



A DECADE OF  
*Diving, Delving  
&  
Disseminating*

**The Hampshire & Wight Trust  
for Maritime Archaeology  
1991-2001**



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*Diving, Delving*  
&  
*Disseminating*

**THE HWTMA**

**1991-2001**

B Sparks, G Momber & J Satchell



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# *A Decade of Diving, Delving & Disseminating*

THE HAMPSHIRE & WIGHT TRUST FOR MARITIME ARCHAEOLOGY 1991-2001

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*"Me thought I saw a thousand fearful wrecks;  
a thousand men that fishes knaw'd upon;  
Wedges of gold, great anchors, heaps of pearl,  
Inestimable stones, unvalu'd jewels,  
all scattered in the bottom of the sea"*

**William Shakespeare**  
*Richard III*



# Foreword

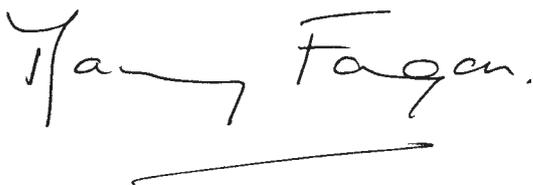
Following a joint initiative of two far sighted Local Authorities, namely the (then) Isle of Wight County Council and Hampshire County Council, the Hampshire and Wight Trust for Maritime Archaeology was launched in 1991.

The underwater and intertidal heritage of the Solent, Wight and adjacent local waters is particularly rich; it not only contains some 800 recorded sites of archaeological interest but also contains the remains of submerged settlements dating back thousands of years. Worked flint tools, animal bones, underwater wooden structures and, of course, wrecks, form part of a fascinating but fragile legacy which the Trust is striving to record, preserve, protect and make known to the many and varied users of our busy waterways and harbours.

All this would not be possible without the outstanding enthusiasm and commitment of Brian Sparks and his team.

The Trust has embarked on an ambitious but realistic long-term programme of research and educational projects, allied to forging partnerships with a large number of public sector authorities and agencies, private sector companies, universities, museums and other maritime organisations. Locally-based volunteers and others from further afield have played a vital role in the Trust since its early days and our recently formed Society of Friends is rapidly gaining momentum.

This Ten Year Review demonstrates how the Trust has tackled its challenging remit to date. There is much still to be done but I am confident that, with continuing support from our public and private sponsors and those who have helped us in so many different ways, the Trust will be able to make people even more aware of a vital but largely hidden part of the country's maritime heritage and the associated social and technological achievements of the past. At the same time, it will continue to contribute to the understanding of coastal evolution and climate change, through the gathering and analysis of further maritime archaeological and palaeo-environmental evidence.



**Mrs Mary Fagan JP**

*Lord Lieutenant of Hampshire*

*President, Hampshire and Wight Trust for Maritime Archaeology*

# Acknowledgements

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Jonathan Adams

John Bingeman

Valerie Fenwick

David Tomalin

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Sarah Draper-Ali, HWTMA Archaeological Officer 1992-1997, for her contribution to Chapter One.  
Dominic Fontana, Geography Department, University of Portsmouth for his assistance with map orientated images.

*Illustrations:*

All of the images in this book are produced by the HWTMA staff, unless mentioned below. The following list is alphabetical with the page number of the image/s in brackets.

Adams, J (21, 31); Bingeman, J (30); Blake, P (7, 8); Bowens, A (44); Breslin, J (55);  
Campbell-Curtis, S (69); Chichester Harbour Conservancy (37); Clayton, V (21);  
Dellinio, V (26); Dix, D (32, 69); Draper, C (14); Earl, G (69); Fontana, D (11, 36);  
Friends of St Barbe Museum (54); Gibbs, R (17); Hampshire County Council (3);  
Isle of Wight Council (3, 58, 59, 60); Keighley, K (16, 17); Markey, M (63);  
Owen, N (24); Parham, D (54, 67); Stone, G (18);  
SEA Ltd/Submetrix (16, 22, 64); Sutton, T (35); Tomalin, D (15).

# In the Beginning

## Pioneering work on the Isle of Wight and a vital report from Hampshire

There is no doubt that the recovery of artefacts and part of the hull of the *Mary Rose* from the murky waters of the Solent raised the profile of underwater archaeology, particularly in Hampshire and the Isle of Wight.

However, other projects were also being undertaken in the 1980s, not least on the Isle of Wight in the form of the Island's Maritime Heritage Project. With funding from the Manpower Services Commission, the (then) Isle of Wight County Council and other sponsors, this project, under the overall direction of Dr David Tomalin, County Archaeological Officer, concentrated on the Yarmouth Roads Protected Wreck Site, believed to contain the wreck of the 16th-century merchant carrack *Santa Lucia*. In its latter stages the project was beset with funding problems and in 1990 the Isle of Wight Trust for Maritime Archaeology was formed.



