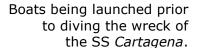




Running a Maritime Field School at Traeth Bychan, Anglesey, North Wales as part of the U-boat Project: Commemorating the forgotten U-boat war around the Welsh coast (1914-18)



Evening Talks in the Yacht Club at Traeth Bychan beach.









Report Title: Running a Maritime Field School at

Traeth Bychan, Anglesey, North Wales as part of the U-boat Project:
Commemorating the forgotten U-boat war

around the Welsh coast (1914-18)

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Report Ref: MADU - 140 - 2018

1.0 Introduction

In November 2017 the Royal Commission on the Ancient and Historical Monuments of Wales were awarded a grant of £409,700 from the Heritage Lottery Fund to run a 2-year, community-based project to tell some of the stories associated with the Great War at Sea (1914-18) around the Welsh coast (see Fig. 1).





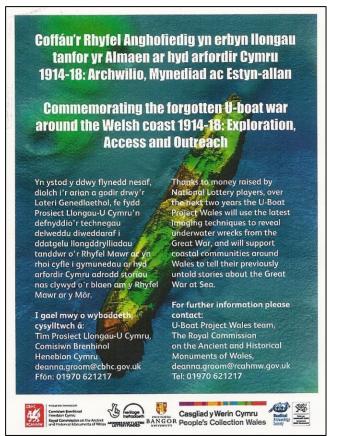


Fig. 1 Flyers produced by the RCAHMW to publicise the U-boat Project.

The project (which is known as the U-boat Project), would commence in 2018 and coincide with commemorations associated with the centenary of the end of World War 1, and Wales' "Year of the Sea".

As part of the project the Nautical Archaeology Society were commissioned to provide two Maritime Archaeology Field Schools, one in North Wales to be run during 2018 and the other in South Wales during 2019. Both field schools would be based around the wrecks of vessels that had been involved with the Great War.

This report refers to the planning and running of the first year's field school in North Wales, a subsequent report will be compiled following the second year's field school in South Wales.

This report has been prepared on behalf of the Nautical Archaeology Society (NAS) and has been project managed by Mark Beattie-Edwards, NAS CEO.

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The U-boat Project

2.3 Contributors

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Manchester Diving Group (Peter May / Mel Taylor)
Merseyside SAC – Branch 5 (John Rice / Geoff Oldfield)

Rhosneigr SAC (Kevin Williams) Tamworth SAC (Dave Cocker)

Whiston & Prescot SAC (Carol Warren)

Others: David Challinor – (Red Wharf Bay Sailing & Water Sports Club)

Martin Davies - Photographer

The U-boat Project

2.4 Abbreviations

BSAC British Sub Aqua Club

FoNS Friends of the Newport Ship

GAT Gwynedd Archaeological trust

HLF Heritage Lottery Fund

MADU Malvern Archaeological Diving Unit

NAS Nautical Archaeology Society

RCAHMW Royal Commission on the Ancient & Historical Monuments of Wales

ROV Remotely Operated Vehicle

RWBSWSC Red Wharf Bay Sailing & Water Sports Club

SAA Sub Aqua Association

SAC Sub Aqua Club

3.0 Selecting the Wreck

Around the Welsh coast there are thousands of shipwrecks of which hundreds have a connection with World War 1. Of these, most are not the illustrious and prestigious Royal Naval vessels that were well documented at the time and whose stories have been investigated, minutely scrutinised, and reported on in great detail. It was therefore in the spirit of the U-boat project (i.e. telling previously untold stories), that the vessels selected, and upon which the two field schools would be based, were chosen. They are the day-to-day craft, the un-sung, behind the scenes heroes that so ably supported the war effort in the background.

In North Wales, off the North East coat of Anglesey, there is a small shipwreck that was discovered by divers during the 1980s (see Fig. 2). From the inscription on the bell, which was raised at the time, the wreck was subsequently referred to as the *TR4*. Following research carried out by Chester Sub-Aqua Club in 2006, they were able to make a connection between the *TR4* and the wreck of a vessel known as the *Cartagena*.

Traeth Bychan Anglesey

Fig. 2 Location of the TR4 / Cartagena.

The *TR4* was built during World War 1 as part of a batch of 60 trawlers (rather unimaginatively named TR1 to TR60). These vessels were based on the established design of pre-war fishing trawlers, but instead of being built to trawl for fish, they were built for the purpose of trawling for mines laid by German U-boats (see Fig. 3).

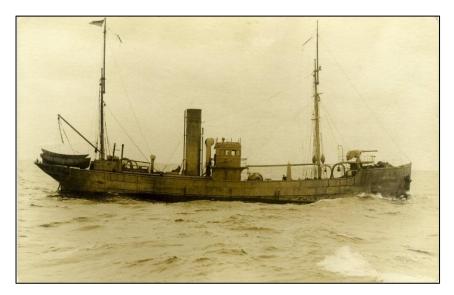


Fig. 3 One of the TR class vessels ready for service as an armed mine trawler.

