SOUTHSEA SUB-AQUA CLUB

BSAC BRANCH 0009

PROJECT 'KEDGE HOOK'

HM LANDING CRAFT TANK 427

Peter Small Award Entry

By

Alison Mayor and members of Southsea Sub-Aqua Club

September 2012

Contents

FOREWARD

His Majesty's Landing Craft Tank (LCT) 427 sank at 03:03 on 7th June 1944 at Spitbank Gate as she approached her home port. LCT 427 was returning to Portsmouth after delivering a cargo of Sherman Duplex Drive (DD) tanks to Gold Beach on D Day as a part of the British lead assault under Operation NEPTUNE. As she approached Portsmouth in the early hours of 7th June 1944, part of a flotilla of Tank Landing Craft, she was in collision with the battleship HMS Rodney. The LCT was sliced in two amidships as she collided with the bow of HMS Rodney. All the crew (13) of LCT 427 were lost in the tragedy. The incident was not officially recorded for some months during which time the LCT and her crew were reported as missing. The exact location of LCT427 was not known when we began our investigation.

This report details the planning, diving, survey phases of Project Kedge Hook and the results of historical research relating to the loss of LCT427 and also covers the subsequent outreach and publicity culminating in a memorial service for the crew who tragically lost their lives when LCT427 sank. The report includes the experiences of Southsea Sub-Aqua Club (SSAC) members in undertaking the survey of the wreck in the Eastern approaches to the Solent and the challenges we overcame to undertake this work.

Our survey project has proved to be our most challenging yet in two ways, firstly because of the wreck location in a major shipping lane and the fact that we have used our own relatively small boat to undertake the work but also because we found the personal dimension brought about by our identification of the wreck which had resulted in a tragic loss of life and the subsequent coming together with relatives and comrades for a memorial service took this project to a much more emotional level for all those who took part.

We became conscious very early on that because of the tragic loss of life associated with LCT427 we would need to be extremely sensitive and respectful in the way we conducted our survey, historical research and outreach/publicity programme. All SSAC members were acutely aware of the situation and were understanding of the issues.

Why Kedge Hook?

A 'Kedge Hook' is the name given by the Royal Navy for an anchor (or 'hook') typically used by Landing Craft to haul the craft back to sea after delivering their cargo on the beach. It was a way of escaping danger and returning to the safety of the open sea. And so 'Kedge Hook' is the name given to the latest of three projects undertaken by members of Southsea Sub-Aqua Club to investigate wrecks in the Eastern Solent area all of which are believed to be associated with the WW2 Invasion of Normandy and D Day and in particular as it feature the wreck on a Landing Craft.

Our sincere thanks go to all who have helped and supported this project over the last year, in particular the Jubilee Trust, LST and Landing Craft Association, Queen's Harbour Master Portsmouth, the D Day Museum, RN Chaplaincy, MGA Marine Accident Investigation Branch, BSAC HQ, Ceidiog Communications, Co-operative Florists, the Ministry of Defence, and especially to all the relatives and comrades who contributed to the memorial service.

PART 1 PROJECT AIMS AND OBJECTIVES

1.1 Project Report

The primary aim of the survey exercise was to survey 2 wreck sites in the Eastern Solent recorded on the UK Hydrographic Office wreck data base as Landing Craft Tanks. From earlier investigation as part of Project NEPTUNE, Southsea Sub-Aqua Club divers had conducted an initial dive on the sites and believed the sites were two parts of the same vessel. Historic Admiralty files indicated it may be the wreck of the British Landing Craft Tank (LCT) 427 the exact location of which was not known.

Figure 1 the crest of the LST and Landing Craft Association (RN) features a Kedge Anchor or 'Hook'.

We identified two wreck sites from the UKHO database which together may be the wreck of LCT 427. The aim of the survey project was to examine the wreck sites and establish whether the two wreck sites were part of the same vessel, and if so what type of vessel it was. We believed one was a stern section and the other the bow. In particular, we wanted to examine the area of the break point at both stern and bow. We planned to use sketches, measurements, photographs and video to record the condition of the wreck and conduct a side-scan sonar survey. This report sets out the results of our planning, diving survey and historical research to date and also the further work required in completing the project.

We believe that there is already overwhelming evidence that this is the wreck of LCT 427 and this report confirms that the two halves are the bow and stern sections of LCT 427.

1.2 Project Aims, Objectives and Plan

The primary aims of the project were to;

a) Produce a site plan and systematic survey of the sites believed to be that of a British Mk 3 Landing Craft Tank (LCT 427),
b) Undertake historical research associated with the LCT 427, her role in the Normandy Invasion (Operation Neptune) and her crew.
c) Working with the Royal Navy and LST and Landing Craft Association (RN) arrange a memorial service for the crew members lost and publicise the story of the tragedy.

d) Working with various experts/organisations, continue to raise awareness within the general public of the enormous effort of the Allies in the Invasion of Normandy
e) Promote the contribution that divers can make in discovering things about our past and the great recreational diving opportunities along the South Coast.

1.3 Objectives

The Project objectives can be listed in 3 categories, those of the Project itself, those of Southsea Sub-Aqua Club for the benefit of its membership and those that promote a greater understanding of these wrecks and their role in the Normandy Invasion through dissemination of the project findings to the general public and diving community through an effective 'outreach' programme.

Project

- To locate and positively record the wreck the two sections of wreck believed to be that of LCT 427.
- To produce a site map/plan for each site by reference to the position, orientation and size of the wreck(s).
- To record details of each of the wrecks in terms of their distinguishing features and condition etc including photographs and video.
- To research the circumstances of the wreck incident.
- To observe and record the typical marine life to be found on the wrecks.
- To work with the LST and Landing Craft Assoc to arrange a suitable memorial service as one of the final acts of remembrance before the Association disbanded in Sept 2011.

Branch

- To provide an opportunity to work together as a branch at all levels and 'dive with a purpose' with a rewarding outcome.
- To practice and improve diving skills and survey techniques at an individual and team level.
- To build on the success of projects and foster an attitude of conscientious and respectful wreck diving.

Outreach

- To publicise the results of our work as widely as possible.
- To publicise the story of the loss of LCT 427 and her crew.
- To work with other organisations and the general public to exchange information about wrecks and their part in the invasion of Normandy and the subsequent liberation of France under Operation Overlord.
- To raise awareness of recreational diving along the South Coast and the profile of BSAC, Southsea SAC, NAS and SeaSearch.

Working with the LST and Landing Craft Association (in the final months before it disbanded in Sept 11) we arranged a memorial service for the crew of LCT 427 and in remembrance of the brave servicemen who were lost whilst serving in LCTs. Underwater video and photographic images were used in the associated outreach project to tell the story of LCT427 and the events surrounding the Invasion of Normandy.

1.4 Survey Planning and Diving

The survey project has been conducted by members of Southsea Sub-Aqua Club (BSAC 009) in accordance with the attached Project Plan (Annex A). This plan, originally written in March 11, was updated in June following discussions with Queen's Harbour Master (Portsmouth) to include strict procedures to be followed when diving in the shipping lane. The diving phase was conducted during July/August 2011 and the memorial service was held on 17 November 2011.

The planning and diving phases proved to be extremely challenging because of the wreck location in the main shipping channel on the Eastern approaches to the ports of Portsmouth and Southampton. Diving in areas within the area of the Dockyard Port of Portsmouth is regulated under Law[1] and diving is prohibited in the shipping lanes without the express permission of the Queen's Harbour Master. A number of meetings with QHM and his staff to assure him that we had a safe and well planned survey programme which adequately addressed the risks associated with diving in the location of large vessels. The Queen's Harbour Master, in consultation with Vessel Traffic Services (Southampton) subsequently agreed to the diving going ahead.

A Local Notice to Mariners[2] was published by QHM Portsmouth (see Part 2 Annex A) to warn all water users that the diving survey was to be carried out including dates, times and location.

Dialogue with other organisations has been essential throughout the project and particularly the planning and diving phases. Working with the Ministry of Defence[3], the LST and Landing Craft Association, and others has enabled us to reassure them that we had gone about the project in a professional manner and were respectful of the history of the wreck and her crew.

Southsea Sub-Aqua Club have 'adopted' the wreck site under the NAS Adopt-A Wreck scheme and it remains SSAC's intention to continue work on this wreck site with further research and a analysis of data together with an ongoing outreach programme to publicise the story of LCT 427 through engagement with the wider community.

Annex A – Project Kedge Hook Project Plan amended version dated June 2011

[1] The Dockyard Port of Portsmouth Order SI 2005 no. 1470

[2] LNTM 49/11

[3] Navy Command Heritage Section Portsmouth, MOD Casualty Section RAF Innsworth, and Queen's Harbour Master Portsmouth.

‘KEDGE HOOK’ SURVEY PROJECT

By Alison Mayor
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BSAC 0009

This document sets out the initial elements of the ‘Kedge Hook’ Project to be undertaken by members of Southsea Sub-Aqua Club (SSAC) and records the basis of the way the Club intends to mange and deliver the project. Supporting documents will be developed as a part of this overall Project Plan and will be monitored and updated as necessary.

BACKGROUND

LCT 427 was a British Mk 3 tank landing craft which was one of 700 LCTs involved in Operation NEPTUNE in 1944. At 03:03 on 7th June LCT 427 was involved in a collision with the 34,000 tons Battleship HMS Rodney on the Eastern approach to Portsmouth. LCT 427 was broken in two as a result and sank with the loss of all hands.

A total of 235 Mk 3s were built, to our knowledge only one remains today in disrepair at a site in Liverpool.

British LCT Mk 3 Specifications	
Hull Dimensions Length	**192 ft.**
Hull Dimensions Beam	**30 in.**
Displacement	**640 tons**
Draught forward	**46 in.**
Loads carried (max tons)	**300 tons**
Crew	**12**
Engine make	**164 with Paxman 71 with Sterling**
Shaft Horse power	**460 hp**
Number & Type	**2 Diesels or 2 Gasoline**
Props	**2**
Max speed	**9 knots**
Range in miles	**2,700**
Armour in the wheelhouse	**15 lb**
Armour in the gun shields	**20 lb**
Armament	**2 -2 lb**
Armament Alternative	**2 -40 mm**

SSAC first became aware of the wreck sites when researching the possible location of LCT (A) 2428 as part of our Project Neptune. We came across UKHO records describing what may be two LCT wrecks. However these sites were held in reserve in favour of a more promising wreck site. In the later part of the Neptune wrecks project we took the opportunity to dive the sites and were amazed by what we saw.

The wrecks are extremely intact, upright and appear to have lain undisturbed for years. It was very evident that these were two sections of the same wreck – we just need to prove it through a physical survey.

The Dive Sites

Dive site 1 – UKHO Site 19117 Landing Craft
50 43' .633N : 001 03' .092W
First surveyed in 1963 the wreck was last surveyed in 1990. It is described as the wreck of a complete landing craft – standing 6m proud in a general seabed depth of 28m. Length approx 50m and lies 135/315 degrees. The 'Dive Hants & Wight' guide book also details this wreck as follows;

> Dive Hants & Wight entry (103). "Tank Landing Craft, Bembridge 2 miles, Portsmouth 4 Miles 50 43.65N; 01 03.62W. This wreck was first located ¼ mile east of the Warner Buoy in May 1967 and is a large Landing Craft. She is upright and intact, and lies north / south with her bows to the south. The wreck is about 150 feet long with a maximum height of 7m. The stern is well sunk in almost to sea bed level of the soft mud. Visibility here can be exceptional. "The visibility was so fantastic that when I was up on the bridge I could see the bow ramp quite clearly" commented one diver. Be warned however, it is often not like that."

Having dived on the site we have some concerns about the accuracy of this final comment from the commercial diver particularly as there is no bow section – it is several hundred metres away.

Dive site 2 – UKHO site no 19122 – Landing Craft
50 43' .817N : 001 03 .617W
First surveyed in 1968 the wreck was last surveyed in 1990. It is described as the wreck of a Landing Craft – Bridge section missing and bow door open.
Lies with bow to NW (110/290) General Sea bed depth 29m, stands 3m proud, length 36m.

PROJECT PLAN

This project has been developed over several months in a natural progression from the Neptune Wrecks project. We are now at the more detailed dive planning stage whilst continuing to research LCTs and Operation NEPTUNE.

To date the following activities have been completed;

a. **Establish the feasibility of Project overall in terms of resources and site location**. This has been achieved by research of potential dive sites using UKHO wreck data sheets, Receiver of Wreck information and local knowledge and records. We have contacted local skippers, other local BSAC branches as well as diving publications and web sites. The Deputy Receiver of Wreck (Rebecca Tye) was contacted and she has advised that there are no restrictions on the diving on the sites. Amanda McKelvie from the Naval Heritage section, Ministry of Defence (MOD) has been notified of our intention to dive/survey the sites. The MOD has little information on the sites and would be very interested to see the project report following the survey. There are a number of stipulations – i.e. nothing to be removed from the site, and there is a possibility of unexploded ordnance. The MOD has stated that it accepts no liability in respect of diving activities on the site.

b. **Confirm interest within the Club and support from the Committee**. The intention to carry out the survey project was advertised on the SSAC Yahoo Group Site (our main email communication to all SSAC members). A presentation to more than 40 club members in Nov 10 of the initial work carried out on this site. The meeting briefed club members on the initial research findings and the aims of the project. Club members had registered an interest in taking part in the project and a number of people have volunteered to undertake specific tasks as part on their own diving development/ qualifications. Support was also obtained from SSAC Committee. The experience and abilities of those interested and key members to assist in the overall management roles have been identified. See list of Team members and roles attached at Annex A.

c. **Consult /research best practice and guidance for running a similar project. (BSAC and NAS)**. Mark Beattie-Edwards of NAS is very interested in the project is happy to provide advice as the project progresses. Guidance from the BSAC web site on various aspects of the project including the Risk Assessment Toolkit, Dive and Expedition Planning has been used to develop the project and diving plans.

d. **Identify possible sources of funding and support (BSAC Jubilee Trust or alternative options)**. The BSAC web site provided useful advice and guidance on possible funding assistance for the project through the Jubilee Trust. I received the agreement of Martin Davies (SSAC Diving Officer) and Mark Beattie-Edwards of the NAS to be referees for me in support of the project.

e. **Project Management and Planning**. Work to establish a team and develop detailed plans covering all aspects of the Project has already started and will continue up to the point of the dive survey. We intend to manage the project building on the experience gained from the Tanks and Bulldozers and Neptune Wrecks projects.

f. **Identify additional training requirements**. The new BSAC Wreck Appreciation course which was run in the Branch in 2008 will provide divers with some of the basic techniques they need to take part in the survey exercise. Pool sessions to practice survey techniques will also be made available. Good buoyancy and finning techniques will be essential to conduct the survey efficiently and safely - especially given the extra task loading that divers will be undertaking. Practice in similar conditions will take place at Vobster Quay or other suitable sites. Another buoyancy skills workshop was delivered in Dec 10 at Vobster. It will also be very useful, particularly in the early part of the survey, to have some training in search and recovery techniques. This training will be delivered within the branch by SSAC instructors in the weeks leading to the survey. In order to ensure safety of diving operations First Aid and O2 courses have recently been completed (Feb 11).

g. **Identify what additional expertise may we need and where/how can we get it?** Additional expertise will be required primarily expertise in WW2 history Operation Neptune and LCT construction. I have been corresponding with Tony Chapman the Historian/Archivist from the RN Landing Craft Association and his sister organisation in the USA for details about the construction/specification of LCTs. In addition advice about the vessels and events of Operation Neptune can be obtained with the assistance of Andrew

Whitmarsh at the D Day Museum, Portsmouth and Steve Price at the Naval Historical branch. Research into historical records may also require documents to be viewed at the National Archive, Kew.

h. **Communication and Outreach**. Internal communications will be managed through regular briefings/meetings and also via the Club's Yahoo Group site. A project notice board has been set up at the Club house which has copies of presentations and interesting documents. Presentation will continue to be given to club members as required to inform of progress and work needed to make it a success. A press release will be issued to local press/media and the SSAC web site (www.southseasubaqua.org.uk) will be regularly updated. Building on the success of earlier projects there is a good potential for continued public/media interest as well as the more specialised diving, archaeological, military and WW2 historical communities. This is a great opportunity to bring the activities of the club to peoples' attention and educate them in the results of the survey. This aspect will need to be carefully planned to make sure that the project, its findings, Southsea Sub-Aqua Club, and the BSAC receive positive exposure as a result. We have recent experience of dealing with the publicity aspects in the local press and diving magazines/ publications. We also have an accomplished photographer and videographer who will be able to take video for TV etc and images for publication as well as recording the wrecks for the report. The PR and educational aspects of the Project are one of the key benefits and need to be maximised.

i. **Health and Safety considerations** – Vital to the success of the Project is the safety of all divers and participants for the duration of the survey. A Diving Risk Assessment (see Annex B) has been prepared in accordance with BSAC guidance and will be monitored and amended as additional hazards are identified. It will be a living document throughout the planning stage and during the diving operations. (Risk assessment amended following consultation with Queen's Harbour Master staff Portsmouth June 11)

i. **Dive programme/timescales**. In consultation and with the approval of Diving Officer a full dive/survey programme has been prepared taking account of tidal and environmental factors, depth, hazards and the objective of each stage of the survey programme. See Annex C.

j. **Plan the survey** – update as the dive programme progresses. Survey dives with the SSAC Rib are planned in July and August 11. In the event of weather disruption the RHIB will be used to finish the survey at a later opportunity. An outline dive survey programme is included at Annex C.

k. **Identify Equipment required**. Some survey equipment was purchased by the Branch the Tanks & Bulldozers and Neptune Wrecks projects. This year we intend to make greater use of technology – primarily use of side-scan and video camera. A list of equipment to be used for this year has been prepared and is included as part of the Dive Plan.

l. **Financial estimate for the project**. A financial estimate for the project has been prepared (see Annex D). The main cost is the boat fuel and equipment hire. As we discovered in the past the main opportunity for cost growth is in the price of boat fuel which has risen significantly this year. We have allowed a greater contingency for fuel price increases in this grant application. If this

proves insufficient then the consequential increase in charter fees for fuel will need to be met from the divers.

m. **Prepare applications for funding**. An application for a grant has been prepared and will be submitted to the Jubilee Trust by the end of March 11 in accordance with the guidance. If successful this grant will cover the majority of funding for the survey. All other unforeseen costs will be apportioned equally between the project members based on the number of diving days.

Note - (A grant of £1,275 was awarded by the BSA Jubilee Trust in their letter of on 16 June 2011. The final report was completed and submitted to the Trust by 1 June 2012)

Diving/Survey Stage

This stage will be the most productive and resource intensive when the Branch members undertake diving and survey. All activities need to be planned up to the last minute to ensure safety and adopting best practice in accordance with BSAC 'Safe Diving Practices' booklet 2010 – a copy of which will be given to all team members. The activities associated with this stage include;

- Confirm weather and general conditions ok for dive, slack water window and dive time.
- Overall dive brief including boat safety etc
- Safety Equipment check/ Diver equipment check (DSMBs, air, torches, slates etc)
- Establish buddy pairs depending on level of experience and capabilities.
- SEEDS brief (Safety Exercise Equipment Discipline & Signals.
- Buddy Checks
- Monitor throughout dive and record dive statistics (time depth air etc)
- Collect recorded data from each dive and analyse findings to establish accurate site map.
- Risk Register reviewed before and after each dive
- All safety equipment checked before each dive.
- A de-brief carried out after each dive.

Data evaluation and reporting

This stage will bring together all the information and data with the aim of providing firm evidence from which a number of conclusions may be drawn. The intention is to make available the findings of the project to as wide an audience as possible as well as form the basis of further work if needed.

- Using data from the dives - plot the measurements and produce a site plan and record the location, orientation and condition of the wrecks and any significant items of interest found.
- Compare data and photographs in order to establish age/model of wrecks.
- Confirm how/when the craft was lost.
- Report on marine life observed on the site to the Marine Conservation Society under the SeaSearch scheme.

SURVEYS TO BE UNDERTAKEN

- Initial survey – Aim would be to locate both sections of the wreck and mark their positions accurately by DGPS.

- Look for identifying characteristics to aid confirmation of LCT 427.
- Produce simple site maps which can be used for future planning and briefing.
- Marking Out/Line laying – Aim would be to lay either tape measures or lines connecting major elements of the wrecks and measuring the distance/orientation of the wrecks generally to start the creation of a site plan.
- Detailed survey of each wreck, size, depth/height etc any special features that would aid possible identification (including photographs and video).
- Continue detailed survey this time also looking at marine environment (SeaSearch).

It is likely therefore that a number of days diving will be needed to complete the data gathering element of the survey project. We will aim to dive on both slack water opportunities – i.e. 2 dives per day but will depend on tide times and weather. It may be useful to explore the surrounding area if we have an opportunity

THE DIVING PLAN

The 30m depth will allow most of the qualified sports divers within the Branch the opportunity to take part in the project, and even those unable to dive may be able to take part in the training exercises, marshalling dives and also the research/data gathering.

A diving programme has been prepared at C. Sample dive plans for a typical 2 dive day have been prepared, based on air and Nitrox (32% usage) These plans show the benefits of the Nitrox mix over air in terms of longer no stop diving on both dives. As a result there should be no need to do any decompression diving and this will be the plan for the dive programme.

SSAC is fortunate to have its own Nitrox compressor which will benefit the divers and project by reducing the risk of DCI and increasing bottom times. A number of Nitrox workshops have been delivered within the Branch to allow the majority of club members to benefit from the use of Nitrox. The daily dive plan covers a number of gasses which may be used by survey team divers.

The safety of all divers at every stage of the survey is paramount. A full risk assessment has been developed and will be maintained and monitored throughout the dive programme noting any additional risks as they may arise. Actions will be taken wherever practicable to reduce risks by means of additional control measures such as planning, training, briefing, additional equipment and expertise as appropriate. The Diving Officer is ultimately responsible for the health and safety of all participants in the project and he will be fully involved in all stages of the project. He may appoint Dive Managers to marshal the dives including the recording diving data depth/time/air etc.

Generally it will be the intention to have diving teams of 4. All diving will be in buddy pairs with each diver carrying a DSMB. At around 30m the dives will be more challenging and restricted to sports divers and above. Visibility can be an issue; however with only 4 experienced divers in the water on each section of wreck the risk of divers making visibility worse is reduced. Diving will be also carried out in July and August when visibility is generally better. Good buoyancy skills will be essential in a silty/poor visibility site and all divers will be monitored to check their ability to diving without making the problem of poor visibility worse. This is especially important when giving divers' additional tasks as it can mean they are less conscious of their diving skills at a time when they become even more essential.

RISK ASSESSMENT

A full and comprehensive Risk Assessment has been undertaken for all stages of the project but the most critical is the Diving Risk Assessment (see Annex B). Each Risk has been allocated a 'Risk Evaluation' Score based on the frequency (rare = 1, Occasional = 2 and Frequent =3) and severity (minor injury = 1, major injury = 2 and fatal = 3). The Risk Assessment has been prioritised as a result of the scoring. The key diving hazards are identified as;

- Diver illness, such as heart attack
- Depth
- Entanglement
- Separation – diver/diver and diver/boat
- Out of Air
- Weather/environmental
- Equipment failure

The Risk Assessment will inform the dive briefing as well as the planning and equipment requirements. Wherever practicable a risk control measure will be identified and made known to the project team and Diving Officer. As the project takes place in the local area no additional risks are identified for travelling or living away from home.

The location of the wrecks is close to the shipping channel and so close liaison will be made with the Coastguard and Portsmouth QHM so that they are aware of diving activities being carried out in the area.

Of course there are risks to the project though hopefully not as many. These too will be identified, control measure identified and implemented and monitored throughout the life of the project. Significant project risks are considered to be;

- Shortfall in funding
- Cannot find site
- Poor data recording
- Not enough divers
- Poor weather

The Risk Assessment will be a living document throughout the life of the project with new risks being added as they become known, or closed if they are no longer relevant.

PARTICIPANTS AND ROLES

Almost 20 divers have signed up for the project so far and key positions/roles are identified below;

- Project Management and survey planning – Alison Mayor.
- Dive Management & Health & Safety – Martin Davies (SSAC Diving Officer) and any Dive Managers appointed by him.
- Research and recording/reporting, final reports - Alison Mayor
- Financial accounting, - Rachael Brealey (SSAC Treasurer)
- Training Officer, Peter Dolphin (SSAC Training Officer OWI)
- PR/Media/Web site, Alison Mayor, Martin Davies, Doug Carter.

The full details of all participants to date are set out in Annex A.

QUALIFICATIONS AND TRAINING

It is proposed to limit diving to Sports Diver and above for this site. However other activities such as research and recording will be available to all Branch members. The 30-32m maximum depth is suitable for Nitrox and its use will be encouraged to reduce the risk of DCI and extend the bottom time when the survey is conducted. Since the introduction of Nitrox into the diver training programme the majority of branch members have been trained in the use of Nitrox and as the club has its own Nitrox membrane compressor it is readily available to those who are qualified. Additional training can be provided if required to meet the needs of the project including first aid/safety training. The following training will be offered;

- Wreck appreciation course if required.
- NAS training – NAS have offered to provide training on club nights at reduced rates to take account of the fact that we will be providing the facilities. Spaces can also be offered to other local BSAC branches who may wish to take part in the training.
- Practice pool sessions for buoyancy, finning and survey techniques
- Search and Recovery course to be held in branch
- Other SDCs available either in Branch or Southern region if required.

