

COLOSSUS 2026

THE BREAKING POINT

PROJECT REPORT



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Cover Photograph: Photo mosaic of the hull timbers at the point where the vessel broke apart. The gun on the right is one of the 18-pound upper gundeck pieces (G5), centre is part of an empty main-deck gunport. Constructed from 26 separate photographs using Affinity Photo (free photo editing software). Individual photographs by Emlyn Morris

Acknowledgements

This project was funded by CISMAS and the participating CISMAS divers. The charter boat hire, volunteer accommodation and insurance were funded by CISMAS. All other costs were borne by the volunteers themselves.

I would like to acknowledge the contribution made to the project by the CISMAS volunteers. They generously gave up their time and money in order to take part – often working long days and always to the highest standards. Without them this project would not have taken place.

I want to thank Izzy Allsop, the skipper of the dive charter boat *Morvoren*, who was ever cheerful and very helpful; and ensured that diving went smoothly.

Ambient Pressure Diving generously supported the project by supplying Sofnalime for the two rebreather divers on the project. Otter Watersports have in the past supplied CISMAS members with a discount on their products. The Isles of Scilly Steamship Company gave us a discount on the ferry tickets and equipment transport which was very welcome.

Sadly, another of our long serving members of the CISMAS dive team – Andrew Earle – is hanging up his flippers this year. Andrew has supported many of the CISMAS projects over the years and his contribution will be missed. I would like to thank him for his participation and hope he will continue to take part in CISMAS projects in a non-diving capacity.

Kevin Camidge 15.X.2026



Ambient Pressure
Diving



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The Team



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Summary

CISMAS spent a week undertaking survey on the wreck of HMS *Colossus* in the Isles of Scilly 5-12 September 2026. Recent falls in seabed sediment around the wreck have caused new timbers to be exposed and others to be lost entirely. A start was made recording the newly exposed material and the sediment monitoring was continued. Changes to the wildlife living on the wreck have been noted.

Background

Fig 1

The location of the designated wreck site HMS *Colossus* in St Mary's Roads, Isles of Scilly

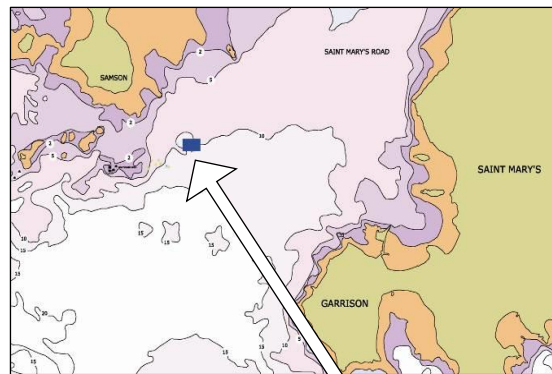
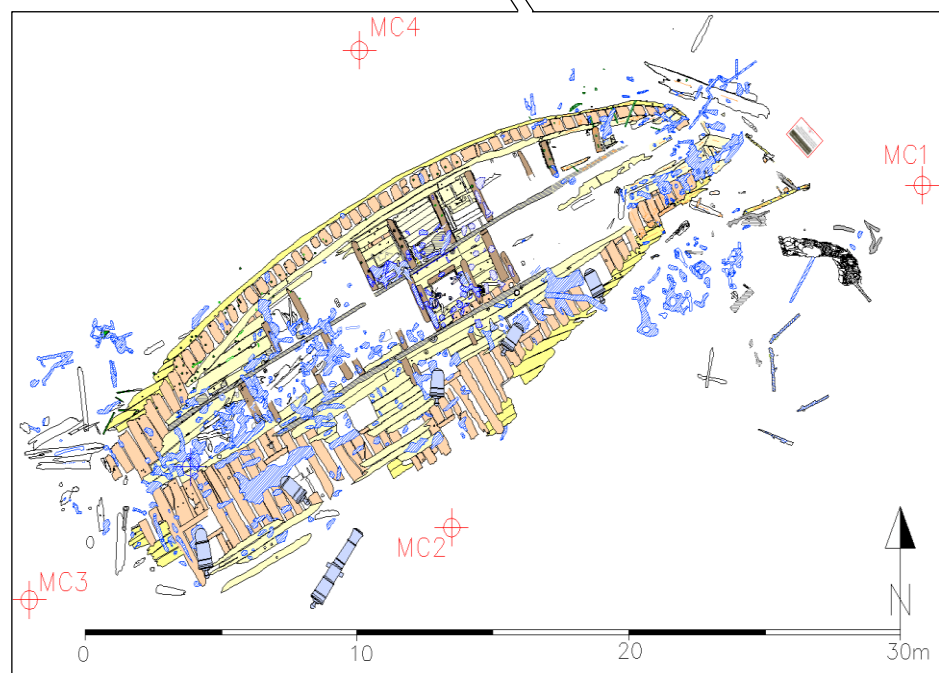


Fig 2

Site plan showing the exposed stern of HMS *Colossus*



The Ship

HMS *Colossus* was a 74-gun warship built in 1787 on the Thames in a private shipyard at Gravesend¹ and wrecked off Samson in the Scillies in 1798. She was the first warship to bear the name; five others were built over the years culminating in an aircraft carrier launched in 1943. During a relatively short working life (eleven years) *Colossus* saw action at Toulon, Groix, Cape St Vincent and Cadiz. A comprehensive history of the vessel is contained in the CISMAS *Debris Field Survey report* (Camidge, 2005, pp.54-77) available at cismas.org.uk.

Colossus was at Naples on 28th September 1798, Nelson's 40th birthday. A lavish celebration was organised for Nelson by Sir William Hamilton's wife Emma, to which the captain and officers of *Colossus* were all invited.² When *Colossus* left Naples a week later for refit in England, she was carrying one third of Sir William's valuable second collection of ancient Greek pottery. She also left without one of her bower anchors and three of her guns, all given over to Nelson's ship *Vanguard* to replace items lost at the recent Battle of the Nile.³

Loss

Colossus reached Scilly in December 1798, in charge of a convoy of merchant vessels. The ship was at anchor in St Mary's Roads sheltering from a storm when the anchor cable parted and she was driven onto shallow ground, losing her rudder and sustaining progressively worsening damage until she foundered with only the poop and quarterdeck above water. All but one of the 595 souls aboard were taken off safely in small boats. The ship soon turned onto its beam ends and began to break up, a process hastened the following month when the crew of HMS *Fearless* were employed 'breaking up the wreck'.

Salvage

As well as two Navy transports full of stores and fittings recovered from *Colossus* in January 1799, a great deal was salvaged over the next few years. Guns, carriages and shot were raised by the intrepid diver Ralph Tonkin of Penzance in August 1799.⁴ Others found more guns in 1800 and 1802. The last salvage we know about was undertaken by John Dean, who in 1833 recovered a number of guns and three quarters of a ton of copper from the wreck.

Rediscovery

By the twentieth century all knowledge of where the wreck of *Colossus* lay was lost. The only clue was a number of newspaper accounts, all stating that she had 'drifted onto a ledge of rocks, called *Southern Wells*'. The lure of Sir William Hamilton's lost treasure has prompted many adventurers to seek the wreck of *Colossus*. The archaeologist John Dunbar hunted for it in the 1956⁵ as did several of the teams salvaging the wreck of the *Association* in the 1960s – all were led astray by those

¹ Built at William Cleverley's yard, Gravesend, laid down Oct 1782, launched in Apr 1787

² *Horatio Nelson*, Pocock 1987 p. 176

³ *Vanguard* received one 32, one 18 and one 9-pound gun from *Colossus* – Captains Log, *Vanguard*: ADM51/1288

⁴ *Salisbury & Winchester Journal*, 29 July 1805 p. 4

⁵ *The Lost Land*, John Dunbar 1958 pp. 32, 63

newspaper accounts. Then in 1974 a team led by Roland Morris found not only evidence of wreck, but also over 30,000 fragments of Sir William's ancient Greek pots. The site was designated in 1975. The British Museum backed the excavation and the pieces of pot are now in London at the British Museum. Morris also found 12 guns and numerous other artefacts, all of which he recovered. Some were housed in his Museum of Nautical Art in Penzance, until the contents were sold at auction in 2001/2.

And then there was more...