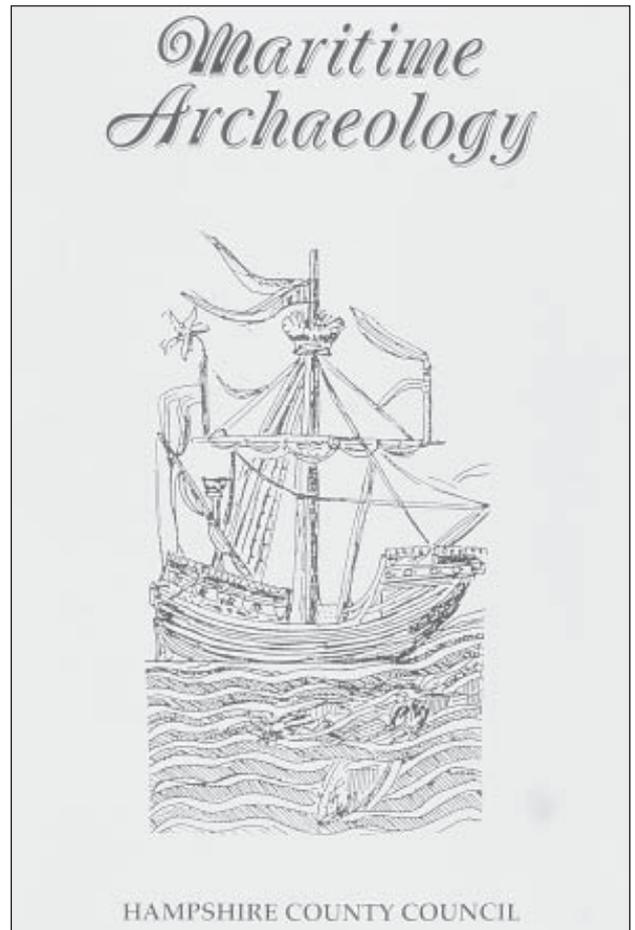
*Artefacts from the Yarmouth Roads Protected Wreck Site*

About the same time, Michael Hughes, County Archaeological Officer, Hampshire County Council, prepared a report on Maritime Archaeology in Hampshire. This recommended, *inter alia*, the setting up of a cross-Solent trust and, following some hard work by a working party chaired by Maldwin Drummond, a seminar was held in the Royal Naval Museum in April 1991 which endorsed this recommendation. With support from the Isle of Wight and Hampshire County Councils, the Hampshire and Wight Trust for Maritime Archaeology (HWTMA) was launched in June 1991. On the Island, the HWTMA inherited the Maritime Heritage Exhibition at Fort Victoria, along with some equipment from the now superseded Isle of Wight Trust for Maritime Archaeology.

## Small is beautiful

It was recognised very early on that the establishment of a small but effective organisation was the only realistic option. Ten members of the HWTMA formed a Management Committee which included the Chairman and Vice-Chairman. Members of this committee also assumed the responsibilities of Trustees. With representation from both sides of the Solent on the Committee, a further requirement was for the Chairmanship of the HWTMA to rotate between Hampshire and the Isle of Wight every three years. County archaeological and other local authority officers attended management committee meetings. A President and Vice-Presidents were also appointed as were, over subsequent years, Patrons. (Appendix 1).

Hampshire County Council assumed responsibility for the Trust's accounts and pay roll whilst the Isle of Wight County Council provided a Company Secretary. This support has continued to this day.



*Report on maritime archaeology recommending inter alia the establishment of a cross Solent trust*

A fulltime Director, Brian Sparks, was appointed and on 1 October 1991 he took up residence in one empty room of a portacabin rented from the University of Southampton on its Highfield Campus. This was the start of a long, fruitful and continuing relationship with that university, albeit the HWTMA has retained its autonomy throughout. The University's establishment of a Centre for Maritime Archaeology was very much welcomed by the HWTMA and Jonathan Adams, the University's first, specialist lecturer in maritime archaeology took on the advisory role of the HWTMA's Archaeological Director. Later, links with the academic world extended to the University of Portsmouth, the University of Bournemouth, University College, London and the University of Bristol.

The HWTMA also benefited from the setting up in late 1991 of an Archaeological Working Group, with representation from the Nautical Archaeology Society, the Council for British Archaeology, the Royal Commission for the Historical Monuments of England, the Hampshire and Isle of Wight County Council, the University of Southampton, and the Royal Naval Museum.

This gave the HWTMA access to a wealth of archaeological advice and thought-provoking views on the way ahead.

## What are we here for?

Although it had been established that the aim of the HWTMA was to promote interest, research and knowledge of maritime archaeology and heritage, specific objectives had to be thrashed out. After much discussion in the Management Committee and Archaeological Working Group the following were agreed:

- ◆ To research and record the range of sites still surviving and learn more about their condition.
- ◆ To prevent the unnecessary destruction of sites.
- ◆ To enable the general public to enjoy the wonders of maritime archaeology through lectures, seminars, displays and publications.
- ◆ To involve local community volunteers, amateur divers and students in the Trust's research and educational projects.
- ◆ To provide maritime archaeological services for Local Authorities.
- ◆ To ensure that maritime archaeology plays an important role in coastal planning and management.