After the war *TR4* was laid up and advertised for sale, but no buyers were forthcoming. In 1926 she was converted to a fishing trawler, re-named SS *Cartagena* and eventually sold to the Brazilian government. In January 1928 she set sail from Fleetwood for a non-stop journey to Rio de Janeiro, but the *Cartagena* and crew were never seen again!

There was obviously more to uncover regarding the story behind the *Cartagena* (ex-*TR4*) and although she lies in around 37m of water, approximately 6-miles off shore, and with only a short tidal window when diving is possible, she is substantially intact, sitting upright on the sea bed, and the decision was made to use this small trawler as the basis for the 2018 North Wales field school.

4.0 Selecting the Field School Location & Dates

With the wreck selected, the next thing was to find a suitable location and possible dates for running the field school over a long weekend, sometime between late Spring and early Autumn 2018.

Selecting dates was the easier of the two, as the site is best dived during low water neaps, so we were ideally looking for a weekend that coincided with neaps and when low water was close to midday. As can be seen from Appendix A, during 2018 there were:

15 weekends that coincided with neap tides

of which there were only

10 which provided low water around midday (shown in red)

of which there were only

4 which fell within the late Spring to early Autumn period (shown in red & bold)

In October 2017 members of the field school team attended the Anglesey Marine Archaeology & Shipwreck Conference in Moelfre on Anglesey, manning a stand to help publicise the U-boat Project and for people attending to register an interest in participating in the 2018 field school.

While in the area, the team inspected four possible locations where the field school could be based. These included village halls in Benllech, Marian-glas, and Moelfre together with the Red Wharf Bay Sailing & Water Sports Club House at Traeth Bychan. Of the four, the yacht club was the most attractive as it overlooked the beach where divers regularly launch their boats to dive the wreck of the *Cartagena* (see Fig. 4). Although we were unable to speak to anyone associated with the club during the visit, we subsequently set up a dialogue with the club's commodore, and by the end of January 2018 we had reached an agreement to be able to use their club house over the weekend of $22^{nd} - 24^{th}$ June 2018.



Fig. 4 The Red Wharf Bay Sailing & Water Sports Club House overlooking Traeth Bychan Beach (October 2017).

5.0 Field School Planning

Prior to the field school, plans were made to dive the site early in the season with the aim of trying to capture sufficient photographs of the wreck before the anticipated Summer growth of flora took a hold of the wreck obscuring details of the vessel. The main purpose for securing these photographs was to be able to process them using photogrammetry software, thereby producing a 3D image of the wreck and subsequent 3D model.

As can be seen from Appendix A, there was a dive window over the weekend of 10^{th} – 11^{th} March 2018, and plans were made to visit and dive the site over that weekend.

When the weekend arrived, the conditions looked favourable as follows:

Date	Saturday 10th March 2018	Sunday 11 th March 2018
Low Water	10:06	11:38
Wind	3 – 4 south-easterly	2 - 3 south-easterly
Temperature	7 – 10 degree C	8 – 9 degree C
Rain	80%	10%
Visibility	Good	Very Good

However, underlying this prediction was the knowledge that, during the preceding few days, a severe gale had hit the UK, and Anglesey in particular. The gale was so ferocious that it was given the name Storm Emma (or by the media, the "Beast from the East"), and dozens of boats in Holyhead Marina, only 16 miles to the west were destroyed (see Fig. 5).





Fig. 5 Local newspaper front pages following Storm Emma in March 2018.

Although we still visited the area, and spent the weekend on Anglesey sorting out some of the logistics for the field school, diving the wreck was postponed, as even though the weather and sea state were benign, the storm would have reduced underwater visibility to zero and diving with any hope of taking photographs would have been pointless.

The RWBSWSC operate a weather cam on their web site and we subsequently kept a close eye on the link, see: http://www.redwharfbaysc.co.uk/web-cam.html

The fall-back weekend for a pre-field school dive was a fortnight later 24th – 25th March, and that weekend the weather predictions were as follows:

Date	Saturday 24th March 2018	Sunday 25th March 2018	
Low Water	09:30	11:40	
Wind	2 – 4 north-westerly	3 – 4 west north-westerly	
Temperature	3 – 8 degree C	4 – 8 degree C	
Rain	10%	20%	
Visibility	Good	Very Good	

Over this weekend, Chester SAC bought along 2 boats and together with Martin Davies who would be taking all the underwater photographs and processing the results, the wreck was dived on both days and sufficient photographs taken to attempt to produce a 3D photogrammetry image of the upper section of the wreck (see Fig. 6).





Fig. 6 Launching Chester SAC boats for a pre-field school dive to obtain photographs of the wreck.

