

# Dredged Up

Issue 38  
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Archaeology Finds Reporting Service Newsletter



Welcome to Issue 38 of ***Dredged Up***, the newsletter of the Marine Aggregate Industry Archaeological Protocol. Since the last newsletter in Autumn 2025, **13 finds** have been reported in **11 reports**.

After another year of exciting discoveries, you can take a look at the finds awards on pages **2** and **3**. As always, these awards highlight the important work done in reporting recovered objects. Pages **4** and **5** illustrate a roundup of the discoveries made since the last newsletter.

We also have a look on pages **6** and **7** at ship's fasteners, a traditional skilled craft that was passed down from shipwright to novice for just a few millennia! For eagle-eyed readers, some of you may even recognise some of these examples, which have popped up in the reported finds over the last 20 years.



Closing off this issue, on page **8**, we have a bit of fun with a marine finds-themed game with a hidden image inside. Good luck to all the puzzlers out there!



## Team News

A new year brings in another member to the Protocol Implementation Team here at Wessex Archaeology. Maritime Archaeologist Christian Dalton joined the company in August 2022 as a Marine Geophysicist. He is typically found analysing sonar, bathymetry or magnetometry data, but he has previously worked on shipwrecks in Malta and Ireland and has a keen interest in historic ship graffiti. While Christian will be looking after the newsletter, you may still be lucky enough to spot Kirsten around the EU wharves, as she has transferred to our sister company Trident Archäology and is now based in the Netherlands.



## 2024-2025 Finds Awards

We say goodbye to 2025 as we usher in a new year of discoveries, kicking off with the Annual Finds Awards! We are delighted to announce the winners for the 2024–2025 reporting year, which ran from October 2024 to September 2025. Any finds reported after those dates will count towards the awards for next year. If you'd like to have a look at some of the reported finds from 2024–2025, you can access the Annual Report online at: <https://wessexarchaeologylibrary.org/library/repository/view/350/>.

### Best Find

While choosing the 'Best Find' for every year is certainly a challenge, with **61** finds reported in the 2024–2025 cycle, we do have quite a selection to choose from! The find that edged it for us is the first of its kind in *Dredged Up's* history; the charismatic mariner's lantern discovered at Newhaven Wharf, **Brett\_1171**.

**Brett\_1171** is a surprisingly largely intact lantern that was used for navigational purposes and found in Licence Area 340. These types of lanterns were crucial for navigational signalling, which became maritime law in the 19th century and is identifiable by the furrowed glass design and the ring on the top. They were typically made of a combination of metals, including brass, copper, iron, wrought iron and steel. Due to the extensive level of rust on the lantern, this indicates that it was likely made from wrought iron and a cheaper form of steel. Given the size of the lantern and the round loophole on top, it was probably used to identify port and starboard on a vessel. Lanterns for the port side were illuminated in red, whereas the starboard side lanterns were green, a system still in place today. This was important for vessel-shore communication as well as indicating position and orientation.

Traditional oil and kerosene-burning lighting have been replaced by more modern and durable illumination with the help of electricity and the manufacture of popular lighting such as LED and solar. These developments also result in a far safer form of illumination which does not rely on combustion (and flammable materials!). Different combinations and colours have advanced to display an array of mariner 'Road Rules' for navigation and communication with other vessels and the shore. Light and sound underpinned safety onboard as lanterns and other navigational equipment would play a role in safely navigating in fog conditions and, if obscured by heavy fog, whistles and foghorns would also be employed.

