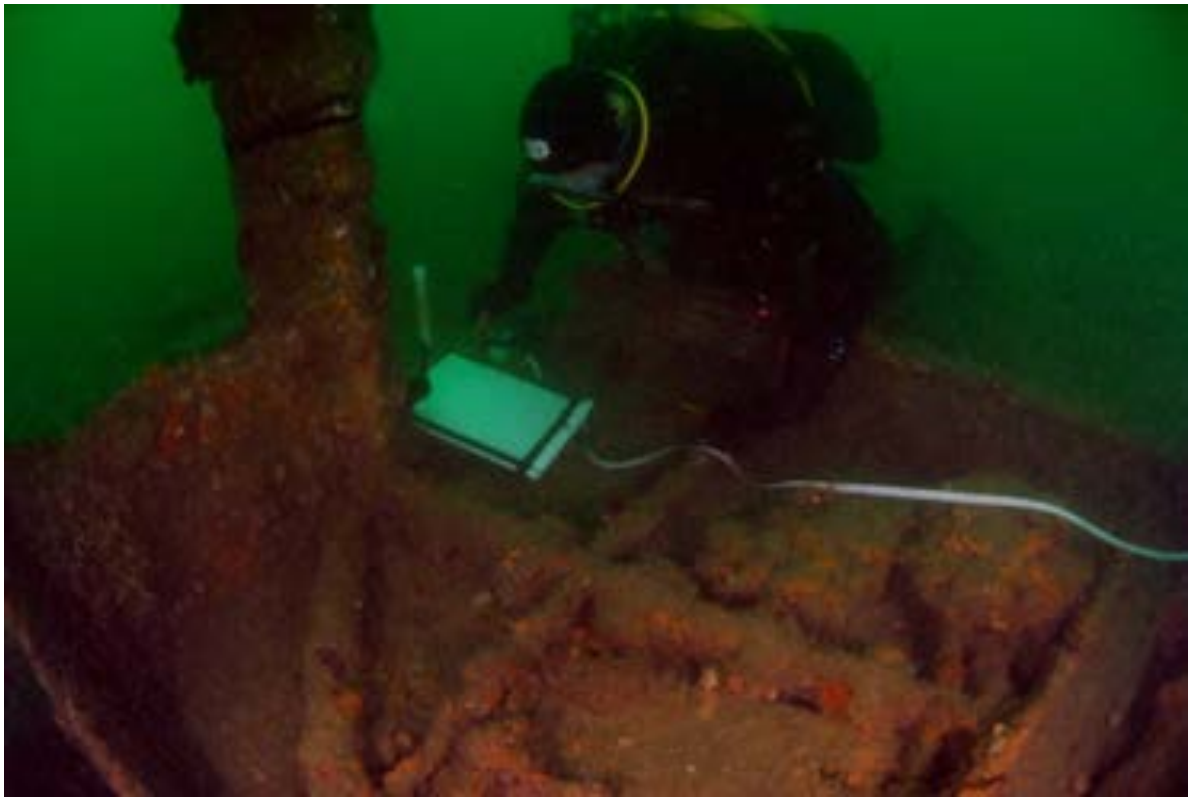
PROJECT AND EXPEDITION PLAN



‘WHAT LIES BENEATH?’

Expedition Leader: Alison Mayor

Application for BEGS Grant

Made on behalf of BSAC Southern Region by

Alison Mayor

(Projects & Expeditions Adviser)

Issue 1

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What Lies Beneath? Project Plan - Contents

‘What Lies Beneath?’

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1. PURPOSE

1.1 This document sets out the initial elements of the ‘What Lies Beneath?’ an underwater survey project to be undertaken by Branches and members of the BSAC Southern Region and others. The document sets out the methodology for how the Southern Region intends to manage 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.

2. PROJECT AIMS

2.1 The primary aims of this project is to provide the training and experience for Branches to undertake the underwater survey of sites along the South Coast and to inspire members undertake adventurous and meaningful projects in the future.

2.2 The project objectives are to;

a) Provide a structure and support for participating Branches to be able to explore, investigate and record a number of underwater sites along the South Coast;
b) Promote inter-branch co-operation;
c) Encourage members within Branches to dive with a purpose and work as a team;
d) To engender a spirit of exploration and adventure by diving unknown sites;
e) Develop survey techniques and project management skills at Branch level;
f) Improve dive management and planning skills;
g) Provide a public record of what was found at each site and the marine life present; and
h) Promote the responsible/respectful diving and recreational diving opportunities along the South Coast and beyond.

2.3 The main focus will be the development of diving and survey skills within Branches through the experience gained from exploration and recording of unknown sites.

3. OUTCOMES AND OBJECTIVES

3.1 The Project outcomes and objectives can be listed in 4 categories, those of project itself as a Southern Region managed expedition, Branches, individual members and the wider community through dissemination of the project findings to the general public and diving community through an ‘outreach’ programme.

3.2 **Project/Southern Region**

- To provide a structure for Branches within the Southern Region to take part in a regional project working with a common purpose;
- To provide training and skill development opportunities in survey and project management techniques to enable Branches to undertake their own projects/expeditions in the future.
- To promote inter-branch cooperation opportunities.

- To provide opportunities for divers at all levels to engage in a worthwhile project and inspire those taking part to challenge themselves by taking part in adventurous but safe diving expeditions and projects.
- To build on the success of projects and foster an attitude of conscientious and respectful wreck diving.

3.3 **Branch**

- To locate and positively record the nominated sites.
- To produce a site map/plan for each site by reference to the position, orientation and distinguishing features observed at each site.
- To record details of each site including photographs and video.
- To research artefacts (if any) in order to determine the history of the site.
- To observe and record the typical marine life to be found at the nominated sites.
- To be inclusive and work together as a branch at all levels to 'dive with a purpose' with a rewarding outcome.
- To practice and improve diving skills and survey techniques at a team level.
- To provide an opportunity to hone dive planning and management at team/Branch level

3.4 **Individual (Branch survey leaders and diving team members)**

- For each Branch Team Leaders – to give them the training and experience to needed to inspire them to consider a more challenging expedition/project possibly as a part of an Advanced Diver or First Class Diver level.
- To practice and improve diving skills and survey techniques at an individual level.
- To develop survey and project management techniques.
- To lead or participate in a team exercise (as appropriate)
- To share skills and knowledge with others.

3.5 **Outreach**

- To make available a public record of our work through dissemination of the report to various public bodies and interested organisations.
- To publicise the results of our work as widely as possible.
- To work with other organisations and the general public to exchange information.
- To raise awareness of recreational diving along the South Coast and the profile of BSAC, Southern Region and Branches.

4. BACKGROUND

4.1 Over the last few years I have successfully led teams of divers from Southsea Sub-Aqua Club on 3 major archaeological projects looking into a number of WW2 wrecks in the Solent. As a result of these projects club members have actively engaged in some challenging diving, site survey, historical research and working together to deliver the aims of the project. Above all else they have enjoyed the experience and the Branch has strengthened as a result. Our members are proud of their achievements and the work of the Branch has been recognised through a number of national awards[1]. My personal experience is that if possible, it is better to have a project/expedition that is open to all diver grades to maximise the strengths of all members and to provide opportunity for the less experienced to learn from others.

4.2 During this time I have also talked to a number of other clubs who were keen to hear about what we had been doing. Some Branches were considering running their own

[1] The BSA Duke of Edinburgh Award (2010 and 2012), the Peter Small Award (2009 and 2010) and the Nautical Archaeology Society 'Adopt A Wreck Award (2009, 2010 and 2012).

projects and looking for advice on how to go about running an underwater survey project. These Branches were keen do something meaningful with their diving and as a team but there was a lack of information about how to go about it.

4.3 Since joining the Southern Region coaching team as Projects and Expeditions Advisor I have considered ways that Branches can work together to take part in a wider project whilst developing team and individual skills by encouraging Branch members to take on a small project, but also deliver additional benefit by several Branches working together building the relationships between Southern Region Branches.

4.4 This led me to develop some ideas for a Regional project which will challenge members from a number of Southern region clubs to work together in adventurous diving which could be conducted within a Branch – preferably at all levels of qualification. To help incentivise this initiative a BEGS and/or BSA Jubilee Trust grant to help encourage participation by offsetting the costs of taking part.

4.5 Whilst this Project does not entirely sit comfortably within the true definition of a REDS expedition and the BEGS grant scheme – aimed primarily at encouraging experienced divers to challenge themselves towards the First Class Diver level, this project does encourage far wider participation and has benefits for the Southern Region, Branches, Individuals and the wider public.