LOGISTICS, EQUIPMENT AND RESOURCES

It is intended to use the Club RHIB 'Alan Blake' for the diving activities. The Club RHIB can is capable of taking four divers with a coxswain and the dive site within the RHIBs' fuel range so will be used for the main survey activities. The RHIB has already been used (summer 2010) to confirm the marks and to undertake an initial reconnaissance of the sites. The main survey will be using the RHIB which has recently been fitted with a new fixed radio, GPS and echo sounder units. The Branch has also recently upgraded it O2 equipment to provide 10L of oxygen for suspected DCI incidents.

When using the club RHIB it is intended to launch from Eastney as it is the closest to the site. Passage plans have been prepared for launching from Eastney/Langstone Harbour.

Safety & Boat Equipment for use on RHIB Alan Blake

- O2 kit, RescueEAN, First Aid box,
- Fuel, GPS, VHF Radio, Flares, Tool kit, Echo sounder etc
- Ropes, oars, anchor, shot lines, buoys
- Charts and Passage Plan

The site is reasonably accessible and its estimated 30m maximum depth means that no specialist diving equipment is required for long periods of decompression etc. Normal diving equipment suitable for diving in UK waters in poor visibility will be required including DSMB, torches, compass, line cutter/knife, etc.

Diving Equipment

- Normal scuba equipment, DSMB (one per diver), compass, torch etc.

Additional equipment will be required to undertake the survey tasks underwater to record the measurements taken.

Survey equipment

- Datum/baseline, and suitable fixing pegs/rods
- Markers for control points
- Tape measures, slates/pencils/transparencies,
- Ropes, buoys, clips, cable ties etc.

FUNDING AND BUDGET

A cost estimate has been produced based on fuel and harbour fees, latest equipment costs, consumables and also contingencies for cost escalation such as fuel price/duty increasing. By using our own RHIB we significantly increase the opportunity and flexibility to dive over the full 8 days and will make the project value for money in terms of the amount of surveying we can hope to achieve.

It is hoped that the project is considered to be justification for a grant from the Jubilee Trust which will hopefully cover the majority of the direct costs of the project, whilst the indirect costs such as diver training, project research (trips and entrance fees to museums, National Archives etc) and report writing/publication will be met by the project team and Branch as appropriate. At this stage it is difficult to estimate these additional costs. In the event that the grant application is not successful, or the grant awarded is reduced, then the shortfall will need to be met by the divers or other sponsorship if we can find a willing sponsor/contributor.

OUTCOMES AND REPORTS

Documentation

The following documents will be produced as a result of the project.

- Overall Project report. Recording the programme of events, the actual data and information taken from the sites and the conclusions we have been able to draw from the information gathered during the whole project including that from last year's Neptune Wrecks survey. The report will include lessons learned through the execution of the project. The aim will be to complete the report by the autumn of 2011.
- A Site Plan. This will include the survey results of the site and details of each wreck site.
- Photographs and video of each of the wreck sites and diving activities.
- Marine life survey of the site/wrecks in SeaSearch reporting format.
- Results to support the possible identification of the wreck(s)
- Diving log/record sheets and details of any incidents (hopefully none!).
- Articles for publication in local, historical and diving press.
- Report to Ministry of Defence (Naval Heritage Branch). English Heritage, the National Monuments/Records Office, Receiver of Wreck, D Day Museum, UK Hydrographic Office, Landing Craft Association and NAS.
- Final accounts for the Project.
- Report to the Jubilee Trust/BSAC or any other contributor/sponsor of the Project if appropriate.

The findings of survey and summary reports are to be included on the SSAC Web Site (www.southseasubaqua.org.uk) so they will be freely available via the World Wide Web.

These documents will be a permanent record of our findings for years to come. Hopefully we will be able to draw some firm conclusions which will go some way to

answering the many obvious questions that this site raises. It will also be a great achievement for the Branch in which all involved can be proud of.

MEMORIAL SERVICE

The tragic loss of LCT 427, having returned to the relative safety of her home port after surviving the D Day landings is a moving story. To make matter worse the collision with HMS Rodney went unreported for many weeks, during which time the craft was reported as 'missing'. The bodies of all but one of her crew were never recovered and so the wreck is believed to be the last resting place for up to 13 of her crew. It is hoped to arrange a small memorial service possibly timed to coincide with the final LST and Landing Craft Association reunion at Hayling Island in September 2011 during which The LST and Landing Craft Association will formally disband and lay down its pennant. Having discussed this with members of the Association it would seem a fitting time and place to remember lost colleagues. I am actively seeking assistance and support from a number of organisations however this aspect of the project is proving to be the most challenging in many respects. We will continue to ask for support for this element of the Project.

SUMMARY

Building on the experience and success of previous projects SSAC are keen to conduct a survey on this local wreck site to establish it is the wreck of LCT427 and share with the wider community the findings of our work whilst also bringing into the public eye the story of the wreck and the part played in WW2 of this and similar craft. We also are keen to promote SSAC and BSAC in a positive light through the responsible and respectful diving activities carried out during the project.

Alison Mayor

Southsea Sub-Aqua Club
BSAC 0009
March 2011

Enclosures;
Annex A – Team, experience, roles
Annex B – Risk Assessment
Annex C – Dive Plan and programme.

Annex A

KEDGE HOOK - TEAM

NAME	BSAC NO	GRADE	EXPERIENCE	ROLE
ALISON MAYOR	A742727	A/D	NAS Intro, Parts 1 and 2, RYA2 Powerboat, Diver First Aid, O2 Admin, Advanced Nitrox Diver, SeaSearch Observer and MCS Marine life ID, Chart work and Position Fixing, Practical Rescue Management, Assistant Open Water Instructor, Advanced Decompression Procedures NAS part 1 and 2	Kedge Hook Project Leader Diver/Surveyor Report writer Publicity Jubilee Trust applicant on behalf of SSAC
MARTIN DAVIES	A182103	A/D	Diver Cox, RYA level 2, Day skipper/ watch leader, VHF radio, Recompression Chamber Operation, Compressor Operation,O2 admin, DPM, ADT, Chart work & Position Fixing, Search & Recovery, Explosives & Advanced Explosives, Underwater Photography, SeaSearch Observer and MCS Marine Life ID, Assistant Open Water Instructor, NAS Part 1. Advanced Nitrox Diver, Advanced Decompression Procedures,	Diving Officer Photographer/ videographer Diver/Surveyor Publicity RHIB Coxswain
ROGER MARIAMOOTOO	A478774	Dive Leader	Nitrox Diver	Diver/Surveyor
DAVE PURVIS	A712568	A/D	Advanced Open Water Instructor, BSAC NITROX Instructor, TDI Basic TRIMIX, TDI Adv NITROX & Deco Procedures, NAS Part 1	Training Diver/Surveyor
JIM FULLER	A723932	A/D	O2, VHF, RYA Powerboat II, Adv Nitrox, 1st Aid, OWI, ERD, Adv Nitrox Diver, SeaSearch Observer. Advanced Decompression Procedures, NAS Part 1.	Diver/Surveyor Logistics RIB Coxswain
RACHAEL BREALEY	A752231	SPORT	Nitrox Diver	Finance /budget manager

Annex A

KEDGE HOOK - TEAM

PETE DOLPHIN	A345678	A/D	DRS,VHF, Boat Handler, NOx1, RYA INST, Open Water Instructor, NAS Part 1, SeaSearch Observer	Diver/Surveyor Photographer Project leader Barge 20009 Technical drawing
PHILLIP JACKSON	A706282	SPORT	Nitrox Diver,	Diver/Surveyor RHIB Coxswain
JOHN BOHEA	A120617	A/D	Boat Handler, Chart work and Position Fixing, Search and Recovery	Diver/Surveyor RHIB Coxswain
TONI BATES	A756927	D/L	Nitrox Diver, OWI, SeaSeach Observer.	Diver/Surveyor SeaSearch surveyor
DAWN BARNARD	A738389	D/L	Nitrox Diver	Diver/Surveyor
JAMES SEPHTON	A763137	Sport	Nitrox Diver	Diver/Surveyor
ALISON BESSELL	A474222	SPORTS	Advanced Decompression Procedures, PRM, 02 admin, Professional Marine Biologist, SeaSearch surveyor, Photographer	Diver/Surveyor SeaSearch report
DAVE SAWDON	A169058	ADV INSTR	Rebreather diver.	Diver/surveyor RHIB Coxswain
PAUL BEARDALL	A681467	1ST CLASS	AI, Ex Military diving instructor	Diver Surveyor RHIB Coxswain
RON GARRETT	A380877	A/D	Nitrox Diver. RYA Powerboat II	Diver Surveyor RHIB Coxswain
DOUG CARTER	A754692	D/L	Advanced Decompression Procedures,	Diver Surveyor

Annex A

KEDGE HOOK - TEAM

			NAS Part 1	Web site
TOM TEMPLETON	A743845	A/D	CCR Rebreather diver. Assistant Diving Officer. OWI, First Aid, O2, VHF radio, RYA Coxswain, ERD, ADP, Trimix.	Diver Surveyor RHIB Coxswain

KEDGE HOOK - RISK ASSESSMENT

SOUTHSEA SUB-AQUA CLUB **"KEDGE HOOK" SURVEY** **July/August 2011**

EASTERN PORTSMOUTH/SOLENT APPROACHES, HAMPSHIRE

The dive sites are 4 miles offshore in the Portsmouth/Bembridge area and so diving on the site needs to be conducted from a boat. The risks identified in this risk register are those associated with open water diving from a hard boat or RHIB in tidal/temperate waters. All diving will be authorised by the Diving Officer or his authorised Dive Manager and conducted in accordance with the BSAC Safe Diving Practices guidelines (2010). A project briefing meeting will be given to the whole team before the survey to address the diving and survey activities including the risks associated with the tasks. Before leaving harbour the Coxswain/Skipper and Dive Manager will brief all on board about the safety equipment/procedures on the boat and before each dive SEEDS briefs for will be carried out. All divers will be required to complete buddy checks. Additional risks identified at any time will be brought to the attention of all divers.

The RHIB – Alan Blake has the following safety equipments/features. Fixed VHF radio with DSC, GPS and separate GPS with echo sounder, flares, fire extinguisher, life jackets, kill chord, ropes, buoys, anchor, spare fuel, tool kit and minor spares, navigation lights, horn, first aid kit, O2 kit. 'A' Flag, knife, boat hook, and pump for tubes. In addition, divers will have as a part of their equipment, DSMBs and reels, knife/line cutter, torches, buddy lines, BCD and dry suits.

The dive sites are within the jurisdiction of the Queen's Harbour Master Portsmouth under the Dockyard Port of Portsmouth Order 2005 who is responsible for the safety and management of all vessels and craft within the Dockyard Ports area. The LCT dive sites are within an area/channel used by large vessels on their passage to/from the busy ports of Portsmouth and Southampton and therefore diving activities pose an additional risk to divers and other vessels. Following briefings to the QHM team and provision of documentation for review, the diving survey has the agreement of the Queen's Harbour Master Portsmouth who, in consultation with VTC Southampton, has kindly granted permission for us to conduct the survey subject to certain provisions (see below and risk 23). The QHM will issue a Local Notice to Mariners which will advise all vessels of the diving activities including dates, times and positions. Any incidents will be reported to QHM and the Coastguard. ***Contact details –***

QHM Portsmouth Harbour Control
VHF Channel 11 - Tel 02392 723694
Vessel Traffic Services (VTS) Southampton
VHF Channel 12 – Tel 02380 608208,
Solent Coastguard – Lee-on-Solent
VHF Channel 16 – Tel 02392 552100

Annex B

KEDGE HOOK - RISK ASSESSMENT

No	HAZARD	WHO	RISK EVALUATION	CONTROL MEASURES	*IMMEDIATE MEASURES TO DEAL WITH CONSEQUENCES IF RISK DOES OCCUR*
1	Running out of air	All divers	High (5)	• All cylinders to have pressure gauges – regular monitoring in buddy pair. • Careful dive planning including calculation of air requirements for dive. Apply 'Rule of Thirds'. • Regular monitoring of air by buddy • All divers to carry alternative air source. Use of pony cylinders, stages or twin sets if possible • First aid and O2 kit to be available.	• *Ascend to surface.* • *Administer O2 if required by suitably trained first aider.* • *Treat buddy for shock if required.* • *Seek medical advice. RN Doctor 07831151523 (24 hrs)* • *Emergency Services Plan – Notify coastguard of events and position.Ch 16/Dial 999.*
2	Rapid Ascent	All divers	High (5)	• Progressive training especially in buoyancy control. • Diving monitored by boat/surface cover in order to provide immediate assistance/recovery. • Correct weighting and good buoyancy skills. • Dry suit and DSMB deployment training. • Visual datum when ascending e.g. shot line. • Secure weighting system. • First Aid and O2 kit to be available on site.	• *O2 administration by suitably qualified first aider.* • *Seek medical advice. RN Doctor 07831151523 (24 hrs)* • *Initiate Emergency services Plan if required.* • *Emergency Services Plan – Notify coastguard of events and position.Ch 16/Dial 999.* • *Advise coastguard/emergency services as appropriate.* • *Treatment of buddy for shock if required.*
3	Diver separation	All divers	High (5)	• Dive Manager to advise	• *Divers to surface in accordance with*

KEDGE HOOK - RISK ASSESSMENT

				separation drills. • Divers to stay in buddy pairs. • Contact between buddies to be maintained throughout the dive. • Divers to wear strobes and carry torches on dives. • Use of buddy lines where appropriate. • First Aid kit and O2 kit to be available on site.	*separation drill and re-establish contact with each other and surface cover.* • *Surface cover to render assistance as required.* • *Emergency Services Plan – Notify coastguard of events and position.Ch 16/Dial 999.* • *First aid to be administered if required.* • *If required seek medical advice. RN Doctor 07831151523 (24 hrs)*
4	Reduced Underwater Visibility	All divers	High (5)	• Divers to stay in Buddy pairs. • Divers to use strobes, torches and buddy lines to avoid separation.	• *Abandon dive if conditions do not permit safe diving* • *All Divers to surface.* • *Dive Manager to monitor divers and abort dive if necessary.*
5	Strong currents – separation from boat	All divers	High (5)	• Consult tidal atlas/charts and skipper for slack water times. • All divers to carry SMB and any other surface location markers such as flags, whistles, torches, strobes, epirb, flares. • Diver in/out count log to be completed. • First Aid kit and O2 to be available on site.	• *Notify Emergency services/Coastguard of events/position.* • *Emergency Services Plan – Notify coastguard of events and position.Ch 16/Dial 999.* • *Assistance from Buddy.* • *Buddy to raise alarm at surface.* • *Diver to be removed from water ASAP Seek medical advice. RN Doctor 07831151523 (24 hrs)* • *First aid and O2 administration if appropriate.*
6	Heart Attack	All	Medium/High (4)	• Self certified medical or Medical referral. • General diving health awareness in training.	• *Basic Life Support administered by buddy or first aider.* • *Initiate Emergency services action plan. Notify coastguard of events and*

KEDGE HOOK - RISK ASSESSMENT

				• First aid and O2 kit available on site.	*position.Ch 16/Dial 999.* • *Treat others for shock as appropriate.*
7	Ear problems	All divers	Medium/High (4)	• General diving health awareness in training. • Teaching equalisation techniques in training. • Divers should not dive when suffering from a cold or congestion. • First Aid Kit to be available on site.	• *Ascend from depth.* • *Assistance from buddy, first aider, or instructor.* • *Rinse with fresh water.*
8	Entanglement with nets/lines/underwater obstacles	All divers	Medium/High (4)	• Dive Manager to brief of hazardous areas and additional hazards whilst undertaking survey. • Divers to carry cutting tools such as knife / scissors etc. in an easily accessible place. • Streamline equipment. • Survey Lines to be clearly marked. • First aid and O2 kit to be available on site.	• *Assistance from Buddy.* • *Buddy to raise alarm at surface.* • *Diver to be removed from water ASAP.* • *First aid and O2 administration if appropriate.* • *Notify Emergency services if appropriate. Seek medical advice RN Doctor 07831151523 (24 hrs)* • *Treat buddy for shock if required.*
9	Water /air temperature	All divers	Medium/High (4) (Diving in summer months – likely to be heat problems rather than cold)	• All divers to wear appropriate protective suits including hoods and gloves as necessary. • Plenty of fluids available, sun hats/sun tan lotion. • Delay the donning of dive suit. • First aid kit to be available on site.	• *Provide first aid treatment for hyperthermia.* • *Seek medical advice RN Doctor 07831151523 (24 hrs)* • *Hospitalise if required.*

KEDGE HOOK - RISK ASSESSMENT

10	Loss of buoyancy at surface	All divers	Medium/High (4)	• All buoyancy devices to be checked prior to dive. • Dive to be aborted in any sign of BCD malfunction detected. • Jettison weight belt/system when on surface • Inflate BCD at surface • First Aid kit and O2 kit to be available on site.	• *Buddy to render assistance at the surface.* • *Divers to raise alarm to surface cover.* • *Administer first aid as appropriate.*
11	Diving equipment malfunction	All divers	Medium/High (4)	• Divers to check functionality as part of buddy check before entering water on every dive • Alternate air source to be carried by all divers. • All equipment to be checked regularly and serviced in accordance with manufacturer's instructions. • First Aid kit and O2 kit to be available on site.	• *Dive to be aborted.* • *Buddy to render assistance and both divers to ascend to the surface.* • *First aid and O2 to be administered as appropriate.* • *If appropriate - Notify coastguard of events and position.Ch 16/Dial 999.*
12	Rough surface water conditions	All	Medium/High (4)	• Check weather forecast immediately prior to setting sail /dive and recorded in dive plan. • Take sea sickness medication if susceptible to motion sickness. • Diving aborted by Dive Manager in the event of adverse weather conditions. • Surface conditions to be monitored (fog/heavy swell).	• *Assistance from buddy or boat crew to exit water.* • *Divers to exit the water.* • *Administer appropriate first aid.* • *Hospitalisation if required.*
13	Unexploded	All	Low/High (3)	• MOD has warned of the	• *O2 administration by suitably qualified*

KEDGE HOOK - RISK ASSESSMENT

	munitions/ordnance			possibility of unexploded ordnance – all divers to be briefed. • No removal of artefacts from site and no touching of anything that looks even remotely like munitions whilst conducting survey. • Diving monitored by boat/surface cover in order to provide immediate assistance/recovery.	*first aider.* • *Treat buddy for shock if required.* • *Advise coastguard/emergency services of position/events. Notify Coastguard of events and position.Ch 16/Dial 999.*
14	Unexplained Unconscious/non-breathing or seriously ill casualty (e.g., embolism, allergic reaction, near drowning)	All divers	Medium/High (4)	• Trained First aider on site • First Aid kit and O2 kit available on site • Emergency Services Plan	• *Recover casualty from the water* • *Administer first aid and O2 as appropriate, try to establish from buddy what happened.* • *Seek medical advice. RN Doctor 07831151523 (24 hrs)* • *Emergency Services Plan – Notify coastguard of events and position.Ch 16/Dial 999.* • *Hospitalise casualty following medical advice.* • *Treat others for shock if required.*
15	Missed decompression stops or Casualty displaying symptoms of DCI	All divers	Medium/High (4)	• Dive plans to be prepared and approved by Diving Officer/Dive Manager • Divers to be reminded about the need to keep to the dive plan and monitor times/air etc especially when carrying out other tasks.	• *Administer first aid and administer O2 as appropriate.* • *Seek medical advice. RN Doctor 07831151523 (24 hrs)* • *Emergency Services Plan – Notify coastguard of events and position.Ch 16/Dial 999.*

KEDGE HOOK - RISK ASSESSMENT

				• First Aid and O2 kit available on site. • Note of persons qualified in O2 Administration on board.	• *Hospitalise – Following medical advice evacuate to recompression chamber ASAP (with buddy, dive computer and notes of treatment symptoms).*
16	Boat Propeller – contact with diver	All divers	Medium/High (4)	• Entry/exit controlled by skipper • Use of SMB mandatory on the surface. • Display 'A' flag when divers in water.	• *Administer first aid and O2 as appropriate.* • *Seek medical advice. RN Doctor 07831151523 (24 hrs)* • *Emergency Services Plan. Notify coastguard of events and position.Ch 16/Dial 999. Hospitalise.*
17	Man overboard	All	Medium/High (4)	• Skipper boat brief to include Man Overboard drill. • Floating rope to aid recovery	• *On sighting of lost casualty advise skipper for recovery.* • *Establish position/time and notify Coastguard - Notify coastguard of events and position.Ch 16/Dial 999.*
18	Engine failure/ boat sinking	All	Medium/High (4)	• Skipper Boat Brief • GPS, VHF • Life jackets on board • Flares/signalling equip etc	• *Establish accurate position and immediately notify Coastguard - of events, position and how many on-board. Ch 16/Dial 999.* • *Follow instructions of skipper.*
19	Deteriorating weather	All	Medium/High (4)	• Consult latest weather and shipping forecast in advance of the dive. • Have a contingency plan. • Brief Diver recall system. • Monitor weather during the dive.	• *Notify Coastguard of position if difficulties encountered. Ch 16/Dial 999.*
20	Mask squeeze	All divers	Medium (3)	• Use mask that encloses eyes and nose. • Training in mask equalisation.	• *Assistance from buddy, first aider or instructor.*

KEDGE HOOK - RISK ASSESSMENT

21	Injury from falling cylinders or other heavy objects, on boat or entry into the water. Floating debris in water.	All	Medium (3)	• Cylinders to be well secured on boat and laid flat ashore. • Weight belts and dive equip to be stowed carefully. • Care when entering/exiting water not to collide with other divers. Enter only when directed by the Skipper or Dive Manager. • First Aid kit to be available on site.	• *First aid from Buddy, first aider or Instructor as appropriate. Seek medical advice if necessary.*
22	Trips, slips and stumbles	All	Medium (3)	• Dive manager to brief of hazards, slippery surfaces, steps and trip hazards. • No running on the boat. • First Aid kit to be available on site. All equipment to be carefully stowed on boat.	• *Remove casualty from danger and administer first aid as appropriate.* • *Seek medical advice if necessary. Hospitalise if required.*
23	Contact with other water users	All / OTHER VESSELS	Medium (3)	• Consult/advise appropriate authorities, QHM, VTS and Coastguard before leaving marina, on arrival at dive site before entering water, on entry and on exit of divers from water and finally on safe return to marina. • QHM to issue Local Notice to Mariners and monitor / advise other vessels in the vicinity as appropriate. • Divers to dive in buddy pairs and use SMB when approaching the	*Contact details –* *QHM Portsmouth harbour control – VHF Channel 11 - tel 02392 723694* *Vessel Traffic Services (VTS) Southampton VHF Channel 12 – Tel 02380 608208* *Solent Coastguard VHF Channel 16 – tel 02392 552100* • *Remove casualty from water.* • *Administer first aid as required including*

KEDGE HOOK - RISK ASSESSMENT

				surface. • Skipper to raise 'A' flag and monitor surrounding boat traffic warning them of divers in water over radio as necessary. • First Aid and O2 kit to be available on site. • Signal - 5 horn blasts or 5 flashes of strong light to bridge of other vessel – your intentions are unclear. Other vessel should then respond accordingly. • Divers to return to surface via shot-line where practicable.	*shock.* • *Seek medical advice if necessary.* • *Hospitalise if necessary.* • *Treat buddy for shock if required.*
24	Failure or malfunction of O2 kit / run out of O2	All divers	Medium (3)	• Ensure O2 kit is checked before every dive. • Ensure O2 kit is regularly serviced. • RescueEAN to be available on site.	• *Administer Nitrox using RescueEAN.* • *Seek medical advice. RN Doctor 07831151523 (24 hrs)*
25	Coxswain/skipper incapacitated	All	Low(2)	• Radio coastguard for assistance with position and symptoms • At least one other on board qualified to take over as coxswain (RYA PB2 or equiv) • First aid kit on board.	• *Provide first aid at the scene.* • *Seek medical advice.*
26	Illness from water quality	All divers	Low (2)	• Take a water sample for analysis. • First Aid kit to be available on site.	• *Provide first aid at the scene.* • *Seek medical advice.*

Annex C

DIVE PROGRAMME

The positions of the wrecks are in an area 4 miles South and East of Portsmouth Harbour. UKHO charted Lat/Longs are as follows;

Landing Craft Tank Stern	50 43' .663N	001 03' .092W
Landing Craft Tank Bow	50 43' .817N.	001 03' .617W

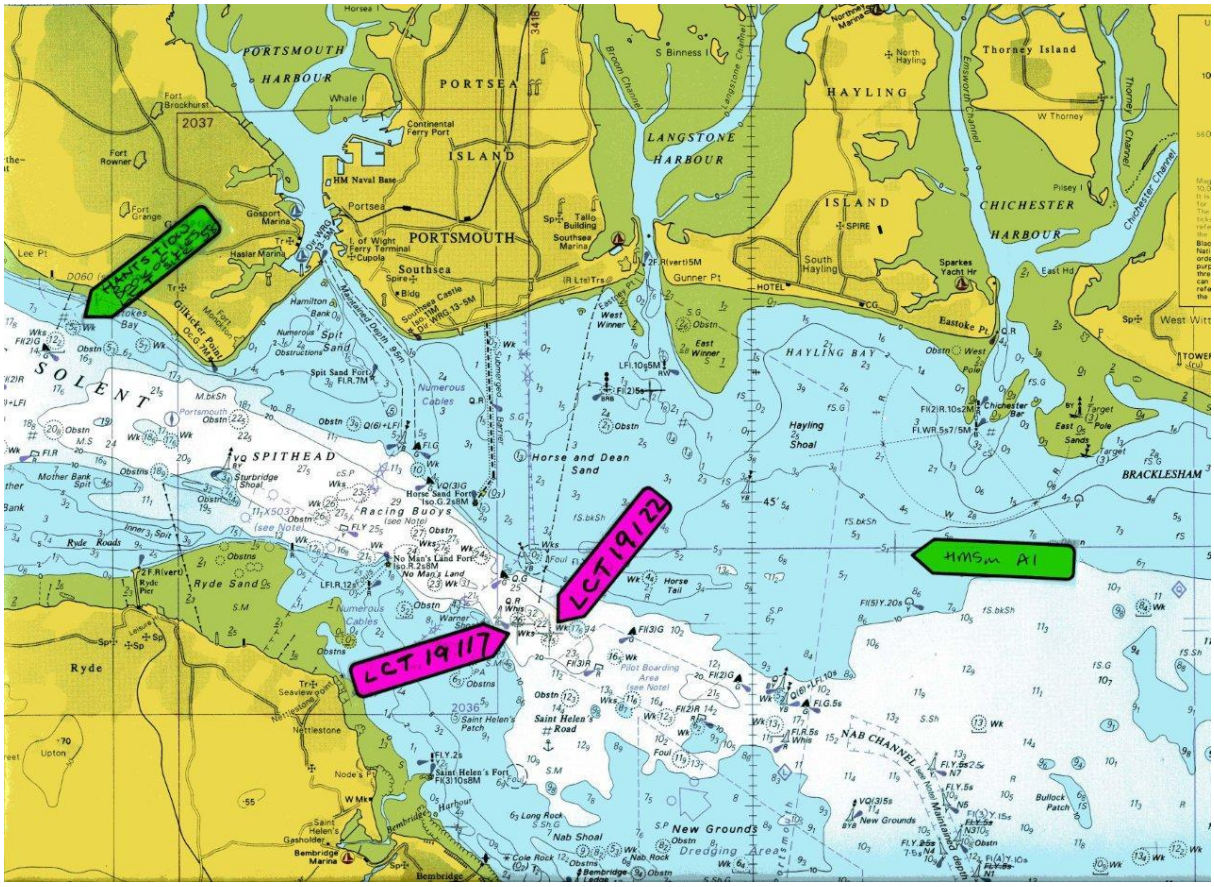

Figure 2- UKHO chart showing location of LCT sites 19117 (Bow) and 19122 (Stern)

The Tidal atlas and experience from diving the sites last year is for diving the site 2 hours before High Water and 3 hours after High Water (Portsmouth). The best time being the latter and on a neap tide.