In 2001 a large area of hull timber was discovered more than half a kilometre to the east of the Morris site. It became evident that this area of timber represented the port side of the ship from the mainmast to the stern – essentially the back half of the ship. The timbers of the hull were in remarkable condition and some of the guns were still in place. A large piece of decorated timber from the quarter gallery was raised, conserved and is now on display on the island of Tresco.

Previous work

The stern of the vessel was found in 2001 by local divers. Since then, a number of projects have been undertaken on the site by CISMAS, including a small excavation in 2015 (Camidge, 2015) and a long-term trial of the efficacy of reburial on site as a means of preserving artefacts (Camidge *et al*, 2012).

All the CISMAS (Cornwall and Isles of Scilly Maritime Archaeology Society) reports relating to work on *Colossus* can be downloaded at www.cismas.org.uk

A YouTube video tour of the diver trail can be viewed at <http://youtu.be/wS5KURop104>

A YouTube video of the 2025 dive trail update can be viewed at <https://youtu.be/lqvClzEB1l8>

A Facebook page of recent work by CISMAS on the site can be viewed at:

https://www.facebook.com/pages/Cornwall-and-Isles-of-Scilly-Maritime-Archaeology-Society/843145725722673?ref=aymt_homepage_panel

Loss and Exposure

Early in 2026 we were informed by several divers that an unusual amount of timber was exposed on the wreck of *Colossus*. When the CISMAS team visited the site in May 2026 it was apparent that the amount of exposed timber was exceptional. While this offered good photographic opportunities it also exposed large areas of timber to the actions of the resident wood-boring community. Past experience on this site has shown that this newly exposed timber will soon be lost. A team of seven CISMAS volunteers returned to the site in September 2026 and commenced recording of this timber; sadly, the weather overlords decreed that we were only granted four days of diving during our week on Scilly.⁶

Recording the Changes

Given limited time and no funding, we were forced to consider how we could tackle the recording of this newly exposed wreck material. We decided to adopt two different approaches on different parts of the wreck. Along the southern edge of the wreck, we deployed the traditional technique of planning frame drawing (PFD), which is how the wreck has been recorded since 2001. This is not always the fastest technique, but what gets completed tends to be of high quality and accuracy.

The more contemporary technique of photo mosaic or photo-based structure from motion (SfM) minimises diver time while collecting data but suffers from poor detail, lack of material identification, and variable accuracy. For this reason, we decided on a hybrid technique for the western end of the wreck, where the vessel broke in half. SfM was undertaken to collect the basic outlines, and the detail was added by making comprehensive annotated sketch plans and sections. The result is broadly comparable with PFD but has a little less detail. Any photo-based drawing method suffers from missing detail where weed or sand obscure the structural details, and materials are often not amenable to identification from photographs.⁷

Upper Deck Timbers

It is some time since CISMAS last undertook serious planning frame drawing; there were in fact only two members present who had taken part in the original *Colossus* survey and drawing. We had assumed that we would be the ones hovering over the planning frames pencil in hand; sadly not. To my great surprise nearly all the volunteers were keen to give PFD a go. Three different volunteers were able to attempt PFD on this project, two of them for the first time ever.

⁶ Of the six planned days of diving only four were possible due to adverse weather. Diving took place on 6, 7, 8 and 11 of September, on each diving day six divers each dived twice, making a project total of 48 dives each of roughly one hour in duration.

⁷ Where form does not indicate function (a rock, amorphous iron concretion or badly eroded timber) then photographs do not allow positive discrimination of materials. This is usually easy when drawn by a diver on the seabed (the object can be wafted, prodded and if necessary, gently pricked with a knife to confirm identification).

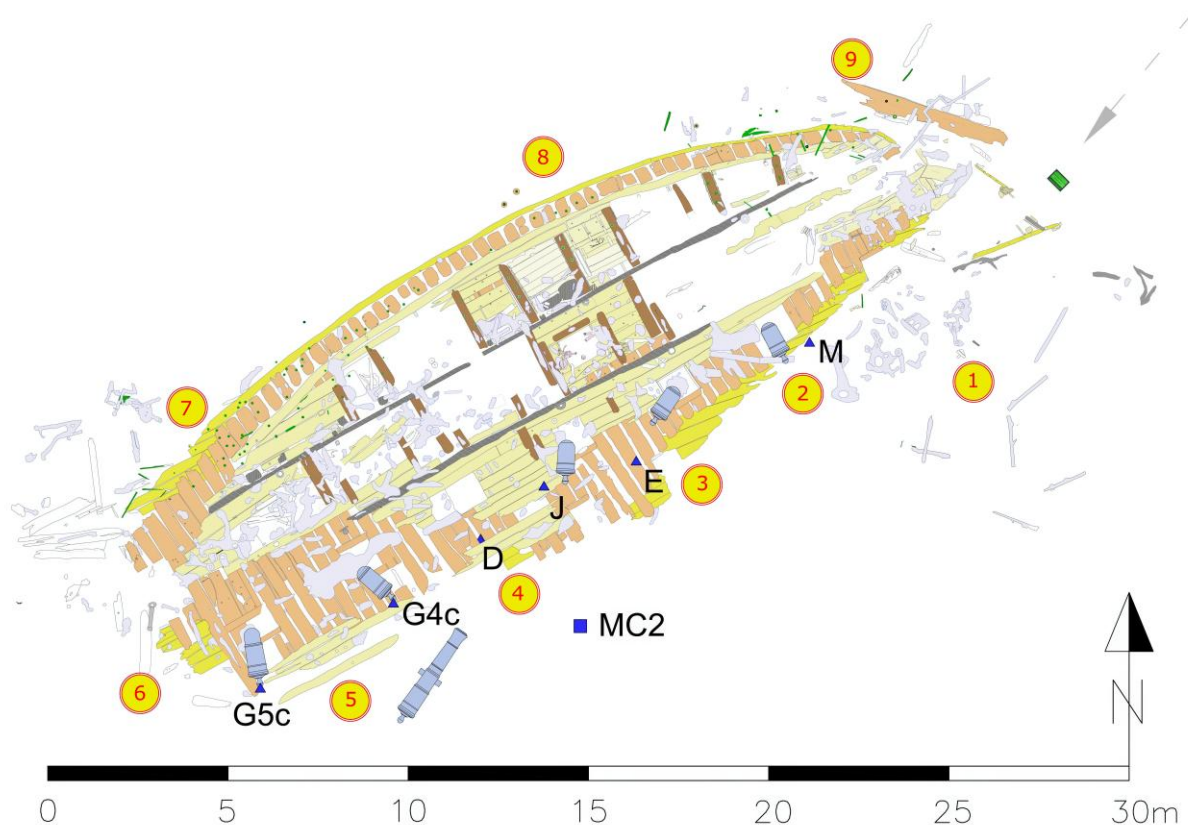


Fig 3

The location of the control points used to position the planning frame drawing of the upper hull area [G4c, D, J, E and M]

The first task was to relabel existing control points and to install one new control point under the cascabel button of gun 4 (G4c). The planning frames consisted of stainless-steel grids 2 x 1m subdivided into 0.2m squares. The frames were aligned along baselines strung between control points using nylon cord stretched tight. The distance along the baseline was measured using standard 30m fibreglass measuring tapes. A3 drawing boards were used with gridded film marked with 20mm squares, which results in a drawing representing 4 x 2.8 metres of seabed at a scale of 1:10. The underwater 'drawist' simply has to reproduce on their drawing board what they see in each grid square of the planning frame. Materials are discriminated by annotation details such as timber function. Grain direction is also indicated. A fair copy of the underwater drawing is made by the drawist within 24 hours. Original and fair copies are photographed for the digital archive.

The drawings are digitised and stored in Autocad drawing exchange (DXF) format. These can theoretically be added to a QGIS geographic information project⁸ but for the moment Autocad seems better able to cope with complex drawings.

⁸ Experience has shown that this works but that there are nearly always problems with imported vector drawings of any complexity. In practice, converting the file to a raster and adding to QGIS as a geotiff seems to be much quicker and more reliable, but subsequent editing is very limited in this format.

