

HMS Invincible: The Show Goes On and On

Chatham Historic Dockyard received the fruits of three full excavation seasons of HMS Invincible by MAST, in partnership with Bournemouth University and the site licensee, Dan Pascoe. Chatham allowed us to exhibit what is potentially the largest collection of 18th century rope from a Royal Navy warship. Now Chatham has packed up the exhibition for the next stop at The National Museum of the Royal Navy in Hartlepool in spring.



Prince Charles earlier this year, viewing the rope and gun carriage from the Invincible, at Chatham dockyard.

- **World Maritime Day**

World Maritime Day saw the Royal Navy formally transferring ownership of every HMS Invincible artefact recovered during our three year excavation with Bournemouth University, to the NMRN.



Above: Brigadier Jock Fraser RM with Dominic Tweddle, DG of NMRN

Maritime Observatory



The
Maritime
Observatory

The Observatory in action

MAST and OceanMind, a not-for-profit organisation which specialises in the monitoring of illegal, unreported and unregulated fishing for governments and the private sector, have joined forces to harness the growing capabilities of the space sector to better protect important maritime sites from unauthorised salvage. Our intention is to protect naval



war graves and underwater cultural heritage with governments around the world. The Observatory is also able to detect oil leaking from shipwrecks, particularly important post 1870 metal wrecks.

Example of looting in SE Asia – the Japanese light cruiser Chosa Maru in 2014

- Dutch contract

The Maritime Observatory is currently working on a second project with the Netherlands Information and Heritage Inspectorate and its Cultural Heritage Agency to monitor certain Dutch wreck sites. We are combining our archaeological expertise and specialist knowledge with the advanced technologies operated by OceanMind. The aim of this project is to keep an eye on the wrecks to better understand which are at risk and how they are threatened. This is vital to enable the Inspectorate, the RCE and other agencies and authorities to access actionable intelligence on human activity at these vulnerable sites to best protect them by deterring looters who know they are being watched.



The Hai Wei Gong seen conducting unauthorized salvage on the Dutch submarine O16 in 2013

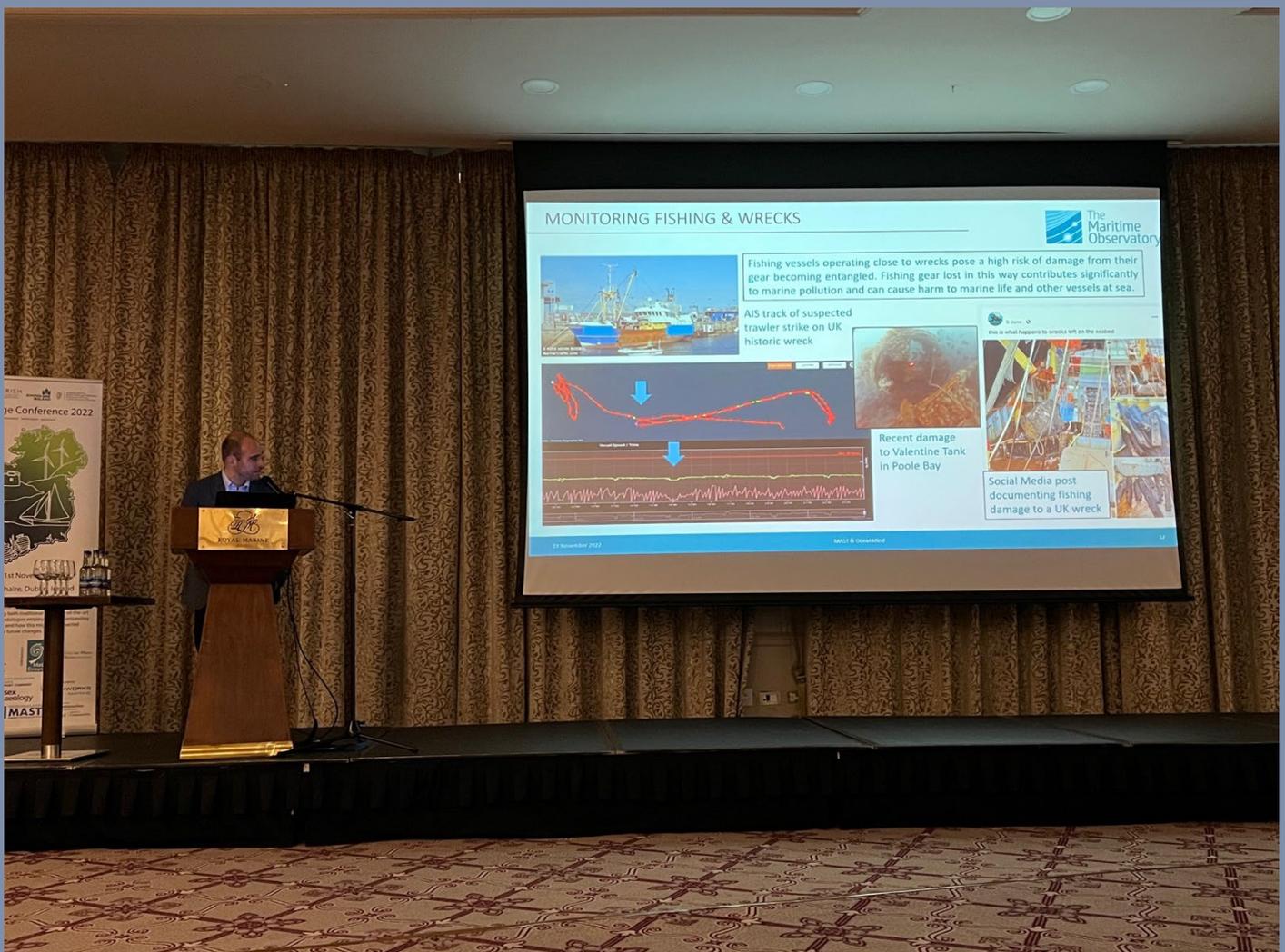
- Honor Frost grant to fund monitoring of a Sicilian site