5. "WHAT LIES BENEATH?"

5.1 The South Coast has some great diving including hundreds of known sites and wrecks, however there are hundreds of unknown sites, recorded simply as 'obstructions' on charts with little if any information about what lies beneath the surface.

5.2 The aim of the project would be to gather basic survey data for some of these sites by asking Branches to dive, take measurements/record, sketch, photograph, video each site and also record marine life present. Eleven Branches have confirmed they wish to take part in the Project including 4 from outside the Southern Region. It is easy to imagine that based on a Branch team of 8 to 10 members this could mean in the region of 100 divers or more getting involved and potentially hundreds of hours of diving taking place.

5.3 Branches will be asked to complete a survey data form with details of what they observe such as site composition (natural rock, metal, wood, concrete, etc), dimensions, depth (max & min), any signs of structure etc, any evidence of man-made materials (artefacts etc).

5.4 These records will be pulled together centrally and the results made available to the wider community and the UKHO (thereby placing findings on public record). In addition a database of material would also be created (will need to investigate how this can be hosted).

5.5 Branches were invited to register an interest in the scheme and will be allocated a number of sites to investigate primarily in the Easter Approaches to the Solent. The sites will be relatively close together so as to allow Branches the opportunity to dive 2 per day, or perhaps completing the over a weekend. Of course if the Branches want to revisit and provide much more detail then that would be even better, but the priority will be to have a basic investigation of each site with a view to organising a much more detailed survey if there is something significant discovered.

6. PARTICIPATING BRANCHES

6.1 Branches who expressed an interest in taking part in the project nominated Branch member(s) to be their Team Leader(s) who will be responsible for the survey of each site for their Branch. The Branches' Diving Officer were asked to confirm details of the Team Leader's experience and identify any areas of additional training that may be required.

6.2 Some Branches had more than one applicant under consideration. Four Branches were outside of the Southern Region which demonstrated the appeal of the project to a wider group of divers beyond the South Coast. A meeting was held on 10 February with those 13 Branches that had expressed an initial interest. A copy of the presentation given to interested branches is at Annex A. Subsequently 11 of the Branches have confirmed their intention to take part. The final participating Branches and their Team/Survey Leaders are as follows;

	Branch	Nominated Team Leader(s)	Diver Grade
1	Southsea Sub-Aqua Club	Doug Carter	D/L
		Derek Bower	D/L
		Pete Dolphin	A/D
2	Newbury Sub-Aqua Club	Desha Pingel	Sports
		Cathy de Lara	A/D
3	Eastleigh Sub-Aqua Club	Paul Wilson	D/L
4	Wight Dolphins	Garry McGinty	D/L
5	Reading BSAC	John Bawden	A/D
		Alison Bawden	A/D
6	Nekton Sub-Aqua Club	Guy Freeman	A/D
7	Leamington and Warwick Sub-Aqua Club	Julie Kelley	A/D
8	Milton Keynes Sub-Aqua Club	Graham Nurse	A/D
		Greg Roach	D/L
9	Dacorum Sub-Aqua Club	Glen Adams	A/D
10	Bedales School (Special Branch)	Andrew Cooper	D/L
11	Swindon Sub-Aqua Club	Mark Kelly	Sports
		Susan Kelly	Sports
		Andy Rayson	A/D

Table 1 List of Branches and Survey Team Leaders

6.3 The responsibility for the safety during diving operations to be conducted as part of the Project will rest with the Diving Officer of each Branch who will oversee the Team Leaders diving plans and so the Diving Officer will need to confirm that the diving plans are safe and have considered the risks (via a risk assessment). A copy of the diving plans will be required to be submitted to me for the purposes of the Project/Expedition report.

7. TRAINING

7.1 Nominated Branch survey leaders may already have experience in conducting systematic survey projects underwater and will have undertaken training with the Nautical Archaeology Society (NAS) to NAS Part 1 level or equivalent. However the aim of the project is to develop these skills within Branches so any funding secured as part of this Project BEGS and Jubilee Trust grant applications will be used to provide funding to help with the cost of training with the NAS to enable Branch Team Leaders to gain the skills and knowledge in the management of an underwater survey. On this basis funding for a course of up to 12 participants has been included in the financial estimate.

7.2 The first stage of the NAS Training Programme, the Introduction Course, is a full day of training introducing participants to the subject of nautical archaeology. Combining a mixture of classroom and practical sessions, the course aims to promote nautical archaeology to those interested in learning a little bit more.

7.3 As well as an introduction to the basic principles of archaeology, the Intro Course will also include the range of sites which can be covered under the title 'nautical' or 'maritime' archaeology - it is not just shipwrecks and it is certainly not all underwater. By the end of the day the student will not only have received an introduction to various theory topics but will have also undertaken practical sessions in 2D survey methods. The chance to practice techniques and to draw up the results will help to give the skills to start recording and understanding some of the sites visited.

7.4 The NAS Part 1 Certificate course builds on the knowledge and skills learnt during the Introduction Course. The course aims to introduce archaeological projects from the planning phase through to carrying out a 3D survey and publishing the results. The course is held over 2 days and combines theory and practical sessions. The course combines both theory and practical sessions, where participants will plan and carry out their own small survey project building on the 2D survey skills learnt during the Introduction Course with practical 3D survey skills.

7.5 E-learning. The NAS are about to launch an e-learning package which will reduce the combined Intro and Part 1 course practical sessions to 2 days.

7.6 The cost of courses varies significantly depending on venue and whether the course includes diving (rather than foreshore) practical exercises. For budgeting purposes I have used the average cost of £250 for the combined course. There is little cost saving from the e-learning package.

7.7 Participating Branches will also be strongly encouraged to run a BSAC Wreck Appreciation SDC for other team members of the Branch taking part in the site survey projects. The team should have at least 2 first aid/O2 admin trained divers, qualified diver coxswain and VHF radio training (if using own boat), recommended additional training - Wreck appreciation (or NAS Introduction), buoyancy skills workshop, search and recovery NAS Introduction, chartwork and position fixing, SeaSearch Observer.

Figure 1 Members of Southsea Sub-Aqua Club taking measurements during a BSAC Wreck Appreciation Course.

7.8 Each Branch Team Leader will be the point of contact for the Branch under the Project, however individual members of each club may be given the opportunity to manage a site survey where appropriate, thereby sharing the workload and opportunity to gain experience through a sense of ownership for a particular site survey.

7.9 A record of all training undertaken by participating Branches in association with the Project will be made.

8. THE PROPOSED DIVE SITES

8.1 In researching possible sites I consulted Admiralty charts, wrecksite.eu and the UK Hydrographic Office data sheets for various wrecks and obstructions in the Eastern Solent (chart 2037). One branch from outside the Southern Region requested that they be allowed to propose sites closer to their area (ie out of Eastbourne). These will be considered when details are received. The main criteria for selecting the sites was that there was little or none diver reports and that the sites were in a safe location (e.g. not in the shipping lane).

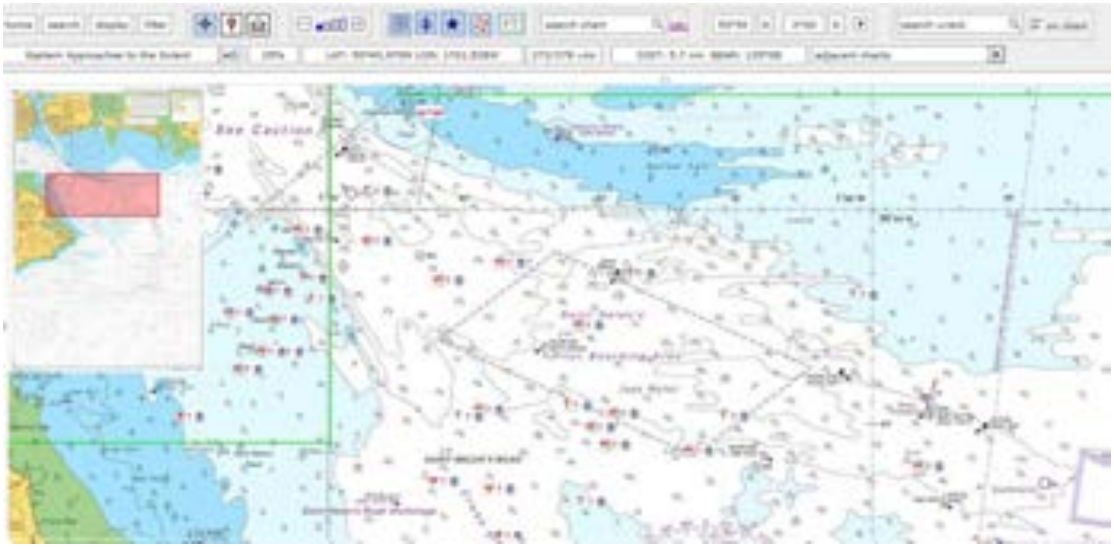

Figure 2 On this Admiralty Chart alone (2037 -Eastern Approaches to the Solent) 272 of the 378 recorded wrecks and obstructions are 'unknown'.