The HWTMA's current Key Objectives maintain a very similar theme (Appendix 2).

*Shipping in the Solent has been a major activity throughout history*



## History beneath the Solent

Initial research, as recommended by the Archaeological Working Group and endorsed by the Management Committee, centred on particular projects on both sides (and in the centre) of the Solent and confirmed that the Solent estuarine system embraced a submerged landscape of unique national importance, overlain with a large number of wreck and other maritime sites, seven of which were designated Protected Wreck sites.

## An increase in staff and a high-tech report

The appointment of an Archaeological Officer in June 1992 greatly enhanced the capability of the HWTMA and, in addition to overseeing the fieldwork and diving programme, she was tasked with producing an advisory report on the feasibility of locating, identifying and evaluating archaeological sites from offshore commercial survey data. Funded by the (then) Department of National Heritage and the Crown Estate, this project involved two years' extensive research with contact being made with all types of organisations involved in offshore work including oil exploration, aggregate extraction, cable-laying, waste water outfalls, maintenance dredging, harbour works, gas pipelines and coastal defence. In 1996 *'Marine Archaeology and Geophysical Survey: A Review of Commercial Survey Practice and its Contribution to Archaeological Prospection'* by Sarah Draper-Ali, reached the following conclusions:

- ◆ Developers require varying levels of information about the seabed. Consequently, every type of commercial survey is individually refined to satisfy the needs of specific developments. This results in the acquisition of a great range of survey data.
- ◆ It is possible to retrieve archaeological information from commercial survey data. However, opportunities vary considerably according to the specific aims of the commercial survey exercise.
- ◆ When considering the utility of commercially derived data sets for archaeological prospection, it is imperative to apply a set of criteria derived from a clear understanding of archaeological objectives.
- ◆ Geophysical techniques play a major role in archaeological surveys on land and sea.
- ◆ In a marine context most research into archaeological prospection has focused on the location and description of ship-related material.
- ◆ The potential for discovery of submerged land surfaces and evidence for prehistoric occupation is widely acknowledged.

- ◆ Detailed survey coverage likely to be of use to archaeologists tends to be restricted to relatively small areas of seabed.
- ◆ Extensive consultation with equipment manufacturers and professional surveyors is a very effective means of obtaining expert advice and opportunities to evaluate equipment.
- ◆ Substantial archives of geophysical survey are held by bodies such as the British Geological Survey and commercial companies. However, the archaeological potential of this data is highly variable and generally limited.
- ◆ Research projects such as the Southampton University *Chirp* project and the RCHME investigation of geophysical survey use for the development of the National Monuments Record Maritime should contribute to rapid progress in refinement of archaeological prospection in the United Kingdom.

## Two plus two equals five - partnerships and co-ordination

Sarah Draper-Ali's project not only greatly increased understanding of the potential of geophysical techniques in relation to marine archaeology but it also provided the HWTMA with a large number of useful contacts, made during the course of her research, and a considerable amount of information. Later it set a benchmark for Ms Draper-Ali's subsequent marine archaeological assessments which, having left the Trust in 1997, she is now undertaking in Hong Kong.

Coupled with the, by then, well-established links with the Department of National Heritage (later the Department for Culture, Media and Sport), the Crown Estate, the Royal Commission for the Historic Monuments of England, Local Authorities, the Nautical Archaeology Society, the Mary Rose Trust and the Royal Naval Museum amongst others, it became apparent that there was a pressing need for co-ordination of maritime archaeological research in the local area with a view to 'making things happen'. With help from many partners, the HWTMA has been able to act as a catalyst in the promotion of many and varied projects. In most it has taken the lead, in others it has played a supporting role.

The HWTMA has continued to foster partnerships and a full list is at Appendix 3.

## See and be seen - the representational task

Any new organisation has to make itself heard and fight its corner. From the launch of the HWTMA onwards it has been most important to allocate time and other resources to attendance at local, regional and national meetings

(see Appendix 4). On the premise that any publicity is good publicity, resources have also been put towards media coverage, both nationally and locally. That said, the demands of the representational remit have to be balanced against other, equally important, tasks facing the HWTMA's 2.5 permanent staff.

### **Volunteers - we love them!**

For over a century volunteers have played a vital role in archaeological research and the HWTMA has wisely continued this tradition. Indeed, without such support from the local community and others based further afield it would have been (and still is) difficult to keep the momentum going on various projects. In particular, the Nautical Archaeology Society's (NAS) training scheme has produced a nucleus of enthusiastic and well-trained volunteers and the HWTMA has been able to provide worthwhile projects in which they can develop their skills further.

A particular initiative of Garry Momber who superseded Sarah Draper-Ali as the HWTMA's Archaeological Officer in 1997, has been the major Solent Maritime Archaeological Project (SOLMAP) series of projects which, to date, has involved over 100 volunteers.