Unfortunately, it would appear that in this particular area of water around Wales, the flora does not die back sufficiently through the Winter period to reveal enough detail of the wrecks for the photogrammetry software to process the data (see Fig. 7). The result of our endeavours, therefore, were that no useful 3D image could be produced, and the formatted output data was similarly unsuitable for printing a 3D model of the wreck.



Fig. 7 An example of the flora covering the wreck of the Cartagena (© Chester SAC).

Despite this set-back the pre-field school planning continued, engaging with dive clubs and the general public. Bi-lingual flyers were produced (see Appendix B) and distributed through the Welsh representatives of the BSAC (Dai Atkins) & SAA (Ceri Jones) and through the NAS weekly e-mail up-dates to their members. The flyer was also available at all the talks and conferences attended (see section 8.0 Publicity) and sent out to everyone who registered an interest in participating in the field school and who signed up to be kept informed.

Funding to help with travel costs, boat fuel, air fills, launching, permits, etc, was offered to dive clubs who attended, and by bringing their club boat and their members to dive the site, they would be able to act as self-contained groups.

On the lead up to the field school the weekend's programme was planned to include talks on maritime related topics in the yacht club on the Friday and Saturday evenings, Events throughout the day both in the yacht club and on the beach, and of course diving the wreck of the *Cartagena*. For each event a series of bi-lingual laminated signs were also prepared (see Fig. 8).



Fig. 8 Examples of the bi-lingual laminated signs prepared for the field school events.

6.0 Delivering the Field School

The RWBSWSC club house has a maximum capacity of 60 people, and to help with regulating numbers for the Friday and Saturday evening talks the RWBSWSC very kindly put the free ticket sales on their web site and effectively ran a booking service for us. By the field school weekend, 35 tickets had been reserved for the Friday evening talks and 37 for the Saturday.

The evening speakers engaged for the two nights were as follows:

Friday 22nd June 2018

Deanna Groom (RCAHMW)

Commemorating the forgotten U-boat war around the Welsh coast 1914-18

Nigel Cossons (Chester SAC) SS Cartagena

David Hopewell (Gwynedd Archaeological Trust)

New Discoveries around the Anglesey coast

Melanie Taylor (Manchester Diving Group)
The Royal Yacht *Mary* (see Fig. 9).

Saturday 23rd June 2018

Dr Michael Roberts (Bangor University)

3D Multi-beam Sonar Imaging of Shipwrecks (see Fig. 10).

Lowri Roberts (Wessex Archaeology)
The Royal Charter

Brian Minehane (NAS)

The Nautical Archaeology Society: "Discovery is just the Beginning"

William Turner (MADU)

The Bronze Bell (Tal-y-Bont) Shipwreck



Fig. 9 Melanie Taylor providing an evening talk about the R/Y Mary.



Fig. 10 Dr Michael Roberts talking about 3D Multi-beam Sonar Imaging (© Helen Rowe).

The U-boat Project

During the day on Saturday 23rd & Sunday 24th June a variety of events were laid on in the RWBSWSC club house and on the beach including:

Static Displays by: The Blind Veterans UK (Llandudno)

The Nautical Archaeology Society

Information about: The SS Cartagena by Nigel Cossons from Chester SAC, including a copy

of the ships plans, a timeline history of the vessel, a video of diving the site, plus a 3D model printed from the data output from sonar imaging by

the Centre for Applied Marine Sciences at Bangor University.

Demonstrations of: Photogrammetry and Laser Scanning.

Beach Events: Excavating practice on a gridded area of the beach where artefacts had

been buried under the sand.

Intertidal surveying using a variety of equipment including a plane table,

dumpy level and total station.

Ropework, trying your hand a knot tying using rope kindly donated by

English Braids Ltd.,

Reading a series of maritime signal flag messages hung from the yacht

club's flagpole.

Children's events run by the RCAHMW including the construction of

maritime themed sand sculptures.

Trying your hand at piloting underwater Remotely Operated Vehicles

(ROV) in a large tank of water.

A bi-lingual field school programme for the evening talks and beach events was also produced (see Appendix C), and a selection of photographs from the beach events can be seen in Appendix D.

The main event of the weekend however was the diving. Despite the wreck of the *Cartagena* being around 6-miles off shore, in 37m of water, with having only around a 60-minute slack water dive window per day, and as such, not being a dive suitable for a novice diver, 7-dive clubs turned up with their dive boats, bringing with them 39 club members, of whom 31 dived the site, completing a total of 44 dives over the course of the weekend's 2 x 60 minute dives.

The dive clubs who participated were:

- Chester SAC (Chester)
- Hartford SAC (Northwich)
- Manchester Diving Group (Manchester)
- Merseyside SAC Branch 5 (Wallasey)
- Rhosneigr SAC (Anglesey)
- Tamworth SAC (Tamworth)
- Whiston & Prescot SAC (Liverpool)

Diving on the Saturday and Sunday was preceded by morning dive briefings in the yacht club (see Fig. 11).



Fig. 11 Dive Briefing in the yacht club prior to diving the Cartagena.

