The Australian Historic Shipwreck Protection Project: the *Clarence* project

Mark Staniforth

Chief Investigator

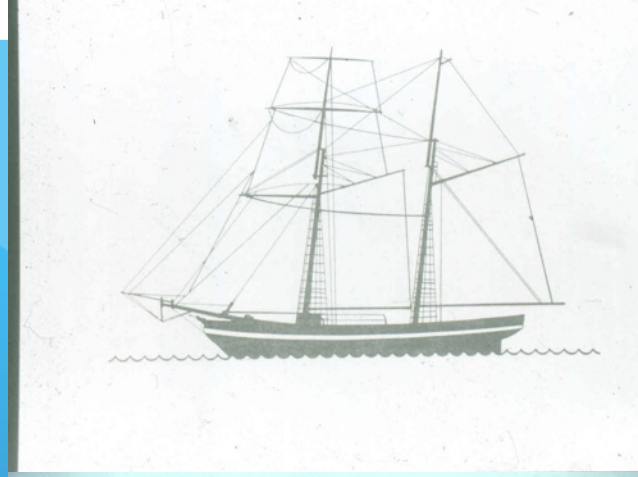
On behalf of the

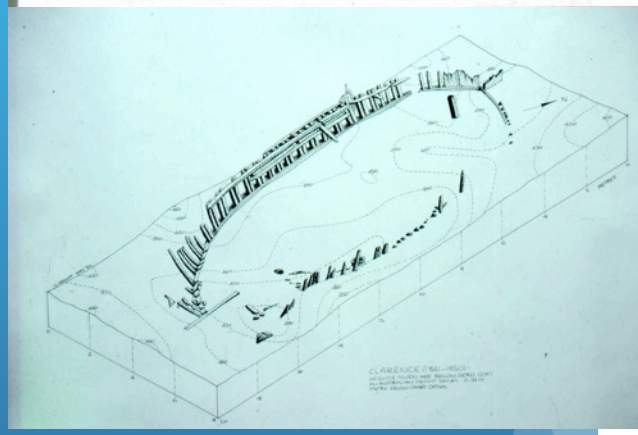
Australian Historic Shipwreck Protection Project Research team

ARC Linkage Grant

- Awarded a large ARC (Australian Research Council) Linkage grant in May 2011 - $ 500,000
- Research will be conducted between late 2011 and the end of 2014 with fieldwork in April/May 2012 and monitoring after that
- Chief investigators – Peter Veth (UWA), Mark Staniforth (Monash) and Tony Barham (ANU)
- Partner investigators – Vicki Richards and Ian MacLeod (WA Museum)
- Ten participant organisations including Heritage Victoria and AIMA
- A national collaborative project = flagship maritime archaeology research project for the next 3 to 5 years

Clarence (1850)

