



What Lies Beneath

Dacorum Sub – Aqua Club's Survey Report by Glen Adams Survey Leader

The aim of the What Lies Beneath project is to try to find and identify an unknown obstruction in the eastern approach to the Solent.

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Forward

The thing that most interested me about What Lies Beneath (WLB) was the opportunity to do something different, “diving with a different purpose”.

Having originally come from Havant Hampshire and spending the first twenty years or so of my life living within a stone’s throw of the Solent having the opportunity to dive the Solent was too good an opportunity to miss. Although being a diver for over twenty five years I had up until WLB had only done a hand full of dives south of the Isle of Weight and never had I dived the seas around Portsmouth.

Putting myself forward as survey leader I hoped to push Dacorum Sub Aqua (DSAC) in a slightly different direction to their norm. I had joined DSAC about two years before hearing about the WLB project. Several things attracted me to the club after moving to the area some four years earlier. One thing that did surprise me bearing in mind that DSAC has its own RIB was the lack of RIB diving that was taking place, plenty of hard boat diving but less than a handful of RIB dives a year. WLB seemed to be a good opportunity to change this. I also love diving and as an advanced instructor also love teaching. Maybe if the club was to learn about RIB diving they may be more inclined to use this important asset. Having stood on Southsea sea front when the Mary Rose was raised I could not help but think that this could be what WLB could be about.

The initial interest in WLB within the club was large. Out of a membership of around sixty almost half put their selves forward either as divers or non-dive helpers.

This report is Dacorum Sub-Aqua Club’s contribution to the Southern Regions What Lies Beneath Project. Dacorum Sub-Aqua Club is based in Hemel Hempstead Hertfordshire and has a membership of around sixty with qualifications form Trainee Ocean Divers to National Instructors.

Glen Adams

Survey Leader Dacorum Sub-Aqua Club

Aim

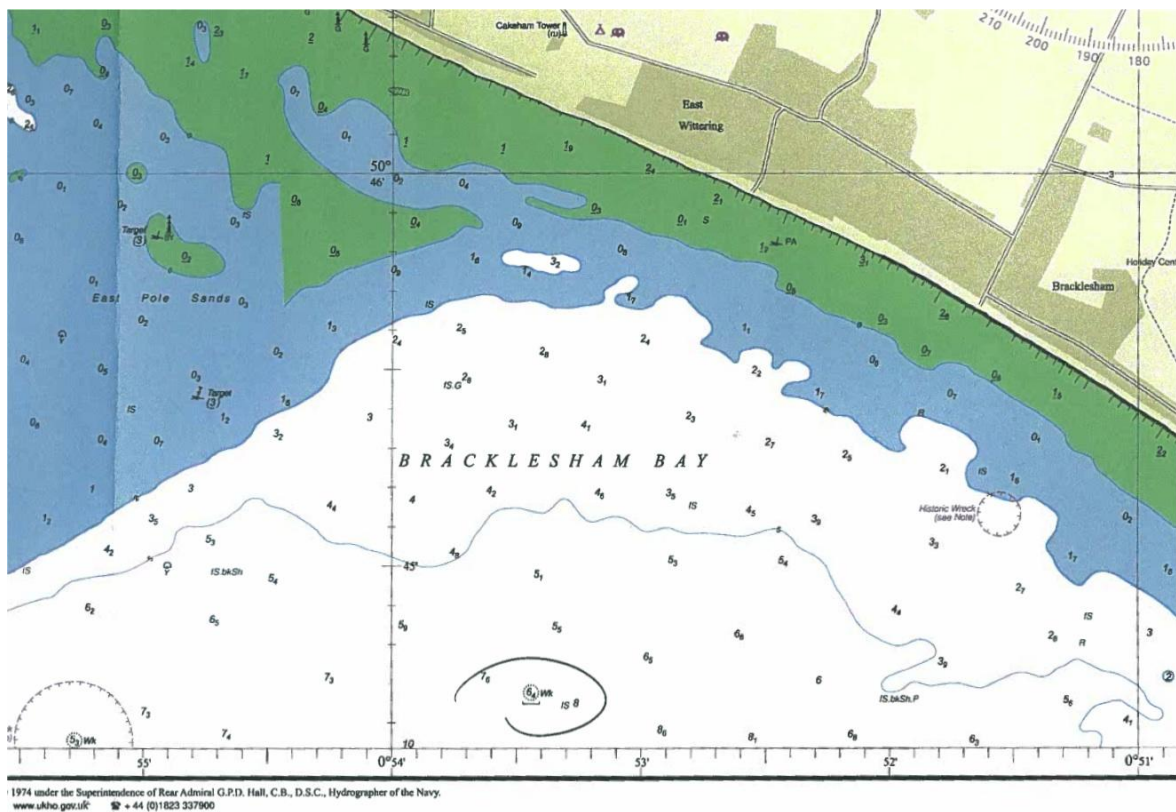
The aim of the What Lies Beneath project is to try to find and identify an unknown obstruction in the eastern approach to the Solent. The position of this particular Site was given to us (DSAC) by Alison Mayor overall WLB project leader.

