until the salvage plant arrived, but the list gradually increased and uncovered the Feed and Bilge pump suctions to No.3 Boiler Room, which was being flooded from No.2 Boiler Room. HMS *Martin* (Commander Rade of HMS *Martin* [destroyer] was in command of the destroyer and sloop escort) had been called alongside to take away some of the ship's company, as it was not considered desirable to keep everyone onboard, but while the transfer was going on the heel of the ship increased so that I decided to abandon her, and after the *Martin* was full, HMS *Delphinium* [sloop] was called alongside to embark the remainder. The bunker bulkheads on Starboard side began to go about half an hour before the ship was left, and the heel was visibly increasing whilst the abandoning was going on.'

The last extract to be cited here is interesting in that it states that the 18 dead were left onboard. During the research for this report no reference was found relating to the removal of the dead, and without further research it is unsure whether their remains are still inside the wreck. Captain Radcliffe states that: 'Nobody except the dead remained on board the *Drake*, when I left her for HMS *Delphinium*, the mess decks, Boiler Rooms, Engine Room had all been searched and reported clear. Ship was abandoned at 2.5 p.m. I ordered the *Delphinium* to anchor close to *Drake*, intending to go back on board as soon as the salvage plant arrived, but the list rapidly increased and ship capsized at 2.35 p.m., lying over on her beam ends with part of her port side out of water. After this occurred I ordered *Delphinium* to proceed to Buncranna'.

APPENDIX IV: LIST OF THE DEAD

HMS *Drake*

List of Those Killed 2nd Oct 1917

Name	Rank	Official No
Mr. Adolphus E. Stark	Acting Engineer	None given
James Paterson	Acting Engine Room Artificer	M17773
Robert O'Brien	Senior Petty Officer	296670
George F. Willey	Leading Stoker	K1907
Charles C. Browns	Stoker 1/C	K29064
Thomas J. Tumb	Stoker 1/C	K29448
John G. Oliver	Stoker 1/C	K28133
Bertie Sheard	Stoker 1/C	SS117349
Godfrey Park	Stoker 1/C	K27621
Thomas Wheatley	Stoker 1/C	SS116149
Robert J. Williams	Acting Leading Stoker	302211
William G. Gartlaw	Stoker 1/C	SS114828
John MCL. Clark	Stoker 1/C	K1872
Robert Murdie	Stoker Royal Naval Reserve	5252S
Walter W. Buttle	Stoker Royal Naval Reserve	1410S
Christopher Thompson	Stoker Royal Naval Reserve	6519S
John F. Brown	Stoker Royal Naval Reserve	4199S
William J Stanely	Stoker Royal Naval Reserve	1699S

Total: 18 killed

APPENDIX V: TRANSCRIBED SIGNAL LOG FROM HMS *DRAKE*

Ships in Company and Remarks	Hr	Min	From	To	Signal	Signification
	6	10	*Drake*	Convoy	Flags	Zig-Zag
	6	30	*Drake*	Convoy	"	Speed 8 knots
	7	00	*Drake*	Convoy	"	Negative zig-zag. Course S 76 E. true.
	7	15	*Drake*	Convoy	"	Zig-Zag.
	7	00	*Drake*	SNO Buncranna	W/T	Cypher.
	7	45	*Lampoo*	*Drake*	Sem.	Have you reduced speed as we have had to reduce to 6 knots. Reply. No. I am going 8 knots.
	8	00	*Drake*	General	Flags	Negative zig-zag.
	8	03	*Drake*	Convoy	Flags	Convoy to disperse (underlined in red) and make for destination.
	8	02	*Martin*	*Rosemary via Drake*	W/T 08:01	Inishtrahull sound is closed pass to west of Inishtrahull not within three miles.
	8	15	*Drake*	*Hildebrand*	Flags	Proceed in execution of previous orders.
	8	25	*Drake*	*Martin*	S. L.	Come closer. Tell escort to repeat the signal to disperse convoy.
	8	25	*Martin*	*Drake*	S. L.	Has the signal been made. Reply: Yes.
	8	25	*Martin*	*Drake*	W/T 07:42	Following message from S.N.O Buncranna. If Circumstances permit, convoy disperse at point ordered. (underlined in red)
	8	30	*Drake*	*Martin*	Flags	Proceed in execution of previous orders.
9:15am. Struck by torpedo under second funnel.	9	25	*Drake*	*Martial*	Sem.	To S.N.O. Buncranna. *Drake* torpedoed. Going to anchor in Church Bay.
10:03am. Hoisted not under control signal.	10	10	*Portia*	*Drake*	Sem.	Reported *Drake*. What are your instructions now.
	10	12	*Drake*	*Portia*	Morse	Reply: I am going to Church Bay to anchor and have asked for instructions. You must remain until further orders.
10:37am. Collided with Mendip Range	10	39	*Drake*	*Mendip Range*	Sem.	What damage has been done
	10	40	*Mendip Range*	*Drake*	"	Reply: Do not know yet.
	10	41	*Drake*	*Mendip Range*	"	Get well ahead of me before turning.
	10	55	*Drake*	*Portia*	"	Try and get Mendip Range clear of me. I want to turn to starboard.
	10	55	*Portia*	*Drake*	"	S.S. Lugano sunk 5 miles off Rathlin Bay & men in boats.
	10	55	*Mendip Range*	*Drake*	"	We are going to beach in Ballacastle (sic) Bay.
	11	05	*Martin*	*Drake*	"	Can I give your bow a tow in the right direction.
	11	10	*Drake*	*Martin*	"	Reply: No thank you. I am going around all right.
	11	10	*Drake*	*Gossamer*	"	I am trying to turn 16 points to starboard.
	11	20	*Gossamer*	*Drake*	"	If I were to get a line out and let tow me, could I assist you in steering.
	11	21	*Drake*	*Gossamer*	"	Reply: No Thank you. I think I can steer alright.
	11	25	*Martin*	*Drake*	"	Would you like a sloop to assist you, she is fitted for towing.