We are delighted to be working with the Sicilian authorities, thanks to a £15,000 grant from the Honor Frost Foundation (HFF) to develop an open source methodology for the remote monitoring of the Battle of Egadi islands, in a Marine Protected Area (MPA), using satellite technology, machine learning and HUMINT.

Many such sites face threats from unauthorised salvage, treasure hunting and souvenir collecting. The Battle of Egadi Islands in 241BC is the only known ancient naval battlefield. The site was discovered following a Carabinieri raid recovering artefacts. Although an MPA was designated to preserve the site it has remained vulnerable to looting due to the challenges of traditional monitoring methods reliant on patrol vessels. This project will apply the Observatory's cutting-edge technology and methods to monitor activity on the site and provide a capacity-building White Paper with Cranfield University for HFF that will aid researchers and heritage managers in the region. Our recently signed MoU with Cranfield University has helped to enhance our working relationship.

- Nautical Archaeology Society

Giles Richardson, the Observatory's chief analyst, delivered a talk on the workings of the Observatory to the Nautical Archaeology Society's annual conference in Dún Laoghaire, Dublin.



Giles Richardson talking to the NAS conference, November 2022.

Advocacy

- MAST blog courtesy of the Heritage Alliance

Invited by the Heritage Alliance to state what we believe to be the greatest threats facing Underwater Cultural Heritage (UCH) in the next 20 years, and how well equipped the maritime archaeology sector is to meet these, we wrote a blog that can be found on the [Heritage Alliance](#) website. Professor Mike Williams of the University of Plymouth, also a MAST Heritage director, led the debate in November at a special event.

Principally, we believe the key threats - which the sector is not well equipped to deal with – are the following:

- Offshore development as energy generation, mineral extraction and agriculture (mariculture) move offshore.
- Coupled with further advances in remote sensing, this will lead to more and more previously unknown UCH being discovered.
- Discovery, in itself, will continue to constitute a threat, since location inevitably enters the public domain. Avoiding disturbance by a seabed developer is not adequate management of risk to newly discovered UCH.
- Climate change: warming seas lead to enhanced biological degradation of UCH, especially from invasive species moving their habitat northwards and more extreme storm events, which result in greater seabed movement. This, in turn, exposes more UCH to biological degradation as well as mechanical damage.

MAST continues to provide advice to British Government departments.

Earlier this year we completed a second [report](#) for the Foreign, Commonwealth and Development Office (FCDO) for the British Antarctic Territory (BAT), a review of significant UCH sites in the BAT and across the Southern Ocean.

- Protecting Endeavour

We are delighted by the discovery of Shackleton's Endeavour in March, and equally pleased by our timely work, with Bournemouth and Plymouth Universities, to protect the site through our [Headline Strategy](#) completed for the FCDO. We are encouraged by assurances from the Falklands Maritime Heritage Trust in a letter to The Times in November that there are no plans to attempt to raise the wreck, that they are working with Canadian partners to develop cutting-edge imaging of the site for all the world to see.