The purpose of the briefings was to show the divers the plans of the vessel, together with a drawing, video, multi-beam sonar image and 3D model of the wreck (see Fig. 12 & 13).



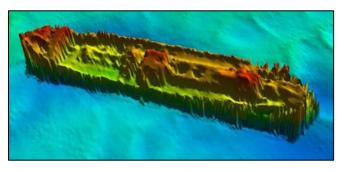


Fig. 12 A 3D model and multi-beam sonar image of the wreck courtesy of Bangor University.



Fig. 13 Nigel Cossons explaining the wreck to divers prior to diving the site.

The briefings were intended to provide the divers (particularly those that hadn't dived the site before) with an idea of what the site looks like and to help them navigate themselves around the wreck. It also gave divers the opportunity to ask questions and for Nigel Cossons, who has been carrying out research into the history of the *TR4 / Cartagena*, to suggest areas of the wreck that divers might like to have a close look at as they might answer some of the remaining unanswered questions (i.e. how and why she sank?).

Following the briefings, the dive clubs sorted out their kit, launched their boats and set off in time to catch the slack water window at the site (see Fig. 14).







Fig. 14 Dive clubs preparing to go to sea to dive the wreck of the Cartagena.

As can be seen from the above photographs, over the course of the field school weekend the weather was perfect for everything but sailing! The sea was calm, and the divers were rewarded with an unheard of 8 – 10m visibility on the site.

The only problems faced by the divers was that on the Sunday they encountered lion's mane jellyfish on the site and several divers received stings to their faces. They were however able to be treated upon surfacing and to wash off any residue in the ROV tank (see attached Fig. 15).



Fig. 15 Washing off the effects of lion's mane jellyfish in the ROV tank.

7.0 Research

Research into the history of the *TR4* and subsequently the *Cartagena* has been carried out by Nigel Cossons from Chester SAC and below is a copy of the timeline that he has produced for the vessel:

	town of the CC Courte round on TD 1
	tory of the SS <i>Cartagena</i> , ex <i>TR.4</i>
January 1917	Imperial Munitions Board began negations with the Canadian
	Ministry of Munitions to determine whether a 'certain number of
	trawlers and drifters' could be built in Canadian yards.
8 th February 1917	Canadian Government confirmed it would undertake the programme.
14 th February 1917	Admiralty provided general particulars of the vessels; trawlers to be Castle class vessels.
27 th February 1917	Orders placed. Initially 36 steel trawlers (<i>TR.1</i> to <i>TR.36</i>) and 100 wooden drifters (<i>CD.1</i> to <i>CD.100</i>). Later a further 24 trawlers were ordered. Total cost C\$11 million (final post war settlement C\$18 million). Vessels retained in Canada following the appearance of German U boats in the eastern Atlantic.
27 th November 1917	Probable date <i>TR.4</i> launched at the Western Dry Dock Co (later Port Arthur Shipyard Co), Port Arthur, Ontario (now Thunder Bay); part of an initial order from this yard for <i>TR.1</i> to <i>TR. 6</i> . Undated photograph of <i>TR.4</i> afloat at the yard (see Fig. 16).
Late 1917 (exact date unknown)	Sailed via the Great Lakes and the St Lawrence Seaway for the Atlantic.
1 st January 1918	TR.1 and TR.2 reported to be at Halifax. TR.4 reported to be completed and on the St Lawrence awaiting re-opening of navigation in the Spring.
24 th May 1918	Probable date of commissioning into the Canadian Navy, armament 1 x 12 pounder gun. Chief Skipper Harry Adlem RCN drafted 24 th May 1918, Chief Skipper Nelson Watson Allen RCN drafted 29 th May 1918. Also drafted to the ship on 29 th May 1918 Denzil Stokes Howey, RCNVR, Wireless Operator 4 th Class and Herbert Ward Stones, RCNVR, Mate.
1918/1919	U boat patrols, convoy escort and possibly mine sweeping on the eastern seaboard of Canada. Likely to have been based at either Halifax or Sydney, Nova Scotia. Ships log held by the Canadian National Archive.
25 th August 1918	Only recorded action by TR class trawlers. HMCS <i>Hochelga</i> (requisitioned steam yacht) and <i>TR.22</i> sighted <i>U-156</i> but steamed away to avoid action. As they steamed away, they were met by HMCS <i>Cartier</i> and <i>TR.32</i> and signalled 'Do you see reinforcements astern, don't you think it better to wait for them?' Ordered by the senior officer in HMCS <i>Cartier</i> to turn around and engage the enemy but by this time <i>U-156</i> had left the area. Lieutenant Robert D Legate of the <i>Hochelga</i> was court marshalled and dismissed from the service. The TR class trawlers were smaller, slower and less well armed, than the <i>U-156</i> .
March 1919	End of ships log held by the Canadian archive. Reported as paid off. Treasury papers noted there were 60 trawlers and 86 drifters laid up in Halifax, Nova Scotia.
1919	Anderson Company of New York appointed to sell vessels but unable to sell them into the American market due to US shipping laws. Six vessels sold to the Mexican Navy.