Ships in Company and Remarks	Hr	Min	From	To	Signal	Signification
11:30am. Destroyer Brisk struck by mine.	11	26	*Drake*	*Martin*	"	Reply: I am going to anchor for the present, she can stand by.
	11	50	*Gossamer*	*Drake*	"	Shall I return your men.
	11	52	*Drake*	*Gossamer*	"	Reply: yes please.
12:02. Returned Signal books to Intelligence Officer.	12	00	S.N.O., Larne	*Drake*	W/T	Tug *Flying Cormorant* being sent you from Lough Swilly and two tugs from Belfast. Do you require further assistance.
	6	10	*Drake*	Convoy	Flags	Zig-Zag
	6	30	*Drake*	Convoy	"	Speed 8 knots
	7	00	*Drake*	Convoy	"	Negative zig-zag. Course S 76 E. true.
	7	15	*Drake*	Convoy	"	Zig-Zag.
	7	00	*Drake*	SNO Buncranna	W/T	Cypher.
	7	45	*Lampoo*	*Drake*	Sem.	Have you reduced speed as we have had to reduce to 6 knots. Reply. No. I am going 8 knots.
	8	00	*Drake*	General	Flags	Negative zig-zag.
	8	03	*Drake*	Convoy	Flags	Convoy to disperse (underlined in red) and make for destination.
	8	02	*Martin*	*Rosemary via Drake*	W/T 08:01	Inishtrahull sound is closed pass to west of Inishtrahull not within three miles.
	8	15	*Drake*	*Hildebrand*	Flags	Proceed in execution of previous orders.
	8	25	*Drake*	*Martin*	S. L.	Come closer. Tell escort to repeat the signal to disperse convoy.
	8	25	*Martin*	*Drake*	S. L.	Has the signal been made. Reply: Yes.
	8	25	*Martin*	*Drake*	W/T 07:42	Following message from S.N.O Buncranna. If Circumstances permit, convoy disperse at point ordered. (underlined in red)
	8	30	*Drake*	*Martin*	Flags	Proceed in execution of previous orders.
9:15am. Struck by torpedo under second funnel.	9	25	*Drake*	*Martial*	Sem.	To S.N.O. Buncranna. *Drake* torpedoed. Going to anchor in Church Bay.
10:03am. Hoisted not under control signal.	10	10	*Portia*	*Drake*	Sem.	Reported *Drake*. What are your instructions now.
	10	12	*Drake*	*Portia*	Morse	Reply: I am going to Church Bay to anchor and have asked for instructions. You must remain until further orders.
10:37am. Collided with Mendip Range	10	39	*Drake*	*Mendip Range*	Sem.	What damage has been done
	10	40	*Mendip Range*	*Drake*	"	Reply: Do not know yet.
	10	41	*Drake*	*Mendip Range*	"	Get well ahead of me before turning.
	10	55	*Drake*	*Portia*	"	Try and get Mendip Range clear of me. I want to turn to starboard.
	10	55	*Portia*	*Drake*	"	S.S. Lugano sunk 5 miles off Rathlin Bay & men in boats.
	10	55	*Mendip Range*	*Drake*	"	We are going to beach in Ballacastle (sic) Bay.
	11	05	*Martin*	*Drake*	"	Can I give your bow a tow in the right direction.
	11	10	*Drake*	*Martin*	"	Reply: No thank you. I am going around all right.
	11	10	*Drake*	*Gossamer*	"	I am trying to turn 16 points to starboard.