### Best Attitude by a Vessel

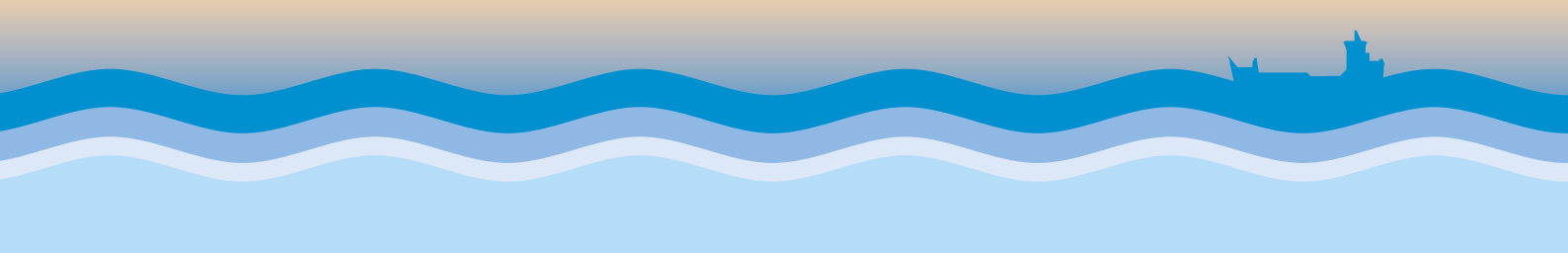
A big congratulations to *Sand Falcon*, this year's winner for the 'Best Attitude by a Vessel' for 2024–2025. They have managed to report a total of **16** finds during this year,



including a large number of aluminium aircraft fragments, **Cemex\_1181**. This collection of objects possibly suggests debris from an undiscovered and previously unknown aircraft wreck site in the area. Raising further questions is another find, **Cemex\_1184**, consisting of two UXO casings, one of which appears to have been painted green, for unknown reasons.

UXO casings





Aircraft fragments

### Best Attitude by a Wharf

This year's winner for the 'Best Attitude by a Wharf' is Heidelberg Rochester! In March of 2025, the Implementation Team were delighted to hear of a very curious find that had been specially kept aside for them, **Heidelberg\_1176**. Inside a container of water, Heidelberg Rochester had secured and taken care of nothing other than a prehistoric mammoth bone! This approach and their first aid for finds helps to ensure the ongoing preservation of these important megafaunal remains and to add to our archaeological record of submerged landscapes. Great job Heidelberg Rochester!



## Finds Roundup

### Heidelberg\_1221

These two pottery sherds were reported by the Heidelberg Dagenham Wharf from Licence Area 240 and are roughly similar in size, being around 80 mm long, 30 mm wide and 10 mm thick. One of the pieces is diagnostic, being the rim. The sherds are an off-yellow colour, and evenly spaced fine inclusions are visible in the material's makeup. A glaze appears to be present on the inside surface of both sherds but is not present on the reverse.

Daniel Carter, a pottery specialist with Wessex Archaeology, examined the material. He was able to confirm that both sherds were from the same vessel and identify the find as examples of post-medieval Norman pottery. Daniel believes that both sherds are fragments of a bowl.



It is unclear how these finds came to be on the seabed. Most likely the bowl was used on a vessel and was thrown over the side when it broke. This find is an interesting look at the past exploitation of the waters surrounding the British Isles and the movement of people and goods that took place.

### Heidelberg\_1217

This find appears to be a small fragmentary piece of an anchor and was reported by the Heidelberg Dagenham Wharf from an unknown licence area. As visible from the grain, the anchor is made of wrought iron, and the find is heavily corroded and damaged. The surviving shank is roughly 300 mm long, 45 mm wide and 40 mm thick. The surviving arm is roughly 400 mm long. While the flukes are not present, an indentation on the end of the surviving arm might indicate the position where one was welded.

Based on the size of the anchor it is very likely that this find belonged to a small boat and the size of the iron bars that were used in its construction suggest it could have been produced in a typical town smithy rather than a dedicated naval forge.

The circumstances of deposition are probably linked to the anchor's physical condition. The failure of the weld at the crown suggests the anchor broke at the cross – the intersection of the arms and the shank. Historically, the cross is the most vulnerable point of an anchor due to the leverage applied when the fluke took hold of the seabed.





## Heidelberg\_1222

This find is a piece of unexploded ordnance identified at Greenhithe Wharf and recovered from Licence Area 361. A fuse is visible as well as a single driving band. Some of the markings on the fuse are visible, most notably 'VAD'.