Location of site

UKHO Ref	Latitude	Longitude
63164	50deg 44' .667 N	000deg 53' .441 W

Description

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. Lays 020/200degs. Intact mainly buried



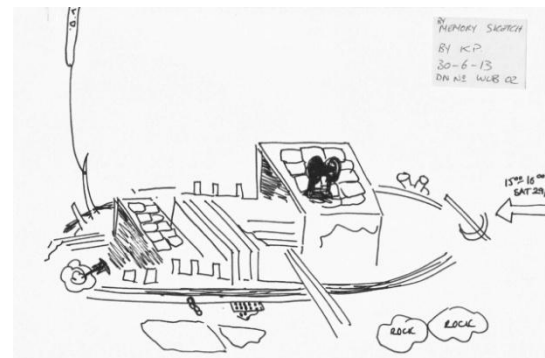
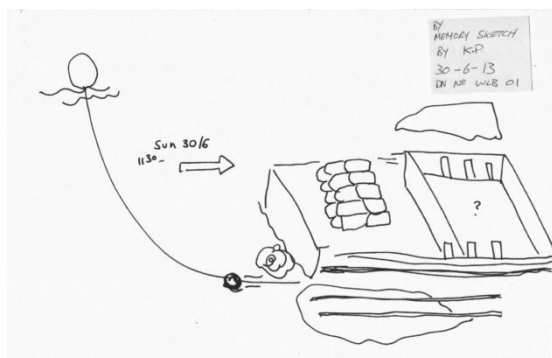
Initial Survey

The initial survey took place on 29-30th/06/2013.

The initial survey required the club Rib to be towed from its secure location in Hertfordshire to our launch site at East Bracklesham Drive, Bracklesham Bay, Chichester, West Sussex. An RYA Training Centre run by Chichester District Council. With a tractor launch facility provided free of charge.



On arriving at Bracklesham Bay the RIB was prepared for Launch five divers were talking part in this initial trip the objective was to attempt to locate the site and if possible dive the site to get an insight as to What Lies Beneath. After launching the RIB we attempted to input the coordinates into the GPS/Side Scanner. This was not as easy as it probably should have been after several attempts and beginning to doubt whether I had written the correct coordinates on the dive plan we returned back to shore so that I could check the chart, just wish we had put it on the RIB. My data was correct so we re-entered the coordinates and for some reason this time the site was in the vicinity of where we expected it to be not several miles away as previous attempts. With a distance of only just over a mile from the launch site it only took us a few minutes to arrive. We could not believe it, almost instantly the sounder was showing a trace, several minutes and a few passes later to pinpoint the site we dropped the shot. The initial survey was to just see what was there all on board got to dive the site. The return trip to Bracklesham was a bit lumpy and this made recovery difficult unfortunately the RIB hull was deeply scratched on the trailer but was still managed to be recovered.



A recap of the dive enabled Kris Pedder (one of the divers on board) to produce the first sketch of the survey.

Techniques

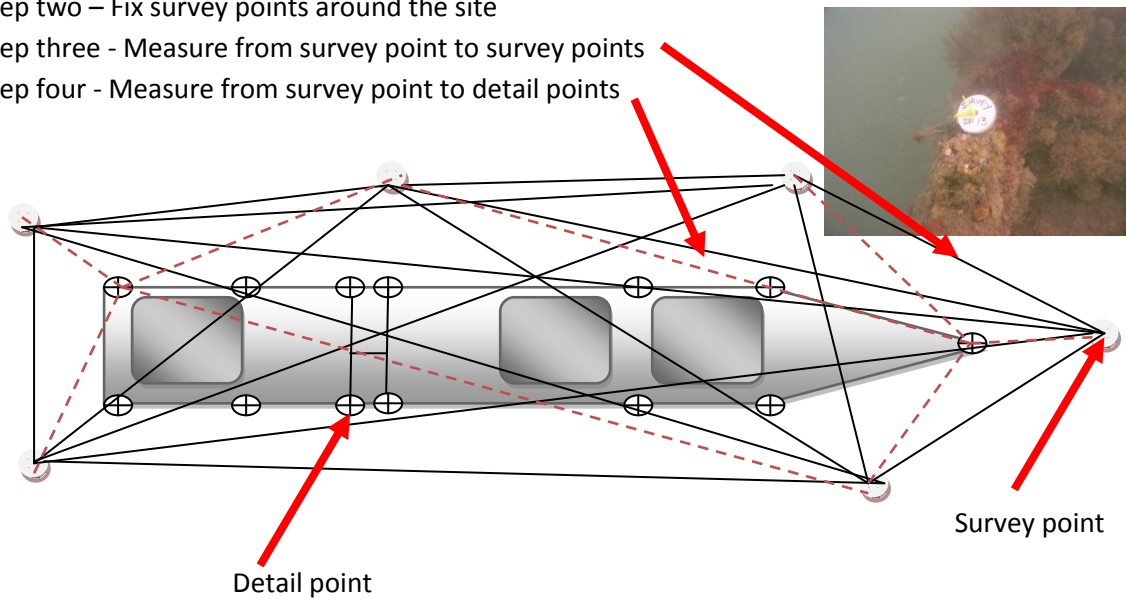
The first attempt to survey the site was to be using a direct survey.