8.2 In order to ensure that the same sites are not visited by more than one Branch sites will be allocated dependent on branch experience and assets (such as boat range etc). All sites are within the 12 mile inshore waters limit and most will allow all levels of diver grade to take part. Most are not significant features and have not been surveyed by the UKHO (from the surface) for many years, locating and diving the sites may therefore be quite testing for diving teams.

8.3 Care has been taken to select sites which are outside the main shipping channels and areas of significant boat traffic. Most sites are less than 20m in depth and so will allow Ocean Divers the opportunity to participate in the survey.

8.4 It may be that no features or objects are located but this information can be just as useful especially if there is a record of the marine environment, nature of the sea bed and variety of marine life observed.

9. PROJECT PLAN TASKS AND ACTIONS

9.1 This project has been developed over the last 4 months as a natural progression from my work on the Southsea Sub-Aqua Club projects. We are now at the more detailed dive planning stage whilst continuing to research other sites in the Southern Region.

9.2 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 and local knowledge and records.

b. **Confirm interest within the Region Coaching Team and support from the Regional Coach as mentor for the project.** Regional Coach Clive Puddifoot has agreed to act as mentor for the project. A presentation to the Regional Coaching Team received positive feedback and interest.

c. **Consult /research best practice and guidance for running a similar project. (BSAC and NAS)**. Mark Beattie-Edwards Project Director of the 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 BEGS guidance, First Class Diver Expedition guidance, Risk Assessment Toolkit, Dive and the Expedition Manual have been used to develop the project and diving plans.

d. **Identify possible sources of funding and support (BSAC BEGS and 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 Clive Puddifoot Southern Region Coach and Mark Beattie-Edwards of the NAS to be referees for me in support of the project. Details of the Project were also referred to BSAC Expeditions Officer Max Ruffert and National Diving Officer Jeff Reed. The Project was accepted by Max Ruffert and in January was listed on the BSAC web site.

9.3 The following activities are in hand at each Branch and also on an inter-branch basis;

e. **Project Management and Planning**. Whilst overall project management and planning will be my responsibility the precise diving plans will the responsibility of each Branch, namely the Diving Officer and Branch Team Leaders. My responsibility will be for the selection of sites, identification, management of the delivery of training requirements, publicity and briefing of team members, collection / consolidation of data, management of funds and the production of the final report.

f. **Identify additional training requirements**. In addition to NAS Intro/Part 1 training for Branch Team Leaders, the BSAC Wreck Appreciation course will be a useful enhancement to other team members 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. Branch members can practice in similar conditions can take place at suitable sites and Branches will be encouraged to run a buoyancy skills workshop for team members because the sites are likely to be silty. 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 can also be delivered within the

branch in the weeks leading to the survey. In order to ensure safety of diving operations First Aid and O2 courses should have been completed by at least two members of the Branch team. Branches are being encouraged to work together to deliver supporting courses to participating branches.

g. **Identify what additional expertise may we need and where/how can we get it?** Additional expertise may be required depending on the survey findings. I am talking to a number of parties about the possible use of sonar / multi-beam survey equipment.

h. **Communication and Outreach**. Internal communications will be managed through email/telephone, plus occasional briefings/meetings with participating Branches. We intend to set up a specific internet group site which will facilitate communications between participating Branches and also for store/access of documentation/photographs etc as the project progresses. Use will also be made of the Southern Region Newsletter (Dive Time), Google Group and Facebook sites to publicise the Project and provide updates of progress to the wider Southern Region members. The Southern Region coaching team is also being given the opportunity to spread the word about the project directly to divers through the allocation of a 'Pod' display at the London International Dive Show (LIDS) at the end of March 13. An eye-catching vertical banner display has been designed and purchased and this will be supported by photo-display/presentation. Myself and the other members of the Southern region coaching team will be available to talk to divers about the Project and promote BSAC branches and the support of the regional teams. There is also an opportunity to publicise the project in SCUBA magazine after discussions with one of the regular contributors. 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 historical communities. This is a great opportunity to bring the activities of the Southern Region and BSAC Branches 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, Southern Region Branches, and the BSAC receive positive exposure as a result. I have recent experience of dealing with the publicity aspects in the media and diving magazines/ publications which may help in the event that something significant is found. There are also an increasing amount of accomplished photographers and videographers 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. Whilst participating Branch Diving Officers will be responsible for the conduct of safe diving at Branch level a generic Diving Risk Assessment for RIB/Hard Boat diving (see Annex D) has been prepared in accordance with BSAC guidance and will be made available to each Branch to modify as appropriate for their own equipment and diving plans and be further amended as additional hazards are identified. It will be a living document throughout the planning stage and during the diving operations.

j. **Dive programme/timescales**. In consultation and with the approval of each Branch Diving Officer a full dive/survey programme will need to be prepared by the Team Leaders taking account of tidal and environmental factors, depth, hazards and the objective of each stage of the survey programme.

k. **Plan the survey** The Branch Team Leaders will be responsible for planning and management of the survey. I will be available to provide advice and support as

required. All surveys will need to be completed by end September 2013 in order to allow time for the data to be collated and survey reports written.

l. **Identify Equipment required**. Depending on the outcome of grant applications participating Branches will be provided with a set of basic survey equipment as part of the Project. A generic list of other equipment to that may be required by Branches has been prepared but may require amendment by to reflect their own dive and survey plans.

m. **Financial estimate for the project**. A financial estimate for the project has been prepared (see Annex F). The main cost is the cost of training the Branch Team Leaders and provision of a basic survey equipment. Branches and/or individuals will need to fund the training initially and if successful will be refunded some or all of the training costs incurred.

n. **Other Sources of funding.** In addition to this BEGS application an application for additional funding for the purchase of survey equipment will be made to the British Sub-Aqua Jubilee Trust. All other unforeseen costs will be apportioned equally between the project members based on the number of diving days.

Diving/Survey Stage

9.4 This stage will be the most productive and resource intensive when the participating 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' booklet 2010. 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

9.5 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.

10. THE DIVING PLANS

10.1 Each survey Team Leader will be responsible for the dive planning to the satisfaction of the Branch Diving Officer. The relatively shallow depth for most of the sites will allow most of the qualified divers within each participating 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. An example dive plan is at Annex G.

10.2 The safety of all divers at every stage of the survey is paramount. A generic 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 Branch 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/she may appoint Dive Managers to marshal the dives including the recording diving data depth/time/air etc.

10.3 Generally it will be the intention to have diving teams of 4 -8 depending on the Branch facilities. It is anticipated that 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.

11. THE MANAGEMENT OF RISK

11.1 A generic Risk Assessment has been undertaken (see Annex D). 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

11.2 Adjusted to reflect the proposed sites and conditions, 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 Diving team and Branch Diving Officer. The location of the sites in the busy approaches to the Solent will be made with the Coastguard and Portsmouth QHM so that they are aware of diving activities being carried out in the area.

Figure 3 Risk Assessment -In addition to normal diving hazards the Eastern Approaches to the Solent are used by large vessels entering/leaving Portsmouth and Southampton ports as well as many smaller recreational craft.

11.4 Finally, 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 which will be managed by myself are considered to be;

a) Shortfall in funding
b) Cannot find sites
c) Poor data recording
d) Not enough interest from Branches/divers
e) Poor weather over the summer months.

11.5 These project risks have been reviewed and are considered as follows;

a) Shortfall in funding – Branches have been made aware throughout the briefings and correspondence that the funding for training and equipment cannot be guaranteed and that ultimately those taking part may have to wholly or partly have to meet the costs of taking part.
b) Cannot find dive sites – Branches will be given a back-up site(s) as an alternative if they cannot find the original site.
c) Poor data recording – The NAS training will provide the guidance on what data needs to be taken.
d) Not enough interest from Branches/divers. There has been a significant level of interest and commitment shown by the 11 Branches and feedback from many of them indicates a strong desire to participate by their members.
e) Poor weather – obviously the weather in 2012 had an impact on diving activities and whilst these sites are in the shelter of prevailing south westerly

winds it is hoped that a better summer will allow surveys to take place as planned.

11.6 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.