Ships in Company and Remarks	Hr	Min	From	To	Signal	Signification
	11	20	*Gossamer*	*Drake*	"	If I were to get a line out and let tow me, could I assist you in steering.
	11	21	*Drake*	*Gossamer*	"	Reply: No Thank you. I think I can steer alright.
	11	25	*Martin*	*Drake*	"	Would you like a sloop to assist you, she is fitted for towing.
11:30am. Destroyer Brisk struck by mine.	11	26	*Drake*	*Martin*	"	Reply: I am going to anchor for the present, she can stand by.
	11	50	*Gossamer*	*Drake*	"	Shall I return your men.
	11	52	*Drake*	*Gossamer*	"	Reply: yes please.
12:02. Returned Signal books to Intelligence Officer.	12	00	S.N.O., Larne	*Drake*	W/T	Tug *Flying Cormorant* being sent you from Lough Swilly and two tugs from Belfast. Do you require further assistance.

APPENDIX VI: LLOYD'S REPORTS ON THE SINKING OF S.T. *ELLA HEWETT*

Lloyd's Weekly Casualty Reports. November 13, 1962.

Ella Hewett.

Portpatrick Radio, Nov. 3.
Following received from British trawler *Ella Hewett*, GQMG, at 12:55a.m., G.M.T.: ashore Church Bay, Rathlin Island. Vessel making water, require immediate assistance.

Portpatrick Radio, Nov. 3.
Reference British trawler *Ella Hewett*, ashore Church Bay, Rathlin Island, and requiring immediate assistance, Portrush lifeboat proceeding and steamer *Markland*, GBVA, 13 miles west of Portpatrick, and motor vessel *Lairds Loch*, 12 miles from Church Bay, also proceeding.

Ballycastle, Nov. 3.
Portrush Lifeboat launched at 1:34 a.m. to the assistance of British trawler *Ella Hewett*, LO 47, aground on wreck of H.M.S. *Drake* in Church Bay, Rathlin Island. Local boat from Rathlin Island also proceeded to assist. British motor vessel *Lairds Loch* in vicinity. *Ella Hewett* taking water badly.

Portpatrick Radio, Nov. 3.
Trawler *Ella Hewett*, ashore Church Bay, Rathlin Island: Portrush lifeboat proceeding, estimated time of arrival 3:30a.m., G.M.T. Motor vessel *Lairds Loch* now standing by *Ella Hewett*.

Portpatrick Radio, Nov. 3.
Trawler *Ella Hewett*: Following received from British motor vessel *Lairds Loch* at 2:43a.m., G.M.T.: We are proceeding on voyage. *Ella Hewett* is too close inshore.
Following received from *Ella Hewett* at 3:36a.m., G.M.T.: Portrush lifeboat now standing by. No immediate danger. Distress traffic ended.

Belfast, Nov. 3.
British trawler *Ella Hewett* stranded on submerged wreck at Church Bay, Rathlin Island, at 12:55a.m., Saturday, Nov. 3. Portrush lifeboat standing by. Crew still on board at 9:30a.m. Vessel making water. Awaiting assistance from owner's vessel from Liverpool.

Portrush, Nov. 3.
Trawler *Ella Hewett* aground on submerged wreck at Church Bay, Rathlin Island, and making water. Lifeboat standing by. Sea calm, visibility poor.

Belfast, Nov. 3.
Fourteen members of the crew of trawler *Ella Hewett* were landed at Ballycastle at 11a.m. by Portrush lifeboat; five remaining onboard. Lifeboat standing by. Tug from Liverpool expected to arrive noon on Sunday (Nov. 4).