Step one - Attach detail points to the site

Step two – Fix survey points around the site

Step three - Measure from survey point to survey points

Step four - Measure from survey point to detail points



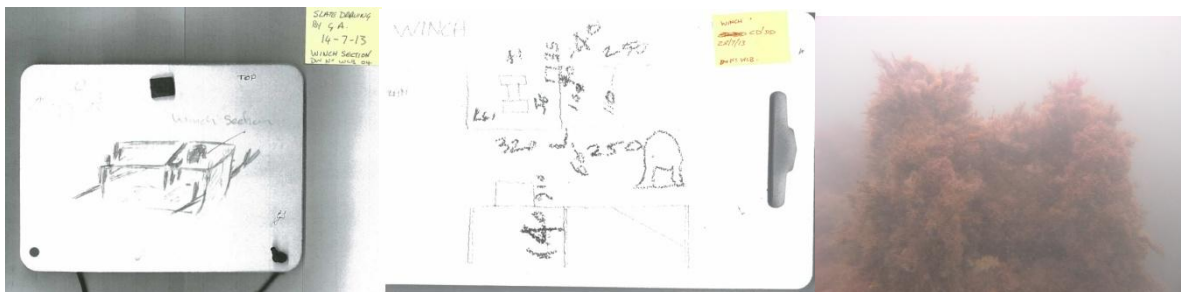
Issues

- The most apparent issue was that due to the visibility being so poor it became impossible to see from one detail point to another. Visibility was at best three metres but usually between one and two metres
- Potential separation of divers

Optional survey procedure

Detailed Survey

Winch and framework



Sketch and slate with winch measurements

Photograph of Winch

Two divers sketched and measured the winch and framework using underwater slates and tape measures.

Issues

At one point both divers let go of each end of the tape measure at the same time fortunately the tap was recovered close by.

Solutions

- Better communication
- Dry run
- Use lanyard to secure tape measure and slate

Length of wreck

Issues

- Broken and/or elongated images

Conclusions and Solutions

- Lack of experience of using equipment
- Rough seas



Solutions

- One or two of the membership had used the equipment before and were invited to show others how to use the side scanner correctly
- Travel at a constant slower speed while scanning
- Use scanner in smoother sea state and minimise movement on RIB to maintain stability

Measuring length and width of wreck

A sketch was prepared on a slate so that measurements could be added underwater. Two divers measured the wreck by measuring from particular points to another starting at the bow and concluding at the stern. This also enabled measuring the height of particular points above the seabed by using a depth gauge