Side Scan Exploration

Exploratory side-scan surveying to accurately locate the wreck sites will be undertaken as tide and weather permit.
These surveys will obtain accurate marks for them but also to familiarise ourselves with the environment and layout of the sites so that the survey exercise can be planned in detail. Passage plans, based on RHIB launching at Eastney/Langstone Harbour have been prepared.

Main Survey Dives

These dives will be conducted using the club RHIB 'Alan Blake' which cruises with 4 divers on board at around twenty knots making travelling time to most of the wrecks

less than 30 minutes. Alan Blake is a 5.5m Avon SeaRider RHIB which despite being nearly 20 years old has been well maintained and updated with new equipment in recent years. Alan Blake has a 90bhp Mariner 2 stroke engine.

Alan Blake is equipped with safety equipment and modern GPS navigation and communication technology onboard. Alan Blake has limited deck space for divers with an A frame and tank rack.

Tidal predictions for Portsmouth Harbour on the days of the Survey are as follows; (note: All times are expressed as BST)

Date	HW	LW	HW	LW	Sunrise	Sunset	Dive 1 Time	Dive 2 Time
Sat 2nd Jul 11	00:23 4.5 m	06:01 0.9 m	12:55 4.6 m	18:19 1.0 m	04:55	21:20	11:10 to 11:50	16:30 to 17:10
Sun 3rd Jul 11	01:04 4.5 m	06:43 0.7 m	13:37 4.6 m	19:02 0.9 m	04:56	21:20	11:50 to 12:30	17:15 to 17:50
Mon 4th Jul 11	01:45 4.6 m	07:26 0.7 m	14:20 4.7 m	19:46 0.9 m	04:57	21:20	12:20 to 13:15	18:00 to 18:30
Tues 5th Jul 11	02:28 4.6 m	08:09 0.7 m	15:04 4.7 m	20:30 0.9 m	04:58	21:19	13:20 to 14:00	
Sat 6th Aug 11	04:32 4.4 m	10:09 1.1 m	17:02 4.4 m	22:39 1.3 m	05:37	20:42	11:00 to 11:50	15:10 to 16:10
Sun 7th Aug 11	05:27 4.2 m	11:07 1.4 m	17:59 4.2 m	23:46 1.5 m	05:39	20:40	11:40 to 12:50	16:00 to 17:10
Sat 13th Aug 11		05:12 0.9 m	12:08 4.6 m	17:29 1.1 m	05:48	20:29	10:20 to 11:10	15:40 to 16:20
Sun 14th Aug 11	00:17 4.5 m	05:51 0.8 m	12:47 4.7 m	18:07 0.9 m	05:49	20:25	11:00 to 11:40	16:20 to 17:00

Predicted heights are in metres above Chart Datum - Source TotalTide

The shaded areas represent those tides which are suitable for diving the site with dive times as follows;

It is likely that some dives will be cancelled due to adverse weather and some opportunities will be either very early or late in the day which may affect the ability to dive safely. Where the diving has to be cancelled we will endeavour to finish the survey using our own on alternative days. It is proposed to conduct a series of 16 dives during the period July – August 2011. At the end of each exercise the sites will be cleared of any lines/markers etc.

We will embark on Alan Blake at Eastney/Southsea Marina 75 mins before dive time with the view to boat leave 60 minutes before dive time.

Search Techniques

Initial location of the dive sites will be made by reference to the UK Hydrographic Office chart data and previous search data which point echo sounders will be used

to locate the wrecks. Once the wrecks have been found, shot lines will be used as a point of reference around which to conduct the detailed search of the sea bed using the boat echo sounder equipment. The wrecks may only stand two to three metres proud of the seabed and so may not be easy to locate in 30m of water. Another possibility would be to use a magnetometer to search the sea bed for evidence of shipwreck.

Once one or more wrecks have been marked by a buoy this will be used as the descent point for the divers who will then undertake survey tasks including searches on the sea bed surrounding the wreck. Once the area surrounding the wrecks has been searched and marked a rough site plan will be established and used for the more detailed survey on the following days.

Dive Management

All diving operations will be conducted in accordance with BSAC 'Safe Diving Practices' 2010 and will be overseen by the Branch Diving Officer (Martin Davies) or his appointed Dive Manager(s) as appropriate. It is essential to work with the Coxswain/skipper, who has ultimate responsibility for the boat will ensure the safe and successful outcome of each days diving. All divers will receive a daily brief on the safety of the boat and its equipment as well as a more general diving brief (SEEDS) relating to the diving activities, survey exercises and hazards/risks.

Buddy pairs will be established based on experience, capability, dive plans and the specific objectives of the dives. Initially experienced divers with Search and recovery skills will be needed to find the wrecks and other points of interest. After the wrecks have been located and marked it will then be a more routine but carefully planned measurement exercise where all members can get involved. Following which the photographic, video and marine life exercises can take place. Matching these tasks to divers/buddy pairs' experience, skills and availability will need to be carefully managed. With so many divers expressing a wish to take part it may also present quite a challenge to try to give everyone the opportunity to get involved. Using the Club RHIB will provide limited opportunities to take part because of its limited size. We will try to ensure everyone gets the opportunity to dive the wreck.

All divers will carry DSMBs and have an Alternative Air Source and other safety equipment (e.g. knives/cutters/torches/strobes). Buddy checks will be conducted before each dive. There will be a diver log kept by the appointed Dive Manager recording the details of each divers air in/or, depth, time etc. The Dive Manager will also operate a diver 'count' system to ensure that all divers are accounted for at the end of each dive.

The depth (30m) means that there are no special requirements for long decompression/trapezes etc and there are no known hazards such as overhead environments etc to consider. This should mean that the diving routines can be relatively simple although there is a possible task loading issue, which with training and practice can be minimised.

Annex C

All safety equipment (O2 and First aid kits etc) will be checked before each dive and O2 administrators/first aiders will be identified as a part of the briefings.

Dive Plans

The depth of the wrecks is such that there is benefit from the use of Nitrox by all divers who are qualified to do so. The use of Nitrox 36% will reduce the possibility of DCI and extend the bottom time to the point where multiple dives, possibly over several days can be safely undertaken without the need for decompression.

SSAC is fortunate to have its own Nitrox membrane compressor which can deliver Nitrox up to 40%. Following the installation of the compressor the majority of divers within the Branch are now qualified in the use of Nitrox and those in training will be able to use it once they have qualified. The use of Nitrox will therefore be widely promoted and recommended for the survey exercise, though will not mandated.

Indicative dive plans have been produced to reflect a typical diving day as a part of the survey exercise – using Nitrox 36% (using BSAC Nitrox tables). For twin set and Re-breather divers a longer dive time may be possible.

Dive Plan

Dive Plan Nitrox 32% (MOD 36m PPO2 @ 1.44) level 1

Dive 1

CTC	**A**				
	Depth	**Dive time**	**9m stops**	**6m stops**	**Surfacing Code**
Plan	30	25	-	-	F
Just Longer	30	30	-	1	G
Just Deeper	32	25		1	G
Worst Case	32	30		1	G

Surface Interval 5 hours

Dive 2

CTC	B				
	Depth	**Dive time**	**9m stops**	**6m stops**	**Surfacing Code**
Plan	30	20		1	G
Just Longer	30	25		1	G
Just Deeper	32	20		1	G
Worst Case	32	25		3	G

Annex C

In reality divers will have the opportunity to use decompression techniques or rebreather etc to extend bottom time though each diver will be required to agree their dive plan with the Diving Officer or his appointed dive manager. The minimum cylinder size will be 15L.

SURVEY PROGRAMME

DAY 1 – Saturday 2nd July – Landing Craft Bow section

Dive 1 - Dive Time 11:10 - High Water dive

Exercise: Locate wreck (Bow), shot and begin establish control points at each corner of the wreck at sea bed level and at highest level. Note depth, and direction/bearing.

Dive 2 – Dive time 16:30 - Low Water dive

Exercise Continue survey of Bow section taking measurements between Control Points. Video/photograph and identify additional points of interest, taking note of distance/relation to other artefacts/control points.

DAY 2 – Sunday 3rd July – Landing Craft Bow section

Dive 1 – Dive Time 11:50 - High Water dive

Exercise Continue survey of Bow section taking measurements between Control Points. Video/photograph and identify additional points of interest, taking note of distance/relation to other artefacts/control points.

Dive 2 – Dive Time 17:15 - Low Water dive

Exercise Complete survey and remove any lines etc to clear site. SeaSearch survey – photograph and video in particular the break.

DAY 3 – Monday 4th July – Landing Craft Stern Section

Dive 1 – Dive Time 12:30 – High Water dive

Exercise Locate wreck (Stern), shot and begin establish control points at each corner of the tank deck, bridge and stern sections wreck at sea bed level and at highest level. Note depth, and direction/bearing. Video and photograph.

Dive 2 – Dive Time 18:00 – Low Water dive

Exercise Continue survey of Stern section taking measurements between Control Points. Video/photograph and identify additional points of interest, taking note of distance/relation to other artefacts/control points. In particular Bridge/gun area (least depth).

DAY 4 – Tuesday 5th July - Landing Craft Stern Section

Dive 1 – Dive Time 13:20 - High Water dive

Exercise Continue survey of Stern section taking measurements between Control Points. Video/photograph and identify additional points of interest, taking note of distance/relation to other artefacts/control points. .In particular stern deck, winches etc Bridge/gun area (least depth).

DAY 5 – Saturday 6th August – Landing Craft Stern Section

Dive 1 – Dive Time 11:00 - Low Water dive

Exercise Continue survey of Stern section taking measurements between Control Points. Photograph and identify additional points of interest, taking note of distance/relation to other artefacts/control points. .In particular stern deck, winches etc. Look for anchor

Dive 2 – Dive Time 15:10 - High Water dive

Exercise Continue survey of Stern section taking measurements between Control Points. Photograph and identify additional points of interest, taking note of distance/relation to other artefacts/control points, in particular, record the position of stern Anti Aircraft guns and ammunition.

Measurements, SeaSearch and perimeter search.

DAY 6 – Sunday 7th August – Landing Craft Stern Section

Dive 1 – Dive Time 11:40 - Low Water dive

Exercise Continue survey of Stern section taking measurements between Control Points. Photograph and identify additional points of interest, taking note of distance/relation to other artefacts/control points. In particular bridge area.

Dive 2 – Dive Time 16:00 - High Water dive

Exercise Continue survey of Stern section taking measurements between Control Points. Photograph and identify additional points of interest, taking note of distance/relation to other artefacts/control points. In particular bridge area.

KEDGE HOOK – DIVE PROGRAMME

Annex C

DAY 7 – Saturday 13th August – Landing Craft Stern Section

Dive 1 – Dive Time 10:20 - High Water dive

Exercise Continue survey of Stern section taking measurements between Control Points. Photograph and identify additional points of interest, taking note of distance/relation to other artefacts/control points. .In particular tank deck and break area.

Dive 2 – Dive Time 15:40 – Low Water dive

Exercise Measurements, SeaSearch and perimeter search.

DAY 8 – Sunday 14th August – Landing Craft Stern Section

Dive 1 – Dive Time 11:20 - High Water dive

Exercise Continue survey of Stern section taking measurements between Control Points. Photograph and identify additional points of interest, taking note of distance/relation to other artefacts/control points, in particular bridge etc.

Dive 2 – Dive Time 16:20 - Low Water dive

Exercise Clear site -remove control points and lines.

Thursday 18th August - Initial 'Debrief' at the club house – All invited!

KEDGE HOOK – DIVE PROGRAMME

Annex C

Dive Team

DATE						
TBA	Side-scan Survey	Martin Davies				Triple xxx
DATE	**Diver 1**	**Diver 2**	**Diver 3**	**Diver 4**	**Diver 5**	**Reserve**
2 July 11 (Sat)	Alison Mayor	Ron Garrett(c)	Martin Davies	Dave Purvis	Jan VDH (c)	
3 July 11 (Sat)	Alison Mayor	Ron Garrett(c)	Martin Davies	Dave Purvis	Jim Fuller (c)	
4 July 11 (Mon)	Martin Davies	Jim Fuller	Dave Sawdon	Doug Carter	Alison Mayor	*Alison to miss first dive
5 July (Tues)	Roger Mariamootoo(c)	Alison Mayor	Martin Davies	Jim Fuller	Dawn Barnard	
6 August 11 (Sat)	Alison Mayor	Toni Bates	Doug Carter	Jim Fuller	Phill Jackson	
7 August 11 (Sun)	Alison Mayor	Toni Bates	Martin Davies	Jim Fuller	Phill Jackson	
13 August 11 (Sat)	Tom Templeton(c)	Alison Mayor	Ron Garrett(c)	Martin Davies	Doug Carter	Paul Beardall
14August 11 (Sun)	Tom Templeton(c)	Alison Mayor	Ron Garrett(c)	Martin Davies	James Sephton	Paul Beardall

Dive Times

Date	**HW**	**LW**	**HW**	**LW**	**Sunrise**	**Sunset**	**Dive 1 Time**	**Dive 2 Time**
Sat 2 Jul 11	00:23 4.5 m	06:01 0.9 m	12:55 4.6 m	18:19 1.0 m	04:55	21:20	**11:10 to 11:50**	**16:30 to 17:10**
Sun 3 Jul 11	01:04 4.5 m	06:43 0.7 m	13:37 4.6 m	19:02 0.9 m	04:56	21:20	**11:50 to 12:30**	**17:15 to 17:50**
Mon 4 Jul 11	01:45 4.6 m	07:26 0.7 m	14:20 4.7 m	19:46 0.9 m	04:57	21:20	**12:20 to 13:15**	**18:00 to 18:30**
Tues 5 Jul 11	02:28 4.6 m	08:09 0.7 m	15:04 4.7 m	20:30 0.9 m	04:58	21:19	**13:20 to 14:00**	
Sat 6 Aug 11	04:32 4.4 m	10:09 1.1 m	17:02 4.4 m	22:39 1.3 m	05:37	20:42	**11:00 to 11:50**	**15:10 to 16:10**
Sun 7 Aug 11	05:27 4.2 m	11:07 1.4 m	17:59 4.2 m	23:46 1.5 m	05:39	20:40	**11:40 to 12:50**	**16:00 to 17:10**
Sat 13 Aug 11		05:12 0.9 m	12:08 4.6 m	17:29 1.1 m	05:48	20:29	10:20 to 11:10	15:40 to 16:20
Sun 14 Aug 11	00:17 4.5 m	05:51 0.8 m	12:47 4.7 m	18:07 0.9 m	05:49	20:25	**11:00 to 11:40**	**16:20 to 17:00**

Annex C

Dive Programme

Date	Meet at Southsea Marina time	Boat Leave time	Dive 1 Time –	Boat Leave time –	Dive 2 Time
Sat 2 Jul 11	09:00	10:15	**11:10 to 11:50**	15:45	**16:30 to 17:10**
Sun 3 Jul 11	09:45	10:45	**11:50 to 12:30**	14:30	**17:15 to 17:50**
Mon 4 Jul 11	10:30	11:30	**12:20 to 13:15**	17:15	**18:00 to 18:30**
Tues 5 Jul 11	11:30	12:45	**13:20 to 14:00**		
Sat 6 Aug 11	09:00	10:15	**11:00 to 11:50**	14:30	**15:10 to 16:10**
Sun 7 Aug 11	09:45	11:00	**11:40 to 12:50**	15:40	**16:00 to 17:10**
Sat 13 Aug 11	08:30	09:30	**10:20 to 11:10**	15:00	**15:40 to 16:20**
Sun 14 Aug 11	09:00	10:00	**11:00 to 11:40**	15:30	**16:20 to 17:00**

All diving is subject to final approval from QHM, VTS and Coastguard who must be contacted at each stage of the programme. If QHM or VTS advise that the dive should not go ahead then it will be aborted at that point. They have a duty of care for us and other persons/vessels using the Channel and we must respect their decision. **Their word is final in this respect**.

1. **Before leaving for dive site**
2. **Before putting divers in the water**
3. **As soon as divers and shot have been recovered**
4. **When returned back to marina.**

QHM Portsmouth Harbour Control *VHF Channel 11 - Tel 02392 723694*
Vessel Traffic Services (VTS) Southampton VHF *Channel 12 – Tel 02380 608208,*
Solent Coastguard – Lee-on-Solent VHF *Channel 16 – Tel 02392 552100*

PART 2 DIVING ON LCT427

2.1 Location and Permissions

Detailed planning for the diving activities continued right through the survey programme. This involved discussions with the relevant authorities in order to gain permission to dive within the Eastern Solent shipping lane. The dive sites fall within the jurisdiction of both the Queen's Harbour Master (QHM) Portsmouth under the Dockyard Port of Portsmouth Order[4] and the Vessel Traffic Services (VTS) Southampton. This Statutory legislation expressly prohibits any diving in an area where anchoring in not allowed (e.g. a shipping lane) without the express permission of the QHM.

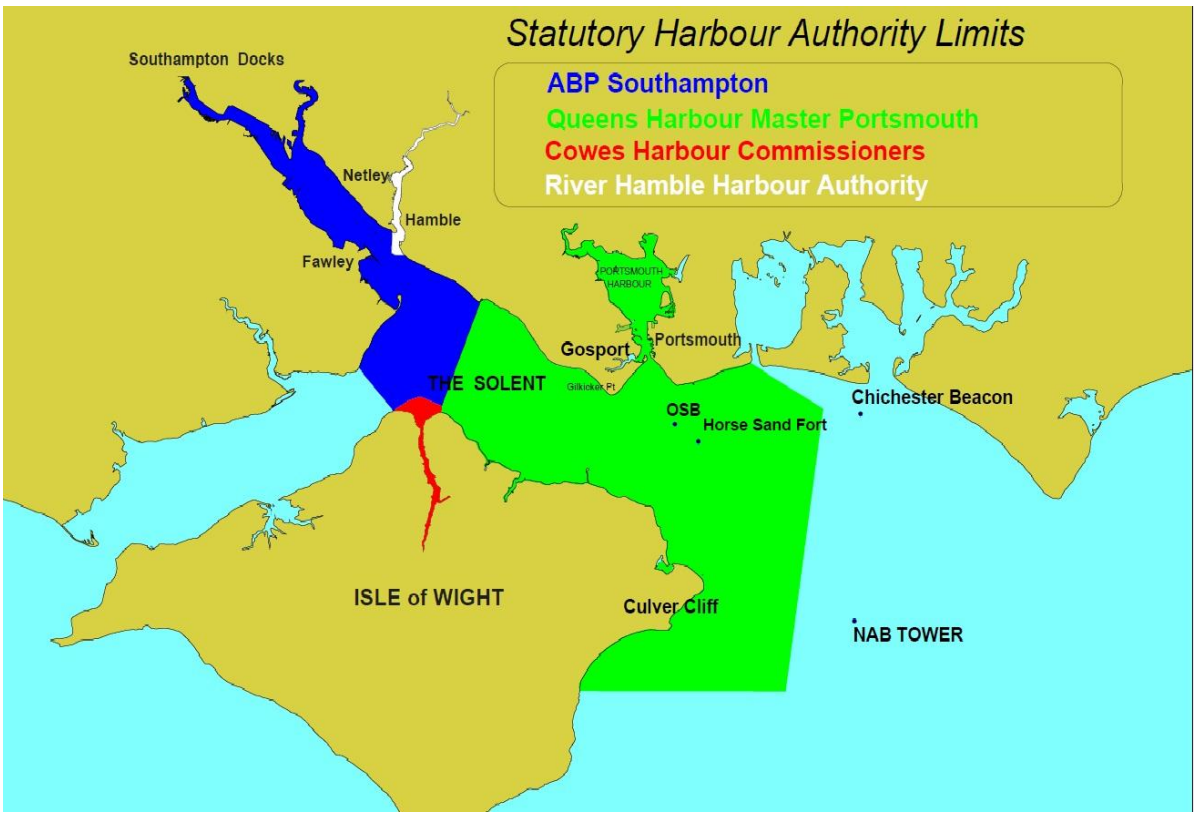

Figure 3 Map showing the extent of QHM jurisdiction under the Dockyard Port of Portsmouth legislation.

Several meetings were held with the QHM and his staff to demonstrate that the Diving Plan was safe and that the project had an effective Risk Management Plan. Permission was granted to dive the sites and a Local Notice to Mariners (49/11) issued to all sea users to notify them of the location, dates and times of the diving operations. (See Annex to this Part 2)

It was a condition of the permission to dive that Portsmouth Harbour Control (QHM), VTS and the Coastguard were informed before we left the marina, before we put divers into the water, immediately the divers (and shot) was recovered and on safe return to the marina.

We are extremely grateful to the QHM and his staff for their assistance and for the permission to complete the survey.

[4] **STATUTORY INSTRUMENTS 2005 No. 1470 HARBOURS, DOCKS, PIERS AND FERRIES The Dockyard Port of Portsmouth Order 2005** Made: 7th June 2005

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Figure 4 Diver with Surface Marker Buoy - an essential piece of safety equipment.

Figure 5 SSAC's club RHIB 'Alan Blake' recovering divers.

2.2 Diving Activities

The Diving Plan was a living document which was adjusted to take account of minor changes in circumstances (e.g. diver availability and weather). Our diving experiences also necessitated a number of changes to the plan, for example, early dives were found to be a little late for the tide so we brought forward dive times in later dives.

A total of 14 of the 15 dives planned were successfully carried out. This was a real achievement given the unpredictability of UK weather conditions. Only one dive was cancelled because of adverse conditions (strong winds and rough seas). A combined total of 23 hours and 16 minutes was spent by SSAC divers on the wreck.

Our small 5.5m RHIB takes only 4 divers and their equipments so space for additional equipment was limited. However, despite its size and age performed well. Operating out of Southsea Marina over a weekend was very successful with local facilities and secure moorings making a real difference to the smooth running of the survey. We came back to the marina following each dive to refuel and re-gas.

2.3 Lessons Learned

Communications (Radio etc)

Our new fixed VHF radio was an issue in the early dives, and we struggled to reach VTS Southampton, particularly from the marina at low water. The back-up hand held radios and mobile phones were used as alternatives and occasionally QHM Portsmouth kindly relayed messages. We installed a more powerful aerial and also found that there was a problem with the interactive handset so used a traditional microphone whilst this problem was investigated by the manufacturer. Our experience of diving in the shipping lane brought home the importance of good communications at an early/planning stage and throughout the diving programme.

Being in regular communication with both Port authorities meant that they were able to advise us of any large shipping traffic passing by the dive sites. We were able to delay entry into the water as necessary so that neither divers nor other vessels were put at risk. This was demonstrated when we delayed entry into the water for a large tanker to pass by – only to hear that an hour or so later it had been in collision with a yacht taking part in Cowes week.

RHIB skipper, Ron Garrett, in radio consultation with the Coastguard and VTS (Southampton Vessel Traffic Services), decided to wait for the large tanker and its attached tug to pass before dropping the divers. The incident underlines the importance of alert and proactive boat cover during dives and the sensible use of SMBs. See the article and video here:

http://www.bbc.co.uk/news/uk-england-hampshire-14433732

Figure 6 footage of the collision between a yacht and tanker - which had passed our diving boat shortly before hand.