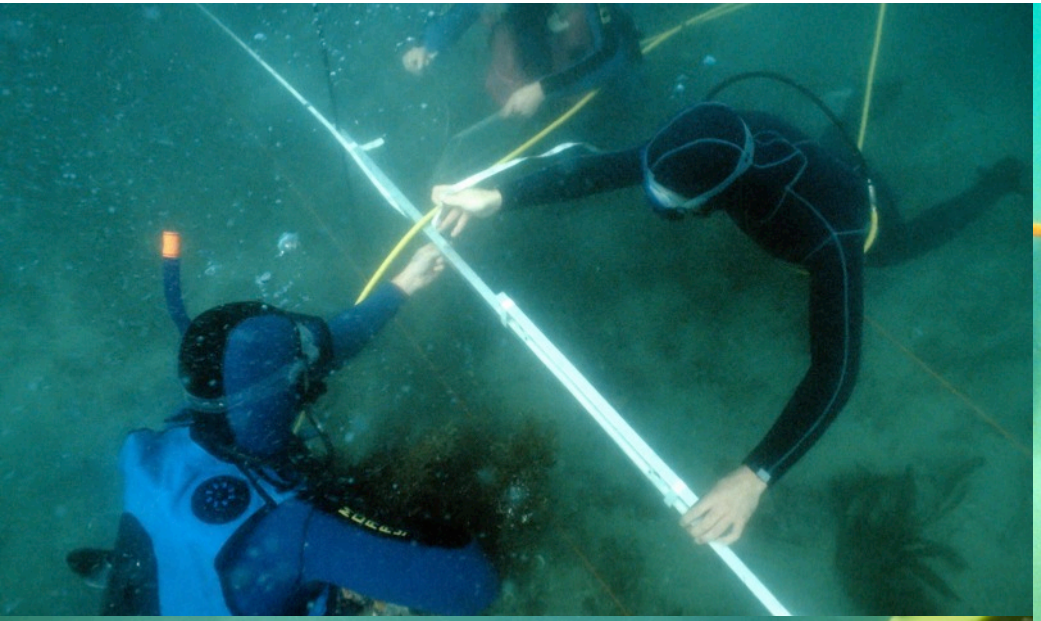


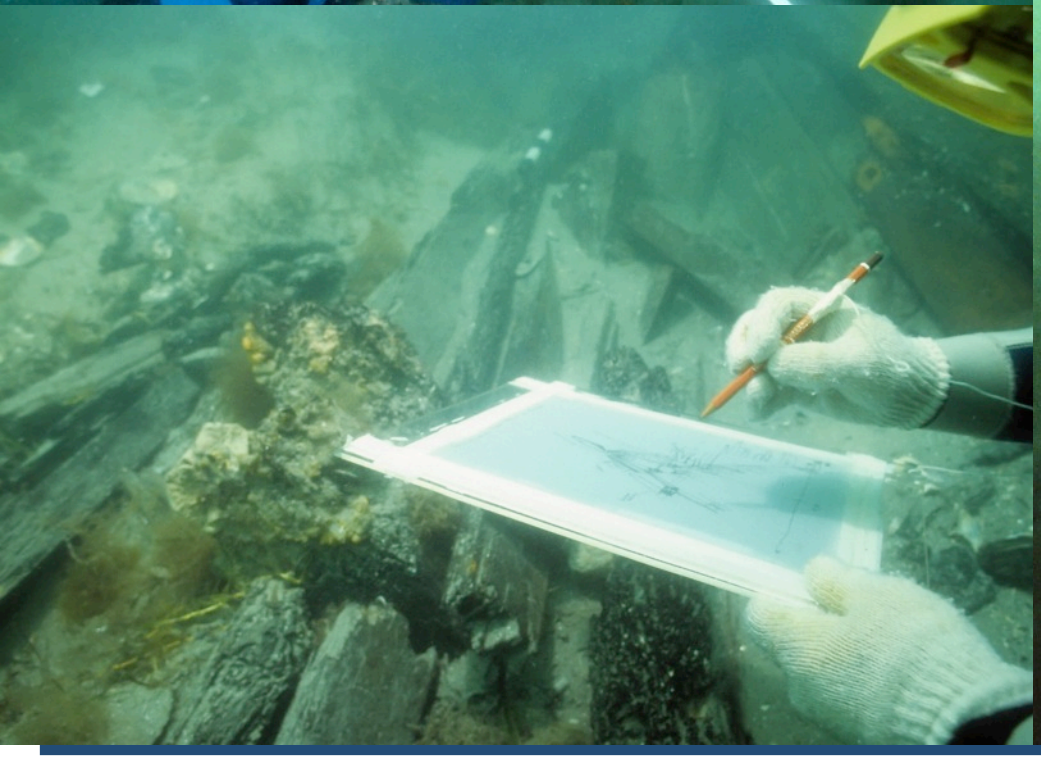


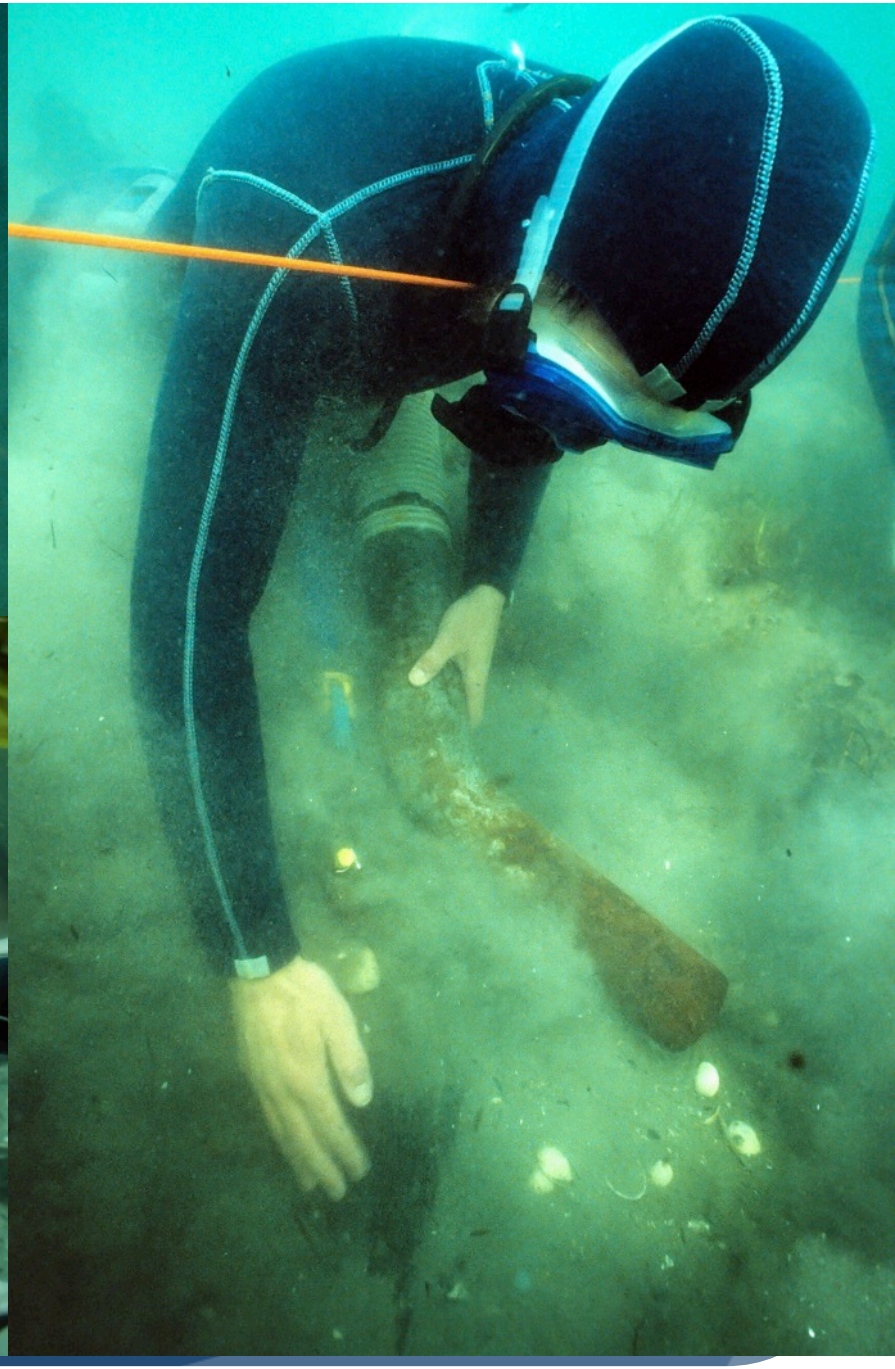
- Built on the Williams River, NSW in 1841
- Dimensions 51 x 16.3 x 8.7 feet
- Two-masted wooden schooner of 67 tons
- Found by MAAV members in 1981
- Located near St Leonard's, Port Philip
- Shallow depth – 4 m of water
- Survey and test excavation by Peter Harvey in mid 1980s
- Protected by the *Victorian Heritage Act 1995*
- Monitored over a 25 year period

Clarence in 1986

Close-plot magnetometer survey
Sub-bottom profiler
Metal detector survey
Marine biology survey
Sediment level recording