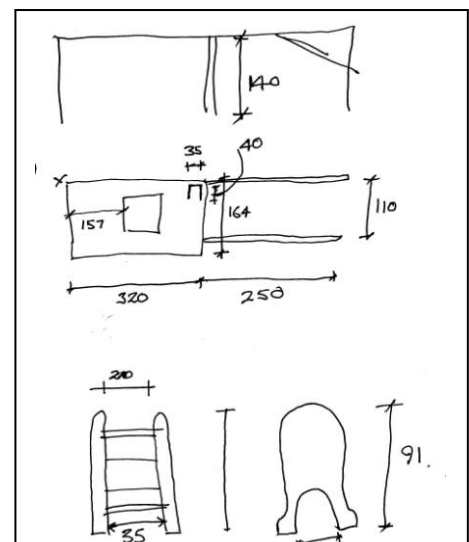
Side Scan imaging

Several attempts were made to side scan the site

RESULTS

Winch section

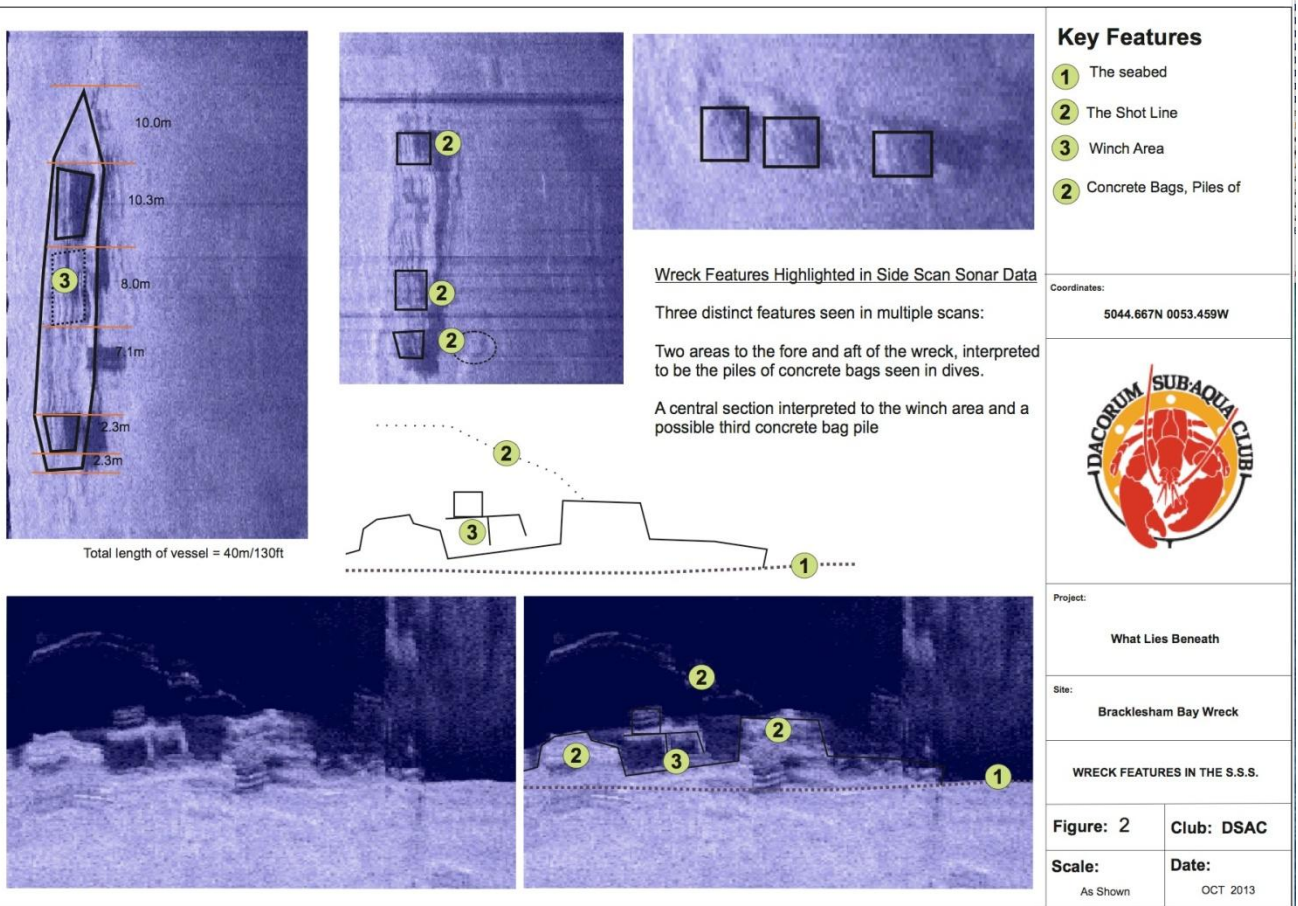
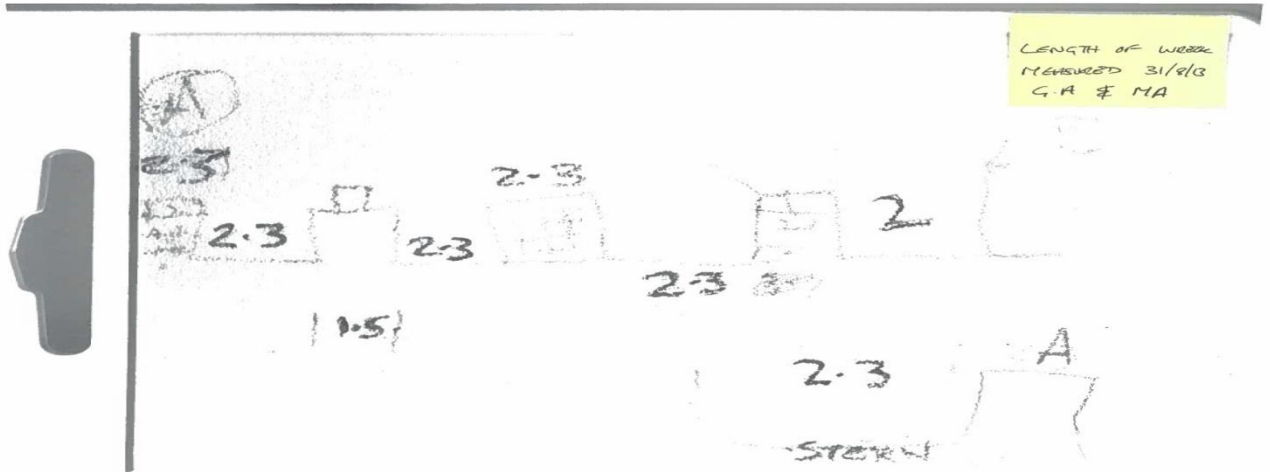
Completing the survey of the winch section resulted in a very accurate sizing of the winch and framework