with Captain D G Munro offered to bring the vessels across to the UK to sell them. May 1920 Treasury papers noted that 45 trawlers remained for disposal in Halifax and that they were suffering damage whilst tied up. Note from the Treasury urged that this offer be accepted, a hand annotated comment stated that these vessels had been a 'bad egg from start to finish'. June 1920 Captain Munro and 300 men to be dispatched to bring the vessels back to the UK, although this may have been delayed. July 1920 Rose Street Foundry contracted to bring the vessels to the UK, Convoys of CD class drifters to be escorted across the Atlantic by TR class trawlers, probably via the Azores, to Inverness. Log book of the voyage of CD.76 held by Highland archive, Inverness. September 1920 Rose Street Foundry Directors Minute books noted that 53 trawlers were to be brought across the Atlantic and that six were already berthed in Inverness. 1920/1921 7R.4 crossed the Atlantic to Inverness. 1920/1921 Record of 'TR.4 from West to Dochfour, date in 4 Feb 1921'. 10° February 1925 Idid up in the Mulritown Basin on the Caledonian Canal, Inverness under the management of the Rose Street Foundry. 10° February 1925 Iter to Winston Churchill From Mr B Allenby of Aberdeen noting that there were about 18 trawlers left and that most of these ships had been sold overseas because the 'average British trawler owner had little faith in these Canadian built vessels'. The letter suggests that the Admiralty pay to fit out these vessels for fishing and they are used to provide employment at Aberdeen. 122° September 126° August 1926 128° September 1296 Left Grimsby under tow. Skipper S Polkingham of Grimsby. 1297 September 1296 Left at Boulogne for 'coal and repairs'. 1297 September 1297 Sailed for Ostend for reconditioning and classification. 12 tons of permanent ballast removed. 14° December 1270 Sailed for Ostend for reconditioning completed. 1297 Sailed for Ostend for Reconditioning completed. 1297 Sailed for Briedwood. 1298 Sailed		
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	4 th February 1928	Sea Fishing and Ice Co were unwilling to admit the ship was lost until she failed to arrive at Rio de Janeiro, forcing relatives to wait for six
r · · · · · · · · · · · · · · · · ·	4 th April 1928	Posted missing at Lloyds. Lost with all hands.

26 th March 1929	Findings of the Board of Trade Inquiry announced. The report noted that beyond the weather which was not thought sufficient to account for the casualty the Court could find nothing to guide it as to the probable cause of the loss of the vessel. No blame was attached to the Company for the loss but there were concerns at the Inquiry about overloading.
18 th November 1929	Article in The Times noting the discovery of a sunken vessel about three miles off the Great Orme by HMS <i>Beaufort</i> , surmised to be the <i>Cartagena</i> though this is not consistent with the known position of the wreck.
Late 1980's	Bell recovered marked TR.4.
1990	Last TR series trawler (<i>Chandbali</i> ex <i>TR.39</i>) reported broken up in India.
2006	Wreck known as TR.4 and Kincorth. Identity as Cartagena ex TR.4 confirmed by Chester Sub Aqua Club located at 53° 25.015′N 004° 07.500′W, depth to seabed 38m typical depth over the main deck 32m to 34m. Ships bell currently held by the Maritime Command Museum, Halifax, Nova Scotia.

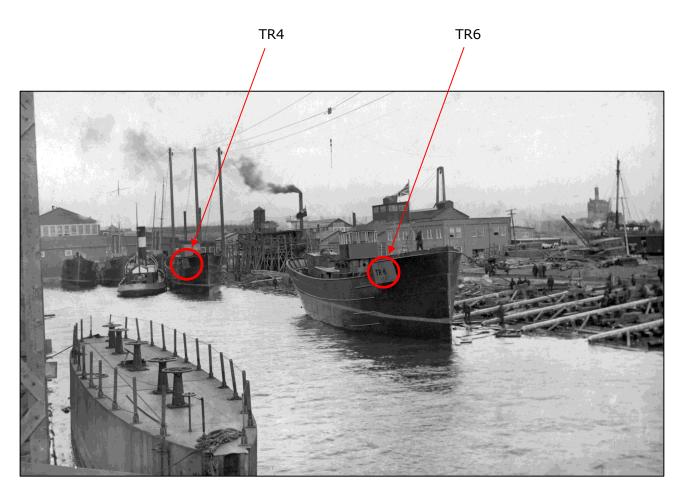


Fig. 16 The TR4 under construction in 1917.