12. PARTICIPANTS AND ROLES

12.1 With 11 Branches having signed up for the project much of the day to day planning for Branch Diving will rest with the Branches however key positions/roles are identified below;

- Overall Project Management – Alison Mayor.
- Mentor Clive Puddifoot (Southern Region Coach)
- Survey Planning, Research and recording/reporting – Branch Team Leaders
- Dive Management, Training & Health & Safety – Branch Diving Officers and any appointed Dive Managers.
- Final report and data consolidation - Alison Mayor
- Financial accounting, - Tim Holt. (Southern Region Treasurer)
- NAS Part 1 Training, Alison Mayor in a coordinating role with NAS
- PR/Media/Web site, Alison Mayor, Desha Pingel and Emily Bryant.

12.2 The full details of Branches and nominated participants are set out in Annex B.

13. LOGISTICS, EQUIPMENT AND RESOURCES

13.1 It is anticipated that Branches will use their own Boat/RIB for the diving activities.

13.2 When using Branch RIBs it is recommended to launch from Eastney as it is the closest to the sites. Alternative slips are available at Hayling Island, Ichenor and Selsey (East beach). Passage plans (SOLAS) will be prepared by Branches as part of their planning exercise.

13.3 **Typical Safety & Boat Equipment for use on RIB**

- 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

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

13.5 **Diving Equipment**

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

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

13.7 **Survey equipment**

- Datum/baseline, and suitable fixing pegs/rods
- Markers for control points
- Tape measures, slates/pencils/transparencies,

- Ropes, buoys, clips, cable ties etc.
- Some branches may have access to a side-scan sonar or magnetometer.

14. FUNDING AND BUDGET

14.1 In support of the application for up to £1,000 BEGS grant a cost estimate has been produced (See Annex F) based on the cost of training and basic survey equipment. The estimated cost of training and equipping the Branches is £3,298.00 based on an average cost of NAS courses required. All other costs associated with the training, planning and execution of the surveys will be met by the Branches and their members.

14.2 It is hoped that the project is considered to be suitable for a BEGS grant and in addition an application will be made to the Jubilee Trust for the remainder of the cost estimate which in combination will hopefully cover the majority of the direct costs of the project. Indirect costs such as cost of boats/diving, accommodation and travel for training etc, project research (trips and entrance fees to museums, National Archives etc) and report writing/publication will be met by the individuals, project Team Leaders and Branches 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. All Branches have been advised of this risk and have accepted that the contribution to the cost of taking part is not guaranteed.

15. OUTCOMES AND REPORTS

Documentation

15.1 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. The report will include lessons learned through the execution of the project. The aim will be to complete the report by the end of 2013.
- Site Plans. This will include the survey results of the site and details of each site.
- Photographs and video of each of the 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 BSAC HQ (Expeditions Officer), BSA Jubilee Trust, English Heritage, the National Monuments/Records Office, and UK Hydrographic Office.
- Final accounts for the Project.

15.2 The findings of survey and summary reports are to be included on the Southern Region web site, Newsletter, Facebook page and Google group site. Presentations and talks to other regions or clubs can also be arranged by myself and other team members if requested. We also hope to include the findings of the project a SCUBA magazine feature. Press Releases will also be prepared to announce the start of the project and in the event that something significant or interesting is found.

15.3 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 any questions that may emerge as a result of the Project surveys. It will also be a great achievement for the Branches in which all involved can be proud of.

16. SUMMARY

16.1 Building on the experience and success of previous projects I am keen to engage Branches within the Southern Region and beyond in taking part in a wider project and share with the wider community the findings of our work. With 11 Branches committed to taking part the What Lies Beneath project has clearly captured the imagination and sense of adventure in divers on a scale beyond my initial expectations. The Project will valuable bring new skills and experience to many and combined with the obvious enthusiasm and interest will bring divers together to dive as a team and with a real purpose. The hope is that this experience will provide Branches with the confidence to go on to seek adventure and knowledge from new sites of their own in the future.

16.2 As a result of the What Lies Beneath Project we will promote Southern Region, participating Branches and the members of the BSAC in a positive light through their responsible and respectful diving activities and the sharing of information about what they find.

16.3 Submitted for your consideration.

Alison Mayor
Projects and Expeditions Adviser
BSAC Southern Region

Additional Documents - Annex to Project Plan

Annex A – Presentation to Interested Branches 10 Feb 13.
Annex B – Team Members
Annex C – Summary of Training Requirements
Annex D – Risk Assessment
Annex E – Dive Sites
Annex F – Financial Plan
Annex G – Example Dive Plan

WHAT LIES BENEATH - TEAM BRIEF 10 FEB 13

SEE SEPARATE POWERPOINT PRESENTATION

Annex B

WHAT LIES BENEATH – TEAM MEMBERS

CENTRAL 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, Chartwork and Position Fixing, Practical Rescue Management, Assistant Open Water Instructor, Advanced Decompression Procedures. Sports Mixed Gas Diver, AED. Underwater photographer (BSoUP). BDMLR Marine Mammal Medic. Project Leader for 3 successful archaeological survey projects. 1000+ dives.	Project Leader Diver/Surveyor Report writer Publicity BEGS and Jubilee Trust grant applicant on behalf of Southern Region
CLIVE PUDDIFOOT	A686250	FCD & NATIONAL INSTRUCTOR	A past Branch Diving Officer of seven years, a BSAC First Class Diver and National Instructor. Diving Instructor Trainer and assessor. Trimix diver. I have organised large groups of divers to dive and survey areas and shipwrecks in Northern Europe. Currently the BSAC Southern Region Coach. Approximately 1800 dives.	Mentor & advisor for the Project Leader. Branch diver & instructor.
TIM HOLT	A235864	A/D	Treasurer for BSAC Southern Region 2001- date. BSAC Southern Region Coaching team since 1997.	Treasurer
DESHA PIGNEL	A796086	SPORTS DIVER	O2 Admin, Mixed gas Diver, AED. BDMLR Marine Mammal Medic, Practical Rescue Management.	Communications

Annex B

WHAT LIES BENEATH – TEAM MEMBERS

BRANCH TEAMS

BRANCH TEAM LEADERS AND OTHER PARTICIPANT DETAILS

	Branch	Diving Officer	Team Leader	NAS Training Required	D/L for A/D	Other Survey Leaders (already NAS Part 1 and A/D)
1	Southsea	Martin Davies [redacted]	Doug Carter D/L A754692 [redacted] Derek Bower D/L A705417 [redacted]	NAS Part 1 Doug Carter NAS Intro and Part 1 Derek Bower	Doug Carter Derek Bower	Pete Dolphin A/D A345678 [redacted]
2	Bedales	Mike Osborne [redacted]	Andrew Cooper D/L A791027 [redacted]	NAS Intro & Part 1 Andrew Cooper	Andrew Cooper	
3	Milton Keynes	Adrian Moss [redacted]	Graham Nurse Diver Grade A/D A469114 [redacted]	NAS Intro & Part 1 Graham Nurse	Greg Roach Diver Grade D/L A811623 [redacted]	
4	Nekton	Greg Rust [redacted]	Guy Freeman A/D A814884 [redacted]	NAS Intro & Part 1 Guy Freeman		

Annex B

WHAT LIES BENEATH – TEAM MEMBERS

5	Swindon	Pete Gruncell [redacted] Note – Pete Gruncell is a FCD and will oversee the Dive Planning element for Mark and Susan Kelly's surveys through other D/L and A/D taking part from the Branch	Mark Kelly Sport Diver A817869 [redacted] Susan Kelly Sport Diver A817867 [redacted]	NAS Part1 Mark Kelly and Susan Kelly		Andy Rayson A/D A411894 [redacted]
6	Wight Dolphins	Gary Paddock [redacted]	Garry Mc Ginty D/L A792821 [redacted]	NAS Intro & Part 1 Garry Mc Ginty	Garry Mc Ginty	
7	Leamington & Warwick	Helen Hay [redacted]	Julie Kelley A/D A715069 [redacted]	NAS Intro & Part 1 Julie Kelley		
8	Eastleigh	Pete Scott [redacted]	Paul Wilson D/L A281879 [redacted]	NAS Part 1 Paul Wilson	Paul Wilson D/L A281879 [redacted]	
9	Newbury	Ian Mc Dean [redacted]	Desha Pingel Sports Diver A796086 [redacted]	NAS Part 1 Desha Pingel		Cathy de Lara A392434 [redacted]
10	Dacorum	Lindsey Doyle [redacted]	Glen Adams A/D	NAS Part 1 Glen Adams		