Overall length of wreck

The overall length of the wreck was calculated by two divers measuring from one distinctive point to another starting from the Bows to the Stern; this also enabled the measuring of the stacks of cement within the wreck at the same time. These measurements were later added to the Side Scan Data.

Slate showing length of wreck



Measurements and identification details added to Side Scan Data

Site identification

The wreck is of steel construction and partially buried, the winch section sits on a steel structure near mid ship with the winch sitting on the starboard side.

A cargo of cement, packed in jute sacks is well stacked with several bags dislodged. There are a couple of bollards on the site and a small section of wooden decking is visible close to the bow. There is a close debit field to the wreck where several small steel plates lay on the sea bed, there is a couple of what appear to be ring sections and some chain also scattered around the sea bed.



Sea bed is of sand and shingle

Marine Life

John Dory	Male and Female Tompots
Goldsinny	Lobsters
Velvet Swimming Crabs	Oyster
Bib	Ballan Wrasse
Lightbulb Squirt	Edible Crabs
Leopard Goby	Cuttlefish
Plaice	Squat Lobsters
Anemones	

Divers Diaries

Weekend 13-14 July by Stuart Madagan

So the second WLB weekend approaches and I am on this one with my daughter, Beth. Beth is an Ocean Diver trainee and this will be her first wreck dive. Both of us are excited and with my camera battery fully charged we set off for Bracklesham. After Launching the RIB We set off for the dive site about a mile off shore, located the wreck and put a shot line onto it.

I am diving with Beth and Glen. Glen is instructing Beth and so she is well looked after; I stay with them but can concentrate on photographing the site. As we reach the bottom of the shot, a shape appears, we had found "what lies beneath". After a swim around the object, it appears to be a barge with several boxes like structures and lots of what look like cement bags piled within the perimeter. The iron ribs are still visible but any wood obviously long gone.

All too soon, my first dive is over. We camped overnight and had early start the next day. The next day we are out again and this time I get to dive with Glen as my buddy. Glen sketches and I photograph. Really enjoying the experience I take a huge amount of pictures, nearly forgetting to white balance the camera. On top of one of the box like structures there is what seems to be a winch. It is covered in the usual sea growth but obviously a winch.

The whole point of this was to study this object and we were getting lot of pictures and data. Glen and Beth had attached reference points so that accurate measurements of the wrecks dimensions could be taken. During that weekend we carried out several successful dives and also managed to fit in some training as well. I managed to complete my Dive planning section of the Dive Leader qualification along with Beth leading a dive as part of her Ocean Diver qualification.

Saturday 27th of July by Dan Drummond

Last Saturday was an early start. However, we were going diving! We headed down to Bracklesham Bay, via the boat shed. The RIB was towed, the kit was checked and the tide as slackening. So, without further delay and after squeezing into our dry suits, we headed off shore. First under were Chelsea and Glen, then Beth and Richard and finally Chris and me. All this while Stewart helmed the boat. In the first dive the buddy pairs were getting use to the wreck and doing some ocean diver training. The dives were 30 minutes long and reached the wreck via a shot line. The wreck was situated between 9-12m depth. The seabed was sandy with patches of mud. The sediment meant visibility was less than 3m. However, it was evident that the site was teeming with life:

lobsters, jellyfish, crabs and loads of seaweed. Initial inspection showed a ship of majority steel construction, littered with concrete sandbags. Other items were noted including chain links, a winch and other debris. After a wade back to shore for a quick lunch at the local cafe, we volunteered Stewart to swim back to the boat. To pass the time, while waiting for the tide, we swam and floated. Then, with clouds on the horizon, we sent the first pairs overboard. Beth and Chelsea continued some training, amid lower visibility. On our dive, Chris and I surveyed the winch (30cm x 100cm x 50cm approx.). We recorded its precise location relative to known points on the wreck, its dimensions and produced a representative sketch. Back on the surface, the swell was up and wind and rain was driving. This meant it was impractical to beach the boat at Bracklesham so the decision was made to send ashore some of the divers to drive the trailer over to Itchenor to pick the boat up. Unfortunately the weather worsened, and didn't look good for Sunday. So diving was blown out, which meant I didn't have to camp in the rain! All this along with the days finding was discussed at the local watering hole before we all headed home.