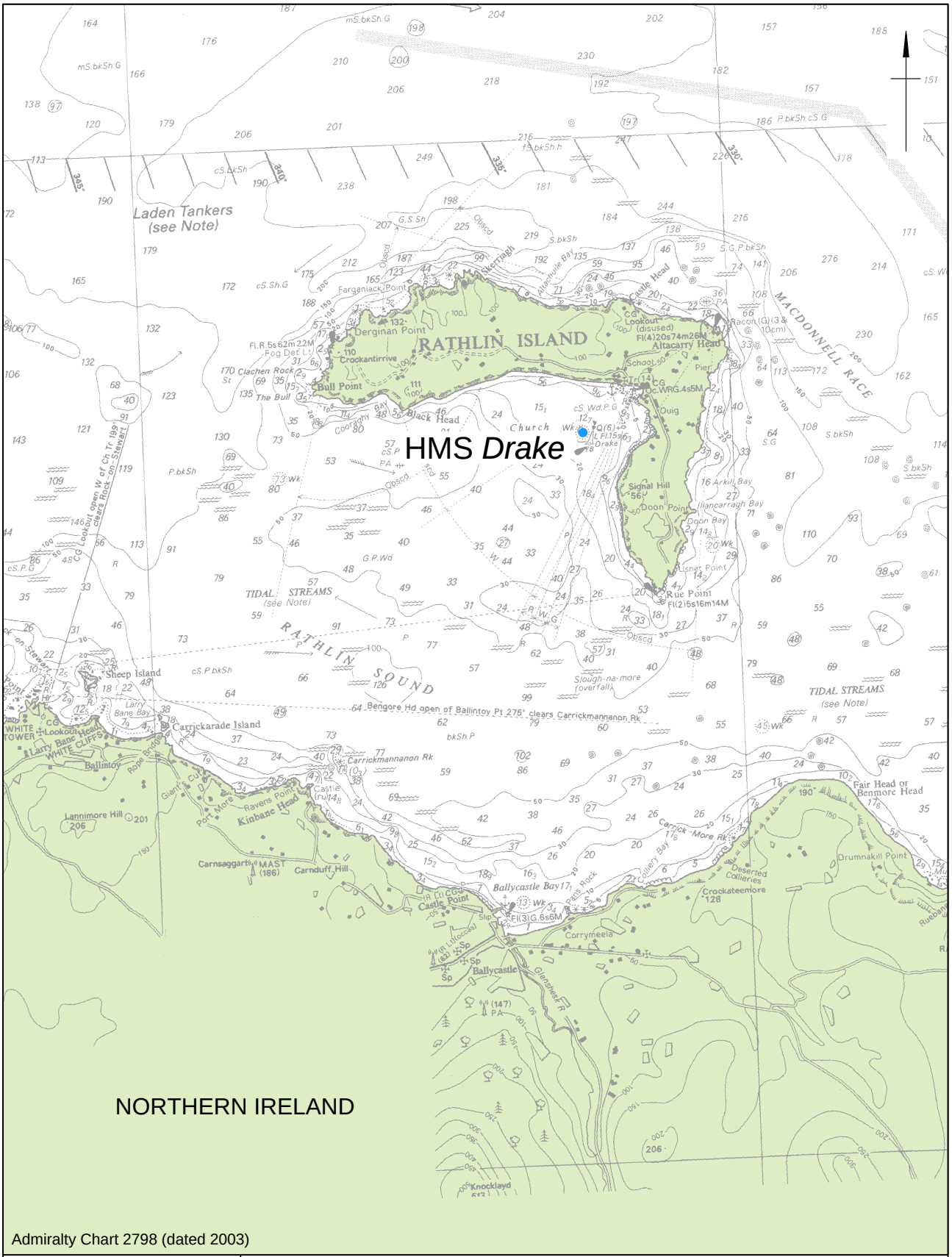
Belfast, Nov. 3.
Trawler *Ella Hewett* over on beam ends. Lifeboat returned to Portrush with five members of crew. Owner's representative standing by.

Ballycastle, Nov. 4.
Trawler *Ella Hewett*: Portrush lifeboat returned at 12:30a.m., Nov. 4. Confirmed 19 of crew of *Ella Hewett* landed by Portrush lifeboat; 14, including one injured, at Ballycastle and 5 at Portrush.

Belfast, Nov. 4.
Trawler *Ella Hewett* sank at 11:30p.m. yesterday. Wreck completely submerged.

Belfast, Nov. 4.
Trawler *Ella Hewett* sank last night in Church Bay, Rathlin Island. Her Skipper, Captain William Gregson, and four men, who had stayed on board, were taken off by Portrush lifeboat shortly before the trawler became submerged.

Lloyd's List Correspondent.



Admiralty Chart 2798 (dated 2003)

● Tracked diver position for deck support and mooring (WA2020)
55° 17.1084 N 06° 12.5136 W
(WGS. 84)