Clarence at risk

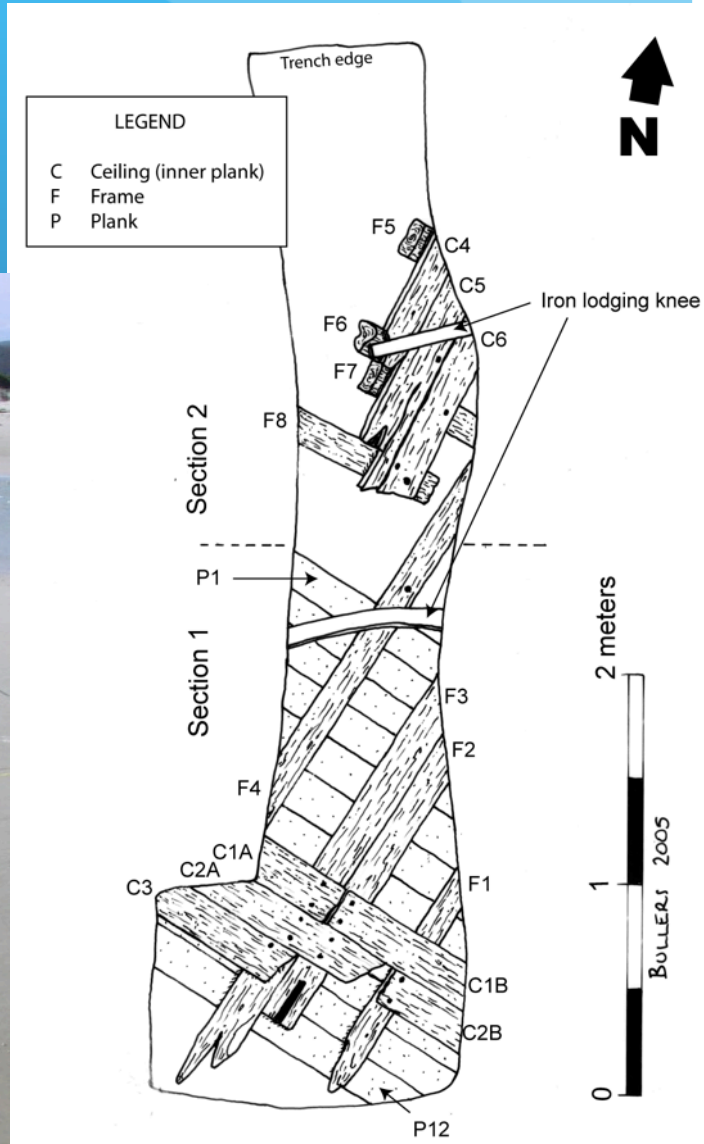
- Fishing boat anchors
- Increased numbers of fishing boats
- Environmental changes – reduction in sediment level

Project objectives

- Add to the knowledge base about Australian colonial wooden ship-building
- Develop a protocol for the rapid recovery, recording and reburial of artefacts
- Develop a methodology for the *in situ* preservation of historic shipwrecks considered at risk

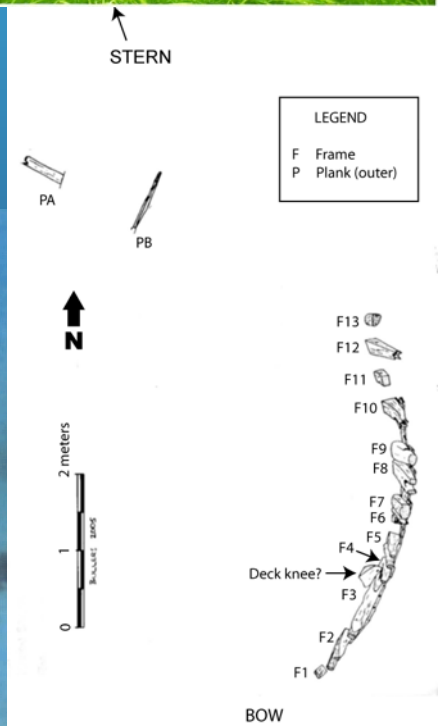
Australian shipbuilding 1

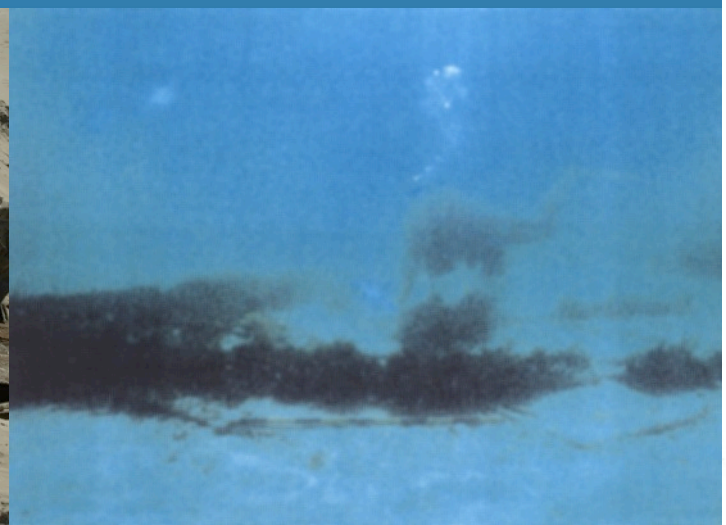
- Longstanding research tradition
- Tasmania, NSW, Victoria and SA



