

X Marks The Spot



"... at low tide they are exposed and present an eerie sight as they lay rotting, half buried in the sand"

words & pictures ALISON FULLER-SHAPCOTT

Some girls can't resist a sailor but the maritime attraction that pulls at Alison Fuller-Shapcott is a wreck. Now our regular contributor and part-time naval archeologist is looking for clues in the Forth Estuary ...

OUT IN Aberlady Bay, just east of Edinburgh on the south side of the Forth Estuary, are the remains of two WW II midget submarines. Most of the time they are covered by water, but at low tide they are exposed and present an eerie sight as they lay rotting, half buried in the sand.

In this state they offer a superb opportunity to study an extremely important part of naval history without the need for scuba gear. But beware, wreck research is addictive. This is a tale of a simple interest quickly becoming an obsession, which saw me travelling the length of Britain in my quest to find the story behind these wrecks.

I came to hear about the wrecks because I was looking for a suitable project for my Nautical Archaeological Society (NAS) Part II award.

"Have you ever dived the submarines out in Aberlady Bay?" I was asked one day at work.

"No," I replied, "where are they and how do you get to them?"

And so it was that I dragged my husband and son out on to the sands of Aberlady Bay on an extremely bitter December morning, armed with a hand drawn map, camera and measuring tape. It has to be said that my volunteer helpers were not very impressed with the rotting hulks presented to them.

There are plenty of wrecks in the area which would have made suitable project material, but the opportunity to study a WWII wreck with an illustrious history, that didn't require me finding like minded diving buddies on a regular basis made this an excellent candidate.

The Nautical Archaeological Society's training in underwater and foreshore archaeology is divided into four parts. The first part is an introduction into the aims and techniques of archaeology with some practical work in measuring and recording underwater sites. The Part II award involves a project, either as an individual or as part of a group to demonstrate some of the survey techniques learnt in the Part I and present it in the form of a report.

It's not necessary to find a 'real site', the NAS have sunk parts of wrecks and small boats to provide training areas, but as this opportunity came up I decided to investigate one of the submarine wrecks. Not only was this a chance to work on a real site, but the submarines had never been formally identified.

Having initially visited the site, taken photographs and various measurements of the length and position of the vessel's main features, such as the forward and main hatch, and periscope dome, it was back home

to do some research. My first enquiry was made on line to CANMORE, the data base of historic sites, set up and maintained by the Royal Commission of Ancient and Historic Monuments of Scotland (www.rcahms.gov.uk). Access to the data base is free, although you have to set up an account, but it quite often has some excellent information about wrecks around our coast. It also relies on divers reporting back additional information to keep the database updated. The wrecks were listed and described as miniature submarines known as X-craft, but which type of X-craft was still open to debate.

The history of the X-craft is well documented in the numerous books on WWII submarines. These four-man craft were designed and built during the Second World War for attacking targets in defended harbours. The crew of four included a diver who would enter and leave the sub through the forward wet and dry hatch. It was the diver's task to cut through submarine nets to allow the submarine access to defended areas.

They were extremely successful and best remembered for their part in the attack on the German battleship *Tirpitz* in September 1943, known as Operation Source. The tiny craft went on to play an important part in the D-Day landings, by carrying out beach

reconnaissance and acting as navigational beacons.

The two prototypes were given the identification numbers X3 and X4 and the operational craft X5 to X10 and X20 to X25. The design was such a success that it was modified after the war for use in the Far East as the XE-craft. There was also a further modified craft the XT-craft of which six were built in 1943 for use as training craft in 'air to sea' exercises.

Having taken photographs and some basic measurements of the better preserved of the two wrecks, which I called wreck A, I could compare my results with information and photographs in the numerous books on midget submarines. I concluded that the wreck was definitely an X or XT-craft from the shape of the vessel, but beyond that the identification of the submarine was still a mystery.