It was comforting to hear QHM and VTS staff communicating with other vessels and reminding them of the diving taking place – never the less the vessels sometimes came within several hundred metres which sounded quite loud underwater.

Figure 7 Brittany Ferry, our shot line and a diver's surface marker buoy.

Shot lines

We tried a number of different shot lines, and still lost 2 during the diving survey. We recovered one on the following day but the other one disappeared completely. We used pendulum weights to assist in identifying slack water but there was a delicate balance when the tide picked up and soon the shot was bouncing along the bottom. Lift bags on the shot line greatly assisted the recovery of the shot into a small boat.

These lessons will be applied as appropriate in any future diving operations.

Annex – QHM Portsmouth Local Notice to Mariners 49/11

QUEEN'S HARBOUR MASTER PORTSMOUTH

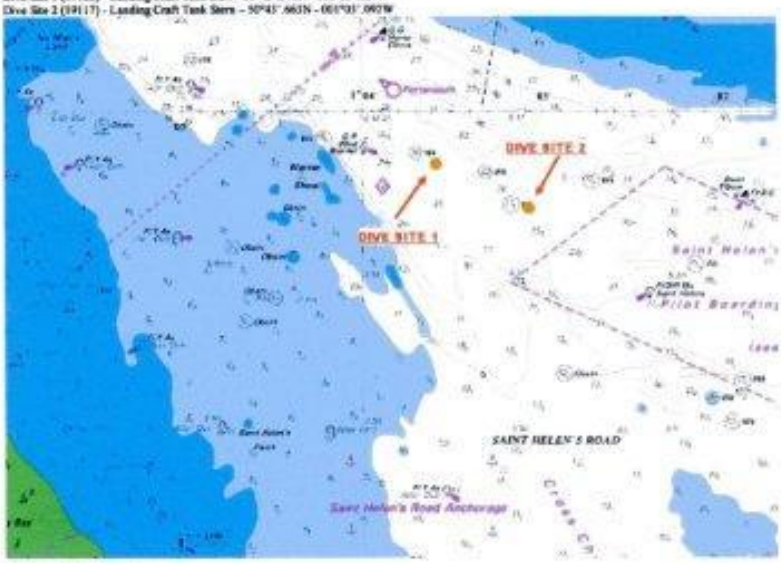
LOCAL NOTICE TO MARINERS

No 49/11

DIVING SURVEY OF LOCAL WRECK HMLCT 427

1. NOTICE IS HEREBY GIVEN by the Queen's Harbour Master Portsmouth that a diving survey of HMLCT 427 will be taking place in an area 4 miles South and East of Portsmouth Harbour between Saturday 02 July and Sunday 14 August 2011.

2. The positions of the dive sites are as follows;
Dive Site 1 (39122) - Landing Craft Tank Bow - 50°45' .870N - 001°03' .017W
Dive Site 2 (39117) - Landing Craft Tank Stern - 50°45' .665N - 001°03' .092W



3. The dive timetable is as follows;
Saturday 02 July Dive Site 1 Dive Time 1110 to 1150 – 1630 to 1710
Sunday 03 July Dive Site 1 Dive Time 1150 to 1230 – 1715 to 1750
Monday 04 July Dive Site 2 Dive Time 1220 to 1315 – 1800 to 1830
Tuesday 05 July Dive Site 2 Dive Time 1320 to 1400
Saturday 06 August Dive Site 2 Dive Time 1100 to 1150 – 1510 to 1610
Sunday 07 August Dive Site 2 Dive Time 1140 to 1250 – 1600 to 1710
Saturday 13 August Dive Site 2 Dive Time 1020 to 1110 – 1540 to 1620
Sunday 14 August Dive Site 2 Dive Time 1100 to 1140 – 1620 to 1700
(All times listed are Local)

4. Whilst diving is taking place the support craft, an inflatable Rib call sign "Alan Blake" will be displaying the International Code Flag "Alpha". Whilst diving operations are taking place "Alan Blake" will be keeping a listening watch on VHF Ch 11, 12 and 16. All mariners are requested to keep a good lookout and pass well clear of the area at slow speed.

5. QHM Harbour Control will be kept informed of the divers movements and may be contacted on VHF Ch 11 or by telephoning 02392 723689.

6. Cancel this Local Notice To Mariners Mon 15th Aug 2011 (8 days)

Mon 27th Jun 2011
Semaphore Tower
HM Naval Base, Portsmouth

N J Hare
Commander Royal Navy
Queen's Harbour Master

Figure 8 A copy of Portsmouth QHM Local Notice to Mariners 49/11

PART 3 SURVEY FINDINGS

3.1 Introduction

The challenges of diving in dark, gloomy conditions in deep (30m) time limited situations impacted on the amount of data that could be obtained on each dive. The size of the wreck also posed some problems in achieving accurate measurements as well as the significant distortion of the metal hull surrounding the break area.

We spent some time examining the photographic and video evidence surrounding the break area in an attempt to understand the how the impact of the collision with HMS Rodney might have resulted in the twisted metal we observed at the site and whether this was consistent with the eye witness reports contained in the official files.

We held a couple of meetings with Howard Flegg who works for the Maritime Coastguard Agency, Marine Accident Investigation Branch (MAIB) based in Southampton. We showed Howard photographs, video and sketches of the damaged area of wreckage and in particular the curved section of hull apparent on the stern section. We were trying to establish where the initial impact would have been and whether the damage was consistent with being pinned against the Bow of HMS Rodney with her hull or tank deck.

Howard confirmed that the damage was consistent with a significant collision and that the initial impact was likely to have been on the starboard side, however without diving the site himself he was not able to confirm one way or other whether the tank deck or hull had been pressed against the bow in the collision. We hope to arrange more diving on the site in 2012 to allow Howard to see the wreckage at first hand in order to perhaps offer more informed thoughts.

Howard also thought that we may be able to create a model using computer generated images, which could be used to illustrate the collision and its effect on the LCT. He knows of a student who may be able to generate the imagery. We hope to work with Howard in the future on this possible visual aid.

Figure 9 A British LCT (398) similar to that investigated under this project

3.2 Key Features and Points of Interest.

Key features observed on our dives are detailed below.

3.2.1 The Bow Section

A limited amount of diving was conducted on the bow with the main focus being that of the Stern section. The bow is difficult to locate on the echo sounder due to the U shape profile whereby the sides only stand 2-3m proud. Diving conditions were dark and with limited visibility of 2-3m.

The bow is very intact, sitting upright on a silty/shingle sea bed. The Landing Craft door is open and lays flat on the sea bed. At the break section the port side is cleanly broken but the starboard side shows much more sign of damage with irregular / crumpled metal. On the tank deck there is a peeling back of the right hand half of the deck plate in a large curl towards the starboard side.

The wreck is very complete, with a bow anchor on the port side, still in position. Even the crews' toilet, on the starboard side, has the toilet seat in place. Door winches, pipes and valves etc are clearly visible. The door winches on both port and starboard sides are also visible.

Measurements

The top of the port and starboard sides were measured between the break point and the set of ladders each side just before the rise for the door started. Both sides measured 15m (Stbd) and 16m (Port) (48ft 9' and 52') respectively. The width of the inner tank deck was measured as 8m (22ft) which is again consistent with the line drawing. The overall length of the bow section (from break to the bow door) worked out to be 36.3m (100ft).

The curl of metal on the tank deck at the break point measures 3.1m in length.

The maximum depth recorded was 29m and the top of the bow door stood 3m from the sea bed.

On each side of the tank deck, near the door area were opening and closing mechanisms. Two x 2 man winches to lift the heavy door. There was also toilet and washing facilities which were largely intact though silted. On the top of each side was a small hatch approx two thirds of the length from the bow door. The starboard side was silted but the port side clear with a ladder visible. We believe these were store rooms as illustrated in the ship's plan.

Bow Door

The tank door is open and lies on the sea bed. There is a ladder on the port side of the door (fig. 11). There is evidence of a scour around the port side of the door opening. The chains which would have been used to lower the door are not apparent.

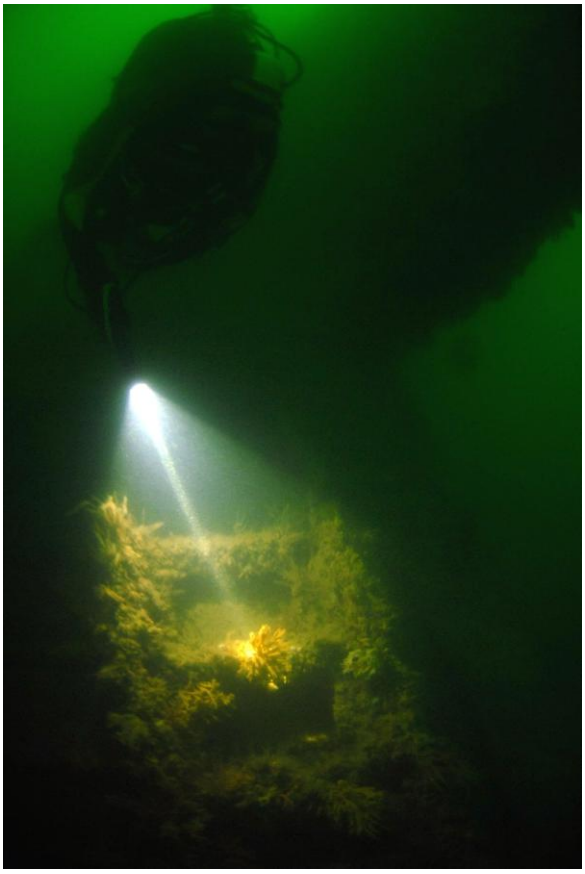


Figure 10 the ladder on the bow door (open)

Bow Anchor.

There was a bow anchor on the port side still in its arrested position on the top level of the port side of the tank bay.

Figure 11 the bow anchor (port side)

Tank Deck and Break area

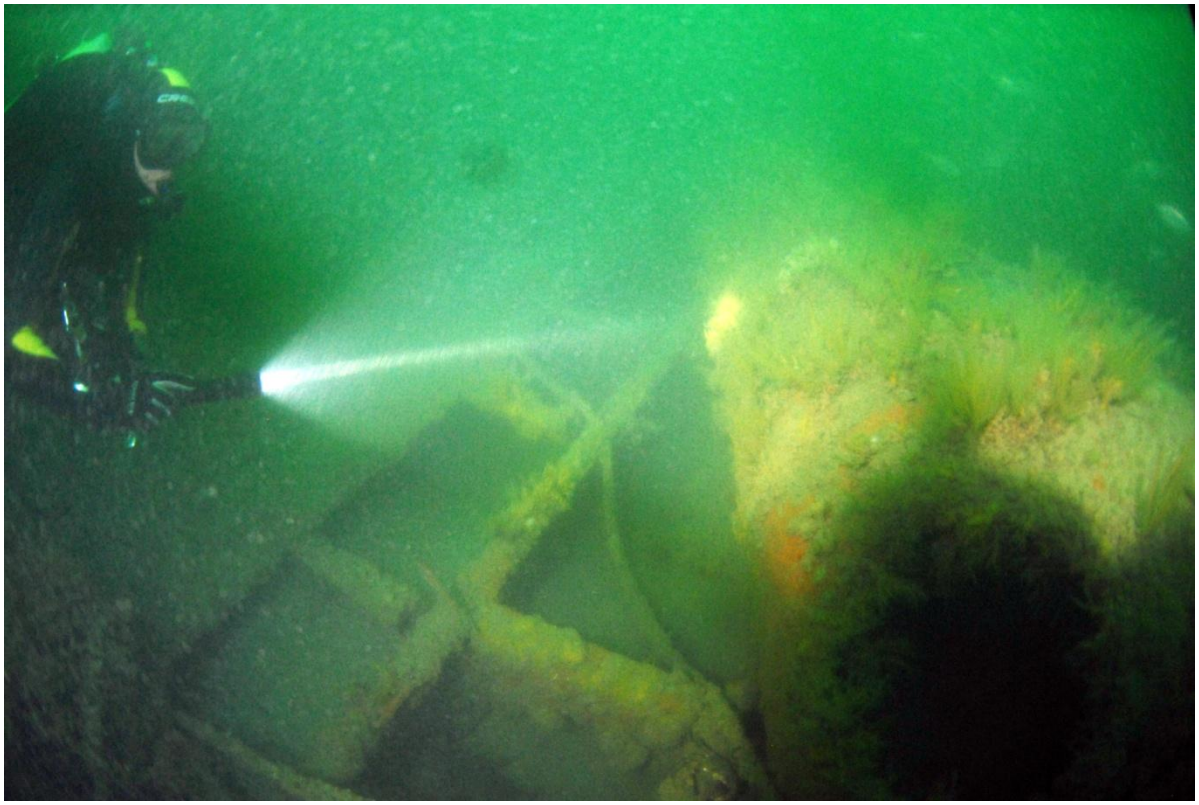


Figure 12 the tank deck is peeled back in a large curl

This peeling back of the tank deck was one of the key features discussed with the Marine Accident Investigation Unit in the meeting on 5th Oct 11.

The Starboard side of the break also featured the curling back of metal to reveal watertight compartments which formed the structure of the sides of the tank deck. The peeling away tended to be outwards in its direction.

There were a number of abandoned lobster pots and associated ropes on the bow section.

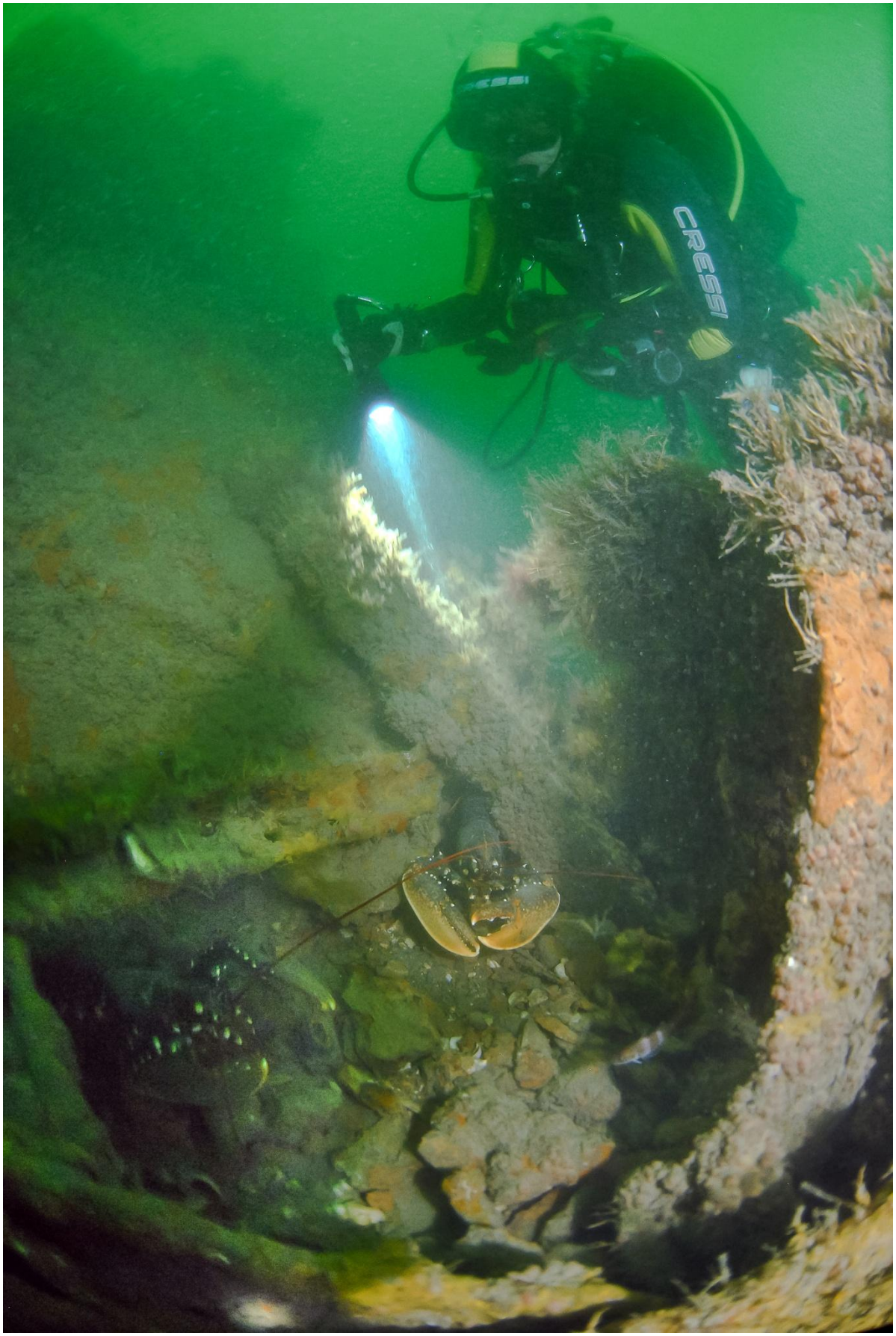


Figure 13 the Bow break section/Starboard side with twisted metal, home to 2 large lobsters.

3.2.2 Stern Section

The majority of diving was conducted at the stern which stands 5-6m proud of the sea bed of mostly silt and gravel. A scour of approx 1.5m is present at the break section, particularly on the port side. The stern section lists to the port side slightly and is partly buried in the sea bed to the point where the propellers/rudder are not visible.

The stern is remarkably intact for a vessel which sank in WW2 more so than any other site we have visited in the area. The bridge, stern deck and tank deck is complete even to the extent that some of the companion ways railings are still present. It was a real pleasure to dive such an intact vessel which is likely to be the most complete wreck of a WW2 British LCT.

Again due to poor visibility and dark conditions photography and video were challenging, particularly in the tank deck.

Figure 14 Ladder inside tank deck (starboard)

There is much to see and record as this section of the wreck is so intact. Taking each area in turn –

Stern – Intact, mostly buried to the sea level line, listing slightly to port. No evidence of the Kedge Hook anchor which would have lain at the stern on a specially sloped section of deck. Rudders and propellers are not visible and presumed to be present below the silty sea bed. Moving forward across the deck the large capstan (Fig 21) is in place and there is evidence of winching cables and anchor deployment/recovery mechanisms.

Rear of the bridge/accommodation section at deck level shows no signs of doors, which if present, are well concreted closed.

Port and Starboard Companionways – complete with 3 supporting struts and some railings present. See Figure 19.

Ports side of bridge at deck level – Door, open and lying on the deck. Heavily silted inside door, with part of funnel visible inside the door. Mushroom vent, bollards, winch (wound) and closed skylight to engine room. No attempt was made to enter the wreck through this door.

Front of bridge – Intact – no evidence of spare propeller which would have normally been present at tank deck level.

Moving forward into tank deck and along the port side of the wreck.

Port side of Tank Deck, fire hose on the inside of the tank deck. Some debris (possibly a ladder) on the sea bed off the port side. This port side measures 10.46m (34ft) at its maximum extent at the break (from the bottom corner of the tank deck opposite the ladder on the starboard side) Control Point to Control Point 3.

Starboard side of Bridge – No door, small light fitting, skylight open, winch unwound, mushroom vent – small cylindrical object, possibly a fire extinguisher. Two round plates of metal lying on the deck. (Fig 18)

Starboard Side of Tank Deck – ladder inside from tank deck to main deck level. This section measures 10.77m (35ft) at its maximum to the break (from bottom of ladder). Control Point 2 to Control Point 4

Inside tanks deck there are many poles and girder including triangular supports – presumably support for canvas deck covers. Sediment has been deposited in places. Also what appears to be the very top of the mast lies in the centre of the tank deck.

At the break section, the port side is straight and appears to have broken at a section of joined metal. The starboard side is much more irregular with several sections being affected and distorted by the damage, Along the front of the tank deck the individual sections are clearly visible and, commencing at the midpoint the keel metal is peeled back to the port side again in a large curled that is big enough for a diver to swim through.

On the upper deck of the Bridge, starting at the stern, there is a Ready-Use Locker (Fig 22) complete with anti aircraft reels of ammunition, rifle and small arms bullets.

Figure 15 the base of a flare and common prawn.

There are two **Anti Aircraft gun** mounts (20mm Oerlikon) the port side gun barrel has become dislodged and the barrel has fallen towards the deck. We could not locate the starboard side gun barrel. A number of other cases of ammunition are placed around the guns. On the starboard side there appears to be damage to the armour plating which protected the gun decks. This could have been from the collision or enemy action. (Fig 20)

In the centre of the deck is the **water tank** and what we believe to be battery compartment. Ahead of the water tank is the funnel which has collapsed under the toppled mast. The mast lies in at least 4 sections to the centre/port side.

At the very front is a **small chart room** where the compass binnacle and periscope would have been. This area is mainly empty but we did locate some of the brass fitting used to attach flags (Fig 17) and also some of the teak wood used around the bridge area. The remains of what appeared to be flare cases were found. (Fig 16)

Figure 16 small brass clips for attaching flags

Figure 17 View of the starboard winch looking to the rear of the LCT

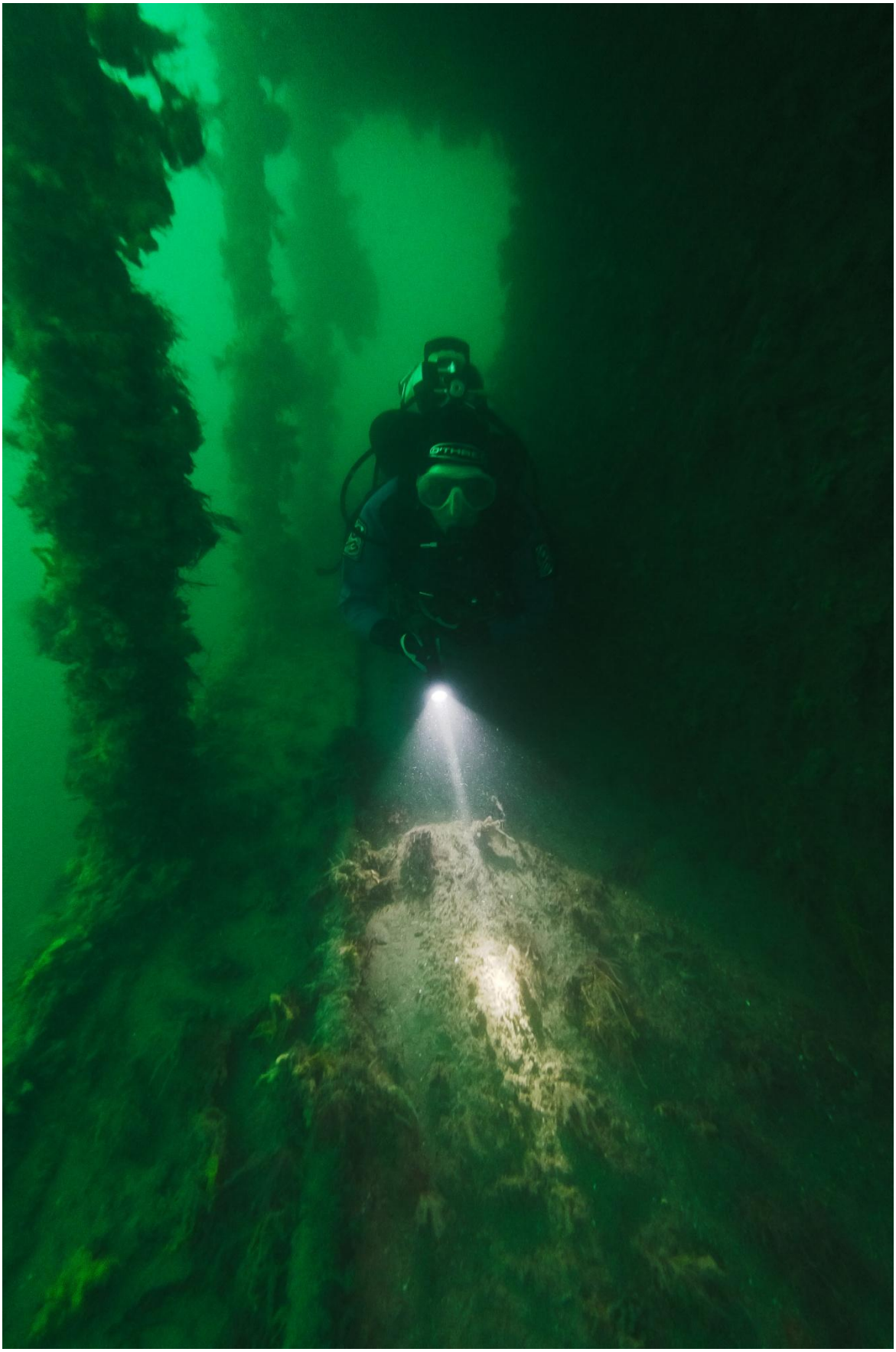


Figure 18 Diver swimming through companion way (starboard side)

Figure 19 View of the Starboard side, ahead of companionway. To the top left is the damaged area, near the starboard gun.

Figure 20 the large capstan used to pull the LCT off the beach with the help of the Kedge Anchor

Figure 21 the Ready Use (RU) locker has a variety of types of ammunition – Reels of 20mm anti-aircraft ammunition, 303 rifle and pistol bullets.

3.3 Annotated Site Plan

The attached ship's plan (Fig 23) notes some of the wreck site features and observations annotated against a simplified ships plan. A more detailed plan based on a full size 'as fitted' ship's plan obtained from the National maritime Museum for a similar vessels has been created but is too large to include in this report. Each key link to report images, descriptions, sketches and notes of particular features identified at the wreck site.

A number of sketches were produced by the team which, together with photographs and video were used to brief other members of the club and also Howard Flegg from the MAIB. The sketches are included below (Figs 24 to 28).