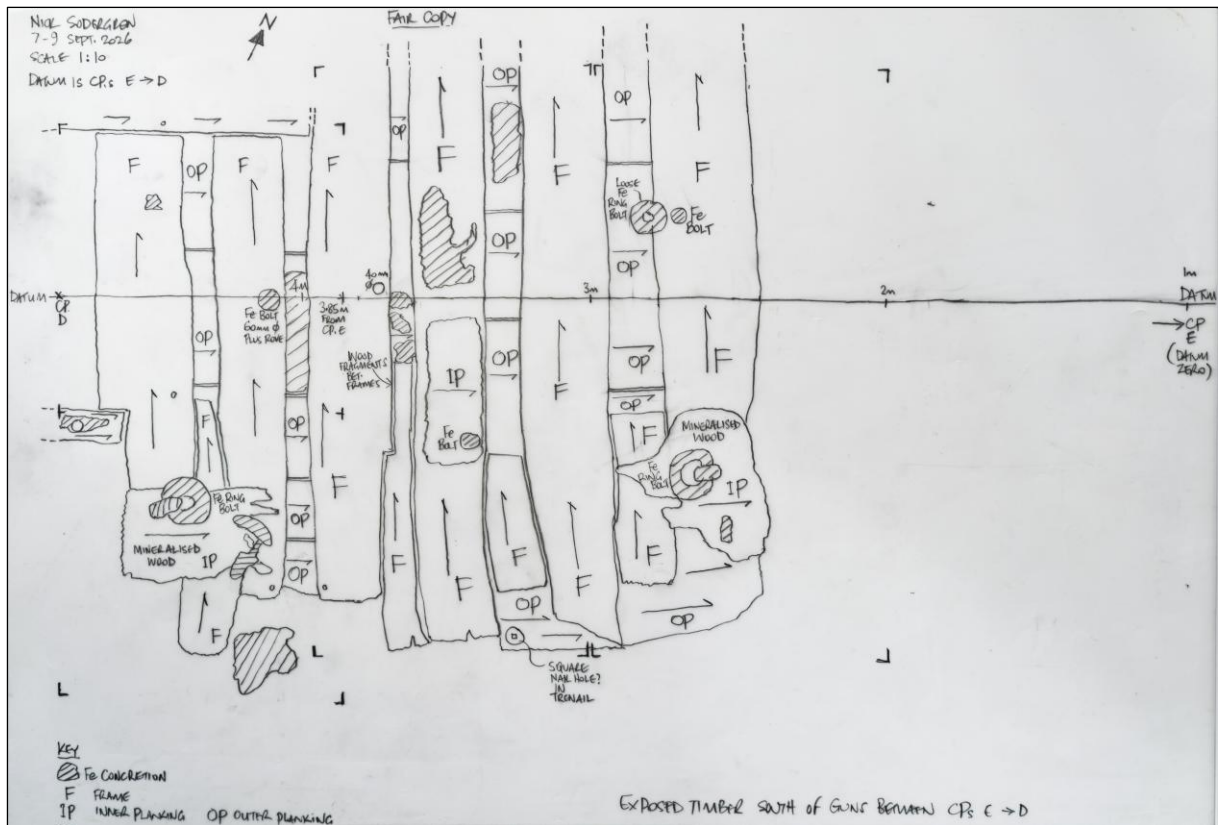


Fig 4
An example of the planning frame drawings

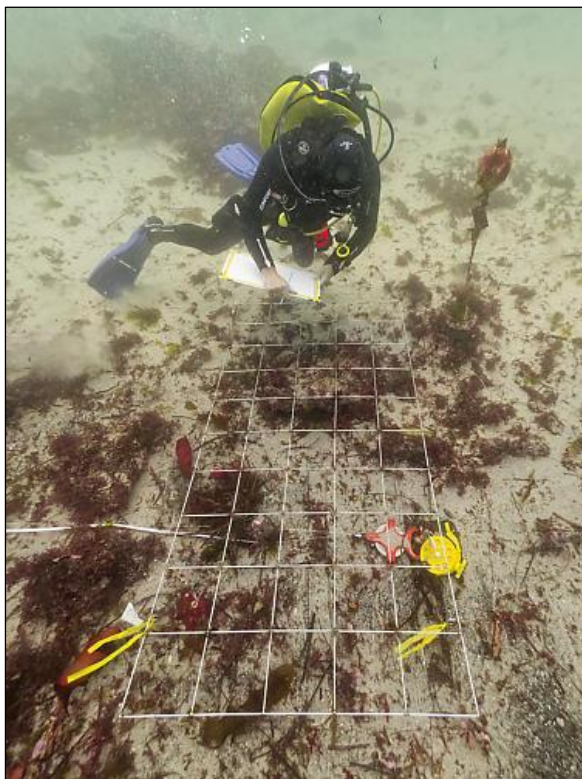


Fig 5
Drawist in action
Planning frame in place on the baseline and CISMAS volunteer Nick Sodergren hovering above it, drawing board and pencil in hand...

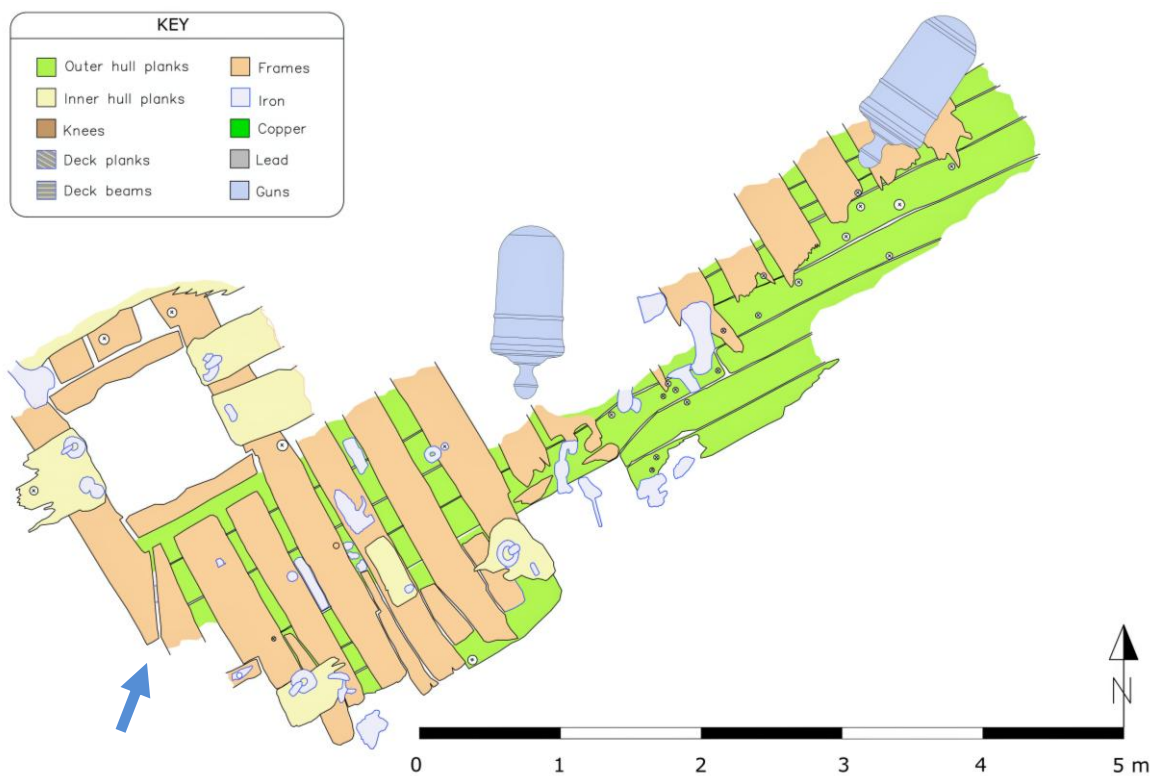


Fig 7
September 2026 digitised drawing (unusual frame scarf joint arrowed)