Saturday 31st August by Chelsea O'Brien

The weather was warm and sunny and the sea state was calm and 19 degrees. The objective of the dive was to measure the length and width of the wreck to gather information to build a picture of how big the wreck is.

At the beginning of the dive we put the shot in the wrong place. When the first buddy pair went down the shot and got to the sea bed, they were nowhere near the wreck so we moved it.

Buddy Pairs:

Glen and Malcolm - Measured the length and width of the wreck.

Lindsey and Me (Chelsea) - For me to complete my ocean diver training by leading a dive.

Lindsey and Andy - To count the sand bags.

Dan - Was helping out on the boat by doing some of the driving and helping when buddy pairs were kitting up. He also managed to get a good side scan of the wreck.

During the dive we saw many different sizes of fish and also some medium sized crabs and lobsters.

I would like to thank everyone who was part of my ocean diver training which I have now completed.

Hi all,

I would like to thank on behalf of myself, Cheryl Lamford, Phil Drake, Martin Wayman, for making us feel very welcome in your club.

I finally got the chance to Dive this wreck still unknown to us! The weather was kind, giving us time to get a dive in before the Wind starting gusting. The first dive you need to have a look and take the major points of the wreck in. The second dive on the second day gave me the picture of the wreck. Rich in Marine life, which is not frightened of divers, makes this a very special dive. A Lobster that comes out of its hole to greet you, Tompots that come out and nip your finger as a greeting is fantastic.

Myself and Glen found another piece of the jigsaw that is 240 degrees west of the wreck that needs investigating, that makes me want to dive her again next year!. We are very lucky to have found this wreck that trainees will benefit from only being 11m.

The Club Rib is fantastic and must be cherished for the future of this very equipped and unique club. The trailer and Rib needs a little TLC which I am very happy to help out, and bring it back to its full glory.

We had so much interest with the public seeing our presence down there with the Rib. This is why I joined a BSAC club that has its own boat.

I would like to thank Kathy for dive managing which she did a great job. Dan and Lindsey for being my buddies and leading me on the wreck. Chris for the chats in the pub about life and the club. Well done to young Billy for completing a dive on the Wreck. And a big thanks to Glen, for the effort in which he has put into this project, Dan for the assistance he gave in the boat and trailer making this trip so easy to be on.

Regards
Simon Calef.

On Saturday 28th September we held our annual BBQ at Bracklesham Bay where a small token of our appreciation was presented to John Reynolds (long Standing Club Member) and his wife for their support of the project by allowing us to keep the Rib on the site of their holiday Home.



Conclusions and Recommendations

Good points

Clive Puddifoot

- I have seen a branch dive management structure emerge with respect to the WLB project from the initial thoughts re the project. This has been on going and has developed, encompassing many areas of dive management, not least the actual boat (divers in out).
- Many people have been involved with specific areas of diving interest and Glen has brought this together well by giving regular Thursday updates and holding meetings to discuss all aspects of the project.
- The senior divers in the club have taken an active mentoring role but without the need to take over the project, this has meant that many other members have had the opportunity to experience and be part of a project all of the way through.
- Training has taken place in the branch at diving and dive management level, although most would not have realised the latter

Chris Davy - Chairman's Comments

The best part has been diving with a purpose. WLB has given focus too much of our recent diving, training and associated activities.

- Trying to make sure trainees are suitably experienced and skilled to be able to go into this open water environment. The opportunities for trainee
- Dive leaders to further their skills and experience to help with running some of the trips.
- A sea diving site within a reasonable travelling distance from Hemel Hempstead.
- The coincidence of the site being close to JR's holiday home allowing us to keep the RIB very close to the launching point. Saving time and fuel. Also reducing the losses when blown out.
- Alternative protected launch points nearby.
- A site suitable for a range of divers at various levels of qualification/training.
- Trainees who had their first sea dives.
- An interesting site of reasonable size – several have dived it many times and would go back again.
- There is still more to find and find out about.
- The experience of early participants has inspired other members to move forward and get involved.
- Good social focus. The site of our annual BBQ dive. Staying over at weekends and getting together in the evenings.
- Improving boat handling experience. Improving navigation skills. Locating and shutting the wreck. Giving others a greater understanding of what is involved. Those who had never been in a RIB before.
- Other skills and knowledge brought into the event. Underwater surveying use of sonar side scan equipment, underwater photography.
- Really great for team work that suits our club well.
- It's not really over yet. It has hopefully inspired others to move forward and try skills development courses to be able to do more next time. It will be a talking point on many darker colder winter evenings. Presentations of underwater photographs and the side scan images to

look forward to.