8.0 Publicity

Prior to the field school, members of the field school team attended 4 conferences to promote the U-boat Project and to encourage people attending to register an interest in participating in the field school. The conferences included:

October 2017 - Anglesey Marine Archaeology & Shipwreck Conference in Moelfre on Anglesey

November 2017 - Nautical Archaeology Society (NAS) - Annual Conference in Portsmouth

March 2018 - Dyfed Archaeology Trust (DAT) - Archaeology Day 2018 in Aberystwyth

May 2018 - CHERISH Professional Seminar in Llandudno

In addition to the above, during the DAT Archaeology Day, a talk was provided with the title "Maritime Archaeology in Wales: On-shore, Off-shore and in the Intertidal Zone" which included an outline of the proposed field schools.

One publicity event that did work was by attending the CHERISH Professional Seminar in Llandudno during May. During the seminar the field school team made contact with Dr Gary Robinson from the History & Archaeology Faculty of Bangor University and he subsequently encouraged! a dozen of his students to cross the Menai Straits onto Anglesey to join in the field school.

It's a long and difficult journey for south Wales dive clubs to visit Anglesey, particularly towing a boat, and although there are very few dive clubs in north Wales, we could probably have tried harder to encourage more of them to attend. However, if there had been more than the 7-clubs that did attend, with such a short dive window, the wreck could easily have become over populated with divers.

The divers that did turn out, did so having seen the flyers distributed to their clubs via the BSAC and SAA, from articles in dive magazines, the NAS web site and the NAS weekly e-mail updates sent to its members. However, publicity locally for the event, aimed at the general public was poor. No Radio or TV contacts appear to have been made and only one newspaper article appears to have been printed following copy supplied by the field school team (see Appendix E).

Signage to the event over the weekend was also non-existent, and although flyers had been left in the beach café and yacht club, inevitably the only members of the general public that the field school managed to engage were those who happened by accidentally.

Despite the weather being perfect for the field school throughout the weekend, and there being a strong showing from dive clubs, the number of members of the general public on Traeth Bychan beach over the weekend was disappointing. This disappointment was compounded on the Sunday afternoon when jet skies and children were abandoned by many adults who disappeared to watch a televised football match of England playing Panama in the World Cup!

9.0 Conclusions & Legacy

The success of the field school during 2018 can be put down to 4 major factors:

- **The weather:** It could have been absolutely miserable with the weekend spent huddled inside the yacht club and no diving taking place. Instead the field school coincided with the start of the long hot Summer period.
- **The dive clubs:** 7-clubs took a gamble on the weather, the site conditions, and turned up and dived. Only one club was from Wales so some of the clubs made a considerable effort with a long journey, towing their dive boat to join us.
- **The field school team:** The volunteers who turned-up to help run the events, provide some evening talks, back-up for the diving activities and generally assisting in any way they could.
- The Red Wharf Bay Sailing & Water Sports Club: In particular the commodore David Challinor. Both during the run up to the field school, and over the weekend itself, David and his fellow club members could not have been more helpful. Nothing was too much trouble, and without their backing and assistance the event would not have been anywhere near as successful.

During the field school weekend, in keeping with the maritime theme, a pair of bi-lingual messages regarding the event and the wreck of the *Cartagena* were placed inside plastic bottles and hidden locally to Traeth Bychan as part of the worldwide Geocaching treasure hunt pastime (see Fig. 17).

After 5-months, over 60 people had found the caches, read and replaced the messages for others to discover, so this has been one successful legacy following the field school. A copy of the messages can be found in Appendix F.



Fig. 17 The pair of Geocache messages in a bottle

Following the field school, talks have already been provided at two additional conferences as follows:

- November 2018 MOROL / RCAHMW Conference "Commemorating the Welsh Experience of the Great War at Sea" in Pembroke Dock. This talk was titled "The wrecks of the *Cartagena* and *Leysian*".
- November 2018 Nautical Archaeology Society (NAS) / Friends of the Newport Ship (FoNS)

 Conference "Building a Future for Our Maritime Past" in Newport. This talk was titled

 "NAS in Wales: Past, Present & Future" (see Fig. 18).

and another talk is in the pipeline for:

April 2019 – RCAHMW U-Boat Exhibition with the Friends of the Newport Ship. This talk has a working title of "The 1914-18 U-boat War around Wales and the wrecks of the *Cartagena* and *Leysian"*



Fig. 18 A talk on the 2018 field school at the NAS / FoNS Conference in Newport (© Lynn Jones).

In addition to the above, other legacies from the field school include numerous photographs, videos, post dive interview recordings with divers (see Fig. 19), feedback forms (see Fig. 20) and web site entries see:

https://www.youtube.com/watch?v=3IeaydCch38&feature=youtu.be

http://www.madu.org.uk/Page%204.38%20-%20RCAHMW%20-%20HLF%20-%202018.dwt



Fig. 19 A diver being interviewed following their dive.