I contacted the Royal Navy Submarine Museum (www.rnsubmus.co.uk/) in Gosport, Hampshire to see if they had any further information. All they could tell me was that the submarines had been used as target practice for aircraft using 20mm cannon shells in 1946. However, I was free to come and visit the museum archives as they may contain more information. I made an appointment for June as I was due to be visiting the area for a family holiday.

Meanwhile I had to carry out a more detailed survey of part of the wreck for the project. There are various ways of surveying a site, but the objective is to measure key items or objects in relation to other items to produce a scale drawing of the area. In order to draw an elevation



of the forward hatch, deck and periscope dome I had to take an initial 80 measurements, followed by another 50 measurements when I found that some of my data didn't match up.

In all I made five visits to the site, took about 100 photographs, made 200 measurements and produced three scale drawings of the forward deck area. It seems like an awful lot of work, but the point is that when this wreck eventually disintegrates and disappears, this data will be all that is left for any future research.

I duly visited the Royal Navy Submarine Museum Archives in June, and they contained so much information that I had to return in November to complete my research. The information found in the archives was absolutely fascinating. Not only was there the original order information for the craft, but memos and reports on their development and subsequent demise, and the report of the

target trails using 20mm cannon shells in Aberlady Bay.

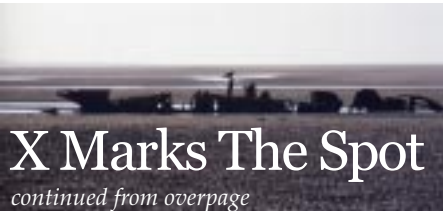
Unfortunately there were no good plans of the craft, only a few sketches. There was also a photographic archive with pictures of various types of X-craft, and it was these pictures and the sketches that gave me a clue as to which type of X-craft is in Aberlady Bay. From the photographs and sketches of X and XT-craft there was a distinct difference in the periscope design. Although the periscope was long gone from wrecks, the bolted flange left on the remains of the periscope dome identified them as XT-craft.

A visit to the National Maritime Museum Archives, Greenwich in December resulted in me being the proud owner of a beautiful set of plans for XT-craft. These plans confirmed that the wrecks were XT-craft, but also

continued overpage



Some 100 photographs and 200 measurements were taken by Alison during her research of the Aberlady Bay X-Crafts



X Marks The Spot

continued from overpage

allowed me to discount XT5 as a contender for the wreck I had surveyed. The plans showed that XT5 was 18 inches longer than any of the other XT-craft (there was a modification to the engine mountings to reduce noise), and my wreck was too short. Unfortunately the second wreck is far too disintegrated to measure its length, and therefore can't be discounted as a contender for XT5.

So a year after I started the project, I hope I now have most of the story of the XT-craft of Aberlady Bay. Although I haven't been able to identify exactly which number XT-Craft they are, I haven't given up hope of finding this information out one day.

My family are also extremely relieved that the report is finished, as the dining room table, which has been covered in drawings and photographs of the wrecks for the past year, can be returned to normal use. My report has been submitted to the Nautical Archaeological Society and copies of it have also been given to the Royal Navy Submarine Museum and to the Royal Commission of Ancient and Historic Monuments of Scotland, thus making the survey data available to anyone else who has an interest in these wrecks.

If you wish to visit the wrecks (Grid Ref. NT 45081 81900) they are uncovered two hours before low water, however they are some distance out from the shore (the walk from the car park to the wrecks is about two miles) and it is not advisable to linger after low water. Also the walk takes you through a wildlife nature reserve, so no dogs are allowed and please observe any access restrictions during the nesting season.