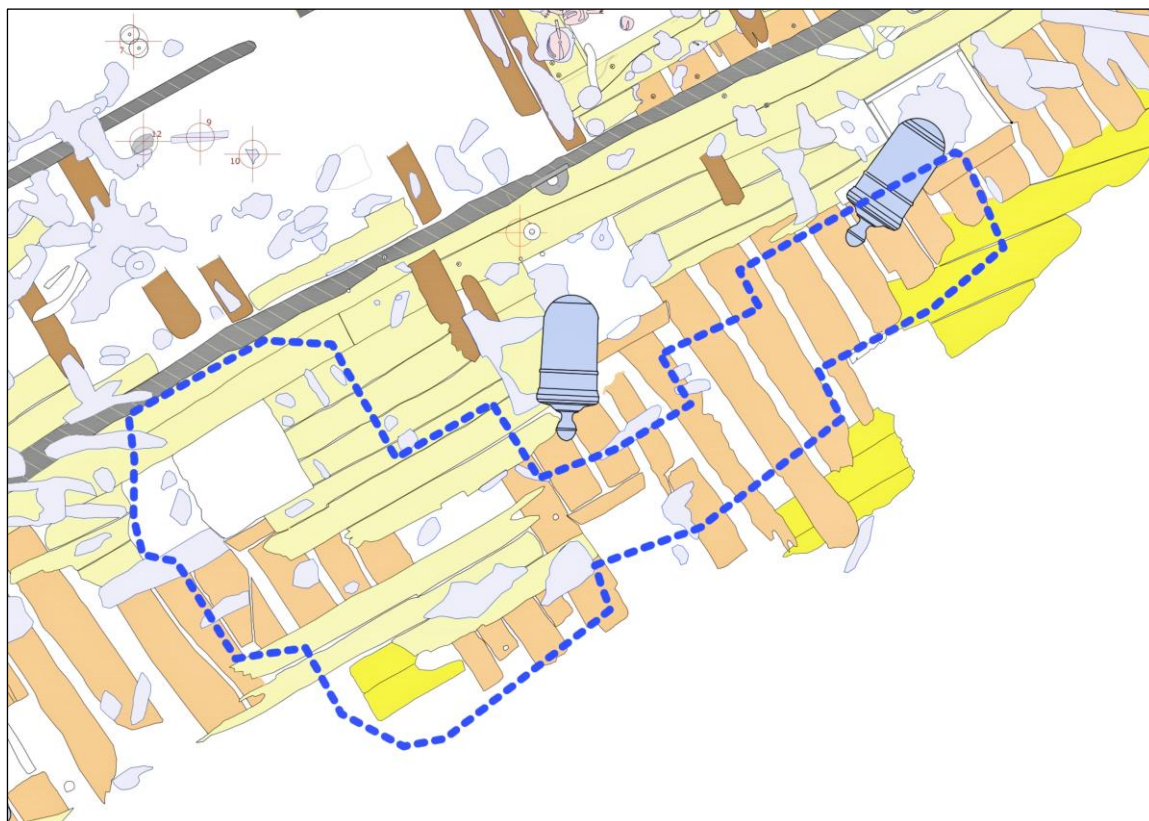


Fig 8
Site plan 2001-2008. The area redrawn by PFD in September 2026 is shown by the blue dashed line

Although a good start has been made on the recording of the newly exposed timber, clearly more needs to be done to complete the record before the timber is lost. What is interesting is how much timber has disappeared since the 2001-2008 drawing was made – see figs 7 and 8 above.

Nearly all the inner hull planking around the empty upper deck gunport has now gone, which has exposed more of the frame timbers and outer hull planking. Similarly, the frame timbers to the south of guns 2 and 3 have been greatly diminished. The surviving frame timbers in many cases have been reduced in size with many of the remaining timbers now only a few millimetres in thickness; these will soon be ‘ex-timbers’. The newly exposed frame timbers have highlighted an anomaly in the layout of some of the frame timbers.⁹ There seem to be unusual frame scarf joints in several places which seem to be contrived to step the frame line slightly to one side (arrowed in fig 7). These could be repairs, but may also have been used to economise on timber.¹⁰ This will probably become clearer if the recording of the newly exposed frames can be completed.

⁹ Conventionally, the main frames were constructed of pairs of futtocks and top timbers bolted together; these passed from the keel to the top of the hull avoiding the gunports. The shorter frames under the gunports were called filling frames. The inner and outer planking of the hull were attached to these frames. Lavery, 2017, *Wooden Warship Construction*, pp52-58

¹⁰ Considerable savings in timber could be made by joining off-cuts onto frames, especially as this would be hidden once the hull had been planked

At the Breaking Point

Colossus seems to have broken at the midpoint of the hull, roughly where the mainmast was, and this probably happened shortly after the ship was abandoned. The aft half of the hull remains on the seabed while the front part is now missing. It probably broke up and was dispersed in the tide, subsequently to be found by Roland Morris when he excavated to the west of the current site in the 1970s. The point where the hull broke offers a good opportunity to observe the details of the hull construction, and this was the original aim of the current project.

The first task was to remove the loose weed and algae from a narrow strip at the western end of the surviving hull timbers. Once this had been done, a series of overhead photographs was taken to produce a photo mosaic of the break. The photomosaic was constructed from 26 separate photographs. This was followed by an annotated sketch plan of the same area.

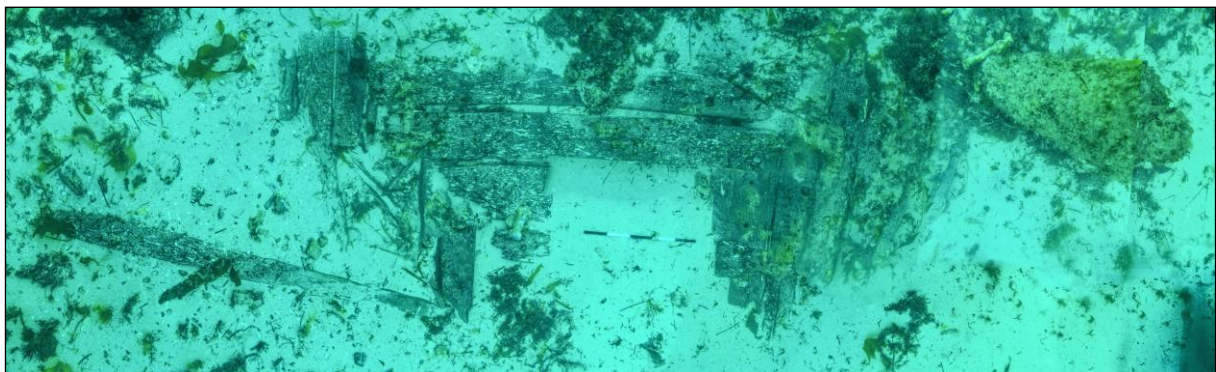


Fig 9

Composite photograph of the breaking point. Gun 5 on the right, part of a main gundeck port in the centre. The scale bar is 1m long

Photomosaics give a good visual impression of the area in question, but should not be considered as dimensionally accurate. The above image, created after extensive weed clearance, shows just how much mobile weed is present on the seabed – this can be very problematic when trying to construct 3D SfM models.

The next stage was a study of the exposed timber, and making of an annotated sketch plan showing all the hull details visible at the area where the hull broke (see fig 10 below). What can be seen is part of a main gundeck port (this would have housed gun number 15,¹¹ a 32-pound Blomefield piece. Oddly, this now has a lead scupper sitting within the port - not at all where it would originally have been - but understandably a number of items at the break have been disturbed. None of the inner planking now survives at the break, frame timbers and outer hull planking is all that remains. However, the lack of inner hull planking allows us to see details of the hull construction not normally visible (see **Frame Bolts** below).

¹¹ In the eighteenth century the guns were numbered sequentially starting at the bows, odd numbers on the port side, even numbers on the starboard side.