Maritime Survey

- Valentine Tanks in Poole Bay

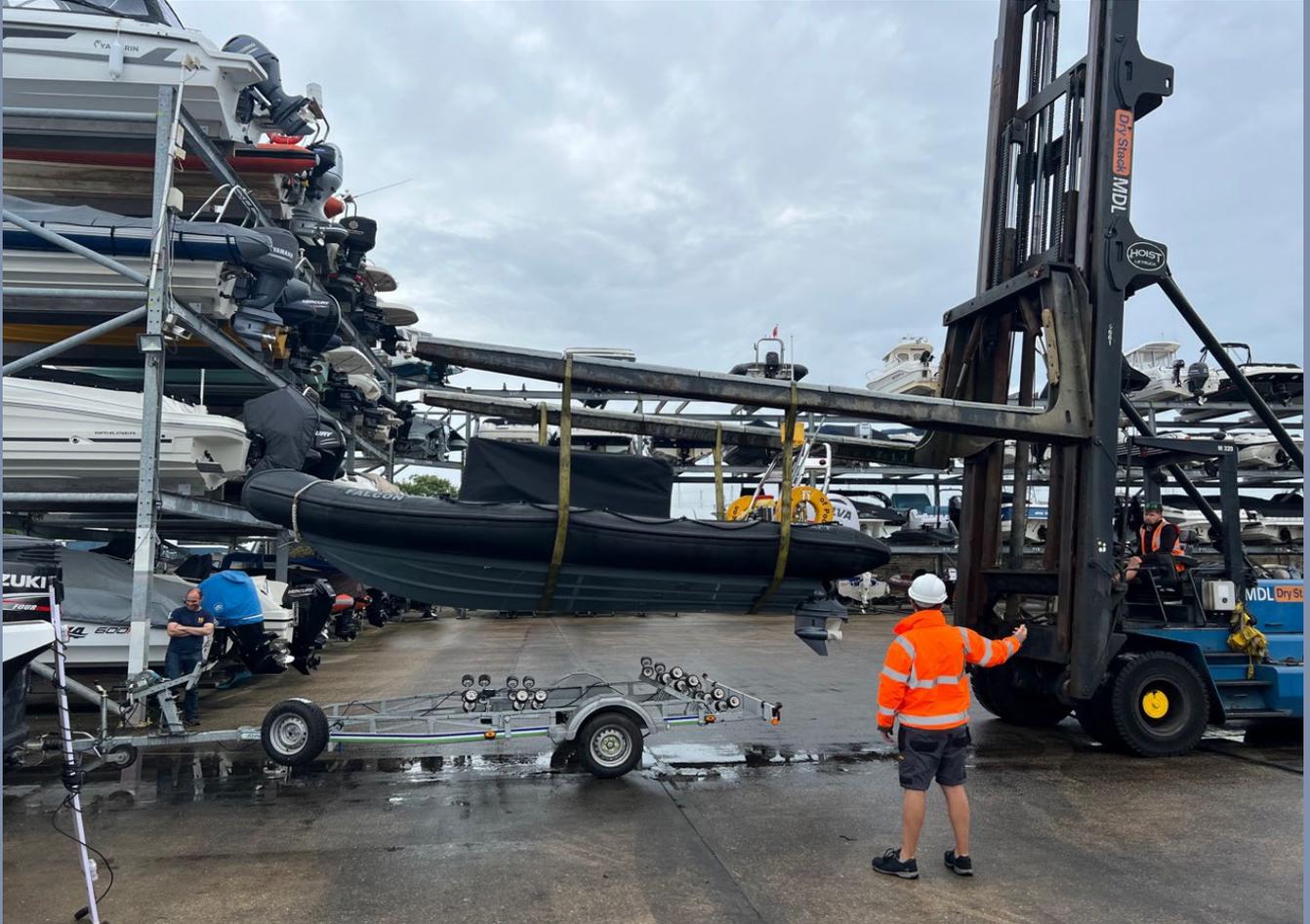
MAST and Bournemouth University divers, acting on a tip-off, discovered severe damage dealt to the last intact Duplex Drive Valentine Tank in Poole Bay, one of seven that sank during the DD rehearsals in which five men died. The divers found that the turret had been torn off. Police and Historic England are investigating. Divers will be conducting a full survey of the damage in the New Year and will then protect the site in a layer of sandbags.



*Damage to Tank 1. Photo:
Bournemouth University/MAST*

- Salcombe 17th century Protected Bay

17th century protected wreck site, Salcombe: using MAST's rib Falcon, MAST, a team from Bournemouth University and South West Maritime Archaeology Group completed a photogrammetric survey of this internationally significant site off the coast of South Devon. This will be used to support a forthcoming publication on site. The British Museum plan to publish the report next year.



MAST's rib Falcon, being loaded on to her trailer for the journey to Salcombe



Finishing last year's photogrammetry survey of the Salcombe site.

And then trying to find a place to park...



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