Drawing projection: WGS84 UTM z29

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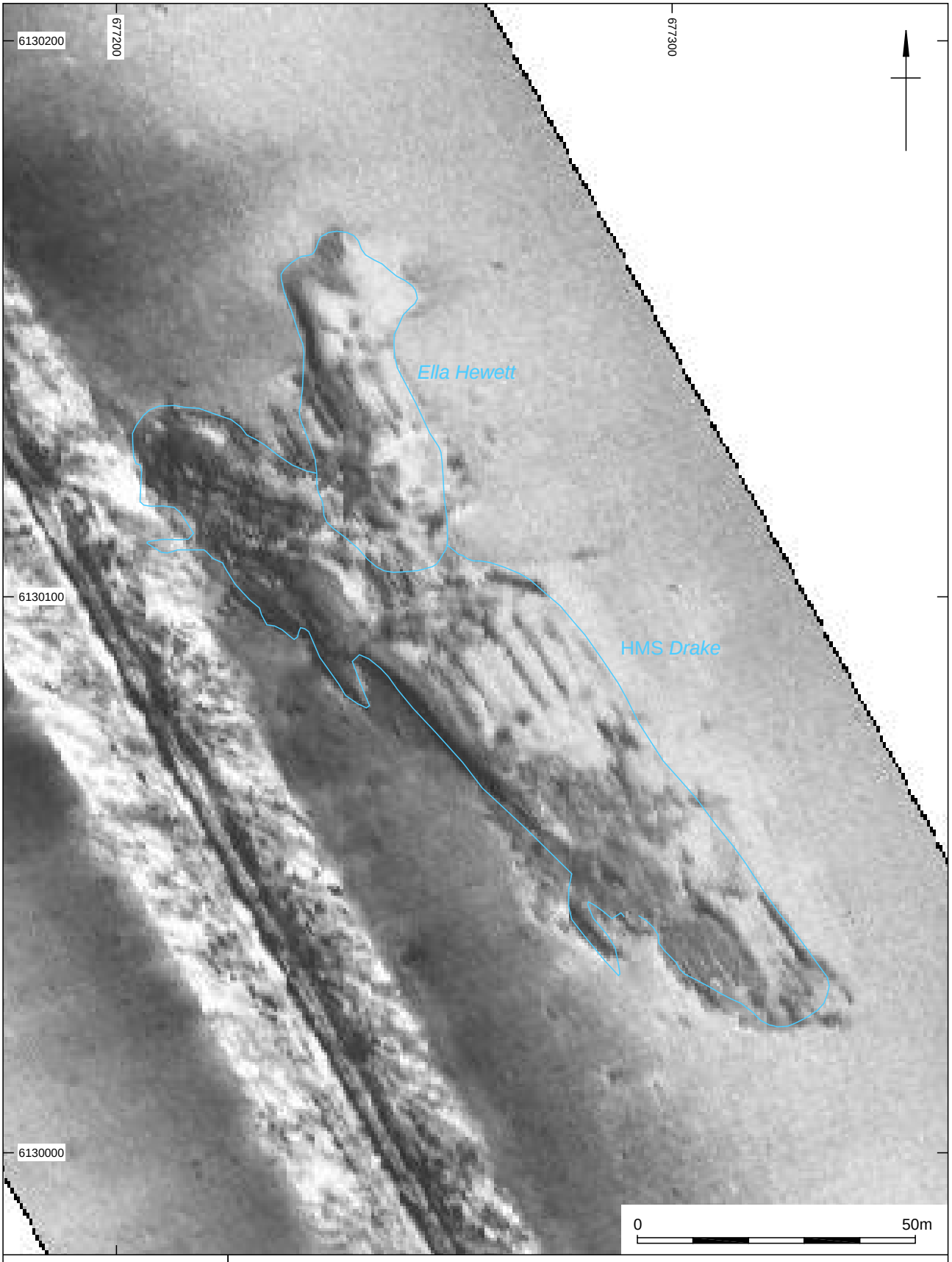
HMS *Drake* site location

Figure 1



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2002 Sidescan sonar data

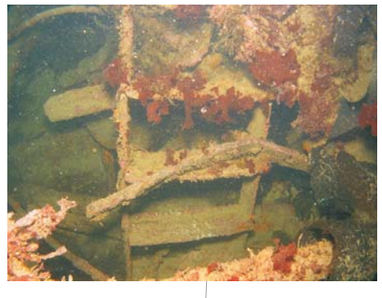
Figure 2

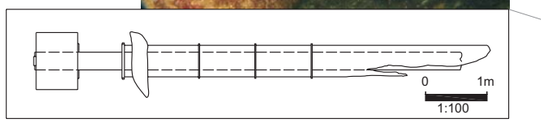
677200

677300

6130200

6130100





Collapsed remains of *Ella Hewett*

Intact ram bow (missing outer plates exposing internal framing)

Intact armour plating

2008, Bow

2009, 6cm Plating

2012, Ladder

2013, Metal tube

2014, Boiler N end

2003, Anchor

2010, Wood backing

2010, Wood backing

2010, 12cm plating

2015, Ella and Drake interface

2014, Boiler S end

Collapsed and broken hull structure (below water line), probable area of clearance operations in the forward magazine during the 1970's

2011, 6" Shells

Intact armour plating, but collapsed along rivet lines

Detached hull plating (below water line)