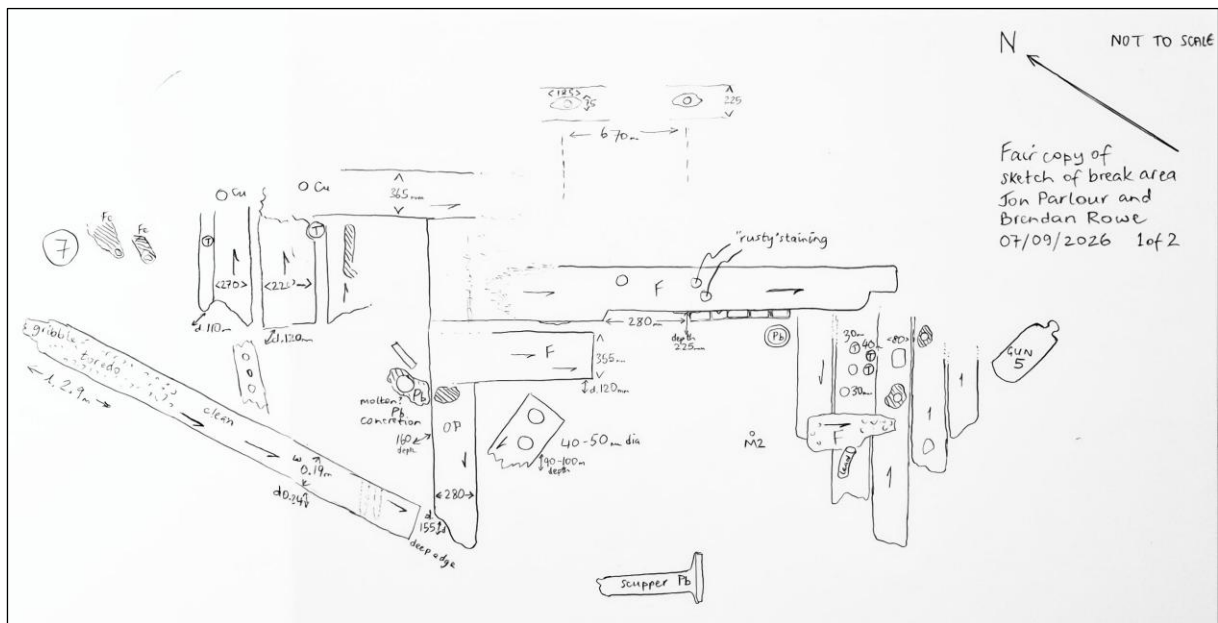


Fig 10
Annotated sketch of the hull timbers at the breaking point

We then took a series of 128 overlapping photographs to enable a structure from motion 3D model to be constructed using Agisoft Metashape software. Many of the images would not align – mainly because of the numerous mobile weed clumps wandering past in the tide – but there were enough to make the ortho model below which was used to generate the outlines for the drawing of the timbers at the break. The annotated sketch was used to add in detail and to enable discrimination of the materials



Fig 11
Ortho image generated from the 3D SfM model of the timbers at the break

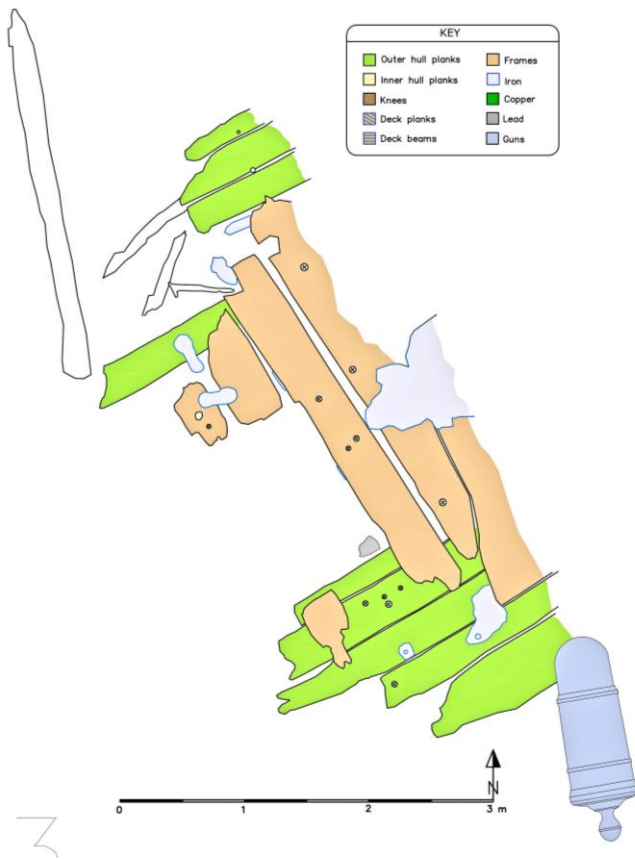


Fig 12

A scale drawing of the timbers at the breaking point generated from the SfM model and the annotated sketch plan

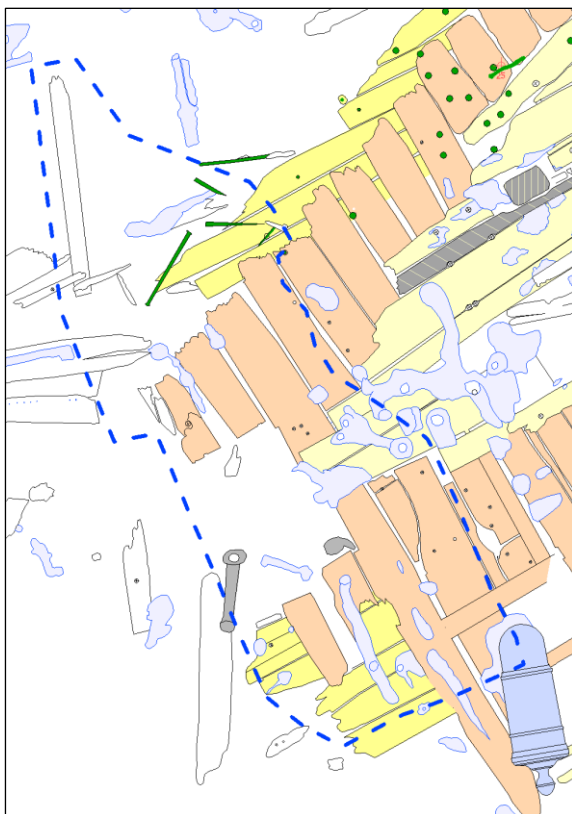


Fig 13

The blue dashed line shows the outline of the 2026 drawing (fig 12) projected onto the 2001-2008 site plan to illustrate how that part of the wreck has changed.

The timber loss at the breaking point has not been as extensive as that observed to the south of the upper deck guns. An area of inner hull planking has disappeared, some of the frame timbers are now missing and others have been reduced. Some of the outer hull planking which was present in 2006 is also now missing.

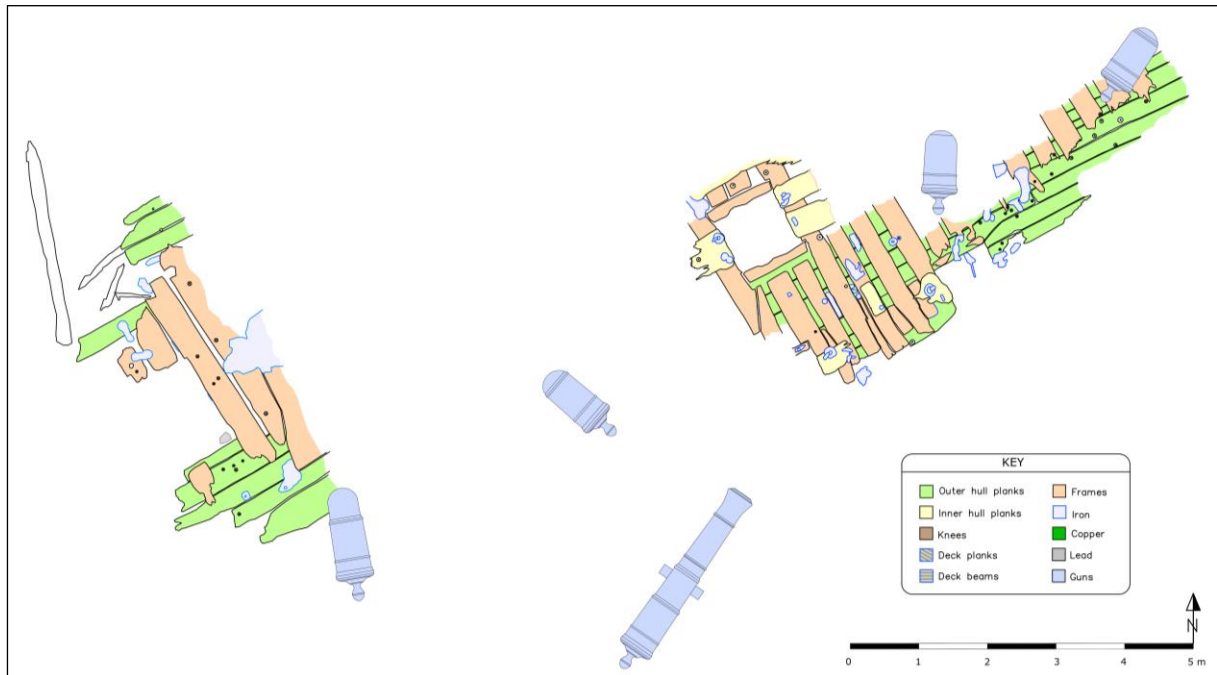


Fig 14

The two different areas recorded in September 2026 reproduced along with the five surviving upper deck guns.

The above (fig 14) illustrates how much more is yet to be recorded. I suspect that, given the available resources, we are going to have to prioritise and decide which bits get recorded and which bits do not.