Annex B

WHAT LIES BENEATH – TEAM MEMBERS

			A402315 [redacted]			
11	Reading	Paul Fiander [redacted]	John Bawden A/D A195527 [redacted]			Alison Bawden A/D A195528 [redacted]

Annex C

WHAT LIES BENEATH – SUMMARY OF TRAINING NEEDS

NAS INTRO	NAS PART 1	D/L TO A/D	OTHER
	Doug Carter (Southsea)	Doug Carter (Southsea)	Pete Dolphin (Southsea) NAS Part 2
Derek Bower (Southsea)	Derek Bower (Southsea)	Derek Bower (Southsea)	
Andrew Cooper (Bedales)	Andrew Cooper (Bedales)	Andrew Cooper (Bedales)	
Graham Nurse (Milton Keynes)	Graham Nurse (Milton Keynes)	Greg Roach (Milton Keynes)	
Guy Freeman (Nekton)	Guy Freeman (Nekton)		
	Mark Kelly (Swindon)		James Padfield (Swindon) Sport Diver to Dive Leader
	Susan Kelly (Swindon)		
Garry Mc Ginty (Wight Dolphins)	Gary Mc Ginty (Wight Dolphins)	Gary Mc Ginty (Wight Dolphins)	
Julie Kelley (Leamington & Warwick)	Julie Kelley (Leamington & Warwick)		
	Paul Wilson (Eastleigh)	Paul Wilson (Eastleigh)	
	Desha Pingel (Newbury)		
	Glen Adams (Dacorum)		
			John Bawden (Reading) NAS Part 2
			Alison Bawden (Reading) NAS Part 2
Total 6 for NAS Intro	**Total 12 for NAS Part 1**	**Total 6 for A/D**	

Annex D

WHAT LIES BENEATH - GENERIC RISK ASSESSMENT

BSAC Southern Region **"WHAT LIES BENEATH"** **Summer 2013**

EASTERN PORTSMOUTH/SOLENT APPROACHES, HAMPSHIRE

The risks identified in this risk register are those associated with open water diving from a hard boat or RIB in tidal/temperate waters of the Solent.

All diving will be authorised by the Branch Diving Officer or his authorised Dive Manager and conducted in accordance with the BSAC Safe Diving practices (2010). Project survey briefing meetings will be given to the Branch survey 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.

Solent Coast guard VHF Ch16 (routine traffic Ch 67) - Tel 02392 552100
QHM Portsmouth Harbour Control VHF Channel 11 - Tel 02392 723694
Vessel Traffic Services (VTS) Southampton VHF Channel 12 – Tel 02380 608208
National Decompression Illness Helpline 07831 151 523

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 or twin sets if possible	• *Ascend to surface.* • *Administer O2 if required by suitably trained first aider.* • *Treat buddy for shock if required.*

WHAT LIES BENEATH - GENERIC RISK ASSESSMENT

				• First aid and O2 kit to be available.	
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.* • *Advise coastguard/emergency services as appropriate.* • *Initiate Emergency services Plan if required.* • *Treatment of buddy for shock if required.*
3	Diver separation	All divers	High (5)	• Dive Manager to advise 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.	• *Divers to surface in accordance with separation drill and re-establish contact with each other and surface cover.* • *Surface cover to render assistance as required.* • *First aid to be administered if required.*

WHAT LIES BENEATH - GENERIC RISK ASSESSMENT

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.* • *Assistance from Buddy.* • *Buddy to raise alarm at surface.* • *Diver to be removed from water ASAP* • *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. • First aid and O2 kit available on site.	• *Basic Life Support administered by buddy or first aider.* • *Initiate Emergency services action plan.* • *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	• *Ascend from depth.* • *Assistance from buddy, first aider, or instructor.* • *Rinse with fresh water.*

WHAT LIES BENEATH - GENERIC RISK ASSESSMENT

				suffering from a cold or congestion. • First Aid Kit to be available on site.	
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.* • *Treat buddy for shock if required.*
	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.* • *Hospitalise if required.*
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	• *Buddy to render assistance at the surface.* • *Divers to raise alarm to surface cover.*

WHAT LIES BENEATH - GENERIC RISK ASSESSMENT

				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.	• *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.* • *Treat buddy for shock if required.*
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.*

WHAT LIES BENEATH - GENERIC RISK ASSESSMENT

13	Unexploded munitions/ordnance	All	Low/High (3)	• MOD has warned of the 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.	• *O2 administration by suitably qualified first aider.* • *Treat buddy for shock if required.* • *Advise coastguard/emergency services of position/events.*
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.* • *Emergency Services Plan – Advise Coastguard of events/position.* • *Hospitalise casualty.* • *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	• *Administer first aid and O2 as appropriate.* • *Seek medical advice.* • *Emergency Services Plan – Notify coastguard of events and position.* • *Hospitalise – evacuate to recompression*

WHAT LIES BENEATH - GENERIC RISK ASSESSMENT

				especially when carrying out other tasks. • First Aid and O2 kit available on site.	*chamber ASAP (with buddy and dive computer).*
16	Boat Propeller	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.* • *Emergency Services Plan.* • *Hospitalise.*
17	Man overboard	All	Medium/High (4)	• Skipper boat brief to include Man Overboard drill.	• *On sighting of lost casualty advise skipper for recovery.* • *Establish position/time and notify Coastguard - Emergency Services Plan.*
18	Engine failure	All	Medium/High (4)	• Skipper Boat Brief • GPS, VHF • Life jackets and life rafts • Flares/signalling equip etc	• *Establish accurate position and immediately inform coast guard.* • *Lay an anchor to maintain position* • *Follow instructions of skipper.*
19	Boat sinking	All	Low/High (3)	• Skipper Boat Brief • GPS, VHF • Life jackets and life rafts • Flares/signalling equip etc	• *Establish accurate position and immediately inform coast guard.* • *Follow instructions of skipper.* • *Prepare to abandon boat*
20	Deteriorating weather	All	Medium/High (4)	• Consult latest weather and shipping forecast in advance of the dive. • Have a contingency plan.	• *Notify Coastguard of position if difficulties encountered.*

WHAT LIES BENEATH - GENERIC RISK ASSESSMENT

				• Brief Diver recall system. • Monitor weather during the dive.	
21	Mask squeeze	All divers	Medium (3)	• Use mask that encloses eyes and nose. • Training in mask equalisation.	• *Assistance from buddy, first aider or instructor.*
22	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.*
23	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.* • *Hospitalise if required.*
24	Contact with other water users	All divers	Medium (3)	• Divers to dive in buddy pairs and use SMB when approaching the surface. • Skipper to raise 'A' flag and monitor surrounding boat traffic	• *Remove casualty from water.* • *Administer first aid as required including shock.* • *Seek medical advice if necessary.* • *Hospitalise if necessary.*

WHAT LIES BENEATH - GENERIC RISK ASSESSMENT

				warning them of divers in water over radio as necessary. • Consult other water users and Coastguard as required. First Aid and O2 kit to be available on site.	• *Treat buddy for shock if required.*
25	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.*
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.*

WHAT LIES BENEATH – DIVE SITES

Annex E

The following sites have been selected for exploration as part of the What Lies Beneath Project by reference to UKHO data available on www.wrecksite.eu and chart no SC2037 (Eastern Approaches to the Solent). Care has been taken to select sites outside of the main shipping channels however if in doubt about the shipping movements Branches should consult the Queen's Harbour Master. In devising their diving plans Branches will to refer to the appropriate tidal diamonds, tidal atlas and tide times available from various sources including Admiralty Total Tide or Easy Tide.

With 24 potential sites it is not possible to show all these on a single chart extract.