The HWTMA's links with the universities have also produced another mutually supportive arrangement. Archaeological students, in particular those attending the University of

Southampton's MA/MSc course in Maritime Archaeology, are keen to gain practical experience and, like the NAS volunteers, they also get involved in HWTMA projects.

### **Who needs Friends? We do!**

A more recent initiative has been the setting up of the HWTMA's Society of Friends. This is already proving most worthwhile with Friends being involved in anything from fieldwork to display refurbishment.

### **Education, Education, Education**

There is no point in carrying out research without comprehensive dissemination of the results. Education, in the widest sense of the word, was recognised as one of the primary activities for the HWTMA from its very early days.

**Publications and Reports** of both a popular and academic, or specialist, nature have been and continue to be produced. Annual Reports have summarised HWTMA activities on a regular basis and also provided a useful tool for fund-raising. Articles have been published in the *International Journal for Nautical Archaeology*, trade magazines and contributions have been made to seminar proceedings. A second edition of the popular booklet '*The Story beneath the Solent*', written by HWTMA member Alison Gale and first produced in early 1991 by the Isle of Wight Trust for Maritime Archaeology, was recently published, with sponsorship from the Crown Estate. Contributions have been made to publications such as '*Our Changing Coast: a survey of the intertidal archaeology of Langstone Harbour, Hampshire*' (2000) and the European Commission LIFE report '*Coastal Change, Climate and Instability*' (2000).

A full list of reports and publications is at Appendix 5.

**Newsletters** have also been produced each year, providing a regular update on HWTMA activities in between annual reports. Contributions have also been made to other organisations' newsletters such as the Nautical Archaeology Society, the Solent Protection Society, the Solent Forum and the Standing Conference on Problems Associated with the Coastline.

**Websites** more recently the HWTMA has set up its own website which has enabled it to disseminate information on a much wider basis. It has also been involved in the setting up of websites for specific projects.

**The Maritime Heritage Exhibition, Fort Victoria** has proved an invaluable asset as the only permanent and comprehensive exhibition depicting the work of the HWTMA. Inherited from our predecessor Trust, the Isle of Wight Trust for Maritime Archaeology, the exhibition has undergone two major refurbishments in the past ten years.



*SOLMAP enabled volunteers, students and professional divers to work together on marine archaeological sites*



*The refurbished Fort Victoria Exhibition*

The first refurbishment was completed in 1996. With input from Alison Gale and Sarah Draper-Ali, fifteen didactic panels were designed by museum designer Karen Sullivan-King. Portraying a much wider theme than the previous display, the panels explain how the archaeology of the Solent spans thousands of years from the campsites of prehistoric hunters to the warships of World War II and describe how the HWTMA is co-ordinating work on various sites in the area. They also give a definition of maritime archaeology and note that only very few UK shipwrecks are protected. Geophysical survey techniques are explained, along with satellite position fixing equipment.

Two years later a second major refurbishment was undertaken in time for the start of the 1999 season. Visitors, whose numbers increased rapidly after these improvements, now walk through the largest new exhibit - a replica of part of a 'First Fleet' ship, which has been kindly loaned by the Isle of Wight Council. The First Fleet set off from its Mother Bank anchorage in the Solent some 250 years ago with a human cargo of convicts who were being transported to Australia. Fullsize figures and information about the ships, their captains and crews bring this poignant story to life. Another new attraction is a mock-up of a diving boat cabin where archaeologists can study data from underwater surveys and write up reports.

Opportunity has also been taken over the years to improve existing displays, including a detailed model, plans and photographs telling the story of Fort Victoria itself from its

construction in the mid-19th century to the part it played in World War II. Other three-dimensional displays include a replica cabin from the *Santa Lucia*, a full scale model of a diving archaeologist working on the wreck and a diorama of the excavations. Artefacts, many on display from the Bembridge Maritime Museum, complete the story.

The day-to-day running of the Maritime Heritage Exhibition is left in the capable hands of Nick and Paul Blake, joint proprietors of the Fort Victoria Marine Aquarium.

**Displays** in the form of two-dimensional panels depicting the work of the HWTMA, accompanied by a selection of artefacts, have been exhibited at various locations ranging from the International Festivals of the Sea in Portsmouth to acting as a 'poster' display at conferences and seminars.

**Lectures, seminars and presentations** all take time but are, perhaps, the primary means of 'spreading the word'. Since its launch the HWTMA has made a conscious effort to organise and give lectures, seminars and presentations to both local audiences and further afield. Apart from numerous opportunities to describe the work of the HWTMA, it has always been most rewarding for the speakers as they have invariably received a very positive response from genuinely interested audiences.

A full list of lectures, seminars and presentations that have been given is at Appendix 6.

### **The Lord helps those who help themselves**

One of the main challenges facing, and continuing to face, the HWTMA is the requirement to raise funds on a regular basis. There is no doubt that, without the initial and subsequent grants from Hampshire and Isle of Wight County Councils, the HWTMA could well have foundered in its early days. This 'core funding' gave the Director breathing space to initiate a vigorous and sustained fund-raising campaign. He could have done little without the advice and practical help of the HWTMA's President, Vice-Presidents and Management Committee members and, later, the Patrons.