3.4 Video recording of Stern Section.

A full sweep around the stern section, starboard side and bridge was recorded on video. See dvd enclosed with this report. It was taken on a day with exceptional visibility (from our experience on the site) and provides a real feel for how intact this shipwreck is.

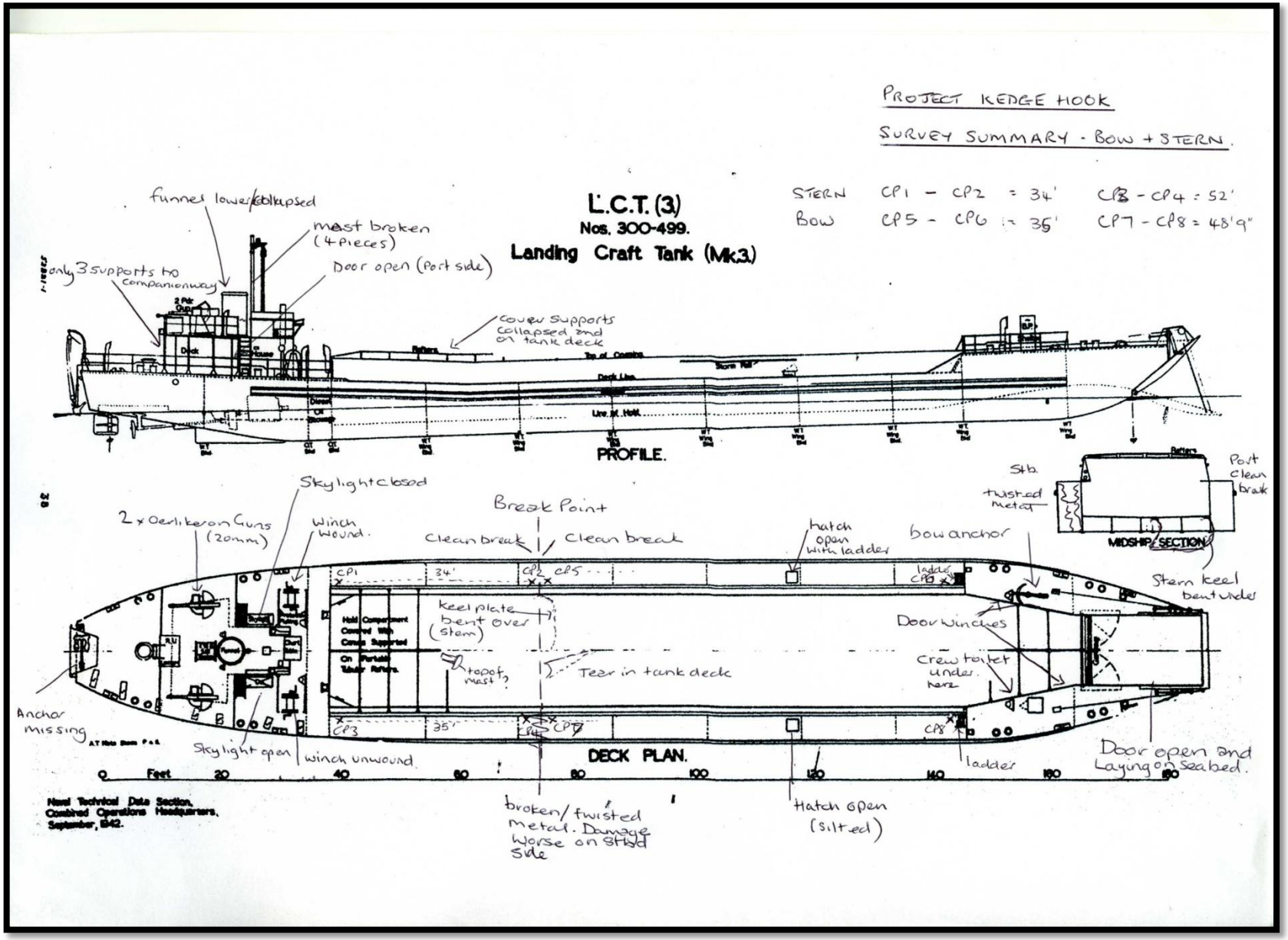


Figure 22 Annotated ship's plan with key features observed.

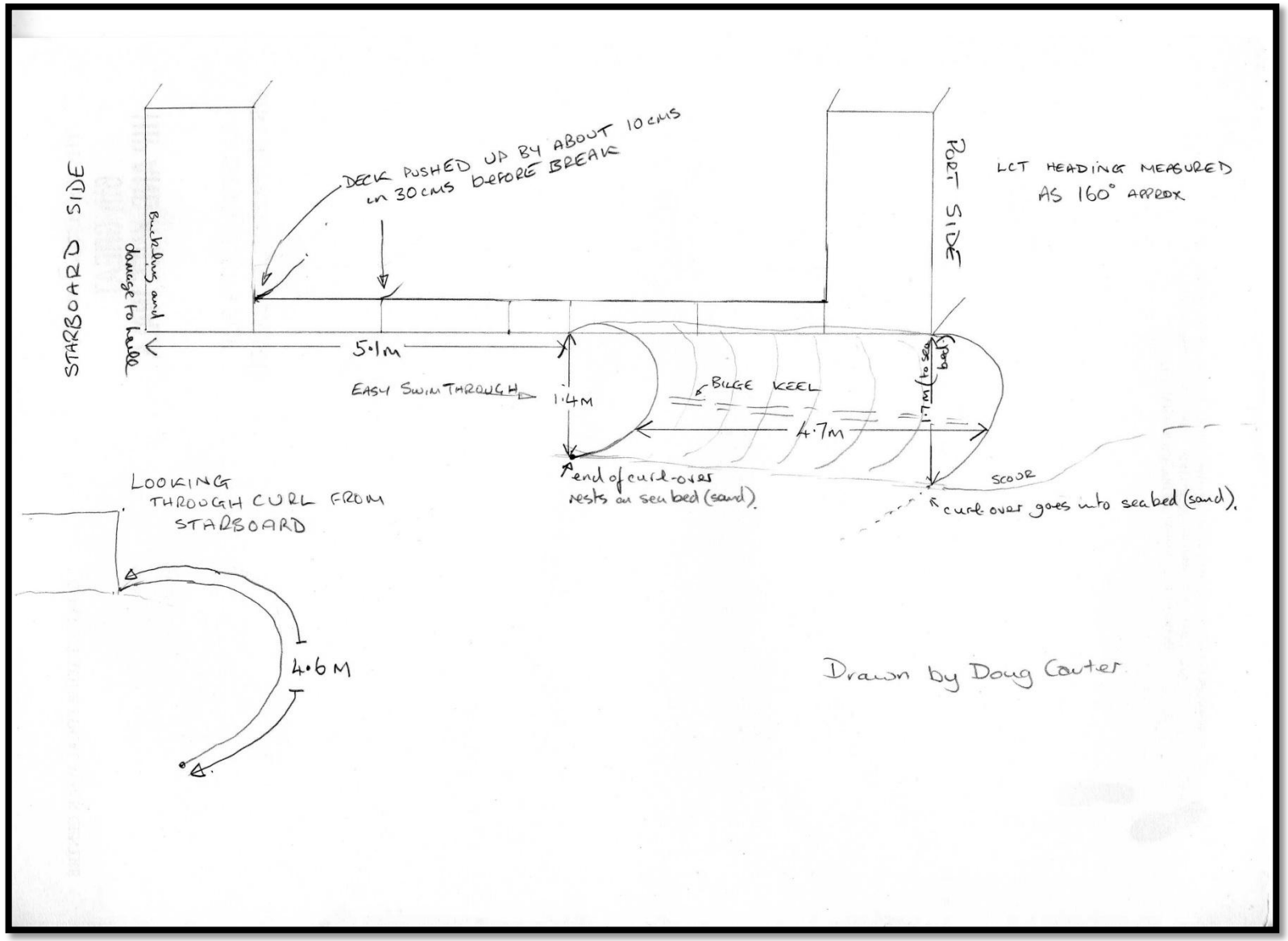


Figure 23 Sketch showing dimensions and detail of the stern break area. Doug Carter

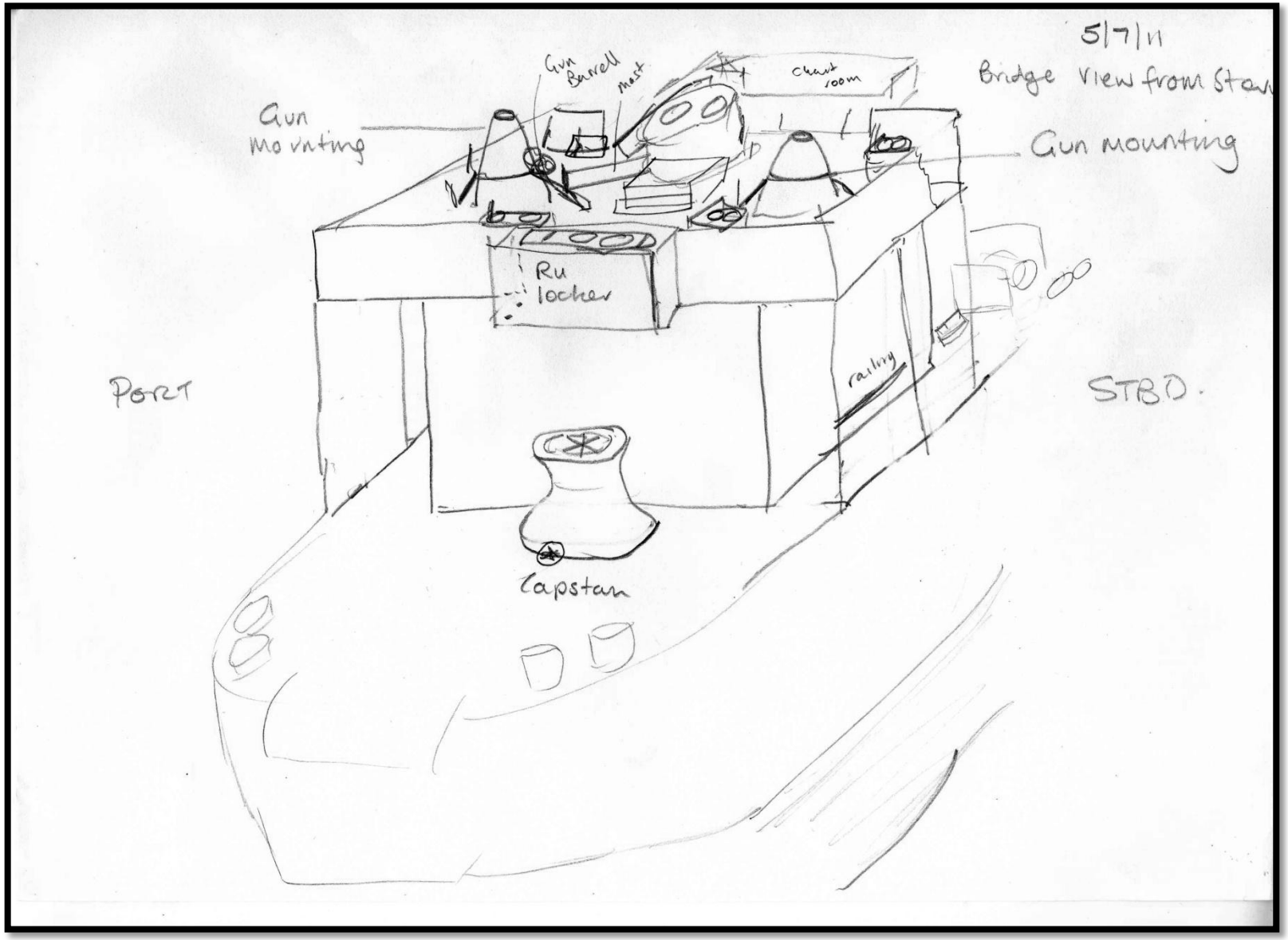


Figure 24 Sketched view of the Stern. Alison Mayor

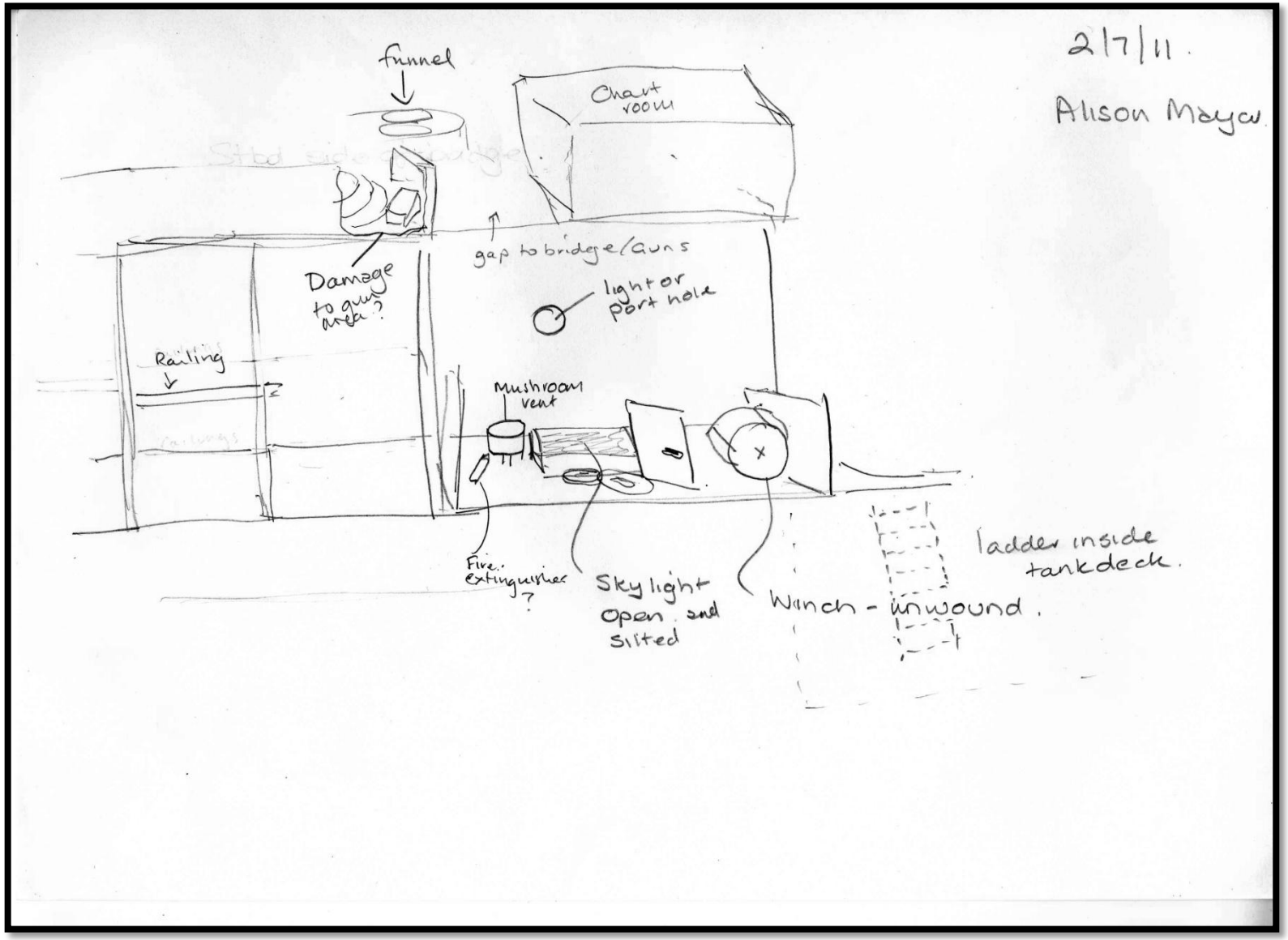


Figure 25 Sketch view of starboard side of bridge area. Alison Mayor

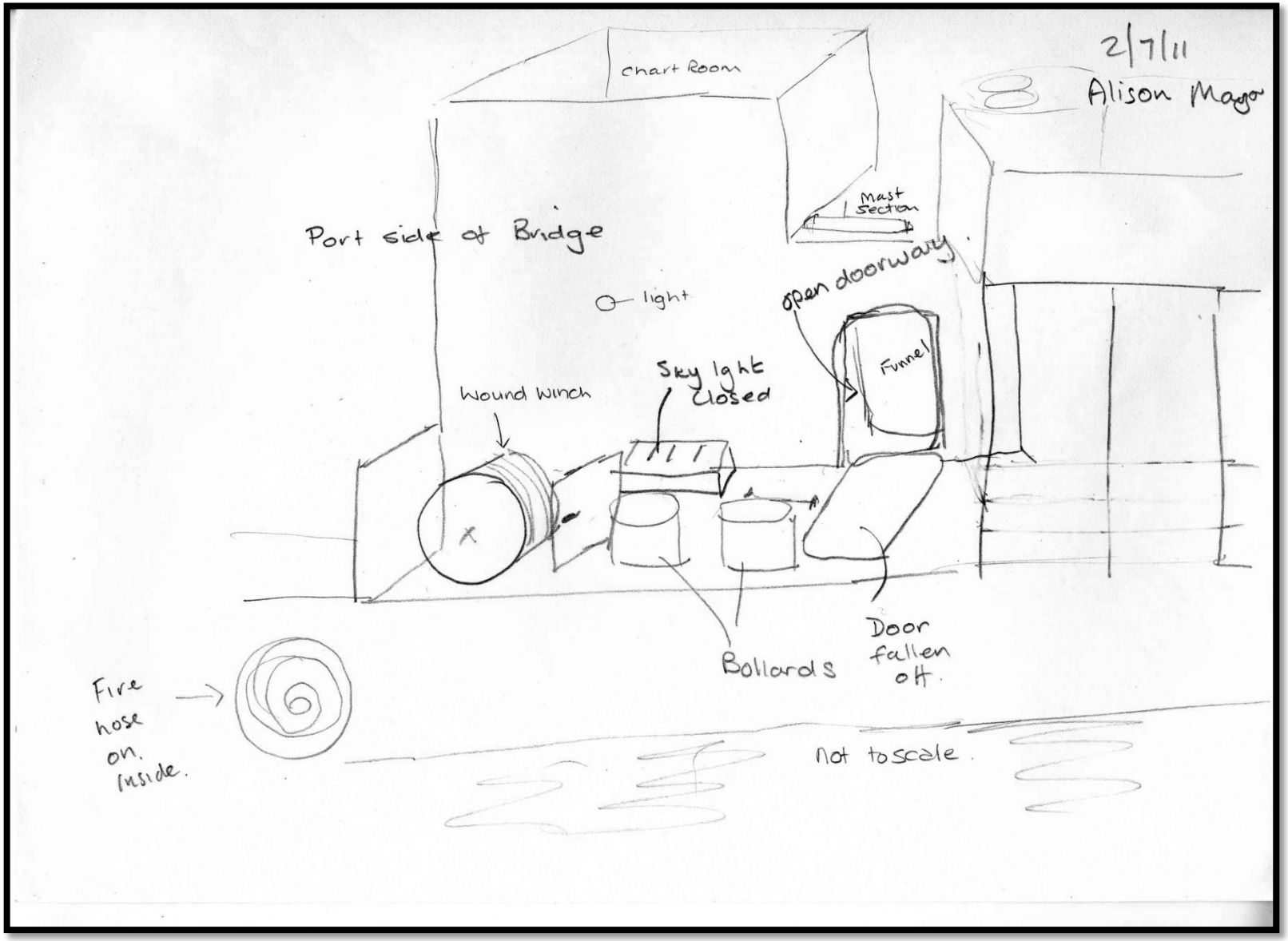


Figure 26 Sketch view of the port side of the bridge area. Alison Mayor

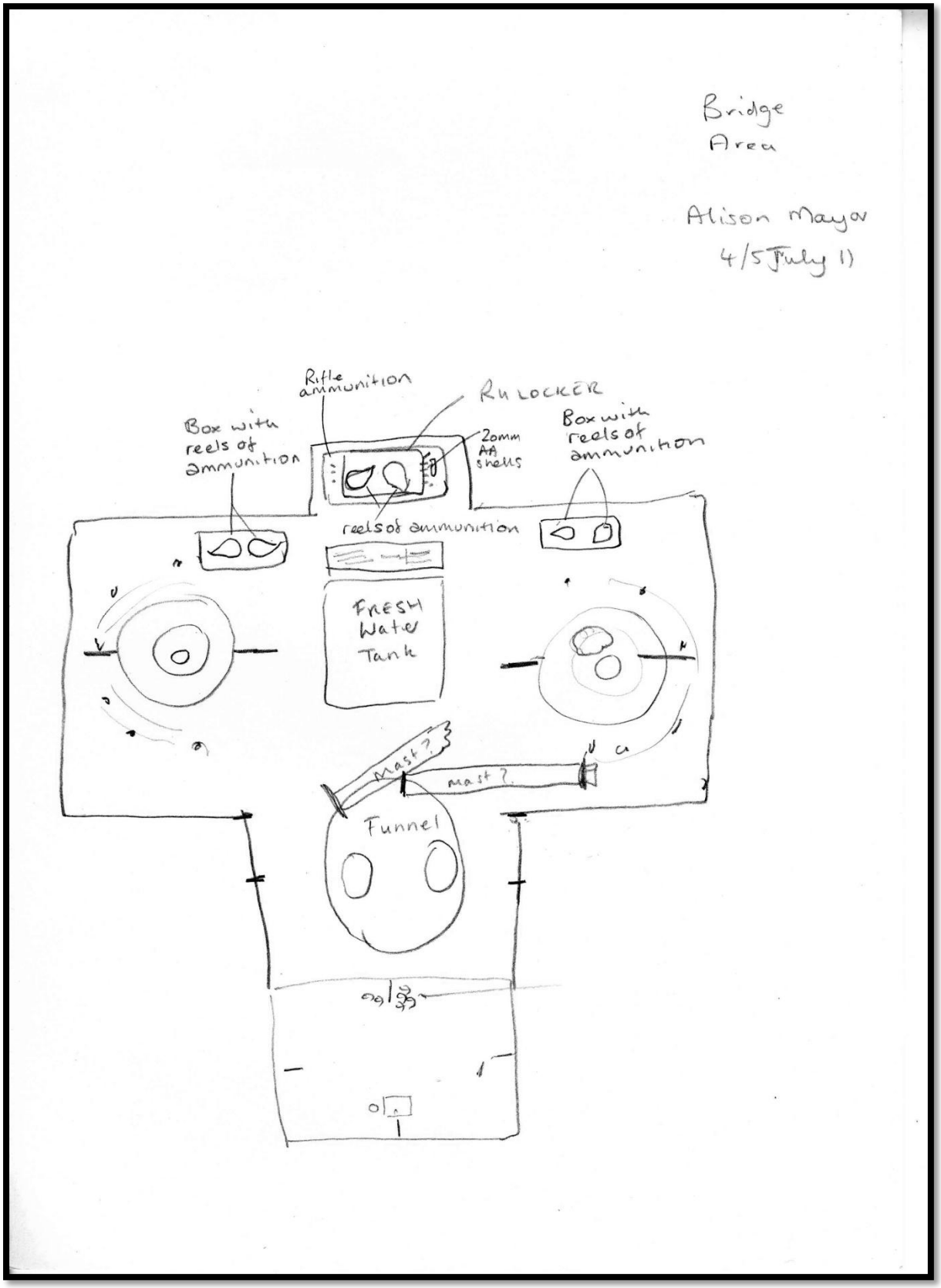


Figure 27 Sketch of the Bridge area. Alison Mayor

3.5 Side scan

The planned side scan survey in June 11 was postponed due to boat problems. It is intended to reschedule the side scan survey for this summer. The surveys are best conducted using a small hard boat as a platform and calm weather significantly improves the prospect of obtaining good results. The Nautical Archaeology Society has kindly confirmed that we can use the side scan equipment again for a small donation.

3.6 Marine Life SeaSearch Survey

SeaSearch surveys were carried out in line with the Marine Conservation Society SeaSearch programme. Sample forms are copied at Annex to this Part 3.

General, we found the wreck sites to contain a healthy population of marine life typical of the area with nothing unusual to note. The wreck did have a rather mature population of lobsters that were often seen walking around the wreck during slack water. Presumably the number of lobsters is due to the location and depth of the wreck which would limit the ability to set and recover pots. There was some evidence of potting but very limited. There was also evidence of line fishing presumably by local fisherman to catch the occasional bass sighted cruising around the wreck. The main shoals of fish were of pouting/bib which frequented the stern section and also in the shelter of the sides of the tank deck at the bow section. Other smaller crustacean, including small spider crabs, edible crabs, velvet swimming crabs and a large population of common prawns.

Figure 28 one of many mature lobsters found at both dive sites

Figure 29 hydroids and small sea squirts were common.

Figure 30 A large edible crab located in the funnel

Figure 31 the only conger we saw was 'holed up' in the fresh water tank behind the funnel

Figure 32 Large shoals of bib/pouting were found at both sites

Figure 33 A Tom Pot Blenny. One of many which inhabit the wreck.

Figure 34 A nudibranch feeding on hydroids. Also small anemone and sponges from the bow section

Figure 35 Inachus spider crab.

3.7 Survey Conclusions

The measurements of the bow and stern sections are within a couple of metres of the overall length of the tank deck of the scaled 'as fitted' drawing for similar LCT Mk 3. Given the substantial amount of twisted and bent metal, particularly on the starboard side the discrepancy can be accounted for in the measurements. The measurement of the width of the tank deck, both at the Stern and Bow sections is consistent with the ship's plans.