Frame Bolts

Two lozenge shaped patches of iron concretion were observed on the moulded face of the frame timbers at the western end (break). These were where the staggered frame-pair elements (futtocks) were bolted together by fore and aft iron bolts. Observing them we could not decide if these were lozenge shaped roves or iron corrosion products from the bolt head and washer used to fasten the frame elements together.¹² Accordingly, a sample of the corrosion was taken for further study (RoW 319/26-01)

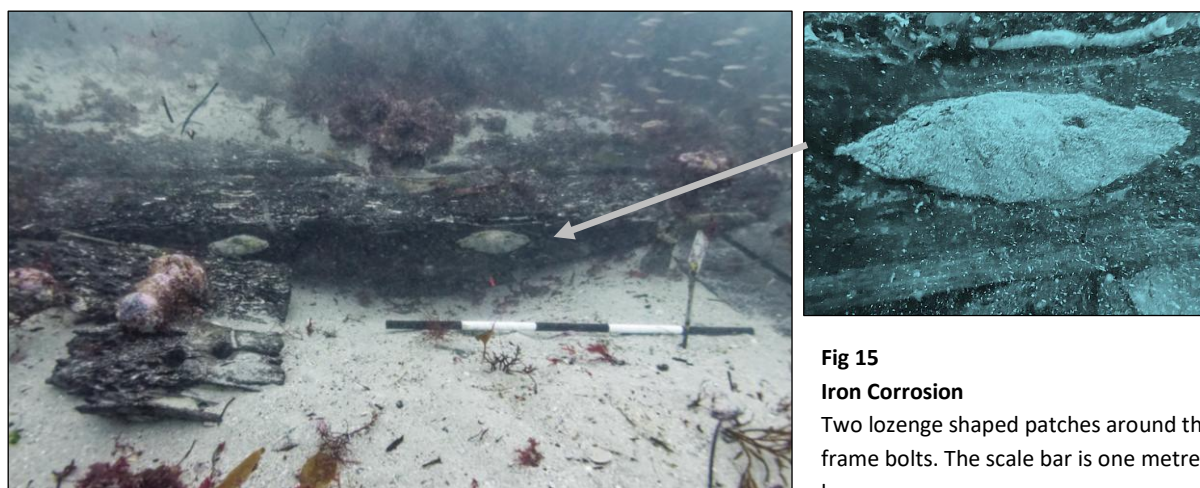


Fig 15

Iron Corrosion

Two lozenge shaped patches around the frame bolts. The scale bar is one metre long

The bolt head can just be seen in the centre of the two patches. This is the first time that frame bolts have been observed on this wreck as the frame fore and aft faces are usually obscured by the adjacent frames.

¹² McCarthy, *Ships' Fastenings*, pp 70 & 82 says that frame bolts can be fastened over washers or rectangular roves and that the frame bolts may be circular or square in section



Fig 16

This shows one of the lozenge shaped patches of iron corrosion on the frame timber where the iron bolt holds the two futtocks together. Below the frame timber can be seen the ends of the hull planking where they abut the gun port edge. On the top of the frame can be seen the shipworm tunnels bored into the frame.

Sediment Levels

In May this year it was evident that more of the wreck was exposed than usual. The sediment level measurements below confirm this subjective impression (the mean sediment levels on the site have reduced by 22mm since September 2025).

Since 2002 we have been monitoring the sediment levels around the wreck of *Colossus*. When the sediment levels fall on the wreck site, more of the wreck is exposed and the organisms of decay swiftly go to work on the timber and organic remains of the vessel.¹³ As far as we are aware, this is the only protected wreck site where regular sediment level measurement is still undertaken.

The sediment monitoring points consist of 10mm diameter stainless steel rods 1m long, driven into the seabed, with 200mm of rod remaining above the seabed when installed in September 2025.

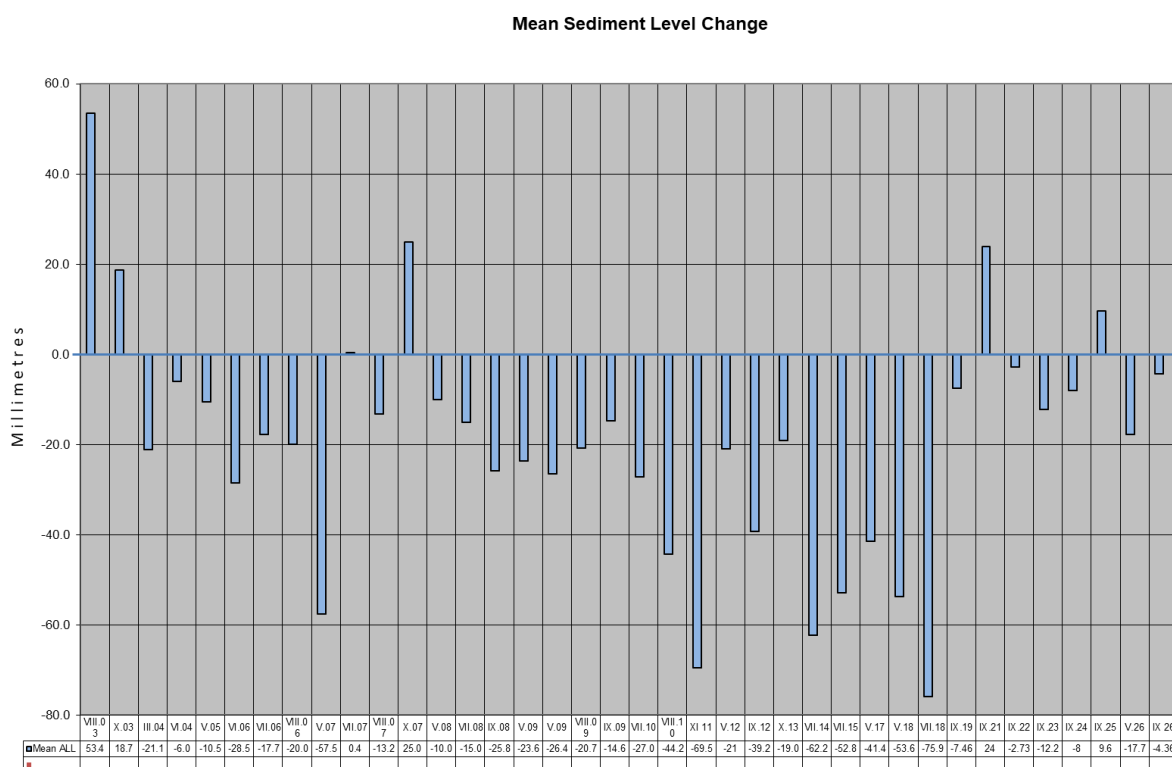


Fig 17
Mean sediment level change

The above histogram demonstrates the change in sediment levels on the site; these are the mean change for all the points. This shows that this year the mean of the sediment levels measured has fallen by 22mm in the past 12 months (17 mm by May 2026 and a further 4.3mm from May to September 2026). The new sediment monitoring points installed in September 2025 have proved a great success – being much easier and quicker to locate than the previous points.

¹³ The stabilisation trials conducted in 2004-5 demonstrated that the main threat to the exposed timber is wood boring organisms which can significantly degrade timber on the seabed of this site within months, Camidge et al, 2005, *Colossus Stabilisation Trial*, access at cismas.org.uk



Fig 18
Location of the sediment monitoring points

The plan above shows the distribution of the 14 sediment monitoring points around the wreck site. The positions of the monitoring points were slightly altered when the points were renewed in September 2025 to make them easier to locate. The table below lists the readings taken this year: note these are the actual measured length of exposed rod, not the differences since last measured. For historic reasons there has never been an M9 monitoring point.

SedMon Point	Exposed length (mm)		
	Sept 2025	May 2026	Sept 2026
M1	200	240	235
M2	200	220	195
M3	200	248	255
M4	200	224	245
M5	200	228	210
M6	200	223	220
M7	200	222	210
M8	200	218	240
M10	200	200	220
M11	200	226	230
M12	200	190	220
M13	200	197	215
M14	200	206	195
M15	200	207	220

Sandbags

In several places around the site geotextile sheets have been used to help stabilise the sediment and wreck on the site. This geotextile is held in place with rows of sandbags. This September it was noticed that several of these sandbags have been exposed (probably by the falling sediment levels) and have begun to unravel. The sandbags are made of a woven plastic (probably polypropylene), and given recent concerns about plastics in the sea, it would probably be best if these exposed sandbags were replaced with sandbags made from a natural fibre such as hessian. Furthermore, it would probably be desirable to compile a list of materials which have been used on protected wreck sites, the level of risk they pose, and where appropriate suitable alternatives.