The fund-raising net has had to be spread far and wide. Applications for grants from the public sector, private sector companies, grant making trusts and other organisations continue to be made, mostly on an annual basis, and it remains vital that sufficient time is allocated to the fund-raising task.

Following a suggestion by Mr Maldwin Drummond, an Advisory Committee was set up in 1998 to try and get more involvement, in particular, of private sector companies, thus increasing the HWTMA's potential funding base. Members of this Committee include Mr Michael Aiken, Chairman of Wightlink Limited and one of our

Patrons, Sir Charles Tidbury, Patron, Mr Drummond, Trustee, and the Director. Results of this initiative are now beginning to bear fruit.

In addition to Local Authority funding which has extended to West Sussex County Council and Southampton and Portsmouth City Councils, the HWTMA has been particularly fortunate in successful application for grants from the Department for Culture, Media and Sport's Heritage Grant Fund and has been able to meet the challenge of matching this grant with private sector funding.

Other major sponsors have included the Crown Estate, the Royal Commission for the Historical Monuments of England, Wightlink Limited, British American Tobacco plc, the Esmée Fairbairn Foundation (previously the Esmée Fairbairn Charitable Trust), the Pilgrim Trust, the Garfield Weston Foundation, the Daisie Rich Trust, the Hilton Cheek Trust, the Herapath Shenton Trust, the John Coates Charitable Trust, the Robert Kiln Charitable Trust, the Gosling Foundation, the Solent Protection Society and the Standing Conference on Problems Associated with the Coastline.

Donations in kind and services have also been most welcome and further income has been generated from Fort Victoria Maritime Heritage Exhibition entrance fees

and publications.

Opportunity has also been taken to compete for certain commercial contracts, mostly in the form of maritime archaeological assessments. However, care has to be taken to ensure that committing resources to such work does not impinge on the HWTMA's core activities.

Fund-raising will always be a challenge and we are most grateful to all who have supported the HWTMA during the past ten years. A full list of sponsors is at Appendix 7.

### And another very big thank you

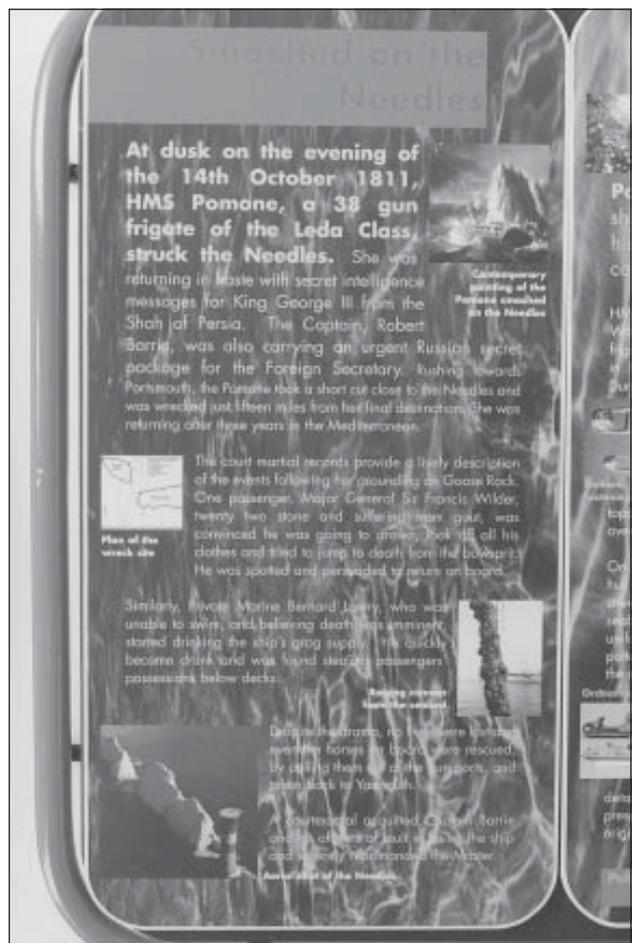
It has been humbling to note the large number of people who have helped the HWTMA in so many different ways over the past 10 years. It would be invidious to compile a list but the HWTMA is most grateful to everyone who has given so freely of their time, expertise and advice.

### More staff!

With the decision of the Director to reduce to part time working with effect from April 1999 the appointment of an Archaeological/Administrative Assistant, Julie Satchell, in November 1999 was welcomed by all and in particular by the hard pressed Archaeological Officer. 2.5 paid posts is regarded as the absolute minimum for the HWTMA to be able to fulfil its current remit.

### Location, Location, Location

And, finally, we moved, after a break-in, from the portacabin to a slightly more salubrious office in the Highfield Campus' Shackleton Building, followed by a further move to the prestigious Southampton Oceanography Centre in 1997. The latter has proved to be an ideal location for a maritime orientated organisation.