The LCT sections are very intact and align in almost all respects with the large scaled line drawing obtained from the NMM for similar vessels with the exception of;

1) The companion way supports – we found only 3 on each side whereas the line drawing and various photographs of similar craft show 4;

2) The rear doors to the cabin/wheel house - could not locate either of the two doors at the rear of the wheel house. This may just be due to years of corrosion causing concretion.

3) We found one open side door (port) and whilst this is not shown on the drawing we have seen this feature in some photographs of British Mk 3s.

Our conclusion is therefore that these two sites are parts of the same vessel and moreover that of a British LCT Mk 3. The historical account of a British Mk 3 LCT being lost in this area (see part 4) in circumstances which would appear consistent with the damage observed at the sites would almost certainly mean that it can only be the wreck of LCT 427.

PART 4 HISTORICAL RESEARCH

4.1 Introduction

We began our historical research about the wrecks (at this point all indications were that the sites were two separate vessels) by contacting our friend and historian Tony Chapman at the LST and landing Craft Association (RN) to ask if he was aware of any LCTs that had been lost in the area. Tony said he was only aware of one, the British LCT – 427 which had been involved in a collision with a battleship. Tony had no details of the loss of the vessel and so we began targeting our research with internet searches and a visit to the National Archives at Kew.

According to the web site http://www.naval-history.net/xDKCas1944-06JUN1.htm

> **HM LCT.427**, in collision with battleship Rodney at Spithead, ship loss *(went missing at the time, lost with all hands - courtesy Isabelle Clark, whose uncle was in command)*
>
> **ALEXANDER**, Frederick B, Ty/Act/Leading Seaman, C/JX 176906, MPK
> **CAR** (or **CARR**), Hallam, Able Seaman, P/JX 365096,
> **DAWE**, William A, Stoker 1c, D/KX 525694, MPK
> **FIELDS**, Eric, Able Seaman, D/JX 422546, MPK
> **FREEMAN**, Frank, Ty/Sub Lieutenant, RNVR, MPK
> **GIRARD**, Alfred W, Able Seaman, P/JX 223849, MPK
> **GRAHAM**, James, Stoker 1c, P/KX 159134, MPK
> **GUTHRIE**, George T, Ty/Sub Lieutenant, RNVR, MPK, Commanding Officer
> **JOHNSON**, Albert E, Able Seaman, P/JX 323203, MPK
> **SPILLANE**, David, Able Seaman, D/JX 368929, MPK
> **SUMNER**, Kenneth W, Wireman, D/MX 99992, Killed
> **WELSH**, Leonard G, Motor Mechanic, P/JX 426606, MPK
> **WHITFIELD**, Joseph W, Act/Chief Motor Mechanic 4c, P/MX 98645, MPK

Note - 'MPK' is the abbreviation for 'Missing – Presumed Killed' a term which is used when the body of a serviceman is not found.

There was little other information available on the World Wide Web which could help the investigation at this stage. There were a number of inconsistencies as to where LCT427 had been lost, some reports said that she was lost in Normandy. It was clear that official records would need to be viewed to find more accurate information.

4.2 The loss of HM LCT 427 – National Archives and National Maritime Museum records.

Investigations at the National Archive proved much more fruitful with the identification of a an official file raised by the Admiralty which recorded the outcome of an investigation into the collision of HMS Rodney and 3 LCTs resulting in the loss of LCT427 (with all hands).

A copy of the official record of the collision between HMS Rodney and LCT 427 was obtained from National Archive. **(ADM1/16909) "HMS RODNEY – Collision with LCTs 427 and 643 resulting in the loss of all hands of LCT427 on 7/6/44".** The file was fascinating reading and so many years later identified a number of sensitive issues which have taken this project to a level we had not anticipated.

The official Admiralty investigation took the form of interviews/statements from eye witnesses and the form S232[5] for used to report the collision by HMS Rodney. The report was instigated in late August of 1944 after an overheard conversation had raised questions about the circumstances of LCT 427's loss. Up until this point LCT427 had been recorded as missing and this was all the relatives had been told as a result. The investigation took place over several weeks and reported to the 2nd and 4th Sea Lords on at the end of October 1944.

The S232 raised by HMS Rodney following the collision had gone missing though a copy was obtained and included in the file. The Battleship had signalled that day to report the collision. A copy of the ship's log was also included.

Eyewitness reports from Officers Commanding of other LCTs in the flotilla and the Flotilla leader described in chilling detail the approach to Portsmouth that night, sight of a huge battleship looming out of the darkness and the collision in which LCT427 was cut across amidships by the bow of HMS Rodney. The LCT was seen to be raised up on HMS Rodney's bow, held there momentarily before falling away to be lost beneath the surface.

The report by the Commander –in-Chief Portsmouth to the Admirals concluded that

> "It appears most probable that the Commanding Officer of LCT427 must have been responsible for the collision." But continues by adding "There may of course have been some other occurrence which will, due to the loss of L.C.T. 427 and all on board, never be known, but I that a Board of Enquiry now would serve no useful purpose."

The report and its recommendations were accepted and the file was closed at the end of October 1944.

The investigation and subsequent conclusions put to the Admirals centred on an incident involving an incident between British warships at the height of Operation Neptune and so was a situation which raised a number of issues for the Royal Navy at the time and even today. In our dealings with the media and relatives we were very careful not to draw this conclusion to the attention of others or to publicise the outcome of the official report. Our comments were on the basis that this was a tragic accident. We considered it was not our place to comment on this aspect.

[5] Form S232 is the document used to report any collision or grounding of a RN vessel and is still used today by the Navy, in a very much similar format.

4.3 HMS Rodney

HMS Rodney, pennant number 29, was an impressive battleship and one of the largest vessels in the Royal Navy fleet. She was one of two Nelson-class battleships built for the Royal Navy in the mid-1920s. She was named for Admiral Sir George Brydges Rodney.

The Nelson class battleships were unique in British battleship construction, being the only ships to carry a main armament of 16 inch (406 mm) guns, and the only ones to carry all the main armament forward of the superstructure. Her superstructure was located aft of midships.

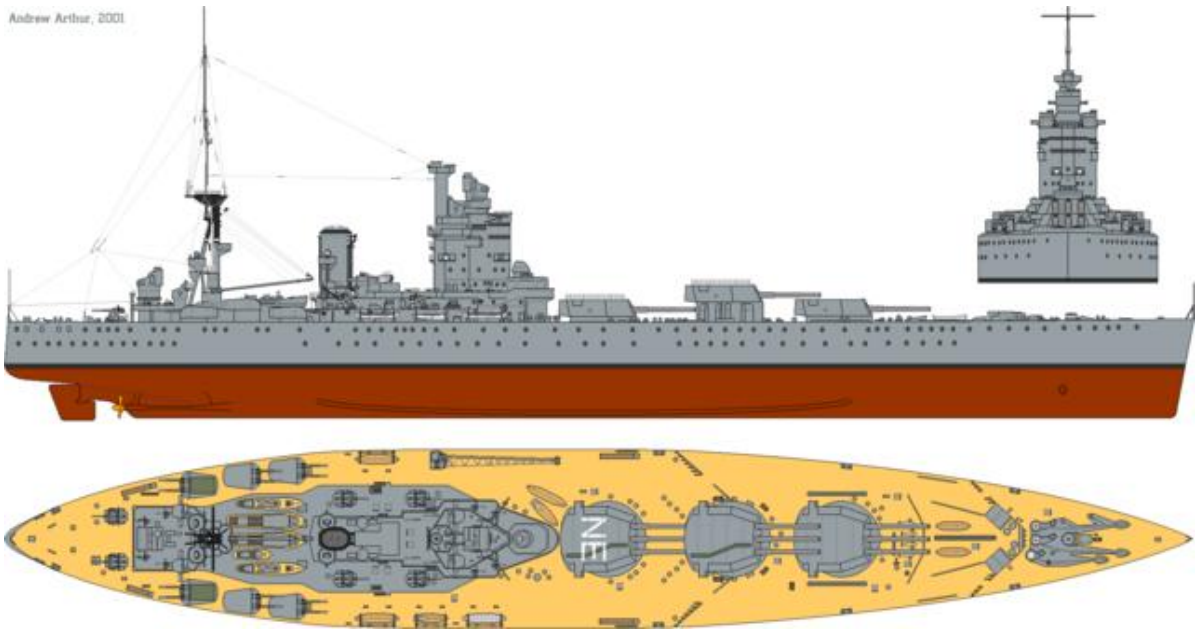


Figure 36 HMS Rodney general layout drawing.

Commissioned in 1927, Rodney served extensively in the Mediterranean and Atlantic oceans during World War II. She played a major role in the sinking of the German battleship *Bismarck* in May 1941. In poor condition from heavy usage and lack of refits, she was scrapped in 1948.

HMS RODNEY – Technical specification

Class and type:	Nelson-class battleship
Displacement:	33,730 long tons (34,270 t) standard 37,430 long tons (38,030 t) standard (full load)
Length:	710 ft 2 in (216.5 m) overall
Beam:	106 ft (32.3 m)
Draught:	31 ft (9.44880000 m)
Installed power:	45,000 shp (34,000 kW)
Propulsion:	2 shafts 2 Brown-Curtis geared turbine sets 8 Admiralty 3-drum oil-fired boilers
Speed:	23 knots (43 km/h; 26 mph)
Range:	14,500 nmi (26,900 km; 16,700 mi) at 10 knots (19 km/h; 12 mph)
Complement:	1,314 (1,361 as flagship)
Armament:	3 × 3 - 16-inch Mk I guns 6 × 2 - 6-inch Mk XXII guns 6 × 1 - QF 4.7-inch Mk VIII anti-aircraft guns 8 × 1 - 2-pounder anti-aircraft guns 2 × 1 - 24.5-inch (620 mm) torpedo tubes
Armour:	Belt: 13–14 in (330–356 mm) Deck: 4.375–6.375 in (111–162 mm) Barbettes: 12–15 in (305–381 mm) Gun turrets: 9–16 in (229–406 mm) Conning tower: 10–14 in (254–356 mm) Bulkheads: 4–12 in (102–305 mm)

Figure 37 HMS Rodney specification table

Figure 38 HMS Rodney adds her weight of shells to the Navy's pounding of enemy positions along the Caen coast in support of the D-Day landings. Smoke is hanging over the starboard side (photograph taken from the frigate HMS HOLMES 7 June 1944).

Figure 39 HMS Rodney's impressive 16 inch guns.

4.4 British LCT Mk 3 and LCT 427

LCT Mk 3 Specifications

Displacement:	640 long tons (650 t)
Length:	192 ft (59 m)
Beam:	30 ft (9.1 m)
Draught:	3 ft 10 in (1.17 m) (forward)
Propulsion:	2 × 460 hp (343 kW) Paxman diesels or Sterling petrol engines, 2 shafts
Speed:	9 knots (17 km/h; 10 mph)
Range:	2,700 nmi (5,000 km)
Capacity:	300 long tons (305 t) of cargo - 5 Churchill Tanks Or 11 Valentine Tanks Or 11 Sherman Tanks
Complement:	12 (2 Officers and 10 men)
Armament:	2 × single 20mm Oerlikon Anti Aircraft, 2-pounder pom-pom *or* 2 × single Bofors 40 mm guns
Armour:	Wheelhouse : 15 lb Gun shields : 20 lb

In comparison to HMS Rodney LCT427 would have been dwarfed by her size and weight.

A copy of an 'As Fitted' large scale ship's plan for LCT Mk 3 was obtained from the National Maritime Museum. Unfortunately it does not cover the exact build of LCT 427 and as a result we have identified a number of differences between this plan and what we have observed on the dive sites. The main differences are

> The plan shows 2 doors at the rear of the accommodation, we found only one door (open) but on the port side. The position of the port and starboard mushroom vents was slightly different.
>
> There are 4 support struts shown on the companion ways – we found only 3.

LCT 427 was build at the William Arrol Shipyard, Scotland. The company was famous for building bridges (Forth, Tay, and Tower) and large cranes.

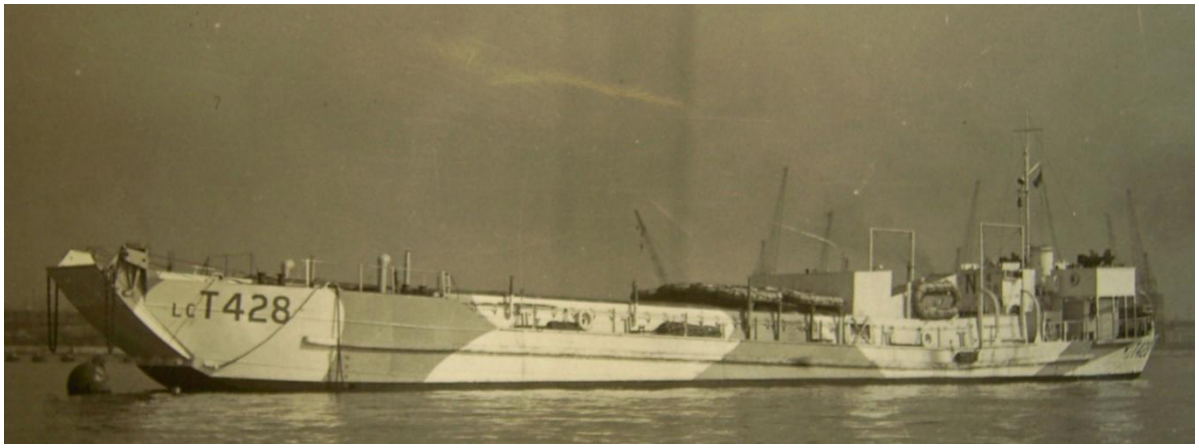


Figure 40 LCT (3) 428 - sister craft of 427 - the closest we came to finding an image of 427.

Figure 41 a Mk 3 LCT landing troops and equipment.

Figure 42 British Mk 3 LCTs at Gold Beach (note DD tank - left)

Figure 43 LCT Mk 3396 undergoing trials 1942. The guns are different than those found on LCT427. Image supplied under Licence from the Imperial War Museum.

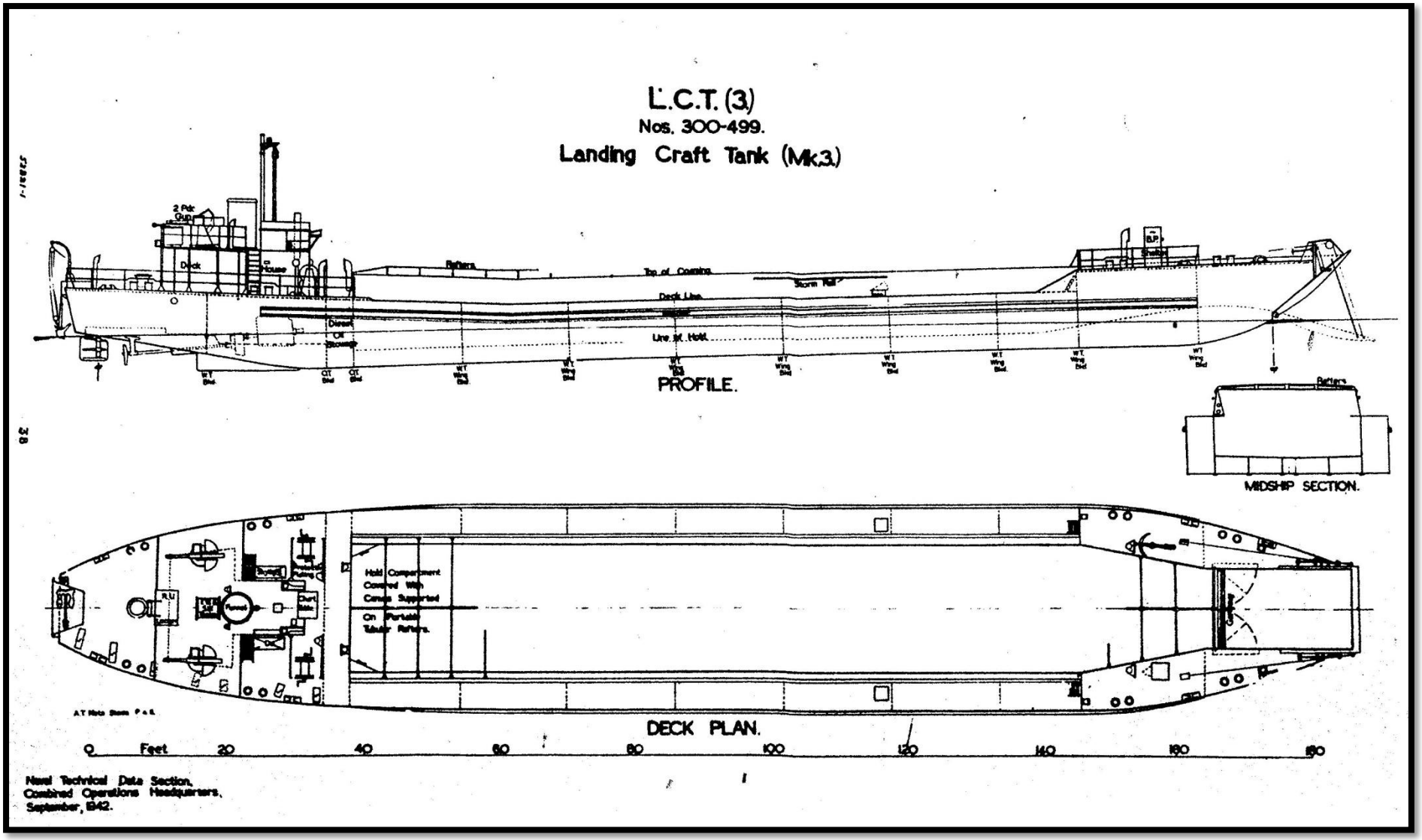


Figure 44 a Ship's plan of LCT (3)

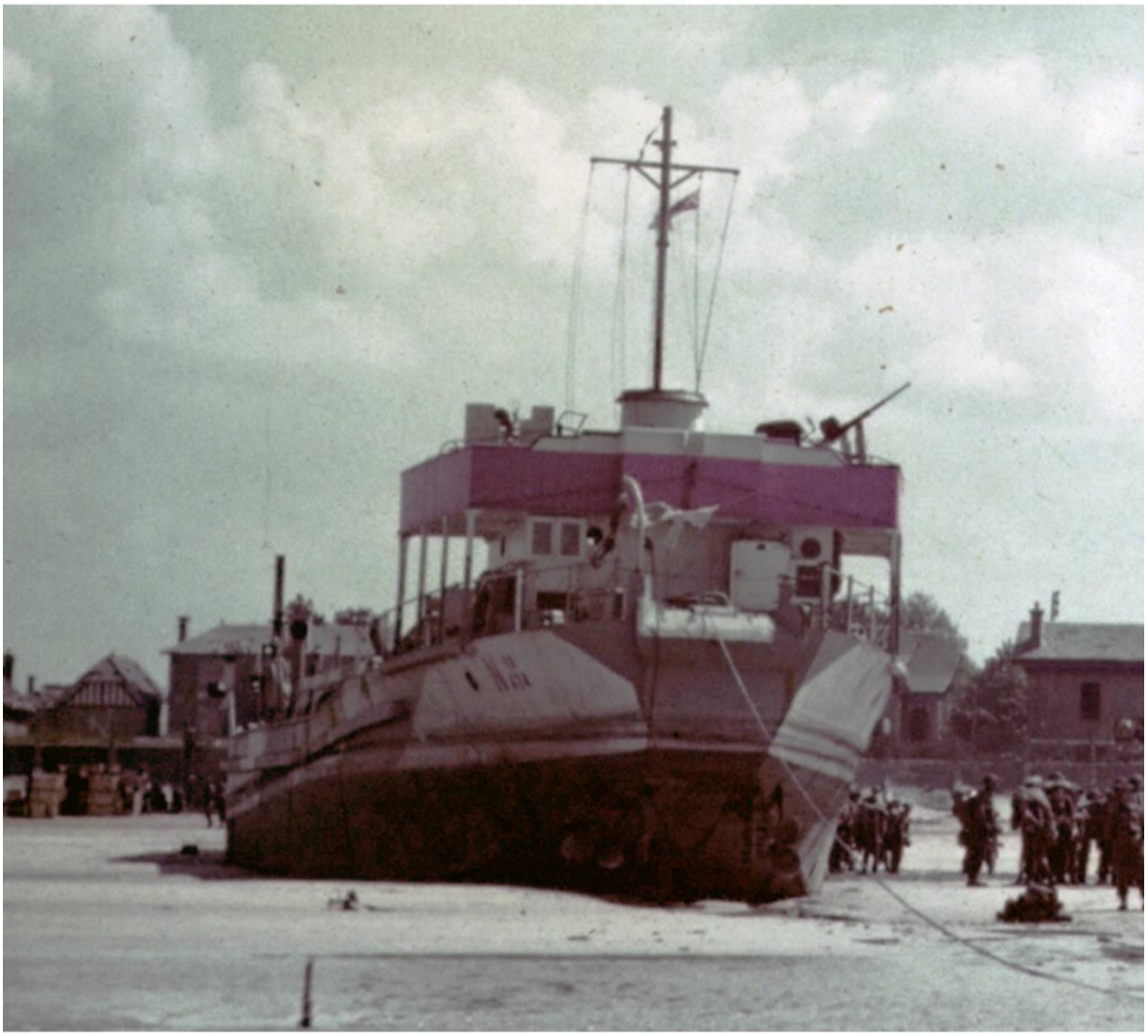


Figure 45 A beached LCT (3) with Kedge anchor deployed.

Figure 46 LCT (3) 354 - High and dry.

Figure 47 the bow/door of a LCT (3)

Our research indicates that, despite hundreds of vessels being built during WW2, and used extensively throughout European, Middle East and Far East campaigns, there are no British LCTs remaining afloat in British waters. The last known vessel of this kind, LCT (3) 7074 sank in Liverpool docks whilst campaigners tried to raise money for her refurbishment.

Figure 48. LCT (3)7074 before she sank at Liverpool docks.

LCT 7074 (otherwise known as "Landfall") was the last surviving LCT that took part in the D-Day landings of World War Two. More than 700 landing craft tank provided the backbone of the invasion of Normandy. LCT's could carry eleven Sherman tanks and LCT 7074 carried ten of them to Normandy. Nine managed to reach the beach without being hit or breaking down. After returning to Southampton, LCT 7074 carried American reinforcements back to Normandy for the assault on Cherbourg. After the War the Royal Navy handed the LCT 7074 to the Master Mariners of Liverpool and for many years she was the lunch club, in a central position on the Liverpool Waterfront, later to be a floating nightclub known as "Nightclub Landfall" moored in Stanley Dock. The Warship Preservation Trust hoped to restore LCT 7074 but this would be difficult now that she has sunk.

4.5 LCT (3)427's role as Part of Operation NEPTUNE and D Day

As part of the 12th LCT flotilla (Assault Group G2) LCT(3) 427 was tasked with delivering Sherman Duplex Drive (swimming) tanks of the 4th/7th Dragoons to Gold Beach (King sector). LCT427 was loaded with her tanks and left Southampton on the evening of 5th June 1944.

Figure 49 British LCTs in preparation for operation Neptune - Southampton docks.

Gold beach was the code name for the centre beach of the invasion area – an 8km long stretch between the villages of La Riviere to the west and Hamel to the east. Landing on this beach was the task of the 50th 'Northumbrian' Infantry Division.

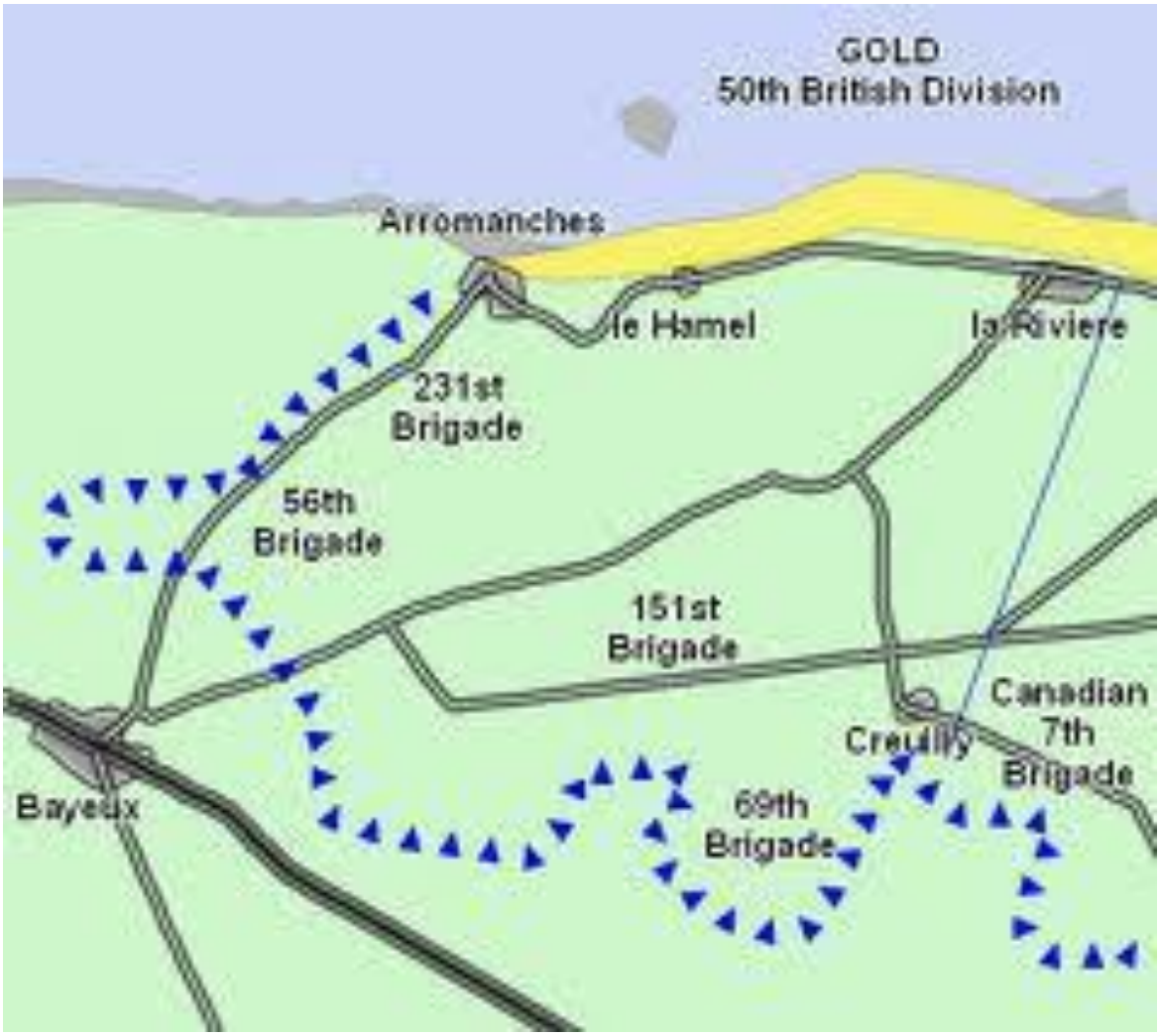


Figure 50 Gold Beach map

The assault on Gold beach started at 07:25 on the King Sector. Men of the 6th Green Howards landed, supported by the DD tanks of the 4th/7th Dragoons and the special tanks of the Westminster Dragoons. In this sector the defences were weak and the coastal strong points were easily reduced before the troops pushed inland to silence the German batteries.