2020, Deck support for mooring

Coherent hull structure close to keel

Exposed internal compartments showing bulkheads, propshaft, steering machinery, rudder linkage

2021, Bulkhead

2021, Inside Bulkead

2021, Bulkhead

2021, Bulkhead

2022, Propshaft

2007, Metal Cylinder

Detached hull plating

2016, Stern

2018, Frames

2017, Hawse hole

2019, Rudder

2019, Trailing edge of rudder

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WA observations

Sidescan interpretation

0 50m

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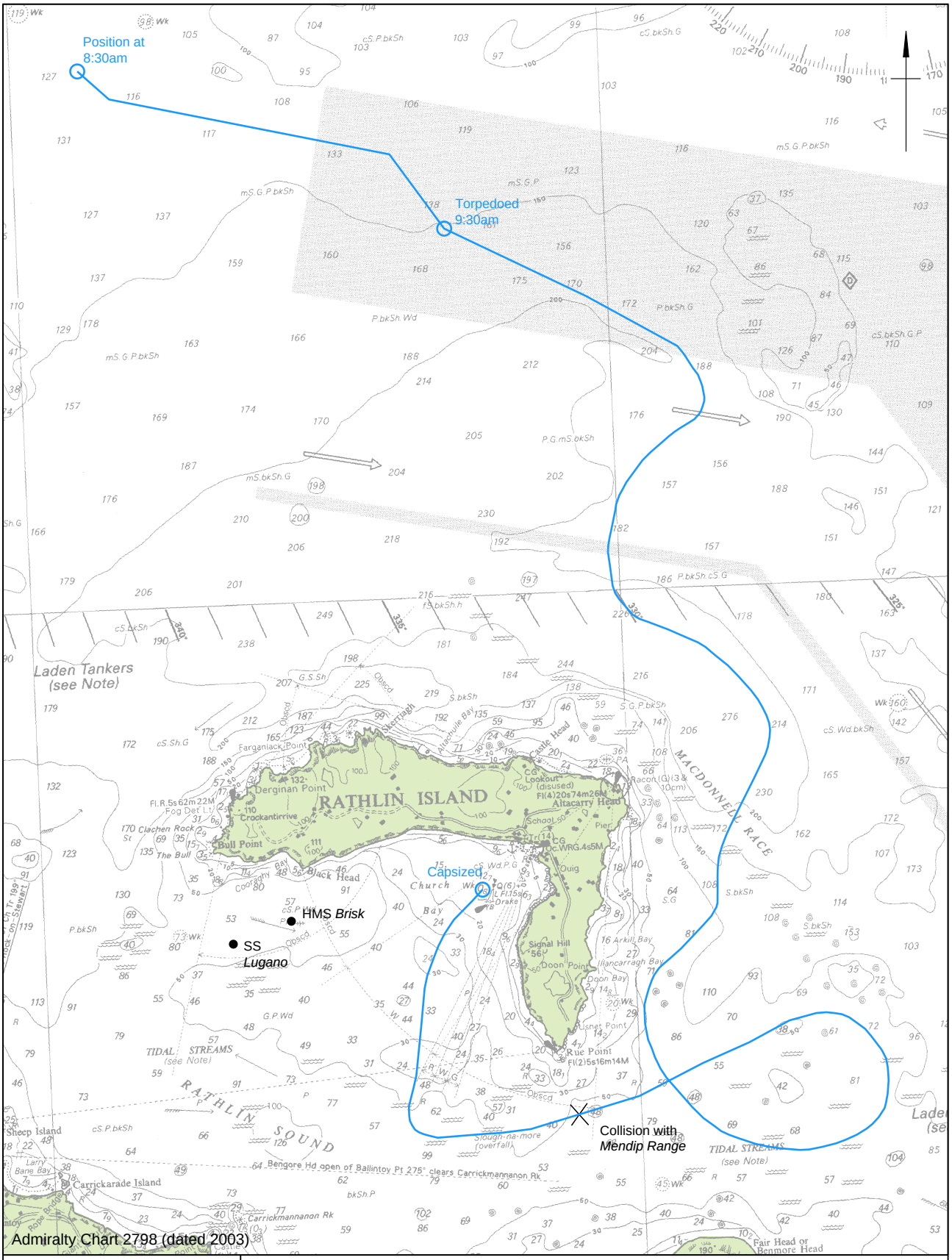
WA observations and sidescan interpretation

Figure 3



Route of HMS *Drake*

- Other ships hit by torpedo/mine

Drawing projection: WGS84 UTM z29

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Route of HMS *Drake* after torpedo attack

Figure 4

Plate 1. HMS *Drake* in 1909 (© www.battleships-cruisers.co.uk)