Information boards at Fort Victoria complement the array of artefacts and displays

# Searching for a Forgotten Past

Location, identification and research of submerged archaeological material has inherently presented the marine archaeologist with problems. This is especially true around the coastal waters of the British Isles where the water is turbid and subject to large tidal movement. Visual surveys by divers are often restricted to a few metres and invariably can only be conducted in a short tidal window making detailed inspection difficult.

These problems have been addressed by the HWTMA, in collaboration with others, over the past ten years. During this time, different techniques have been tested to help minimise such difficulties in an attempt to develop an effective methodology for the location and identification of our submerged heritage.

## Seeing below the sea

The loss of archaeological artefacts and landscapes to the sea has long been known but, until recently, little considered as a source of irreplaceable knowledge about the past. However, the invention of a self-contained underwater breathing apparatus (SCUBA) opened up the underwater world, revealing its secrets and demonstrating its archaeological potential. The first sites investigated were wrecks, mostly in the clear waters of the Mediterranean. These were located by chance or by reports from fishermen. As SCUBA equipment became more readily available, it was not long before wrecks were being discovered in northern European waters where a culture of wreck hunting began to flourish. The availability of SCUBA equipment resulted in discoveries such as the *Mary Rose*, HMS



Clear water wrecks became easily accessible with the advent of SCUBA

*Assurance* and HMS *Pomone* but little attention was paid to the full archaeological potential of the submerged resource. The question became "How do you manage such a resource without knowing quite what it is"? The first local maritime archaeological database was started by Paul Simpson, to be continued by Alison Gale in 1986, as part of the Isle of Wight Maritime Heritage Project, funded by the Manpower Services Commission, through the Isle of Wight Archaeological Committee. The record identified over 800 shipwrecks, shipwreck incidents and unknown anomalies on the seabed.

## Six steps to archaeological advancement

This maritime record has since been developed and enhanced by the HWTMA who now use it as a first step towards quantification of this still little known archaeological resource.



Diver conducting search for anomaly with surface marker buoy

The next step has been to develop the database by finding more submerged archaeology, but how? The answer is to locate an area suspected of harbouring archaeological material, and survey it remotely. Areas where fishermen have recovered artefacts, areas of heavy shipping activity in hazardous waters, areas of drowned land surfaces and areas of known ship losses have proved to be good places to look. Where areas have been subject to geophysical survey and nothing has been found, it should not be concluded they are archaeologically sterile. This is because the archaeology may be wholly or partially buried and would be easily overlooked with current surveying technology. Anomalies on acoustic survey traces may

occasionally be vessel-shaped, but mostly they are open to interpretation and can look like anything the observer wishes. The discovery on side scan sonar traces of strange alien faces etched into the seabed, is not an uncommon phenomenon! One should be wary that if no archaeology is identified during a survey, it should not be concluded that none exists, as material may have been missed or overlooked.

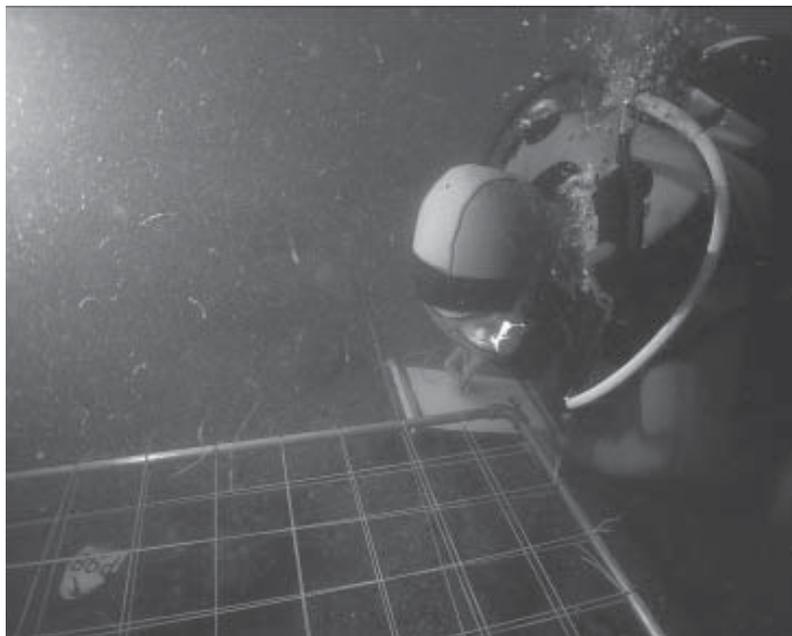
The third step is to dive on sites to validate the information and produce preliminary reports. These reports are then added to the database for a fuller picture. The ability of the HWTMA to do this has been greatly enhanced by the inclusion of many volunteers both on underwater and terrestrial maritime sites. The data collection has been helped by the use of geographical information systems (GIS) which are employed to digitally store information within a geographical context on maps and charts. This allows for easy reference, where a click of the cursor on a computerised map will reveal a whole list of data relating to that position. It also allows analysis of artefact or site distribution that may in turn indicate areas of high archaeological potential.