Fig 19
One of the exposed sandbags

Iron Gun Corrosion

Occasionally effervescence is noticed emanating from the iron guns on site; this is probably a sign of active iron corrosion. In the past, Gun 1 has exhibited this, but this year it was observed on Gun 4, close to where there is a corrosion-generated 'fin' near the cascabel base ring.



Fig 20

The arrow indicates the stream of tiny bubbles emanating from the cast-iron gun barrel

The Seabed Sign

The seabed sign was originally installed in 2008 as part of the limited site stabilisation project. The sign face has been renewed three times since then, using a variety of different materials. The sign is attached to a concrete base which weighs in the region of 120kg. The sign became the start point of the dive trail when that was installed in 2009 and has remained at the start of the trail ever since.



Fig 21
The original sign in 2008



Fig 22
The sign in 2026 before cleaning



Fig 23
The sign in 2026 after cleaning

The sign is probably reaching the end of its useful life; it also features the English Heritage logo which is no longer appropriate. As the start of the dive trail the tatty, almost illegible sign gives a poor first impression. What we need is a new sign, probably in stainless steel with cutout lettering to enable simple cleaning. Ease of cleaning and robustness is important as visiting divers often try to clean the sign using their dive knives, which has caused damage to the plastic sign in the past.

Old Iron and Copper

Building of *Colossus* began in October 1782 when the keel was laid down at William Cleverley's yard in Gravesend on the Thames. This was during the transition to copper sheathing of the underwater hulls of British warships. It had slowly been discovered that the iron fastenings of the underwater parts of the hull needed to be replaced with copper to avoid electrolytic corrosion of the fastenings.

The Admiralty decreed in 1783 that any iron bolts 'already driven' on the *Impregnable* (98) - laid down in October 1781 - and which could not be driven out, were to be supplemented with copper bolts driven close by.¹⁴ This sounds like a recipe for rapid corrosion of the iron bolts and a potential source of future leaks. Evidence of several iron bolts has been found below the waterline on the wreck of *Colossus* (on the site plan) demonstrating that iron bolts were indeed left in place. One of our tasks this year was to attempt to locate and photograph some of these bolts.



Fig 24

Hull timbers on the north west side of the wreck, frames running vertically and outer planking horizontally. The two heavily corroded iron bolts are just above the scale bar and are surrounded by copper bolts.

The bolts themselves have largely rotted away, but the crust of iron corrosion products remain. This could be an important discovery which might help to explain why *Colossus* was such a leaky ship, as these bolts passed right through the hull and once corroded by their proximity to the nearby copper bolts and sheathing would have leaked continuously.

¹⁴ Harris, 1966, p559

Changing Residents

We have recently seen some changes in the species inhabiting the wreck of *Colossus*. Previously crabs have been very active on the site, often to be seen burrowing beneath the timbers and exploring the voids in the corroding metalwork. They have been notable by their scarcity this year, perhaps because of our new resident, the octopus: we have at least two who have made their home among the wreckage, one in a lead pipe by the seabed sign and another inside one of the 32-pound Blomefield guns on the diver trail. Octopus will also have an impact on the wreckage, and have been seen moving timbers around to enhance their homes. Crab and lobster are apparently favourite octopus dinners, which probably explains their recent scarcity around the wreck. Seals and conger eels, in turn, are fond of octopus - so we could be seeing more of them on the site in the future as the balance of species adjusts to the changing sea temperatures.

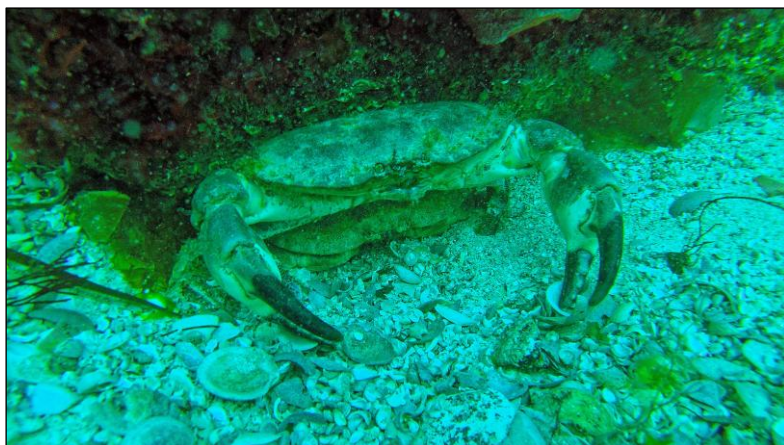


Fig 25

Crab peeping out from his home under the timbers

Fig 26

Octopus inside lead pipe near the seabed sign



What Next

1. The recently exposed timber will continue to be attacked by the elements of decay, and it is important that as much as possible of this is recorded while it still exists. We shall endeavour to continue drawing and recording this timber.
2. The exposed sandbags which are unravelling need to be replaced (with natural fibre bags such as hessian) to ensure that the Terram mats protecting the wreck stay in place.
3. The seabed sign has reached the end of its life, and should be replaced. If this is not possible, then it should be removed.
4. The sediment level monitoring should continue, as it is our only objective measure of the threat to the site.
5. The effect the octopus are having on the historic remains and the other residents of the wreck should be carefully observed.

Other Perspectives

All our volunteers are invited to contribute to the project report. These contributions often concern things which are peripheral to the main project or present an alternative perspective – this is the voice of community archaeology.

In the Frame by Nick Sodergren

After ‘retiring’ from diving two years ago, I found that I really missed being hands on with the HMS *Colossus* project and I therefore decided to make a comeback this year. I wanted to keep my diving as simple as possible, so gathered together some basic open-circuit kit and a wetsuit. I would soon be grateful for this simplicity, given the task-loading that was to come from a new discipline for me – underwater planning frame drawing.

As a buddy-pair, our task was to complete a drawing record of a section of newly exposed wreck along a datum line, working towards each other from opposite ends. Two fixed points had already been established at known positions on the seabed and to create our datum line between these points, we used a bottom-line diver’s reel, pulled as tight as possible to keep the datum line straight. We then added a measuring tape along this line, negating the need to overtighten the tape, which would likely be stretched or damaged. Our datum line for this task was just under 5m long.