- Helping to establish a model for future club activities. Inspiration and confidence to take on another project. Perhaps to adopt a wreck, to be able to work as a team for underwater archaeology.
- Gaining local knowledge of the sea/ tides /currents/visibility.
- Some of us have learnt more about the RIB launching and recovery safety from experience.

Kris Pedder - Saturday 29 and Sunday 30 June

This was the first dive weekend to the WLB site. On the Saturday we launched DSACII at Bracklesham, but it was a dodgy recovery at high tide at the end of the day so on Sunday we tried an alternative launch site at Itchenor.

- Sensible to test plan b as found it will add lots if time to the dive operations.
- Easy to find site using GPS.
- Good slack water planning.
- Good plan to park boat at JRs.

Kathy Cross - Sunday 29 September

- Excellent training and experience platform
- Good repertoire built up with the guys at the launch site over the weeks
- Kit was well stowed on the RHIB so that deck space did not become cluttered
- Cylinder organisation for divers' needs simplified kitting up.

Challenges

Clive Puddifoot

- Dive log and site data handling has improved with time, however at the outset of the project dive and project report data had to be highlighted by as a very important way of recording the project.
- The boat has to be highlighted as due to a difficult recovery the hull was slightly damaged, this has subsequently been repaired.
- The dive data, regular project updates could have been forwarded to the membership at regular times if the above data and site information had been harvested earlier.

Chris Davy - Chairman's Comments

- In future to try more dry runs at surveying – learning and trying techniques and improving communication to be able to use time underwater as efficiently as possible.
- The need to practice safety drills and be prepared.
- Voyage planning with alternative launch/recovery sites.
- Having the right equipment on board.

Kris Pedder - Saturday 29 and Sunday 30 June

This was the first dive weekend to the WLB site. On the Saturday we launched DSACII at Bracklesham, but it was a dodgy recovery at high tide at the end of the day so on Sunday we tried an alternative launch site at Itchenor.

- No local gas filling identified.
- No alternative dive sites identified.
- Only one dive a day planned which is uneconomic.

John Reynolds - Sunday 25 August

- As a matter of compliance I believe that we should always have a voyage plan on board didn't see one
- I think that we could do with a new dive slate on board and complete the first details on shore.
- As for the rest it all works apart from the Radio it seem to want to return to 16 no matter what, can be awkward when trying to talk to the coastguard, I'm sure that this could be sorted with reference back to the manual.

Kathy Cross - 29 September

- RHIB launch can be problematic due to the pitch of the beach at certain states of the tide (water over the transom).

Diver Details

Sample kit list

Basic Scuba Kit
Delayed Surface Marker Buoy
Knife/Line Cutters
Torch

Survey Equipment

Slates/Pencils
Tape Measures
Underwater Camera
Detail/Survey Point Markers
Cable Ties

Dive teams

29th June 2013

Glen Adams, Chris Davey, Lindsey Doyle, Kris Pedder, Clive Puddifoot.

30th June

Glen Adams, Chris Davey, Kris Pedder, Clive Puddifoot.

13th July

Glen Adams, Malcolm Apted, Stewart & Beth Madigan, Dale Martin.

14th July

Glen Adams, Richard Carter-Savigear, Dan Drummond, Beth Madigan, Dale Martin, Chelsea O'Brien.

25th August

Glen Adams, Richard Carter-Savigear.

31st August

Glen Adams, Malcolm Apted, Chelsea O'Brien, Lindsey Doyle, Andy Lowde.

14th September

Glen Adams, Dan Drummond, Istvan Kisari, Stewart Madigan, Clive Puddifoot.

28th September

Glen Adams, Kathy Cross, Simon Calef, Chris Davey, Phil Drake, Dan Drummond.

29th September

Glen Adams, Kathy Cross, Simon Calef, Lindsey Doyle, Chris Davey, Dan Drummond. Billy Price.