Australian shipbuilding 2

- Historic Shipwrecks National Research Plan (HSNRP) identified Australian shipbuilding as a research theme of national importance
- 2,786 Australian built vessels wrecked
- 271 vessels have been located to date
- 14 Australian-built vessels surveyed and/or excavated





Australian shipbuilding 3

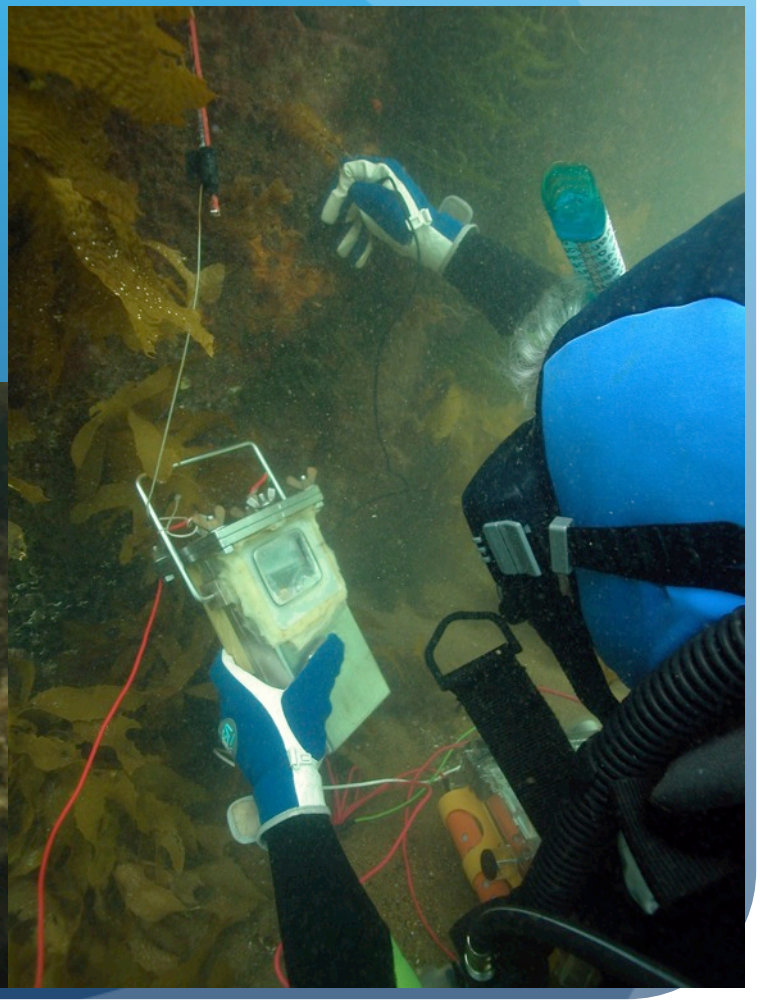
- How did the early Australian settlers adapt to a new land?
- How did they build small wooden vessels from the local timbers?
- Focus on construction of Australian built vessels
- British & American influences on Australian shipbuilding
- Focus on timber analysis
  - Australian timbers were markedly different to European timbers
  - What timbers were used for different parts of a vessel?
  - How quickly did Australian shipwrights adapt to the local environment and the different properties of the indigenous timbers?

Recovery, recording & reburial protocol 1

- Advances in recording technology
- Digital photos and video
- Portable XRF, X-ray equipment 2D and 3D laser imaging
- Bring excavated material to the surface
- Record, measure and analysis
- Reburial on site or next to site
- Some samples taken – destructive testing