Jig Sector the assault companies of the 1st Hampshire Regiment landed at 07:35 without the support of tanks which were delayed. The attack on Le Hamel was stopped cold; progress was slow with heavy losses. With the support of the 147th Field regiment, Royal Artillery the village finally falls at 16:00. At 16:00 a German counter attack failed to break through.

By the evening of 6th June almost all of the 50th infantry Division's objectives were achieved and the Gold Beach Bridgehead was considered one of the strongest. At the end of the day 25,000 British soldiers had landed on Gold beach, 413 men were killed or wounded on the beach and 89 landing crafts had been destroyed.

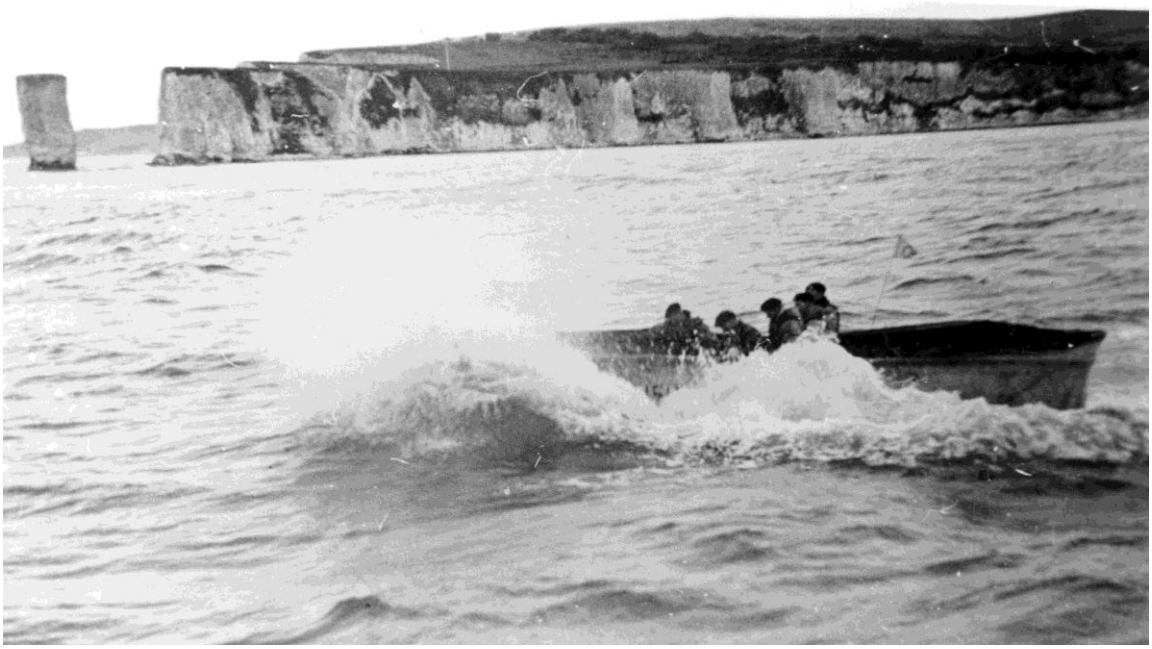


Figure 51 4th/7th Dragoons on exercise in their Sherman DD tanks at Studland. Image courtesy of the Tank Museum Bovington.

Figure 52 A Sherman DD tank being launched from a British LCT. Image courtesy of the Tank Museum Bovington.

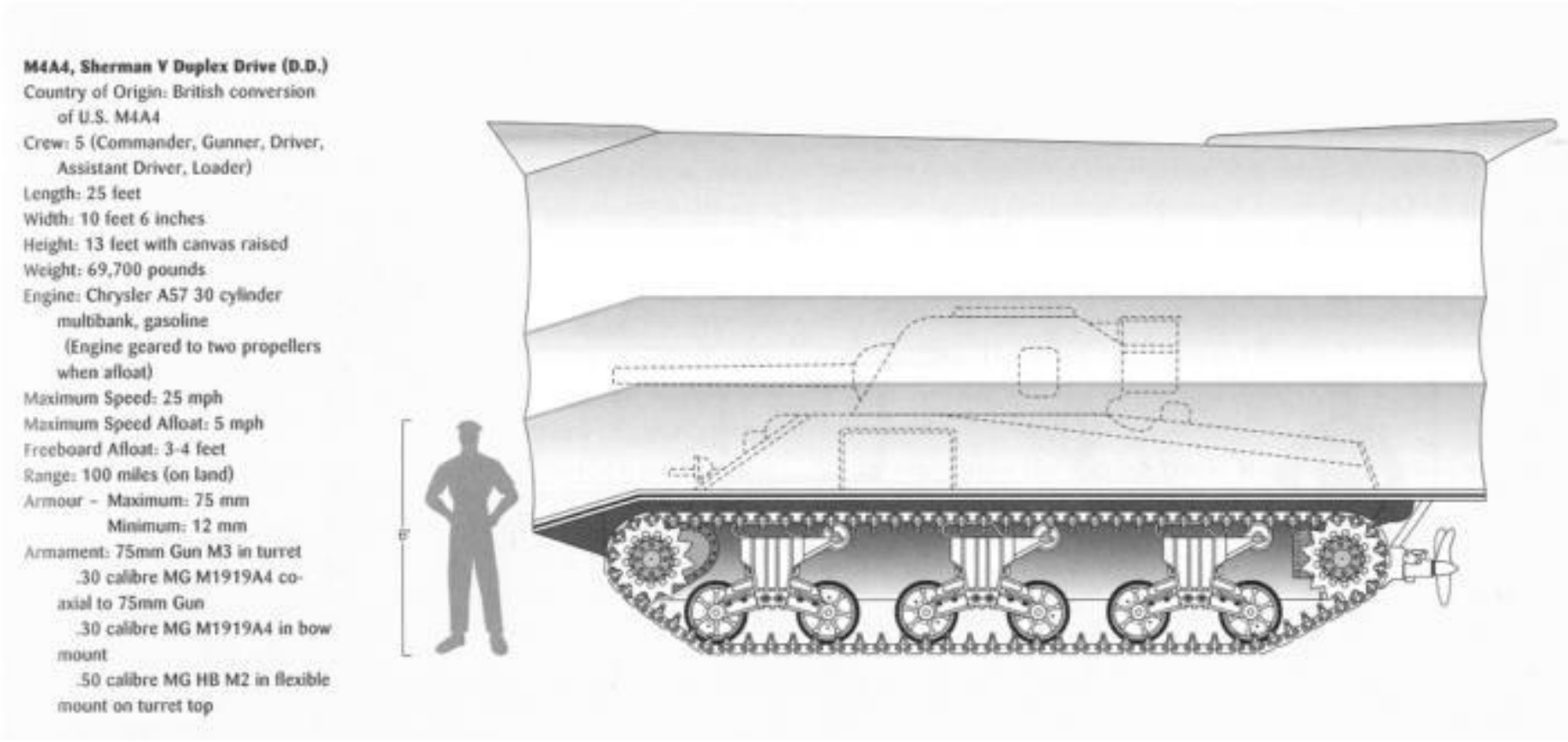


Figure 53 Details of a Sherman DD tank.

4.6 The Crew of LCT (427)

With the assistance of the LST and Landing Craft Association's Archivist Tony Chapman, initial work was carried out to confirm the crews' details as there were some discrepancies between various lists. We also contacted the MOD (Navy Command Heritage Section) and spoke with the MOD's casualty Cell at RAF Innsworth, primarily to report the fact that we had located a wreck which we believed was LCT(3)427.

The Navy Command Heritage section were given the exact location of the wreck and details of the Servicemen (as far as we could determine) that were lost. We gave reassurance that the wreck would not be disturbed or penetrated and as a result they were content that we could dive the wreck and also publicise its discovery.

The MOD Casualty Cell (Historic Section) based at RAF Innsworth were also contacted but appeared only to be concerned if there were human remains evident. We observed no evidence of human remains during our survey however we did not enter the wreck. It was not their policy to seek to contact any surviving relatives in such instances and so they did not intend to take any further action.

4.7 'War Grave'

These discussions raised some important points and clarification of the terms 'War Grave' and Maritime Military Grave. It became apparent that we were using the term 'War Grave' incorrectly (as is common practice) as War Graves are those on land which come under the responsibility of the Commonwealth War Graves Commission under their Royal Charter. No such organisation is responsible for ship wrecks lost during conflict and so Royal Navy and other vessels used for military purposes are simply known and Maritime Military Graves and are afforded no blanket protection as 'War Graves' as a result. The legislation which is generally applied to wrecks where there is risk of interference of servicemen's' human remains is the Protection of Military Remains Act. The Navy Command Heritage section commented that they did not, at first glance, think that LCT427 would meet the criteria for designation. We have therefore nominated the wreck for legal protection for the site using alternative legislation (see Part 7).

Wireman Kenneth Sumner was recovered from the sea that night and taken to hospital where he died 2 days later on 9th June 1944, aged 22. His grave is at the Royal Naval cemetery at Haslar, Gosport. For this reason Kenneth is reported as 'Killed'.

Figure 54 Wireman Sumner's grave at Haslar Cemetery, Gosport.

The members of SSAC were very conscious of the nature of the loss of LCT427 and wanted to arrange a memorial service for those who had lost their lives in the service of their country. As part of the reporting of the club identification of the wreck an appeal was made for relatives to contact us with a view to conducting a service. It became clear from this that the vast majority of relatives were not aware of the circumstances of their loss as many believed their loved ones had perished in Normandy.

And so began the final and most incredibly rewarding stage to Project Kedge Hook, one which brought us a greater appreciation of the sacrifice these young men had made and the value that our work had brought to many.

Further details about the memorial service and information about the crew kindly supplied by relatives and comrades is at Part 5.

PART 5 REMEMBERING THOSE LOST

5.1 Reporting of the identification of LCT427

We began our outreach and reporting of our work and identification of LCT27 with the issue of a press release in August 2011. The story was reported in the local newspaper the Portsmouth 'News' and also BBC Radio Solent. BSAC also covered the story on the web site.

Following discussions with BSAC HQ we began working with their PR Company (Ceidiog Communications) to see if we could target an appeal for relatives in the towns and cities where the crew were know to come from. As a result a second press release was issued on 19th September which was taken up and reported in various parts of the country. This time BBC South Today, ITV Meridian and various other TV regional news programmes, radio stations and local newspapers picked up on the story and the responses from relatives started to follow quickly. I was interviewed for several programmes, as was Landing Craft Association's historian Tony Chapman. It was at this point that we also made contact with former Sub Lt Paul Butler RN, a veteran from one of the LCT's returning from Gold beach with LCT427. Paul was tracked down by Meridian TV news and gave a moving account of his recollections of that night.

Figure 55 Veteran S/Lt Paul Butler

In the weeks that followed relatives of 9 of the crew of LCT427 contacted us which was an astonishing achievement given the significant period of time since the loss of the vessel. It is testament to the power of the media in reaching everyday people when the story is strong enough to capture the interest of the general public. As a result of the media and relatives response there was a growing pressure to arrange a memorial service and with good fortune I spoke to one of the Royal Naval Chaplains, Reverend Keith Robus RN who was very interested in our story and offered to see what he could do. A few days later Keith confirmed he had spoken to the Captain of the Base (Portsmouth) and the on-site contractor and confirmed that a boat could be made available for a wreath laying service over the wreck followed by a more traditional church service at the Royal Navy Church (St Ann's).

Given the busy period leading up to the Remembrance Day ceremonies, a date was set for the afternoon of 17th November 2011. Relatives were quickly informed and arrangements finalised for what turned out to be a very memorable occasion.

Many relatives travelled hundreds of miles to take part in the wreath laying and church service, and thankfully the weather was kind to us. In all relatives representing the families of 7 of the crew were able to attend. (Hallam Carr, Eric Fields, Frank Freeman, Alfred Girard, David Spillane, Kenneth Sumner, and Joseph Whitfield). Members of the local branch of the LST & Landing Craft Association and divers from SSAC took part and BSAC were represented by former Vice Chairman Tony Marshall. Everyone found the service and emotional and fitting tribute, and our sincere thanks go to all who helped make the day happen, in particular

Rev Keith Robus RN and the staff/volunteers at St Ann's church,
The skipper and crew of the boat used to take us to the site,
The young RN rating who 'piped the still',
The Co-operative funeral florist for the beautiful wreaths,
David Haines for taking photos,
Captain of the Base (Portsmouth)

In all a full boat of 60 people who paid their respects to the crew of LCT427 that day, including several in their eighties. Many others were either too frail or unable to attend but sent their best wishes and thanked us for arranging the service. Most had no idea of how their loved one had been lost and spoke of finding closure by being able to be close to the place where these brave men came to rest.

5.2 Memorial Service and the Laying of Wreaths

Figure 56 Southsea Sub-Aqua club's wreath - in the shape of a Kedge Hook.

Each crew member's family were given the opportunity to lay a wreath on the sea over the site of LCT27 followed by comrades and finally SSAC divers.

Figure 57 Mrs Margaret Emmet lays a wreath in memory of her Fiancé Kenneth Sumner.

Figure 58 Rev Robus watches over as Anne Burns lays a wreath in memory of Able Seaman David Spillane.

Figure 59 Betty Dykes and family lay a wreath in memory of Joseph Whitfield.

Figure 60 Former BSAC Vice Chairman Tony Marshall lays a wreath on behalf of BSAC. Alison Mayor with the SSAC floral tribute.

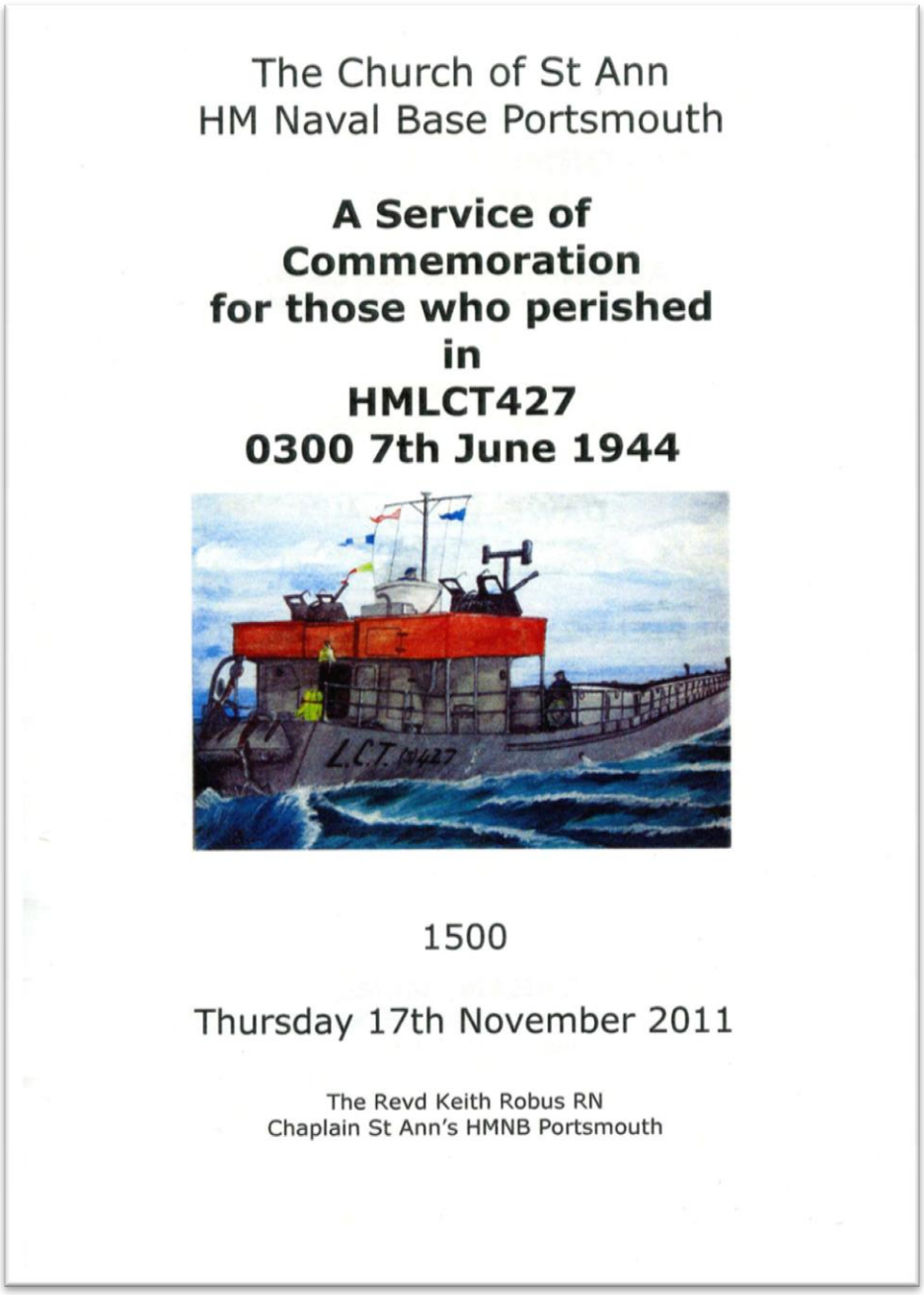
Figure 61 the family members of Frank Freeman paying their respects

Figure 62 Veterans from the LST and Landing Craft Association (RN).

5.3 Service of Remembrance at St Ann's Church.

After returning to the Naval Base we were transferred by bus to the church. We had put on display photographs of the crew which had been sent to us by the relatives and also some underwater images. SSAC member Richard Hobson had painted a picture of LCT427 which we framed and put on display at the altar. The painting was also used on the front cover of the order of service. Also on display was a compass, recovered from the wreck of LCT427 over 40 years ago by a former SSAC member. (See Part 7)

Reverend Robus delivered a lovely service which was very much appreciated by all paying their respects to those lost in the tragedy.



The Church of St Ann
HM Naval Base Portsmouth

A Service of Commemoration for those who perished in HMLCT427 0300 7th June 1944

1500

Thursday 17th November 2011

The Revd Keith Robus RN
Chaplain St Ann's HMNB Portsmouth

Figure 63 The Order of Service for the Church Service.

Through the kind donations of relatives and others the St Ann's Book of Remembrance has been updated to include all the crew names and remains available for anyone to view at the church.

The response to our appeal for relatives far exceeded our expectations, and since the reporting of the memorial service we have been contacted by more relatives who sadly missed the service but are still keen to contribute to our work and are thankful for our efforts.

Following the service and associated publicity we received many letters of thanks from those who were able to attend but also those who could not. The reaction was very positive and there was genuine gratitude from the vast majority of people who contacted us at the relief of finally knowing what had happened and the opportunity for some to pay their respects for these young men who lost their lives so tragically
.

5.4 LCT427 Crew Information.

Information about the each of the crew as told to us by their relatives is summarised below. Many interesting stories have emerged as a result. The crew are listed alphabetically.

ALEXANDER Frederick B Ty/Act/Leading Seaman 22/04/1920 Aged 24 C/JX 176906 MPK Forest Green

Notes
Sadly we were not successful in our appeal for relatives of Frederick Alexander.

CARR Hallam Able Seaman 14/06/1924 Aged 19 P/JX 365096 MPK Rotherham

Notes
Hallam's surname has been clarified as there was some doubt as to the spelling. Three of his relatives contacted us. Callam's sister Gladys Ingle and her daughter Gillian Hill travelled all the way from Sheffield to attend the service. See photo of Hallam below.

DAWE William A Stoker 1c 17/12/1903 Aged 40 D/KX 525694 MPK Liverpool

Notes
Sadly we were not successful in our appeal for relatives of William Dawe.

FIELDS Eric Able Seaman 11/04/1925 Aged 19 D/JX 422546 MPK Scarborough

Notes
Eric's niece Lyn Richards and Cousin Brian Fields both contacted us. Lyn attended the service and provided a photograph of Eric (see below). Unfortunately Brian Fields (86) was not able to attend.

FREEMAN Frank Ty/Sub Lieutenant RNVR Aged 20 2nd in command MPK Nottingham

Notes

Frank's sister-in-law Patricia Freemen was one of the first to contact us and travelled with her family from Nottingham to attend. Also Richard Grain who is related to Frank's mother contacted us. Frank was a Jew and close friend of the family, a gentleman who had been evacuated from Europe and had stayed with the Freeman family during the war also attended the service.

GIRARD Alfred W Able Seaman Aged 22 P/JX 223849 MPK Plaistow, Essex

Notes
Mr Steven Gerard, a relative of Alfred, travelled together with his wife from London to attend the memorial service. Steven was one of the few relatives who had previously found out, by his own research, about the circumstances surrounding the loss of LCT427.

GRAHAM James Stoker 1c Aged 37 P/KX 159134 MPK Gateshead

Notes
Mr Joseph Magnay, whose sister Violet was married to James Graham, contacted us after seeing a TV report. A former Detective he was keen to understand the circumstances of the loss of LCT427. His sister had never been told of what happened. Joseph really wanted to attend the service and planned to travel with his sons but was due to have an operation that day.

GUTHRIE George T Ty/Sub Lieutenant, RNVR Aged 21 Commanding Officer MPK Kilmarnock

Notes
We had no official contact from relatives of George Guthrie though we did have an anonymous letter after the service from someone claiming to be a relative. The issues raised by this letter are covered further on in this report (see Part 6).

JOHNSON Albert E Able Seaman Aged 22 P/JX 323203 MPK Birmingham

Notes
Sadly we were not successful in our appeal for relatives of Albert Johnson.

SPILLANE David Able Seaman Aged 22 D/JX 368929 MPK Cardiff

Notes
David's relatives, Anne Burns from Cardiff and Geraldine McCarthy from Skipton North Yorkshire contacted us and Geraldine kindly provided several photographs David. Anne, and Geraldine and her husband Dennis all travelled to attend the service.

SUMNER Kenneth W Wireman Aged 22 D/MX 99992 killed Wilmslow

Notes
Kenneth's Fiancée Margaret Emmett, cousin Gordon Sumner and Kenneth's sister's God daughter Elizabeth Hetherington all contacted us in response to our appeal. Margaret met Kenneth when she lived in Scotland and they got engaged just before he sailed to the south coast. She heard from Kenneth's father that he had been killed but was advised not to travel to Portsmouth for the funeral as it was too dangerous. Margaret had kept the cuttings from the paper of their engagement and his obituary as well as several photographs. Margaret recently moved to the south coast and attended the service with her son and his wife. Gordon Sumner was unable to travel from Wilmslow for the service as was the case for Elizabeth.

WELSH Leonard G Motor Mechanic Aged 24 (19?) P/JX 426606 MPK Charlton, London

Notes
Leonard's Cousin Wyn Tofts contacted us but was unable to attend the service. Wyn questioned the age reported (24) as she understood Leonard was much younger. Some weeks after the memorial service Janice Hilton contacted us. Now living in Stevenage, Janice's aunt was Leonard's mother. Janice and her 2 sisters had inherited a share of Leonard's mothers possessions including Leonard's medals and several was related documents and photographs (see below). Janice also spoke about Leonard's age being different from that officially held on the Commonwealth War Graves Commission records. She spoke of how Leonard's father had falsified his joining papers by saying he was older than he was. When Leonard failed to return from D Day this put a tremendous strain on the family. Janice later sent me copies of Leonard's birth certificate and is currently in contact with the MOD and CWGC regarding Leonard's real age – he was only 19 (not 24) when he died.

WHITFIELD Joseph W Act/Chief Motor Mechanic 4c Aged 24 P/MX 98645 MPK Fishburn, Co.Durham

Notes

Betty Dykes and her husband Alan travelled with their daughter Veronica hundreds of miles from County Durham to attend the service. Another relative from the North East, Elizabeth Natraff unfortunately could not attend due to ill health. A lovely photograph of Joseph (known as 'Bill') with two able seamen will always raise a smile – just what had been said in the moments before the photo was taken?