Richard Noyce of Royal Armouries Leeds and Mark Khan of Command Post Media Ltd. were contacted to help identify the find. Both Richard and Mark were able to provisionally identify the fuse as a British-made No. 198. This type of naval fuse was introduced in 1925 and was used on star shells. Star shells are a type of illumination round where a parachuting flare is deployed. This kind of ordnance was used to identify and mark targets, as well as for signalling and general illumination. The calibre of the munition appears to be around 4 to 4.5 inches, which matches several naval armaments.

The markings 'VAD' corresponds to 'Vickers Armstrong Dartford'. Vickers Armstrong was an engineering company formed in 1927 with the merger of Vickers Limited and Sir W. G. Armstrong & Whitworth Company. The company designed and built several armaments and military vehicles, as well as the general production of munitions. Vickers Armstrong was a significant employer and manufacturer, and prior to rearmament in the 1930s, they were the third largest manufacturing employer in Britain. The factory at Dartford was one part of that manufacturing infrastructure.

It is unclear exactly how this piece of UXO came to rest on the seabed. A closer examination of the driving band shows

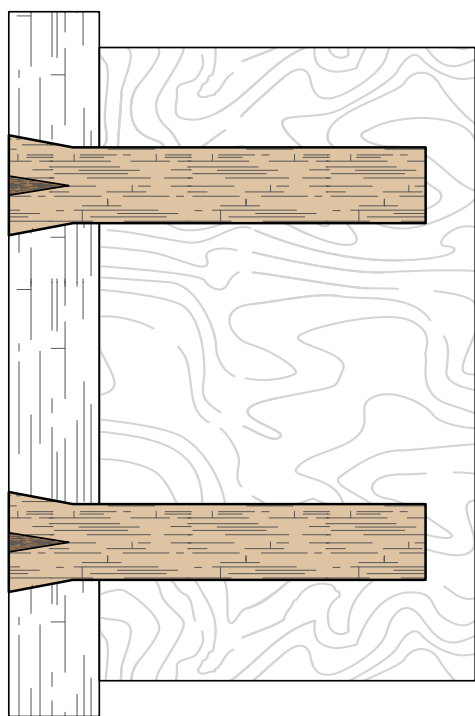
that the projectile was not fired. That the ordnance did not function suggests either a fault with the device or that the ordnance was lost over the side without being fired. In line with standard UXO procedures, the find was safely disposed of at the wharf.

*UXO pose a significant risk to life and established wharf procedures should always take priority over archaeological reporting. It is important that all suspected UXO should not be moved unless by suitably trained personnel and photographs should only be taken when it is considered safe to do so.*



## Ship's Fasteners

Over the last twenty years of the Protocol, there have been a number of finds reported that have been identified as types of ship's fasteners. Any element of joinery that secures the hull of a vessel together can be considered to be a fastener and may be constructed from a range of materials. These are essential elements of ship construction, adapted and evolved in different ways for use by each seafaring culture. Thousands of years ago, early floating rafts would have been tied together with rope or cord, which would have rotted away, except in exceptional circumstances of preservation. Most of the fasteners discussed in this issue will focus on more modern wooden and metal fasteners, rather than ancient techniques of ship construction.



Wedged treenail

### Finds Reported as Fasteners

Rope lashings gave way to sewn plank hulls, which in turn were further complemented by wooden joining elements. As wooden sailing vessels grew larger and more numerous, this required the development of new techniques of joining them together. Fastenings of the early modern period included dowels, tenons and wedges which would slot into a hole or mortise, or joined in a dovetail, techniques still used today for joining wooden pieces together. No peg is made equal however and while terms may be the same across various cultures, their use or form may be very different.

Evidence of wooden ship's fastenings are demonstrated by **Heidelberg\_1178**, a collection of four wooden ship components. Each of these pieces shows evidence of

'working', with three of them containing treenail holes (see image on the left). Treenails are dowels made from a hardwood which are hammered into a drilled hole between two pieces of wood. A wedge is then hammered into each end of the treenail so that when the wood expanded as it got wet, an extremely tight and effective seal would be made, which would last for the life of the vessel. Some estimates state that large vessels required between 20,000 to 50,000 treenails. These common fastenings were cheap to make and lightweight and could be complemented with other fastenings, including nails, wedges and dowels.