Dive statistics

DATES 2013	Number of Dives	Number of Divers	Dive Time on Wreck (Mins)
29 June	2	5	80 (est)
30 June	2	4	80 (est)
13 July	2	5	52
14 July	3	6	66
25 August	1	2	59
31 August	4	5	129
14 September	3	5	122
28 September	3	6	170
29 September	3	7	135
	Total: 23		Total: 893

Number of dives by qualification

1 st Class	Advanced	Dive Leader	Sports Diver	Ocean Diver	Ocean Diver Trainee
K Pedder 2	G Adams 10	C Davey 5	P Drake 1	M Apted 3	C O'Brien 2
C Puddifoot 3	R Carter-Sav. 2	S Calef 2	K Cross 2	D Drummond 6	B Madagan 2
	L Doyle 4	A Lowde 1	D Martin 2		B Price 1
			S Madagan 2		
			I Kisari 2		
Total: 5	16	7	9	9	5

18 Divers carried out a total of 51 individual dives

Training

I would like to think that everyone involved learned something, be it either diving related, seamanship related or planning related as well as an insight into Nautical Archaeology and surveying.

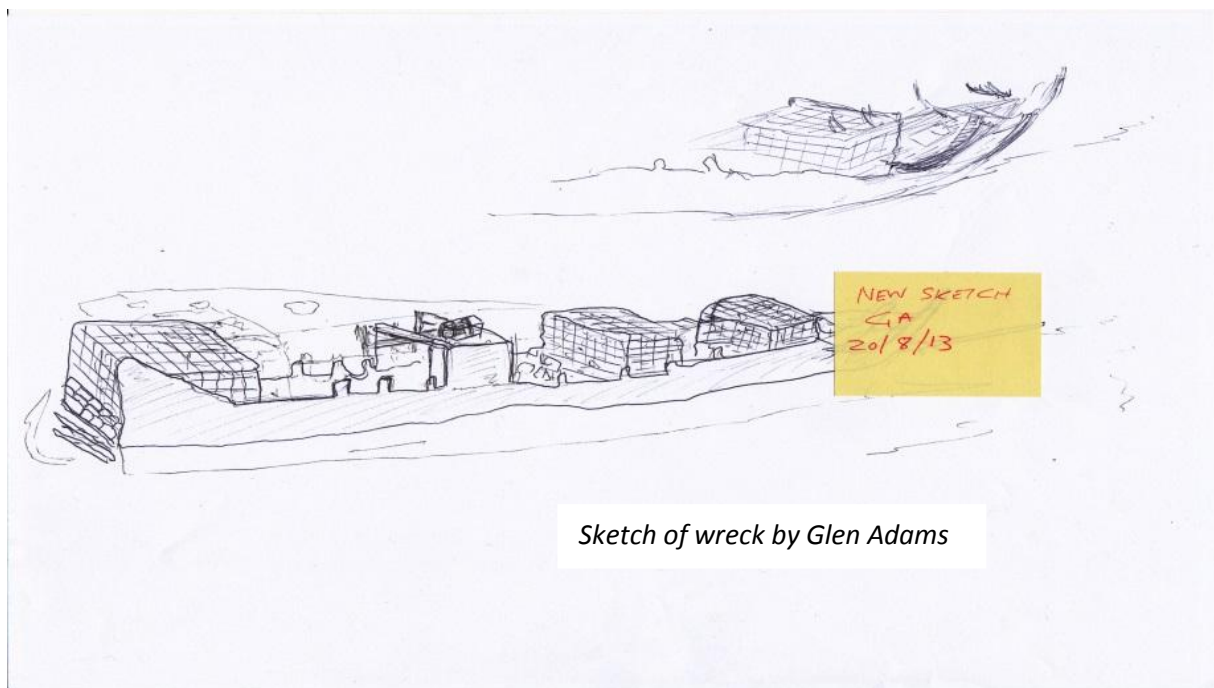
Stewart Madagan and Kathy Cross Completed DP2

Dale Martin and Istvan Kisari gained experience in leading a dive for dive leader qualification.

Malcolm Apted and Dan Drummond Got to do their first RIB dive Ocean Diver/Sports Diver.

Beth Madagan and Chelsea O'Brien both carried out training for Ocean Diver.

Billy Price completed his first RIB dive for Ocean Diver.



Appendix

Initial Sketch by Kris Pedder
Technical Survey Drawing by Glen Adams
Winch Section Sketch by Chris Davey
Side Scan Imaging by Daniel Drummond
Photography by Stewart Madagan
Sketch of Wreck by Glen Adams

Acknowledgement

Thank you to Alison Mayer and her team of helpers for her efforts in putting the What Lies Beneath project together.

Clive Puddifoot for introducing WLB to Dacorum Sub-Aqua Club.

John and Phyllis Reynolds for the Boat Storage.

Pat Neilan for Record Keeping.

Stewart Madagan for Record Keeping.

Lynda Daniel for Finances.