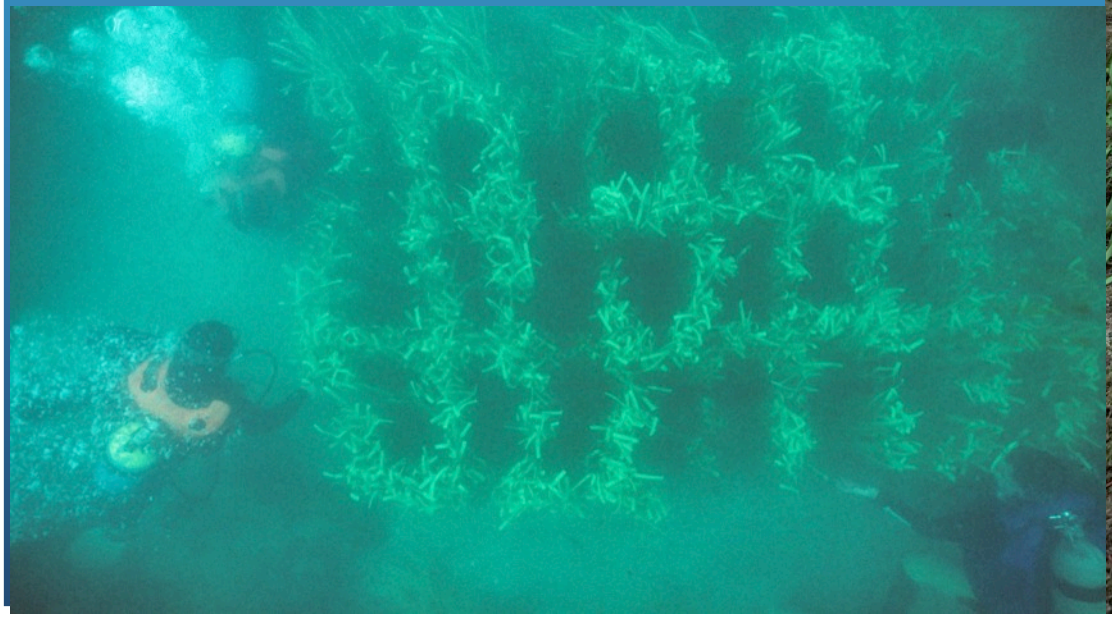
Recovery, recording & reburial protocol 2

Will allow more excavation to take place at less cost
Application in Asia and the Pacific
Sites cannot be left in situ
Reburial in a secure location



In situ preservation 1

- Victoria has long standing experience with in situ preservation
- Cegrass matting was used *on William Salthouse* and tried on *Clarence*
- Sediment core samples on and around the site



In situ preservation 2

- Continuation of Deb Shefi‘s PhD research on anaerobic conditions in the seabed
- Aims to stabilise and decrease the overall deterioration rate particularly by limiting oxygen levels
- To develop a remediation strategy for the long-term preservation of the site

Fieldwork

- 16 April to 11 May 2012
- Based at Portarlington
- Using a jack-up barge = a stable platform for in-field recording
- Excavate 25-50% of the *Clarence* site
- Boats to ferry people to and from the barge
- Volunteers for both diving work and recording work on the barge

Responsibilities

- Excavation methodology will be overseen by Mark Staniforth, Peter Harvey (Heritage Victoria) and Peter Veth
- Conservation and *in-situ* preservation protocols, analyses and pre- and post-reburial monitoring by Ian MacLeod and Vicki Richards
- Imaging co-ordinated by Dudley Creigh (and colleagues) and Andrew Viduka
- Geoarchaeology and GIS by Tony Barham and Masters of Archaeological Science candidates from ANU.

Outputs

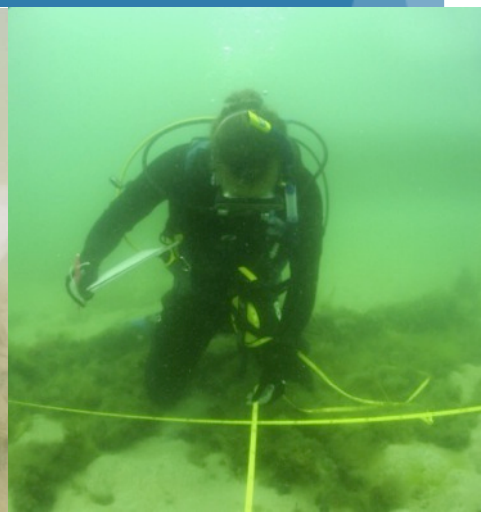
- GIS database
- Website
- Media coverage
- Protocols
- Reports
- Articles in Journals
- Development of national, and international policy and technical guidelines for site managers of historic wrecks

Spin-off projects 1

- Shipwreck glass corrosion project – Ian MacLeod
- Using portable X-ray fluorescence (XRF) spectrophotometers (in the field)
- Measurements of the elements in the layers of degraded and un-degraded glass
- Provides evidence of changes in the depositional microenvironment (variations in burial and the site environment over time)

Spin-off projects 2

- Education about maritime archaeology
- Collaboration between Wendy Van Duivenvoord (Flinders University), CI Mark Staniforth and others
- Aimed at Masters students getting involved in the fieldwork
- Aimed at school children through video and online teaching



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