UKHO Ref	Latitude	Longitude	Comments	Branch
1 - 19048	50°39'.245 N	001°01'.262 W	19.6.75 WK LYING IN TWO PARTS, LOCATED 3M OFF NAB TR LT.BROKEN & ROTTED BUT STANDS 8FT HIGH IN 48FT. 24.5.77 BOTH OLD & NEW POSNS SEARCHED USING TRANSIT SONAR [MS47]. NOT FOUND. BOTTOM RIDGE CLOSE N OF OLD POSN GIVES GOOD SONAR RETURNS AND SMALL BOTTOM ECHOES FOUND. 12.6.78 DIVED. VERY BROKEN & GENERALLY FLAT ON SEABED, BUT WITH ISOLATED PEAKS ABOUT 7FT HIGH SCATTERED ABOUT. BOWS & STERN WERE LOCATED. IT LIES 070/250DEGS WITH BOW ENE. THERE ARE NOT TWO SECTIONS, AS SUCH, BUT WRECKAGE AMIDSHIPS IS VERY LOW - LESS THAN 3FT HIGH. PROPELLER IS IRON. AREA HAS MANY ROCKS WHICH MAKES WK DIFFICULT TO LOCATE USING E/S. 6.3.87 DIVED ON IN 1986. MOST OF WRECKAGE LIES VERY FLAT, BUT ONE SECTION, ABOUT 5MTRS SQUARE, STANDS ABOUT 2.5MTRS ABOVE SEABED. PLENTY OF COAL FOUND. ALSO BOTTLES & JARS WHICH INDICATE WK WAS PROBABLY BRITISH. AREA EXAM'D USING DCS3 AND TRISPONDER ON 11 10 89. NOT FOUND. 9.7.10 NOT LOCATED BY M/B. EXPOSED PARALLEL ROCK RIDGES.	
2 - 19049	50°39'.319 N	001°01'.337 W	19.6.75 WK IN TWO PARTS [POSSIBLY STANWOLD]. PART 2 REPD 3M SW OF NAB TR LT. BROKEN & ROTTED, STANDS 8FT HIGH IN GEN DEPTH 48FT. [CANNOT BE STANWOLD - SEE [19998].SEE ALSO UNKNOWN [19048] 9.7.10 NOT LOCATED BY M/B. EXPOSED PARALLEL ROCK RIDGES.	
3 - 19070	50°40'.318 N	001°03'.088 W	EXAM'D 14.6.89 LEAST E/S DEPTH 9.9 IN GEN DEPTH 11.7MTRS. SCOUR 0.2MTR DEEP. DCS3 HT 2.0MTRS, LENGTH ABOUT 10MTRS. LIES 049/229DEGS. APPEARS TO BE IN TWO SECTIONS. GIVES SONAR RETURN. 9.7.10 NOT LOCATED	

WHAT LIES BENEATH – DIVE SITES

Annex E

4 - 19082	50°41'.538 N	001°02'.414 W	LEAST E/S DEPTH 8.2 IN GEN DEPTH 9.2MTRS. SCATTERED DEBRIS NEARBY. PROBABLY PART OF MOORING USED WHEN HMS VELOX SALVAGED.	
5 - 19111	50°43'.484 N	001°04'.387 W	STRUCTURE, NO PROPULSION. LEAST E/S DEPTH 5.0 IN GEN DEPTH 7.8MTRS. SCOUR 0.3MTR DEEP. DCS3 HT 2.5MTRS, LENGTH 24MTRS. LIES 090/270DEGS & HAS SMOOTH UPPER SURFACE.	
6 - 19114	50°43'.517 N	001°04'.720 W	VERY SMALL OBSTN FOUND 145.5DEGS, 1.1M FROM NO MAN'S LAND FORT . DEPTH 5.5 IN GEN DEPTH 6MTRS. APPROX 6MTRS LONG. LIES E/W.	
7 - 19535	50°44'.448 N	001°06'.088 W	22.8.85 WK LOCATED.STRUCTURE SIMILAR TO AIRCRAFT CONSTRUCTION, RATHER LIKE A SEVERELY DAMAGED HOVERCRAFT. STANDS 8FT HIGH IN GEN DEPTH 90-95FT. LENGTH 40-50FT, LYING 000/180DEGS. 30.5.90 VERY SMALL CONTACT, LOCATED AT BASE OF VERY STEEP BANK, LEAST E/S DEPTH 12.9 IN GEN DEPTH 13.3MTRS. NO SCOUR. CONSIDERED OF NO NAVIGATIONAL IMPORTANCE AND NOT EXAM'D FURTHER.	
8 - 19577	50°38'.440 N	001°06'.309 W	EXAM'D 11.10.89. LEAST E/S DEPTH 14.5 IN GEN DEPTH 15.6MTRS. REFERRED TO AS A ROCK PINNACLE IN WK REPORT, AS AN OBSTN ON FAIR SHEET AND AS A WK IN ROS. CHART AS WK 14.5MTRS. 2.12.02 LOCATED SMALL CONTACT LENGTH 7MTRS, WIDTH 5MTRS. DCS3 HT 0.8MTR. POOR MAGNETIC ANOMALY. NOT CLOSE SOUNDED. 7.6.10 LOCATED LEAST M/B DEPTH 14.8MTRS. HT 0.7MTR. SEABED FEATURE	
9 - 19579	50°44'.468 N	001°06'.037 W	WK EXAM'D 11.12.89LEAST E/S DEPTH 21.8 IN GEN DEPTH 23MTRS. SCOUR 0.3MTR DEEP. LENGTH 15MTRS. STANDS 2.5MTRS HIGH ON EDGE OF A STEEP BANK. LIES 105/285DEGS WITH SHOALEST PART AT E END.	
10 - 19582	50°40'.235 N	001°00'.161 W	LONG CYLINDRICAL OBJECT EXAM'D 14.6.89 LEAST E/S DEPTH 10.8 IN GEN DEPTH 11.9MTRS. SCOUR 0.1MTR DEEP. DCS3 HT 0.8MTR. LIES 122/302DEGS. LENGTH 12MTRS. DIVER CONFIRMED IT MADE OF CONCRETE. OBSTN 10.8MTRS. LEAST M/B DEPTH 11.4MTRS. LENGTH 10MTRS. SHOALER DEPTHS FROM LEDGE CLOSE NE. GENRAL DEPTH 12M	
11 - 19949	50°35'.215 N	000°54'.852 W	1.12.76 WK LOCATED BY MAGNETOMETER. LIES E/W, WITH BOWS TO THE EAST. THE STERN SECTION IS THE HIGHEST PART AT ABOUT 20FT. WK IS VERY OLD AND BROKEN UP. THE IMMEDIATE STERN IS BROKEN OFF AND TIPPED UP	

			ON END. LOCATED 8.8.76 LEAST E/S DEPTH 21.6 IN GEN DEPTH 27-30MTRS. DCS3 HT 8MTRS. LENGTH 60MTRS. ORIENTATION 110/290DEGS. WK LIES ON SMALL RIDGE. HIGHEST POINTS AMIDSHIPS & AT WESTERN END. AS AN UNKNOWN COASTER. LIES E/W ON STARBOARD SIDE, STERN 20FT ABOVE BOTTOM. AS AN UNKNOWN COASTER. LIES E/W ON STARBOARD SIDE, STERN 20FT ABOVE BOTTOM. 17.1.96 LOCATED LENGTH 40MTRS, WIDTH 10MTRS. LIES 055/235 DEGS. STANDS 7MTRS HIGH BY E/S. ROV RUN SHOWED METAL WK BROKEN UP WITH DISPERSED WRECKAGE UP TO 30MTRS E OF THE MAIN STRUCTURE. 25.10.00 DIVED ON CONFIRMED AS BEING COASTER. PLATE FOUND MARKED: 'E DONKIN - NEWCASTLE-UPON-TYNE.' COVERED IN SHINGLE. PART UPSIDE DOWN. EXAM'D 31.7.03 SWEPT CLEAR 21.6, FOUL 21.9MTRS. LEAST E/S DEPTH 22.3 IN GEN DEPTH 26MTRS. NO SCOUR. LENGTH 40MTRS, WIDTH 10MTRS. DCS3 HT 4.8MTRS. LIES 110/290 DEGS. MODERATE MAGENTIC ANOMALY. WELL BROKEN UP.	
12 - 19956	50°35'.716 N	000°58'.618 W	WRECK LOCATED 4.8.76 LEAST E/S DEPTH 25.9MTRS IN GEN DEPTH 30MTRS. SEA BED ROCKY RIDGE WITH SMALL SAND WAVES. DEFINITE WRECK. DCS3 HEIGHT 2.7MTRS, LENGTH 13MTRS. ORIENTATION E/W. POOR SONAR CONTACT FROM E. WRECK OBSCURED BY HEAVY RIDGING. EXAM'D 31.7.03 USNIG DGPS. SWEPT CLEAR 26.9 IN GEN DEPTH 27.2MTRS. LEAST E/S DEPTH 27.3 IN GEN DEPTH 30MTRS. NO SCOUR. LENGTH 8MTRS, WIDTH 6MTRS. DCS3 HT 2.5MTRS. MODERATE MAGNETIC ANOMALY. SMALL, COMPACT WK ON N SLOPE OF SANDWAVE.	
13 - 20030	50°39'.302 N	000°59'.121 W	20.10.64 WK, APPROX 80FT LONG, 25FT WIDE, 8FT HIGH, LOCATED 1.5M FROM NAB TR. REMAINS OF DOUBLE BOTTOM FROM STEEL-HULLED VESSELSONAR SHOWED CONSIDERABLE WRECKAGE EXTENDING APPROX 40YDS FROM MAIN CONTACT. EXAM'D 24/25.6.69 DRIFT SWEPT CLEAR AT 12.9MTRS [7FMS], FOUL AT 13.1MTRS [7FMS 1FT]. LEAST DEPTH BY E/S 12.5MTRS [6FMS 5FT] IN GEN DEPTH 15.3MTRS [8FMS 2FT]. NO TRACE OF THE SCATTERED WRECKAGE. 14.3.74 EXISTENCE & POSN CONFIRMED ON INTERLINE. LEAST DEPTH BY E/S 13.8MTRS. NOT EXAM'D FURTHER. EXAM'D 28.7.77 LEAST E/S DEPTH 13.7 IN	