The fourth step is to prioritize sites that warrant further investigation. Sampling and detailed survey should then be conducted which can be used for future management and further assessment. Again, many volunteers helped with this work.

The fifth step is to excavate. This is undertaken when there is a perceived threat or a need to answer archaeological questions, and when conservation for the recovery of artefacts has been arranged. When responsibly undertaken, excavation can have many benefits. It can provide the answers that justify the investigation, advancing the discipline and adding to the archaeological record. It can produce new and unique information for other areas with similar archaeological potential and it can provide training in a vocation with limited opportunities.

The final and most important step in the process is to publish and disseminate the results. Without doing so the valuable experience and archaeological information gained would not be available to enhance expertise and push forward the boundaries of our knowledge.

The conclusions reached have resulted from ten years of endeavour. Some methods have been tried and tested with great success while others have achieved little. A steep learning curve has been experienced over the last decade, the benefits of which can now be reaped as the HWTMA enters the next decade.

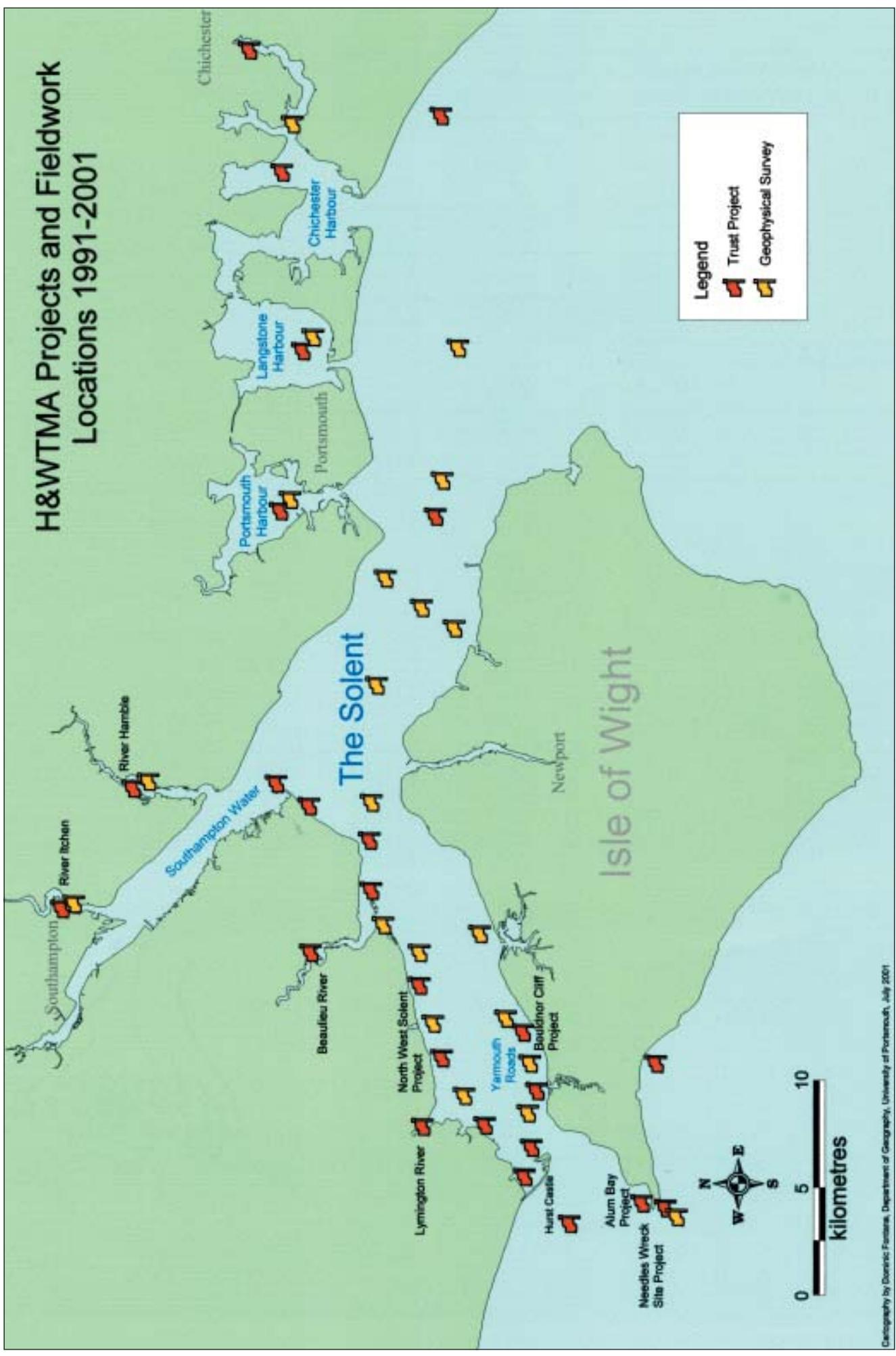


*Detailed planning of archaeological sites enable accurate pre-disturbance surveys*