Figure 64 Joseph Whitfield (centre) the other sailors are not recognised - could they have also been aboard LCT427?

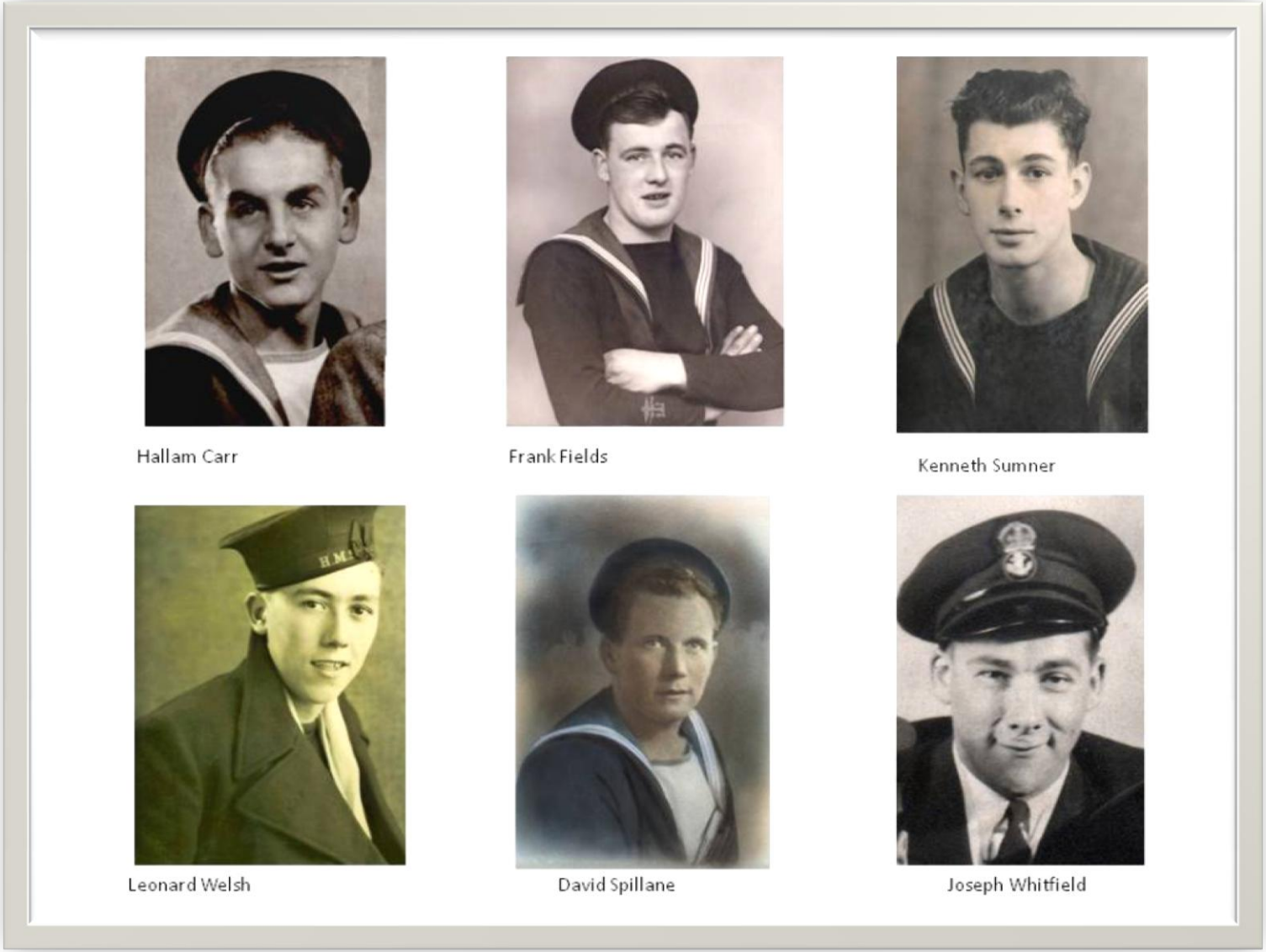


Figure 65 Portrait photographs of some of the crew of LCT427 kindly provided by relatives.

PART 6 PUBLICITY, MEDIA REPORTING AND OUTREACH

6.1 Introduction

It was evident early on that there was benefit in engaging with the media publicise our work and findings. Our first press release, sent to local TV and radio, newspapers, dive magazines and BSAC HQ, was primarily to report the identification of the wreck and the story behind its loss and the story was published locally, on the radio (BBC Radio Solent) and in the diving magazines. In all our dealings with the relatives, media and public we have stressed the following;

- That we did not 'discover' the wreck – it has been known about for many years but had not been identified – not the story of her loss made public.
- That we were conscious that in the tragedy lives were lost and therefore we treated the wreck with the greatest of respect – nothing was removed or interfered with, the wreck was not penetrated.
- No comment or opinion was made as to the cause of the collision with HMS Rodney nor who may have been responsible.

6.2 Working with a Specialist PR Company

BSAC HQ offered the assistance of their PR Company, Ceidiog Communications to assist with further appeals for relatives of those lost to contact us. The complication - a 'chicken and egg' situation, was that without some relatives coming forward we might not be able to make progress with a memorial service but without a memorial service being organised we were at risk of raising the hopes of relatives who would wish to attend. The following comments are based on Alison's personal experience in managing the media engagement.

A further press release was drafted whilst I endeavoured to find somebody who could help with a memorial service. The aim of this second press release would be to target the regions, cities, and towns where it was known that the crew had come from. Ceidiog had a comprehensive list of those media/press organisations in the areas concerned which was very useful. I (Alison Mayor) commented on a draft, which was tailored for each crew member/region.

I had not yet met with Rev Robus to discuss the possibility of holding a service when I heard that the press release had been issued when a reporter from BBC Online called me one evening and during the next few days I spent much time responding to media/press calls for interviews, more information and photographs/video etc. As I had not been consulted about the timing of the press release (I assumed it would be after I had spoken to Rev Robus) and with having explained that I had a very busy period at work, I and Martin Davies worked extremely hard to meet the media's demands and maximise the opportunity to reach any surviving relatives. For example, the following day included 2 radio and 2 TV interviews, all on top of my day job which had important meetings planned that day - My boss was very patient. Martin arranged the video and photographs to go to TV and the newspapers as quickly as possible.

Although the challenge in dealing with the media was significant at this point it did deliver results almost immediately. Following the first radio interview (Radio Nottingham) Richard Grain called me to confirm that he was a relative of Frank Freeman, and so the various calls and letters from relatives, neighbours and fellow comrades began to come in. I quickly set up a spreadsheet to capture all their details.

As you can imagine hearing or reading about the story of how a loved one had perished had come as a shock to many relatives. Despite the years that had passed it was clearly a significant shock to several of the relatives and particularly for those who lost close relatives, it was an emotional experience finding out what had happened after all these years.

Thankfully following a meeting a couple of weeks later with Rev Robus, plans for a memorial service began to come together. Rev Robus confirmed that a boat used by the RN for committals at sea could be made available, free of charge, for the service. We agreed on a date (17th November) and I wrote to relatives to formally invite them along. By this time relatives of 9 of the 13 crew had contacted us. I also contacted the LST & Landing Craft Association, and Sub Lt Paul Butler a fellow veteran to invite them.

There were also numerous follow-up calls from the media/press asking if any relatives had come forward and whether we had a date for the service. Ceidog Communications requested a list and contact details of all those who had come forward however, I felt this request unreasonable and declined to supply the data. I felt I had a duty to those who had contacted me not to pass their on details which may have resulted in the media contacting them out of the blue. I offered instead to pass the details of any reporter etc to the relative and leave it to them to make contact if that was what they wanted to do. This worked successfully and as a result several of the relatives spoke to the media.

I consulted the Portsmouth Naval Base Media department about the protocols of having the media attend the service. They advised that because it was essentially a private service, then no permission would be required, however we were instructed that no RN/Military staff should be interviewed or asked to comment etc especially in relation to the circumstances of the LCT427 sinking. It was suggested only 2 TV camera teams should be allowed (BBC and ITV and that they should offer to cover the story for their colleagues in other regions. As an employee at the naval base I thought I could better control the media press and the required access/permissions directly rather than using the services of Ceidiog and his assistant which would have only had to be directed to me anyway as they have no authority to book entry into the Naval Base.

6.3 Media Coverage of the Memorial Service

Those attending the service were requested to meet at the jetty alongside HMS Warrior in the Hisotric Dockyard at 13:00 with the boat leaving just after 13:30. It would take 40-50 minutes to arrive at the site below which the wreck of LCT427 rests. Interviews with BBC South Today and ITV Meridian were set for 12:00 and 12:30 respectively. After picking up the wreaths that morning I received a call from and ITV London reporter who said she was on her way down from London to cover the event and requested timings of the day etc. I had not been asked/advised that ITV London wanted to send someone but by this time it was too late. No sooner had I finished speaking to her when I had a call to say there was a satellite van wanting to park in the Naval Base in order to report on the event. I did my best to smooth the feathers of the relevant authorities!

After setting up the display in St Ann's church, I headed to the meeting point to find a number of relatives and members of SSAC had already arrived and some were already being interviewed. Margaret Emmett, former fiancé of Kenneth Sumner had brought photographs and newspapers with her, Paul butler and a number of other veterans proudly wore their medals. The relatives were content to speak to reporters ahead of the service and in the end 3 camera crews were aboard, plus a local newspaper reporter. They were asked to be respectful and not be intrusive and in general they complied with this request.

Figure 66 Paul Butler being interviewed by ITV Meridian reporter.

All three TV reports were shown that evening, and also in the other regions the following day (tailored to reflect the crew member from that area). A final press release was issued that night with photos to all the newspapers, magazines and radio stations as appropriate.

6.4 Positive Results of the Publicity and Media coverage.

The ability of the media/press to reach those relatives across the country was astonishing and we gratefully acknowledge the assistance of Ceidiog Communications in making initial contact with those media organisations that were best placed to help. The response far exceeded our expectations and resulted in relatives from around the country being able to pay their respects in a very special way.

The speed at which all this came together was also astonishing. I doubt that in a year or two we would not have achieved anywhere near the same success. Once the announcements had been made things moved swiftly, partly driven by the significant interest of the media but also before the winter set in and the ability to have the service at sea became more problematic. In the end it was a complete success, particularly for those who attended but also for the positive reporting of the story by the media. The relatives had spoken of a sense of closure and for Paul Butler too his memories of that night were put to rest in paying his last respects. The media were sympathetic and sensitive of their reporting. The efforts of divers from Southsea Sub-Aqua club in the identification of the wreck and the bringing together of relatives for the service were also recognised in the media reports. The Branch was projected in a positive light in having a responsible attitude to wreck diving.

6.5 Adverse Response to the Publicity/Media Coverage.

One grave disappointment was receipt of an anonymous letter to members of Southsea Sub-Aqua club a few weeks after the service. The author of which stated he/she was a relative of the Commanding Officer, Lt Cdr George Guthrie. The author's mother being George Guthrie's sister. The author had researched the official files relating to the loss of LCT427 but had chosen not to share this with George's sister. As a result of the publicity in the local press/media George's sister found out what had happened and no doubt was shocked as a result. The letter gave some details about George but then accused the members of SSAC of several things – the most serious of which included the desecration of a grave. The author made it clear that the letter was not to be copied or passed to anyone. The author had sent a copy to the Queen's Harbour Master and D Day museum. As the letter was not signed nor was there an address, the accusations could not be refuted directly though, given the tone of the letter, any response from the club would not have been well received. The author also questioned the motivation and relevance of holding a memorial service.

These accusations of desecration of a grave were considered serious enough to defend our position and refute formally with the copy addressees (D Day Museum and QHM) in order to try to preserve the good relations that had been built up with them over the period. A letter, signed by SSAC Chairman Doug Carter was sent to both organisations strongly refuting the allegations and stressing that, whilst the wreck was not covered by any designation or legal protection under the Protection of Wrecks Act or other legislation, all our activities had been conducted as if the wreck had been so protected. Nothing was removed or interfered with and the wreck was not penetrated in any way.

This was a stark reminder that not all individuals agree with what we have done and do not support our endeavours. Whilst this minority view, as opposed to the many positive comments from those relatives and comrades who had contacted us and took part in the service, it clearly re-enforced the need to be respectful of every wreck we dive. We still believe that our motivation was correct and honourable, and that this is reinforced by the response from those relatives who contacted us and were grateful for the opportunity to find out what had happened and be given the opportunity to attend a service. However we do regret any distress caused to any individual as a result of this project and its resulting media coverage.

The D Day museum has since responded to confirm that they had received a copy of the letter, and the letter from SSAC. The D Day Museum remained content to continue with our joint plans to set up a display in the museum about LCT Mk 3s and LCT427.

We have had no formal response from QHM but we hope the anonymous letter has not affected the view of SSAC or prejudice future diving investigation of the wreck.

6.6 Using the World Wide Web

SSAC recognise the power of the internet in terms of research but also the dissemination of information. We received much help and support from various web forums (e.g. WW2 talk) and in turn we have reported progress at all stages of the project through the www.southseasubaqua.org.uk web site. The story has been widely reported and discussed on numerous news, diving and history/WW2 related web sites and internet forums. BSAC also reported news items on their web site. The www also proved very useful in allowing relatives etc to see what we were doing and provided contacted details for them to be able to get in touch.

We are also working with Tony Chapman to produce an article for the www.combinedops.com web site which is a 'not for profit' website providing information of

the Combined Operations Command set up by Prime Minister Winston Churchill in 1940. Over 150 web pages, 2,000 photos & over 250,000 annual visits it is a good place to disseminate our findings.

6.8 Magazines Articles.

The identification of LCT427 has been reported in several specialist magazines. As you would expect, the diving magazines included news items but also Britain at War magazine featured the story. In a later response a reader wrote of how he had mentioned this report to a former crew member of HMS Rodney who recalled the collision incident. There was a crashing sound, lots of crew shouting and throwing of life rings. The crew of Rodney were not told what had happened.

6.9 Talks and Presentations.

We are in discussions with various organisations to deliver talks to their members. We gave a talk about the project to Waltham Chase Genealogy Group last September though this was before the memorial service.

6.10 Conclusions

The media, press and World Wide Web are essential in the support of a project like ours. The use of these organisations and communications tools enabled us to reach many relatives of LCT427, tell the story of the loss of the vessel and also to promote the work we had been doing. The response has been astonishing given the passage of time since LCT427 sank. The public response and general level of interest has been high.

It is very easy to think of this project as a good news story – but as was shown, not everyone agrees with what we have done and highlighted how important it is to recognise the sensitivities of those affected by what happened.

List of media and press organisations contacted

Television

BBC SOUTH TODAY
BBC LOOK NORTH
BBC NORTH WEST
BBC WALES TODAY
BBC Scotland
BBC East Midlands Today
BBC Midlands Today
BBC London
ITV MERIDIAN
ITV WALES
ITV Tyne Tees
Calendar ITV
Granada Reports
ITV London

Newspapers

Wilmslow Express
Greenwich Times
Portsmouth News
Kilmarnock Standard
Nottingham Post
Nottingham Journal
Birmingham Mail
Newcastle Chronicle
Northern Echo
Durham Times
Darlington & Stockton Times
Liverpool Echo
South Wales Echo
Isle of Wight County Press
Southern Daily Echo
Scarborough Evening News
Yorkshire Evening Post
Birmingham Post
Sunday Mercury (Birmingham)
Rotherham Advertiser
The Star (Sheffield)
Nottingham Local News
Chester Chronicle
Evening Standard
Metro
Docklands & East London Advertiser
Stratford & Newham Express
The Scotsman
Sunday Post (Scotland)
Solent News Agency

Radio

Radio Dee 106.3
BBC Radio Nottingham
Radio Wales
BBC Solent
Real Radio
Yorkshire Coast Radio
Capital FM East Midlands
Capital/Heart FM - West Midlands
Radio Sheffield
Rother FM
Capital FM Yorkshire
GMG radio north east
Radio City
Radio Teesdale
BBC Radio Merseyside
Cheshire FM
Online
Wales news online
BBC North online
East Midlands BBC online
BBC news online West Midlands
BBC Tyne and Wear

Magazines

Dive
Scuba
Diver
Sport Diver
Britain at War

PART 7 LCT 427 – FUTURE PLANS

7.1 Introduction

Although much work has been achieved and in some areas a significant additional work has be carried out (against our Project Plan) there remains some outstanding work to be done and also additional work we wish to undertake.

7.2 Side-scan survey

Due to boat problems we were unable to carry out a side-scan survey as originally planned. It is hoped to complete a side-scan survey this year but the poor weather has meant that to date we have not managed to conduct this survey.

7.3 Further Survey Dives

Having concentrated on the stern section during this investigation we would like to conduct more dives on the bow and also revisit the break sections of both the bow and stern sections. However, as before, we will need to obtain the permission of the Queen's Harbour Master and early discussions were planned for June 12 with a view to diving in August however the weather has severely impacted on our plans. If permission is granted based on a detailed dive plan and risk assessment, then a Local Notice to Mariners will be issued as previously.

The decision as to whether to grant permission may be adversely influenced by the response of an individual anonymous letter to the SSAC diving activities on the wreck and the associated memorial service (see Part 6). We cannot therefore determine at this stage whether we will be allowed to dive on the wreck again until we meet with QHM.

7.4 Marine Accident Investigation Branch (MAIB)

As mentioned above we hope to arrange more diving opportunities on the wreck site and if permissions are granted then we would hope that Howard Flegg from the MAIB will be able to dive with us on the bow and stern sections.

7.5 Imperial War Museum Visit

It is planned to visit the Imperial War Museum to find more details about LCT427 and other LCT Mk 3s in order to research the slight differences found at the site compared to the ship's plan.

7.6 Performance/stability of LCTs – Ships modelling.

We intend to write to Mr Chris Richardson at QinetiQ Haslar to see if he could provide any advice as to modelling the collision. QinetiQ undertake experiments in the performance of vessels in large wave tanks and we may be able to find out more about what is likely to have happened when a LCT is in collision with a large (34,000 tonnes) battleship.

7.7 Computer Generated model of the collision

It is hoped that a student, recommended by Howard Flegg from the MAIB will be able to use the data from our surveys, historic record and possibly QinetiQ to create a computer generated model of the collision. Obviously the ability to carry out this work will be dependent on whether permission to dive is given by QHM.

7.8 D Day Museum Display

We spoke to the D Day museum about our findings, information supplied by relatives and the museum has confirmed that they wish to create a display about British LCTs and the story of LCT427. One of the major features of this display will be a 'Faithful Freddie' compass donated to the museum by former SSAC member and commercial diver Mr Ray Mabbs. Ray contacted us when he heard about our project in 2011 and offered the compass to the club to see if we could find a suitable place for it to be displayed. The compass was recovered over 40 years ago and had been kept at home, polished and cared for during this time. Ray remembered the wreck well, despite diving it so long ago. We showed him the video taken and he commented that though a little more silted, the wreck was just as he remembered it.

The LCT427 compass was displayed during the St Ann's church service. The compass has been handed over to the D Day museum and a Droit form has been sent to the receiver of wreck to report the transfer.

Figure 67 the 'Faithful Freddie' compass donated by Ray Mabbs.

The museum display would include the compass donated by Ray Mabbs, photographs of the crew and underwater video footage of the wreck. A local artist, Keith Baker kindly donated two sketch/paintings which will also be donated to the museum display.

Donations from several relatives and SSAC may be used in the restoration of the compass and other costs associated with setting up the display.

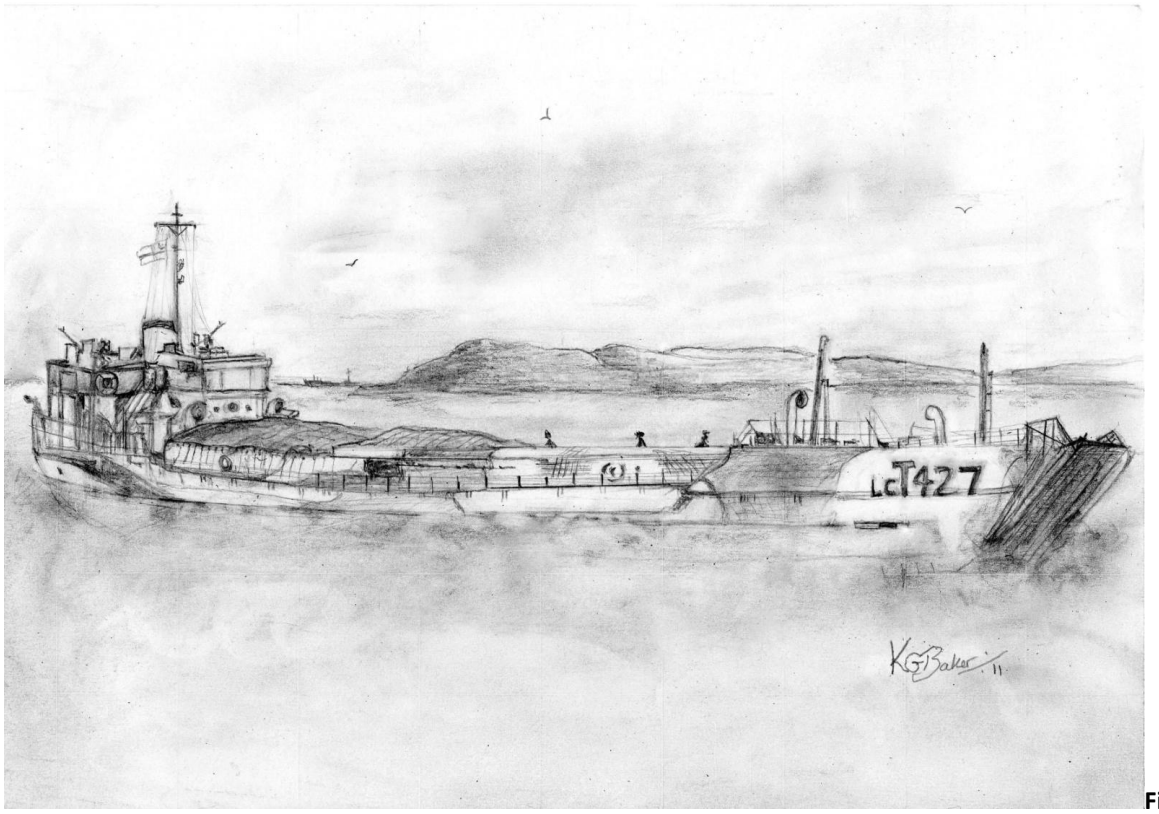


Figure 68 one of two paintings by local artist Keith Baker donated to the D Day Museum for use in the display.

7.9 LCT427 Future Protection.

SSAC is keen to preserve and protect this unique wreck for the future and a nomination for its protection was submitted to English Heritage at the end of 2011 (case no. 471518). We believe that there is a case for legal protection under the Protection of Wrecks Act 1973 as it appears to meet a number of the required criteria for designation. These criteria relate to the part played by LCT's in what was a major historic event – Operation Neptune and the Maritime Invasion of France. This event was the largest ever maritime invasion and is unlikely to ever be repeated. Also, we believe there are no surviving British LCTs of this condition despite over 700 taking part in Operation Neptune. The wreck is a Military Maritime Grave and, although there is a degree of protection offered by the Dockyard Port of Portsmouth Order regarding diving in the shipping lane, there is no protection relating to the possible interference with the wreck by divers or fishing/dredging activities. Those relatives who have contacted us have wholeheartedly offered their support for this nomination. Alison Mayor has offered to be Licensee in the event that the wreck is eventually designated.

As yet there is nothing to report on the progress of the application.

PART 8 REPORT SUMMARY

Southsea Sub-Aqua Club members are delighted with what they have achieved in the past year which far exceeds their expectations. We have risen to the challenge of surveying and documenting the wreck in the difficult conditions of the Eastern Solent shipping lane, demonstrating competent and safe diving practices throughout. We have also conducted much research into the part played by LCTs in Operation Neptune, and in particular the circumstances of the loss of LCT427 in order to reconcile what we recorded on the sea bed to the documentary evidence which emerged through our research. This leads us to conclude that the 2 sections of wreck surveyed are that of LCT427.

For many that would be a case of 'Job Done!', however with the support of others we have taken this project to another level by highlighting the human dimension to this story of young sailors lives lost in a single traumatic event 67 years ago. The engagement with families and comrades culminating in the memorial service last November has brought the reality of the sacrifice made by many young men. The appreciation of what we had achieved and the gratitude of those who have been able to know finally what happened has re-enforced our respect for wrecks and their part in our heritage.

We will continue to promote responsible diving with a purpose – and that we should share with others the things we are privileged to discover in our local waters.

In August this year we heard that our project had been chosen as the winning entry for the British Sub-Aqua Duke of Edinburgh Prize and as a result 12 members of the team will be visiting Buckingham Palace in October to be presented with the award by HRH Prince Philip which will be a very special occasion.

Thank you again to the support of many individuals and organizations and to the British Sub-Aqua Jubilee Trust for their financial support of this project.

I STAND HERE NOW

I stand here now
Amongst brave men
With whom I've stood before
The last time...when we landed
On June 6th of 44

Back then we were all young men
Eighteen or little more
Their lives cut short the following day
Here - close to Portsmouth's shore

I stand here now and wonder
What would they have become?
Had they survived that morning
Their lives allowed full run

One thing I know for certain
Of which there is no doubt
These brave young men
My pals from then
Would be old white haired, with wrinkled brow
Just like me as I stand here now.

Tony Chapman
Official Archivist/Historian
LST and Landing Craft Association (Royal Navy)