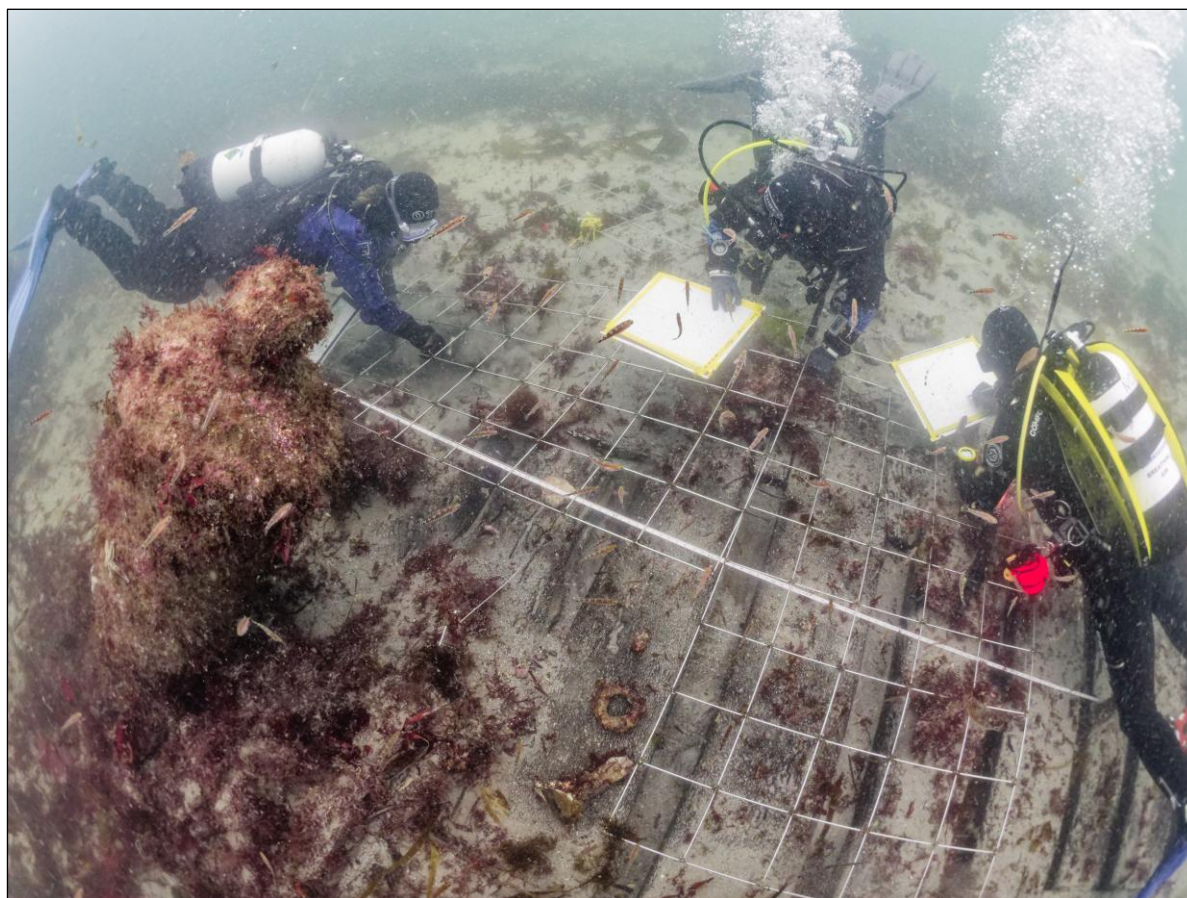


Fig 27

Two drawists and an inquisitive team leader (gun 3 in the foreground)

With the datum established, we could now lay our respective planning frames over the wreck, targeted to capture the most useful information within the coverage of the frame (a stainless steel 2x1m frame, sub-divided with 20x20cm inner squares).

My buddy was at the 'zero' end of the datum line, so aligned her planning frame with the zero point. I set my frame at the fixed point at my end of the datum line. This was my first mistake, which wouldn't become apparent until later in the task. My fixed point was not a round number of metres from the 'zero' end of the datum, which meant that as we completed drawing and moved our frames along the datum line towards each other, we ended up with some 'middle ground' that was not covered by a complete frame. We worked around this but it could have been more efficient if I had thought about my starting point more carefully.

Another drama with the setting up was that the area of wreckage to be drawn was not flat – various pieces of iron concretion were standing well proud of the otherwise flat ship's timbers. To keep the planning frame level, it needed to be propped up using steel pins pushed into the seabed. At times, the planning frames were so precariously balanced that the merest accidental contact would dislodge the whole thing! Now that the planning frames were secured in a known position relative to the datum line, all that remained was to hover closely above the frame and record the wreck by drawing what was visible through the frame squares, onto an A3 sized underwater board. The board had a gridded transparent film on it, so that each grid equated to one internal square of the planning frame, at a scale of 1:10.

Drawing whilst looking through a 20cm square really focuses the attention on small details. The tricky part is keeping focused and accurate, all the while being affected by tidal current, ground swell, floating seaweed and the ever-present threat of knocking your planning frame out of position – a simultaneously enjoyable and frustrating exercise that taught me a lot about the challenges of old-school underwater archaeology!

A Walk on the Wild Side by Becky Gill

Descending the shot line on my first dive of the trip, I was focused on the task at hand - clear any accumulated loose weed around Guns 1 - 4 to see if the timbers were still exposed. We reached the seabed and started following the bottom line to the wreck, the light sand and clear water making the site look bright in the sunshine. I started to relax. The first ballan wrasse weaved along in front of us, closely followed by a second, and a third. The smile on my face grew bigger. Dragonets darted out of our way as we moved just above them. We drew closer to the wreck and could see, through a haze of two-spotted gobies, the large guns sticking out of the seabed at their jaunty angle. My buddy, Andrew, started to move about, wafting weed, and I was reminded that I was here to do a job and time was ticking. My smile remained.

On our second dive, we were shown an octopus that was inhabiting a scupper very close to the sign at the start of the diver trail. It was the talk of the evening and we all kept an eye out for it on subsequent dives.

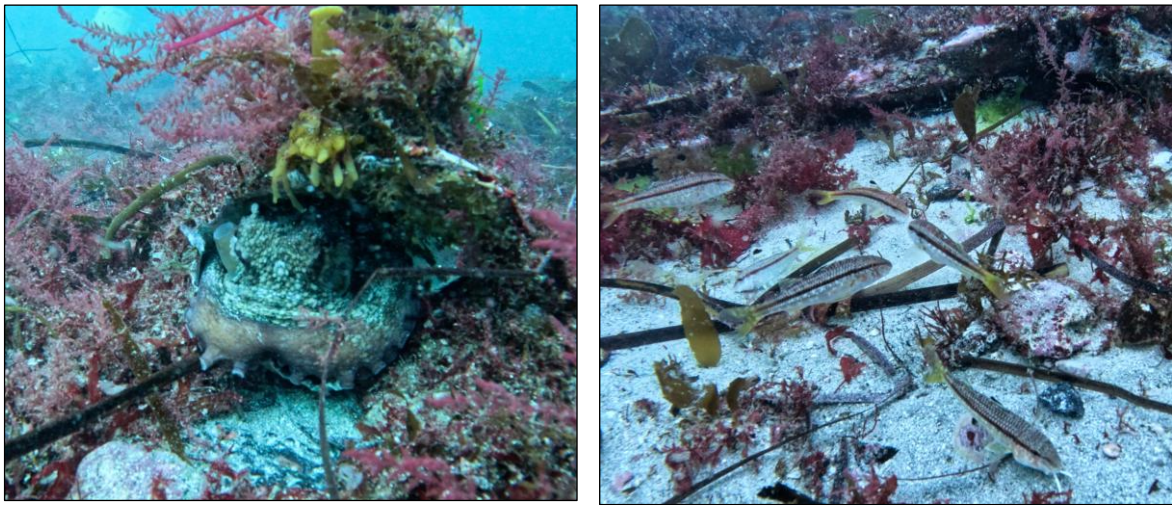


Fig 28
Examples of the wildlife

During the week, archaeology proceeded. Nick and I spent several dives drawing the exposed timbers using planning frames. I would look up to check on my buddy frequently and would see, just centimetres from my mask, the two-spotted gobies. At times I was surrounded by the large shoal of them. If I wafted away the fine covering of sand on the timber in order to see and record a trennel or timber join, the small red mullet would move in moments later exploring and probing with their barbules. The dragonets were never far away. In these instances, I would pause and take in the spectacle, or go for the Go-pro and catch a short snippet of video before returning to the task at hand. I wonder how much more productive I would have been without their constant distractions.

On our last day, we found a reason to go out to the large 32-pound gun at dive station 13. Our dive skipper, Izzy, had heard reports throughout the year of an octopus living in the muzzle and I was super keen to see it for myself. We approached the gun from the cascabel and moved along its length to the muzzle. Sure enough, there was the octopus. I probably spent too long watching it before moving onto our task, but moments like that are truly magical. As we ended our last dive and passed the octopus in the scupper by the sign, Andrew and I paused and waved goodbye.



Fig 29

Project photographer Emlyn Morris

This has been the fourth time that I have attended the Colossus project with CISMAS as their Photographer. During my time on this trip, I have been introduced to some new recording methods and kit that have allowed me to record the wreck in different ways. One of these new methods of recording the wreck was structure from motion (SFM), a method of producing three-dimensional models from multiple photos or videos, with the use of software. I had been asked to take numerous photographs in lines along the break of the ship, and from different camera angles. These images are then processed within a three-dimensional software which is able to figure out the angle and location of the camera, and is able to match and align each photograph to eventually create a three-dimensional model with texture and colour.

Another new technique that I was tasked with was to take photographs to create a photo mosaic. This is similar to structure from motion. However, a photo mosaic creates a larger image using the combination of different photographs. The main advantage of a photo mosaic compared to a wide shot of the subject is that the visibility underwater may not be the best and the distance from the subject and the lens needs to be reduced, and hence stitching numerous photos that have been taken closer to subject will provide a large image which significantly reduces the number of floating particulates being captured in the photos. This method also increases the resolution of the final image, which retains a higher amount of detail.

Yet again I would like to thank CISMAS for inviting me to be their photographer for this trip.