			GEN DEPTH 15.4MTRS. SCOUR 15.9MTRS. WK APPROX 20MTRS LONG, LYING 113/293DEGS. NO TRACE OF SCATTERED WKGE REPD 1964 30.8.78 PROBABLY PART OF SMALL VESSEL. HIGHEST PART STANDS 6.5FT HIGH. NO CLUE AS TO TYPE OF PROPULSION. PLATEWORK RATHER LIGHT BUT IN REASONABLE CONDITION. INDICATIONS OF A VESSEL OF LENGTH 100-120FT. SOME TANK-LIKE WKGE IS HIGHEST PART. MAY HAVE BEEN SMALL TANKER OR BARGE. EXAM'D 21.11.86 LEAST E/S DEPTH 13.6 IN GEN DEPTH 15.5MTRS. SCOUR 0.5MTR DEEP. DCS3 HT 2.6MTRS. LYING IN ONE PIECE, N/S.27.11.03 LOCATED IN LISTED POSN BY MAGNETOMETER ONLY. EVIDENCE OF CONSIDERABLE DREDGING IN AREA. WK MAY HAVE BEEN BURIED. 27.4.09 LOCATED BY MAGNETOMETER ONLY WITH SMALL ANOMALY. DREDGING ACTIVITY IN AREA.	
14 - 20052	50°40'.302 N	000°56'.705 W	WOODEN SS. 8.7.69 WK, LEAST DEPTH 8FMS, FOUND 053.5DEGS, 3.75C FROM NAB TR. EXAMINED 21.07.69 DRIFT SWEPT CLEAR AT 14.3, FOUL AT 14.5MTRS. LEAST E/S DEPTH 14.4 IN GEN DEPTH 16.2MTRS. SCOUR 0.7MTR. EXAM'D 14.7.77 LEAST E/S DEPTH 13.6 IN GEN DEPTH 16MTRS. SCOUR 17MTRS. LYING E/W WITH RIDGE 13.6MTRS CLOSE W.8.6.78 DESCRIBED AS A WOODEN SS. MUCH BROKEN & OF SMALL EXTENT. HIGHEST POINT IS BOILER - ABOUT 10FT HIGH. HAS SINGLE 4-BLADED PROP. ABOUT 7FT DIAMETER. LIES NE/SW, BOWS NE. A DISH MARKED 'MADE EXCLUSIVELY FOR UNITED STATES LINE' WAS FOUND ON SITE. 8.1.90 EXAM'D LEAST DEPTH FOUND BY DIVER 14.5MTRS.	
15 - 20060	50°40'.685 N	000°54'.038 W	23.4.70 OBSTN LOCATED.E/S DEPTH 13MTRS. GENERAL DEPTH 14M. LOCATED 27.7.77 LEAST E/S DEPTH 13.2 IN GEN DEPTH 14MTRS. NO SCOUR.	
16 - 20083	50°42'.802 N	000°56'.488 W	27.04.51 TWO OBSTNS FOUND, ONE BEING A ROCK. SHIP/BOAT SWEEP 11.5.78. CLEAR AT 13MTRS. APPEARS TO BE VERY SCATTERED.8.1.90 NOT FOUND DURING BASIC SOUNDING. GENERAL DEPTH 14M	
17 - 20234	50°40'.168 N	000°59'.671 W	20.11.87 SMALL SONAR CONTACT LOCATED. 27.11.03 LOCATED IN LISTED POSN. DCS3 HT <0.5MTR. POOR MAGNETIC ANOMALY. GENERAL DEPTH 13M	
18 - 20239	50°41'.521 N	000°53'.948 W	14.7.88 WK LOCATED. LOCATED BY MAGNETOMETER AND DIVED ON. LIES 330/150DEGS, STERN TO HAYLING IS. LISTS TO STBD, BOW AND STERN INTACT, BROKEN AMIDSHIPS. LENGTH 70FT, BEAM 18FT, APPROX. HIGHEST POINT, AT	

			STERN, STANDS ABOUT 12FT ABOVE SEABED. A LENGTH OF CHAIN LIES ASTERN OF WK. EXAM'D 15.8.88 ONLY ONE POSITIVE CONTACT MADE - LEAST E/S DEPTH 13.4 IN GEN DEPTH 15.4MTRS EXAM'D 1.7.03 SWEPT CLEAR 14.0, FOUL 14.3MTRS. LEAST E/S DEPTH 14.1 IN GEN DEPTH 14.8MTRS. NO SCOUR. LENGTH 3MTRS, WIDTH 1MTR. DCS3 HT 1MTR. MODERATE MAGNETIC ANOMALY. AN ISOLATED PIECE OF WRECKAGE.	
19 - 20249	50°40'.925 N	000°58'.643 W	EXAM'D 13.6.89 LEAST E/S DEPTH 11.6MTRS.9.7.10 POSSIBLE, ILL-DEFINED FEATURE LOCATED IN LISTED POSN. POSSIBLE SYSTEM NOISE. LEAST M/B DEPTH 11.96MTRS, GENERAL DEPTH 12M. NEGLIGIBLE HT.	
20 - 63164	50°44'.677 N	000°53'.441 W	INTACT, WELL BURIED. EXAM'D 28.6.03 SWEPT CLEAR 6.4, FOUL 6.7MTRS. LEAST E/S DEPTH 6.7 IN GEN DEPTH 8MTRS. NO SCOUR. LENGTH 20MTRS, WIDTH 5MTRS. NO DCS3 HT. LIES 020/200DEGS. INTACT, MAINLY BURIED.	
21 - 63371	50°34'.963 N	000°53'.332 W	EXAM'D 31.7.03 SWEPT CLEAR 24.8, FOUL 25.1MTRS. LEAST E/S DEPTH 24.5 IN GEN DEPTH 29MTRS. NO SCOUR. LENGTH 45MTRS, WIDTH 25MTRS. DCS3 HT 3.8MTRS. LIES 170/350 DEGS. STRONG MAGNETIC ANOMALY. WELL BROKEN UP AND BURIED.	
22 - 70920	50°42'.400 N	001°04'.160 W	28.11.07 OBSTACLE (METAL) LOCATED. NOTABLE DEBRIS GENERAL DEPTH 9M	
23 - 73410	50°39'.011 N	000°59'.024 W	SMALL OBJECT LOCATED 19.10.08 LEAST M/B DEPTH 16.59 IN GEN DEPTH 17.0MTRS. NO SCOUR. LENGTH 2.85MTRS, WIDTH 2.40MTRS, HT 0.45MTR. ?SEABED FEATURE	
24 - 75760	50°42'.367 N	001°02'.617 W	7.6.10 WK LOCATED LEAST M/B DEPTH 10.95MTRS. LENGTH 13.3MTRS, WIDTH 2.5MTRS, HT 1.7MTRS.	

WHAT LIES BENEATH – FINANCIAL ESTIMATE/BUDGET

Annex F

WHAT LIES BENEATH										
ESTIMATED COST OF PROJECT										
NAS TRAINING. The cost per course varies dependent on venue and whether e-learning option is taken up.										
	NAS INTRODUCTION (1 day)			Cost per course						
	Number of divers		6	£ 75.00	£	450.00				
	NAS PART 1 (2 day)									
	Number of divers		12	£175.00	£	2,100.00				
	Total cost of training				**£**	**2,550.00**				
SURVEY EQUIPMENT										
	Basic Survey box			Cost per Box						
	Branches		11	£ 68.00	**£**	**748.00**				
	Total				**£**	**3,298.00**				
Notes										
1) The cost per course varies dependent on venue and whether e-learning option is taken up. An average cost has been used.										
2) Trainees will be responsible for travel and subsistence expenses.										
3) Branches/Divers will be responsible for the cost of diving, boat hire, fuel, parking, harbour and marina fees etc.										
4) Branches/Divers will be responsible for the cost of entry into training sites, museums, etc.										
5) The BEGS grant application is for £1,000.00										
6) The balance of £2,298.00 will be sought through an application to the BSA Jubilee Trust.										
7) Quoted price for Survey Equipment Box from NAS (members price)										

WHAT LIES BENEATH – EXAMPLE DIVE PLAN

Annex G

As part of the project each Branch will be responsible for producing a dive plan in support of the survey exercise. As a result only an example plan is included at this stage.