**Heidelberg\_1178** also suggests evidence of nails as one of the smaller pieces of timber has indentations, namely small circular impressions in the wood. One would often see a range of fastenings used across the entirety of a vessel in order to secure different elements together or to perform different tasks.

Nails could be made from a range of metals and could be made in the recognisable shape or even a hooked design to better secure a treenail. Indeed, the first-century Herculaneum boat found in Naples used bronze nails to attach frames and planks together. Within the reported finds, **Tarmac\_1186** was described as a wrought iron nail fixing, which is referred to as a 'dump'. This term describes a short bolt with a long, flattened point and a rounded cross section.



Heidelberg\_1178

First described in 1794, the term was common throughout the 19th century, and they were used in conjunction with wooden treenails. As such, it likely comes from a wooden vessel post-1800. Since these valuable materials would not have been deliberately discarded, it is unknown whether the nail was lost as part of a shipwreck or accidentally lost overboard. Bolts were also commonly used, often alongside washers or plates to further tighten the planks together. Other metal fastenings may include staples, bolts and rivets which would have been even more visually prominent when metal vessels rose in popularity and use.

### 350 Years of Development

The first mention of the use of iron for a Royal Navy ship other than in bolts and nails is for the HMS *Royal James*, which was launched in 1671. Initial disapproval came from the Admiralty, as the shipwright had substituted wooden timbers for U-shaped iron brackets to better secure beams to the frames. This was due to there being a shortage of wood, likely as a result of rebuilding after the Great Fire of London in 1666. This innovative approach was not to be repeated until fifty years later, as the Royal Navy's 1719 Establishment introduced a set of requirements to standardise vessel design. In the first half of the 18th century, shipbuilders tended to prefer traditional timber over iron elements, as imported iron was expensive due to impurities and weakness in domestic stocks. It was at this time that copper hull sheathing was developed and investments in the iron industry in the latter half of the 18th century paved the way for an uptake in iron fittings in shipbuilding.

Over the course of its working lifetime, a vessel may exhibit a range of fastening techniques such as those seen on HMS *Victory*, pictured. There are very few original outer planking timbers left on the vessel; however, these timbers are a testament to a vast range of materials and methods used to secure the ship together. Bolts and washers, wooden treenails and dowels, copper pegs and nails are all visible on single timbers. As combinations of fasteners develop and wane over time, they are often superseded by novel developments and technologies.

While forms of rivets exist dating to the Bronze Age, the type of rivets used in shipbuilding were introduced in the mid-19th century. Riveting was tied to the Industrial Revolution and used in bridge construction, railways and boiler-work before their use in shipbuilding. Rivets typically required skilled installers and were largely superseded in the mid-20th century by welding techniques and high-strength bolts made from high-grade steel alloys. As a shipwreck degrades underwater, these ship construction elements may all be found *in-situ* or may well represent isolated finds, lost accidentally. Over time, the development of seafaring vessels was predicated on the traditions, skills and crafts of ship construction, particularly developments in fastenings. At its core, fastenings enabled the construction of larger vessels, further distances covered and increased amounts of trade.





## Hidden Shape

For a bit of fun, you'll need to grab a pencil as we've included a hidden shape within the number grid which represents a type of marine find. The answer to each clue below is a number which you then shade in within the grid. We've already given you an answer to a clue to start you off! Good luck!

7	2	1	4	9	3	2	4	7
4	3	6	5	6	9	5	1	3
1	8	7	3	5	4	7	3	2
8	2	4	8	9	1	2	4	8
7	3	1	8	6	7	4	8	1
2	6	8	7	5	3	2	9	8
1	3	9	8	6	4	5	1	7
8	2	1	5	9	6	7	2	3
7	8	4	3	5	1	4	8	2

How many pages does this newsletter have? **8**

How many tusks did a mammoth have?

How many times can a shell be fired?

What is the number of edges on a lateen or triangular shape sail?

What is the area toward the front part of a ship called?

In the common phrase how many seas are there?