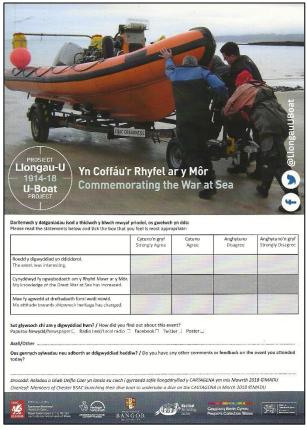


Fig. 20 Field School Feedback Forms.

Appendix A – 2018 Tide Timetable for North East Anglesey

Month	Weekend Dates	Low Water	Tides	Notes	Quick Tide Code
January	6 th - 7 th				
	13 th - 14 th	14:50 / 15:40	Neaps		D6 E0
	20 th - 21 st	,	•		
	27 th - 28 th	12:50 / 14:00	Neaps		C6 D2
February	3 rd – 4th	·	•		
,	10 th - 11 th	13:15 / 14:10	Neaps		C8 D3
	17 th - 18 th		•		
	24 th - 25 th	11:00 / 12:20	Neaps		B7 C4
March	3 rd - 4 th		•		
	10 th - 11 th	10:50 / 12:00	Neaps		B6 C2
	17 th - 18 th		•		
	24 th - 25 th	09:30 / 11:40	Neaps		A9 C0
April	31 st - 1 st	·	•	Easter	
•	7 th - 8 th	10:10 / 11:00	Neaps		B3 B7
	14 th - 15 th		•		
	21 st - 22 nd				
	28 th - 29 th				
May	5 th - 6 th			Bank Holiday	
,	12 th - 13 th				
	19 th - 20 th				
	26 th - 27 th			Whitsun	
June	2 nd - 3 rd				
34.10	9 th - 10 th				
	16 th - 17 th				
	23 rd - 24 th	14:10 / 15:10	Neaps		D3 D8
July	30 th - 1 st				
34.7	7 th - 8 th	12:00 / 13:00	Neaps		C2 C7
	14 th - 15 th		a.ps		02 02
	21 st - 22 nd	12:40 / 13:50	Neaps		C5 D1
	28 th - 29 th				
August	4 th - 5 th	10:10 / 11:10	Neaps		B3 B8
ragase	11 th 12 th		a.ps		
	18 th - 19 th				
	25 th - 26 th			Bank Holiday	
September	1 st - 2 nd			- Barne Frontacy	
осресинос.	8 th - 9 th				
	15 th - 16 th				
	22 nd – 23 rd				
	29 th - 30 th				
October	6 th - 7 th				
5 555 551	13 th - 14 th				
	20 th - 21 st	15:20 / 16:00	Neaps	1	D9 E2
	27 th - 28 th		.10000		
November	3 rd - 4 th			1	
	10 th - 11 th			1	
	17 th - 18 th	12:20 / 13:45	Neaps	1	C4 D0
	24 th - 25 th	12.23 / 131.13	псаро		0.20
December	1 st - 2 nd	11:50 / 13:00	Neaps		C1 C7
2 000.11001	8 th – 9 th	11.55 / 15.65	псаро		010/
	15 th - 16 th	10:10 / 11:30	Neaps	1	B3 B9
	22 nd – 23 rd			+	

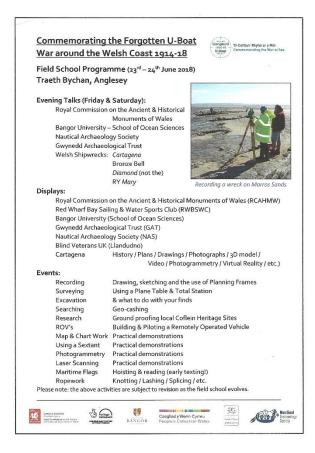
Appendix B - Bi-lingual Field School Publicity Flyers