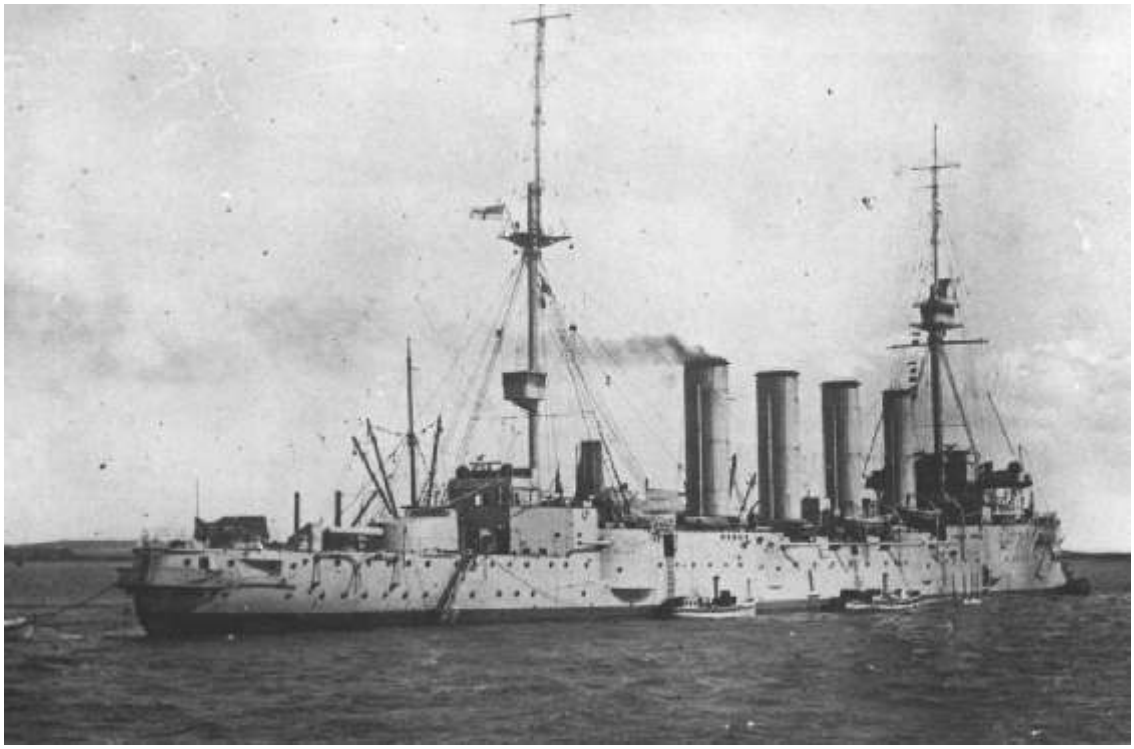

Plate 2. HMS *Drake* after1916 re-fit (© www.battleships-cruisers.co.uk)