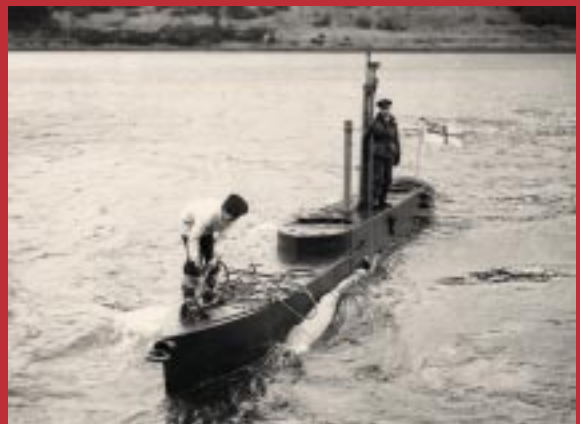
XT-CRAFT WERE simplified versions of the now famous X-craft which took part in the attack of the Battleship *Tirpitz*. In May 1943 an order was placed with Vickers-Armstrong Ltd. for 6 XT-craft; they were named *Extant* (XT1), *Sandra* (XT2), *Helen* (XT3), *Excelsior* (XT4), *Extended* (XT5) and *Xantho* (XT6). They were to be used for training in air to sea exercises as these mini submarines were excellent substitutes for full sized submarines as hunting craft, with the obvious economy of scale and manpower.

In June 1945 all six XT-craft were scrapped and sent to the Royal Naval Construction Research Establishment in Rosyth along with the two prototype X-craft, X3 and X4. Between 1946 and 1947, the six XT-craft and X3 and X4 were allocated to a programme of trials run by the Ships Target Trials Committee which included submerging them to collapsing depth, determining the effects of aircraft attack using 20mm cannon shell, and damage by underwater non contact charges (rupture trails). Unfortunately once the craft were scrapped, their identification numbers disappeared from the records and they simply became 'X-type' craft. It would appear that two of the XT-craft were allocated to the Aberlady Bay trails. The two craft were stripped of their batteries, fuel and other flammable material, and moored in the bay so that they would be afloat during the attack, but left dry for examination at low water.

There were two trials; the first using 20mm SAPI ammunition took place on the 1st May 1946. The first craft was attacked by two Seafires and the second craft by a Mosquito. The second trial on 6 May used HEI ammunition carried by a Seafire. After the trials the craft were examined, reports written and then left to rot where they lay. Further information on the wrecks visit the CANMORE Data Base (www.rcahms.gov.uk) and search under X-Craft: Aberlady Bay, Firth of Forth or NMRS Number NT48SE 8008


For more information on Underwater and Foreshore Archaeology, including special interest courses on wreck research visit www.nasportsmouth.org.uk.

Words by Alison Fuller-Shapcott. Pictures by Alison and David Fuller-Shapcott, except for the photograph of XT1 in operation which is by kind permission of the Royal Navy Submarine Photographic Archives



XT1 in operation (courtesy of the Royal Naval Submarine Photographic Archives)

The XT-Craft of Aberlady Bay




Wakatobi Resort and Pelagian Liveaboard


- Remote, peaceful tropical island, 650 miles NE of Bali in the Banda Sea, reached by direct private charter flight from Bali.
- Unlimited world-class diving on 300+ miles of pristine coral with exceptional marine life, boat and night diving, photographer's dream, Nitrox available.
- Excellent cuisine, comfortable en-suite accommodation with air-con, for 46 discerning and passionate divers.
- Also, the famous "Pelagian" liveaboard, offering 6 double cabins and the opportunity to cruise a greater area of the Banda Sea.

Wakatobi Dive Resort awarded PADI's 2005 Project AWARE Environmental Award

Start www.wakatobi.com
Tel 01452 740 781 - Start Dates - 07/04/10-09/04/10



without equal
www.wakatobi.com





QUALITY ASSURED

DIVE THE ANTRIM COAST & BELFAST LOUGH

NORTH IRISH LODGE PADI DIVE RESORT ISLANDMAGEE, CO ANTRIM, N.IRELAND

Tel/Fax 028 9338 2246
www.northirishlodge.com

Dive over 40 shipwrecks on our new 10m RIB 2 x 200HP

2 Nights + 4 Dives + Ferry = From £186 PPS
3 Nights + 6 Dives + Ferry = From £260 PPS

BOOK 7 DIVERS GET THE 8TH ONE FREE

Quality assurance - "Mystery Diver" Diver magazine Feb 2005
Qualified Skipper/Instructor with over 30 yrs diving experience
Winner of 6 Awards for excellence.