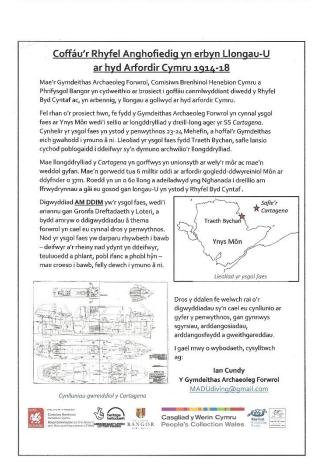
MADUdiving@gmail.com

Casgliad y Werin Cymru People's Collection Wales

Commemorating the Forgotten U-Boat War around the Welsh Coast 1914-18 The Nautical Archaeology Society, the Royal Commission on the Ancient and Historical Monuments of Wales and Bangor University are collaborating on a project to commemorate the centenary of the end of the First World War, and in particular the shipping losses that occurred around the Welsh coast. As part of this project the Nautical Archaeology Society (NAS) will be running a field school on Anglesey during 2018, based around the wreck of the steam-trawler SS Cartagena. The field school will be held over the weekend of 23^{rd} - 24^{th} June, and the NAS would like to invite you to join us on the field school which will be based at Traeth Bychan which is a popular launch site for divers wishing to visit the site. The wreck of the \textit{Cartagena} lies upright and mostly intact, approximately 6-miles off the north-east coast of Anglesey at a depth of 37m, and was one of a fleet of 60 vessels that were purpose built in Canada to be engaged in trawling for mines laid by German U-Boats during the First World War. Site of the Cartagena The field school will be a FREE event. funded by the Heritage Lottery Fund (HLF) and will include a selection of maritime themed events throughout the course of Anglesey the weekend. The aim of the field school is to provide something for everyone, divers & non-divers, families & children, the young & the not so young. Everyone is welcome, so come along and join us THE TOTAL A sample of some of the events proposed over the course of the weekend including talks, displays demonstrations and activities can be For further information, please contact: Nautical Archaeology Society

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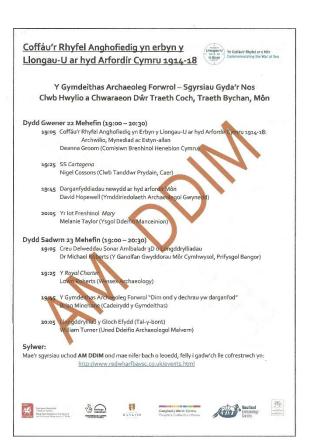


Appendix C - Bi-lingual Field School Programmes









Appendix D - Field School Events





Excavating a gridded area of the beach where artefacts had been buried.





Intertidal surveying using a plane table, dumpy level and total station.







Ropework, trying your hand at knot tying.







Reading maritime signal flags.

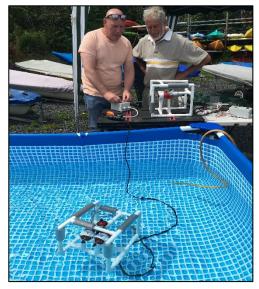




Children's events & maritime themed sand sculptures.



Piloting underwater Remotely Operated Vehicles (ROV).



Appendix E - Field School Press Release

Copy for Press Publication:

Commemorating the Forgotten U-boat war around the Welsh Coast 1914-18



Over the weekend of $22^{nd} - 24^{th}$ June, the Nautical Archaeology Society (NAS) will be running a maritime field school at the Red Wharf Bay Sailing & Water Sports Club on Traeth Bychan Beach, Anglesey.

The event forms part of a Heritage Lottery Funded project instigated by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) to commemorate the centenary of the end of the First World War.

The field school is a FREE event, open to all and suitable for all ages, just come along and join in on the maritime activities taking place which include:

- Evening talks on Friday 22nd and Saturday 23rd from 19:00 (tickets available on-line at http://www.redwharfbaysc.co.uk/events.html)
- Displays, Demonstrations & Activities during Saturday and Sunday (for more information see: https://www.nauticalarchaeologysociety.org/WalesUBoatWar)

Over the course of the weekend (weather permitting), divers will be launching their boats to dive the wreck of the *Cartagena*, a steam trawler that was built during World War One to trawl for mines around the Welsh coast, but now lies in 37m of water, around 6-miles off Traeth Bychan.



 ${\it Divers \ launching \ their \ boat \ prior \ to \ diving \ the \ wreck \ of \ the \ Cartagena-@Malvern \ Archaeological \ Diving \ Unit}$

As part of the project, Bangor University, School of Ocean Sciences have been recording World War One wreck sites around the Welsh coast from their survey vessel the *Prince Madog*, including the wreck of the Cartagena, and their results will be on display during the field school.

For further information regarding the field school, please contact the Nautical Archaeology Society:

Tel:

02392 818 419

E-mail:

nas@nauticalarchaeologysociety.org









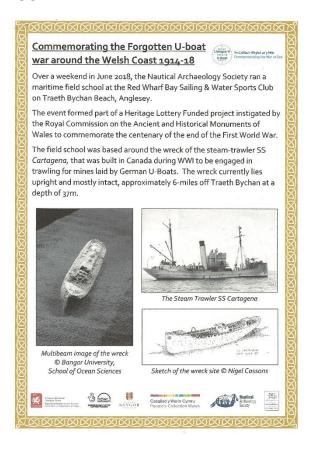


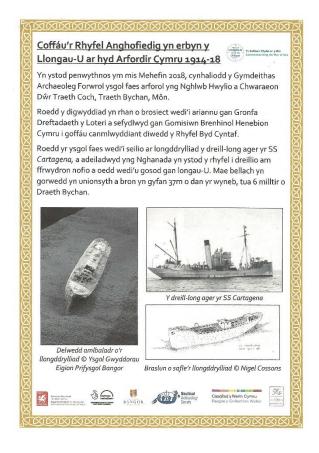


Below is the only article thought to have been printed locally encouraging members of the general to participate in the field school.



Appendix F - The Geocache Message









Traeth Bychan Bay during the field school:



Viewed from the sea.



At high water.



At low water.