DIVE PROGRAMME

The Tidal atlas and advice from the Skipper is for diving the site 90 mins before High Water Portsmouth and 45 mins before Low Water Portsmouth. The best time being the latter and on a neap tide.

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	HW	Sunrise	Sunset
xx Jul 13 (Sat)	05:56 4.14m	11:11 1.45m	18:26 4.24m	23:53 1.61m		05:22 BST	20:58 BST
xx Jul 13 (Sun)	06:56 4.0m	12:23 1.61m	19:30 4.12m			05:24 BST	20:56 BST
xx Jul 13 (Mon)		01:10 1.64m	08:11 3.94m	13:40 1.66m	20:49 4.10m	05:25 BST	20:55 BST
xx Jul 13 (Tues)		02:23 1.54m	09:36 4.05m	14:51 1.58m	22:08 4.23m	05:26 BST	20:53 BST
xx Jul 13 (Wed)		03:26 1.35m	10:48 4.32m	15:52 1.43m	23:13 4.47m	05:28 BST	20:52 BST
xx Jul 13 (Thurs)		04:21 1.13m	11:47 4.64m	16:46 1.25m		05:29 BST	20:50 BST

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

Date	LW (45 mins before LW)	HW (90 mins before HW)	LW (45 mins before LW)	Sunrise	Sunset
xx Jul 13 (Sat)	10:26 BST	16:54 BST		05:22 BST	20:58 BST
xx Jul 13 (Sun)	11:38 BST	18:00 BST		05:24 BST	20:56 BST
xx Jul 13 (Mon)		06:41 BST	12:55 BST	05:25 BST	20:55 BST
xx Jul 13 (Tues)		08:06 BST	14:06 BST	05:26 BST	20:53 BST
xx Jul 13 (Wed)		09:18 BST	15:07 BST	05:28 BST	20:52 BST
xx Jul 13 (Thurs)		10:17 BST	16:01 BST	05:29 BST	20:50 BST

It is probable that the early Monday dive may be unachievable given the distance to be travelled to the dive site and so will only be used if diving has

been disrupted over the weekend due to weather etc. Equally the last dive on Sunday xxth may prove too late in the day depending on weather conditions.

It is therefore proposed to plan a series of 11 dives (excluding the early Monday morning dive) to conduct the survey during the period xxth to xxst July 13. The final day will be set aside for final measurements and clearing the site of markers/control points etc.

We will start to embark Top Gun at Eastney/Langstone pontoon 90 mins before dive time with the view to boat leave 1 hour before dive time. The initial dive on Saturday will depart earlier to allow sufficient time to locate the wrecks and put in shot lines.

Search Techniques

Initial location of the dive site will be made by using the two GPS marks to identify the shallow dip that the vehicles are known to lay in. Once the dip has been found using the depth finder 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 stand one or two metres proud of the seabed and attempts will be made to shot each one as it appears on the sounder display.

Once one or more military vehicle has been marked by a buoy this will be used as the descent point for the divers who will then undertake searches on the sea bed surrounding the vehicle.

Teams of divers will be deployed in 90 degree arcs from the dive site (North, East, South and West) using distance lines to increase the search area e.g. 5m for 90 degrees – clockwise direction, followed by 10m for 90 degrees anticlockwise direction etc. In the event of another vehicle or point of interest being found its approximate distance and bearing will be recorded and a SMB deployed to mark its point at the surface.

Once the area surrounding the vehicles 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 or his appointed Dive Manager(s) as appropriate. It is essential to work with the 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 (almost half the club membership) it may also present quite a challenge to try to give everyone the opportunity to get involved. Using the Club RIB will provide additional opportunities to take part.

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 relatively shallow depth (18-20m) means that there are no special requirements for long decompression/trapezes etc and there are no 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.

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.

Two indicative dive plans have been produced to reflect a typical diving day as a part of the survey exercise – one for Air and one Nitrox 36% (using BSAC 88 and Nitrox tables). For twin set and Re-breather divers a longer dive time will be possible.

WHAT LIES BENEATH – EXAMPLE DIVE PLAN

Annex G

Dive Plan – Air

Dive 1

CTC	A				
	Depth	**Dive time**	**9m stops**	**6m stops**	**Surfacing Code**
Plan	18	30	-	-	D
Just Longer	18	35	-	-	E
Just Deeper	21	30	-	-	E
Worst Case	21	35	-	-	F

Surface Interval 5 hours

Dive 2

CTC	B				
	Depth	**Dive time**	**9m stops**	**6m stops**	**Surfacing Code**
Plan	18	30	-	-	F
Just Longer	18	35	-	1	G
Just Deeper	21	30	-	1	G
Worst Case	21	35	-	1	G

Indicative Air requirements
(Assumes 25 SLM breathing rate and 1/3rd reserve and 15L cylinders).

Dive Plan 30 mins at 18m = 2.8 bar Absolute

15L x 232 bar = 3480L free air
80 bar reserve = 1200L reserve
2784 – 1200L = 2280 available air
2.8bar x 25 SLM x 30 mins = 2100L
Leaving 180L free (+1200L reserve)

Dive Plan Nitrox 36%

Dive 1

CTC	A				
	Depth	**Dive time**	**9m stops**	**6m stops**	**Surfacing Code**
Plan	18	30	-	-	C
Just Longer	18	35	-	-	D

Just Deeper	21	30	-	-	D
Worst Case	21	35	-	-	D

Surface Interval 5 hours

Dive 2

CTC	B				
	Depth	**Dive time**	**9m stops**	**6m stops**	**Surfacing Code**
Plan	18	30	-	-	D
Just Longer	18	35	-	-	D
Just Deeper	21	30	-	-	E
Worst Case	21	35	-	-	E

SURVEY PROGRAMME

DAY 1 - Saturday xx July

Dive 1 - Dive Time 10.41 - Low Water dive

Exercise: Locate at least one of the vehicles, shot and begin search of surrounding area using 4 diver buddy pairs searching in a 90 degree pattern. Mark each additional 'find' with a buoy, note distance, and direction/bearing.

Dive 2 – Dive time 16.54 - High Water dive

Exercise Rope together vehicles and other items of interest. Continue search to extend the site area and possibly identify additional points of interest, taking note of distance/relation to other artefacts. Compose a rough outline map which will allow a Base Point to be selected.

DAY 2 - Sunday xxth July

Dive 1 – Dive Time 11:53 - Low Water dive

Exercise Continue search patterns in wider area and rope together. Set up Base Point which will form the point that all objects are measured from. The Base Point needs to be fairly central in the site.

Dive 2 – Dive Time 18:00 - High Water dive

WHAT LIES BENEATH – EXAMPLE DIVE PLAN

Annex G

Exercise Mark 'Control Points' on each of the Vehicles, to which measurements from the Base Point to the Control Points will be taken. Mark other Points of Interest (POI) etc.

DAY 3 - Monday xxth July

Dive 1 – Dive Time 13:10 - Low Water dive

Exercise Start measurements (distance and bearing) between each artefact/point of interest from Control Points to Base Point.

DAY 4 – Tuesday xxth July

Dive 1 – Dive Time 08:16 - High Water dive &
Dive 2 – Dive Time 14:21 - Low Water dive

Exercise Continued measurement between each Control Point and Base Point Begin more detailed study and measurement of individual artefacts and recording by means of photographs, sketches and video. Look for any particular identifiers such as position of drive cogs (front indicates American or Canadian tanks, back indicates British). Begin SeaSearch survey by those qualified to do so.

DAY 5 – Wednesday xxth July

Dive 1 – Dive Time 09:18 - High Water dive &
Dive 2 – Dive Time 15:22 - Low Water dive

Exercise Final measurements of individual vehicles plus any other POIs (Jeep? Munitions?). Photograph, video and sketch. Re-measure any anomalies identified in site recorder. SeaSearch survey and photography/videography/sketching continues.

DAY 6 – Thursday xxst July

Dive 1 – Dive Time 10.17 - High Water dive &
Dive 2 – Dive Time 16.16 - Low Water dive

Exercise Final measurements, photographs etc and finally, on Dive 2, clear up and recover all items such as buoys, ropes, lines and control point's markers.

Initial 'Debrief' that evening at the club house – All invited!