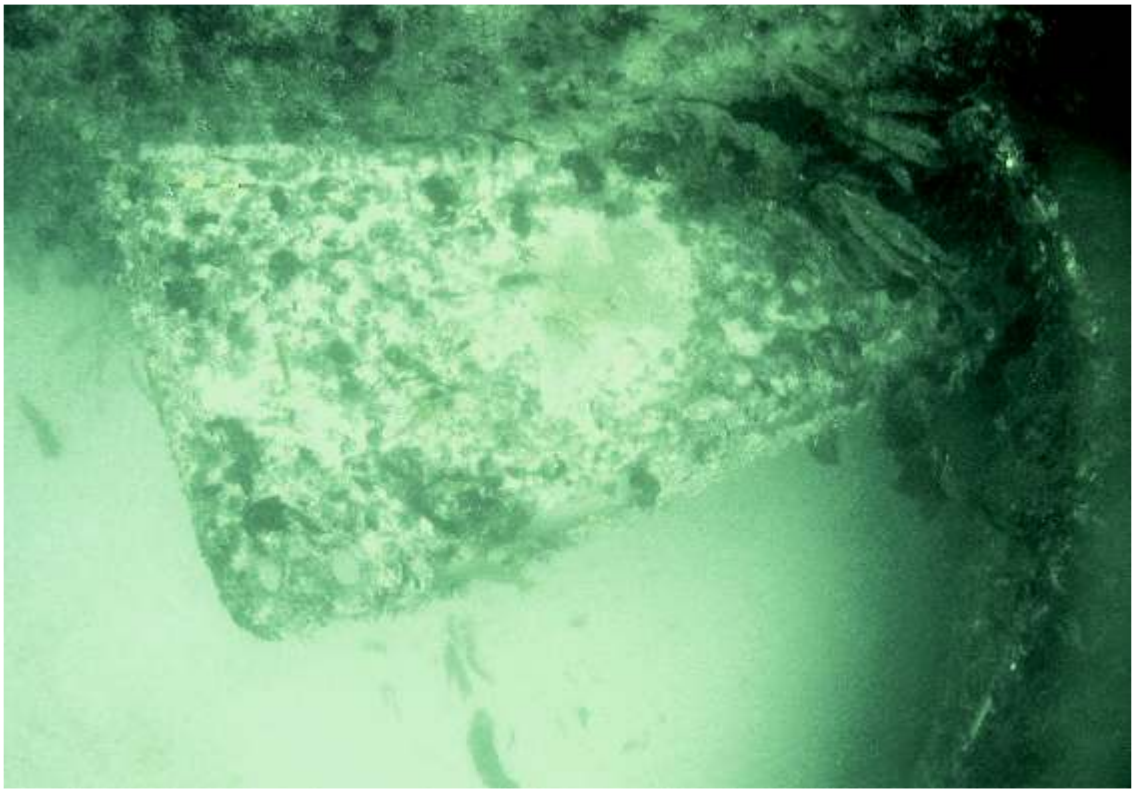

Plate 3. Paravane skeg on HMS *Drake*

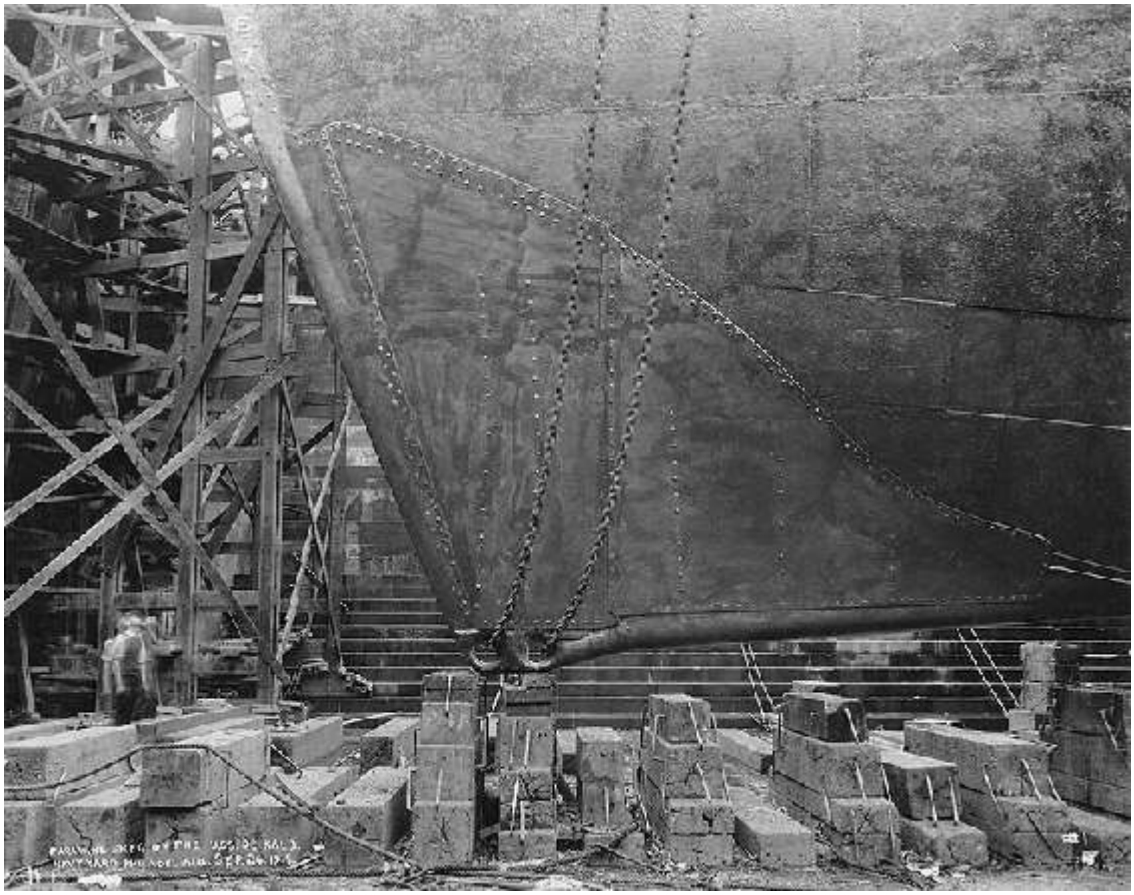

Plate 4. Paravane skeg fitted to USS *DeKalb*, September 1918
(© Department of the Navy (US): Naval Historical Centre)

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Beefblock

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