*Where excavation is warranted, a careful and systematic approach is adopted*

# H&WTMA Projects and Fieldwork Locations 1991-2001



Cartography by Dominic Fozzies, Department of Geography, University of Portsmouth, July 2001

# *Ships: Sinking, Search and Salvage*

## **From berthed boats to shipshape and Bristol fashion**

It could be argued that the adaptations in vessel construction required to fulfil a plethora of functions in a multitude of environments, is of sufficient import to warrant study in its own right. For the ability to 'walk' on water is indeed testimony to past human ingenuity. Study of these craft gives an insight into the technical abilities and the aspirations of the boatbuilder. But such vessels are seldom built in isolation and the information they hold may be applicable in a much wider arena.

To have necessitated the building of a boat, we must assume there was a demand in a community within or around which it had a role. Where such boats are found, examination may give clues to their use and capabilities, while interrogation of any cargo may tell of trade and interaction with other cultures. These small local craft have the potential to provide insights into the everyday life of a maritime society.

Interaction between societies and growth in trade brings prosperity to maritime peoples and this has been repeatedly mirrored by developments in building boats and ships. As kingdoms are born and powerful countries shaped, the pressures for marine transport, marine trade and marine warfare increase. Accordingly, ships grow in size and splendour, ultimately becoming ambassadors, advertising the technical achievements of a nation. These vessels supported populations and architecture that reflected both the reality and aspirations of the societies from which they hailed.

## **Secrets from rediscovered relics**

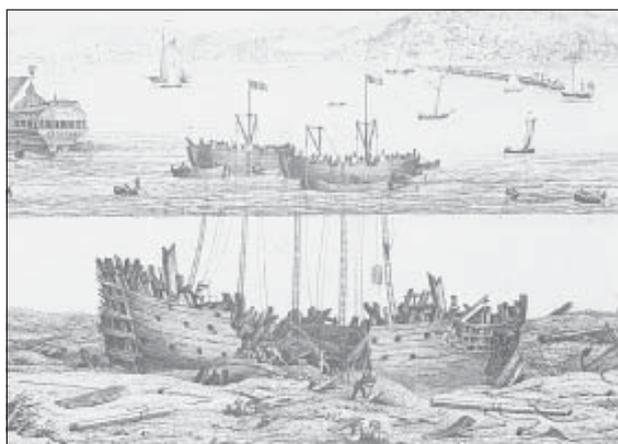
From the earliest log boats to the most modern container ships, maritime craft can be viewed simply as a means of waterborne transport and when lost, as a source of booty or treasure. However, if we stop to take a closer look it becomes clear they are more than just commodities to be salvaged.

When ships were wrecked, and rest preserved on the seabed, the information they retain is an invaluable and irreplaceable resource. They contain a time capsule that, if subject to careful scrutiny and interpretation, can provide a snapshot of forgotten times.

## **Haven and hazard**

The Solent seaway is, and has long been, a magnet for marine craft. Its network of waterways reaching into the

hinterland, its safe havens and the shelter afforded by the Isle of Wight has supported extensive maritime trade and naval activity. However, it is also an area of hidden dangers, where unforgiving currents, sudden storms, sunken ledges, submerged gravel banks and promontories have claimed many vessels. In addition, the attraction to shipping has made it a target for the nation's enemies, whose forces have sent many a vessel to a watery grave. A large number of wrecks are known through historical accounts and there are certainly many still buried beneath the silts yet to be discovered. One of the objectives of the HWTMA's fieldwork is to locate, survey and record wrecks which in turn can be added to the National Maritime Record and the local authorities' Sites and Monuments Records.



*Attempted salvage of the Royal George. Such wrecks contain information that could open windows into past societies*

## **Wrecks under study**

A number of nationally important shipwrecks listed under the Protection of Wrecks Act 1973 are known in and around the Solent. Of these, the Yarmouth Roads wreck was one of the first in which the HWTMA had an interest. It was excavated in the 1980s and its finds now form a central display in the Fort Victoria Maritime Heritage Exhibition. However, the site is relatively stable so little work has been undertaken on it over the last ten years and efforts have been focused on three other main sites. These are HMS *Pomone*, lost in 1811 below the exposed Needles rocks, and a section of wooden hull in the shelter of Alum Bay. In Bracklesham Bay the degrading HMS *Hazardous* lost in 1706, is now in need of careful management. Each site presents different challenges which have been addressed with different strategies and methodologies to tackle the research objectives.



*Chart of projects discussed in the text*



## *Investigations Around the Needles*

Search and recovery of artefacts from around the Needles rock began in 1969 following the discovery of a large assemblage of shipwreck material by Derek Williams. His discoveries, supplemented by those of Martin Woodward during the same period, suggested a number of past wrecking incidents. This caused confusion to those attempting to identify the wreck, but came as no surprise to those familiar with the local waters.

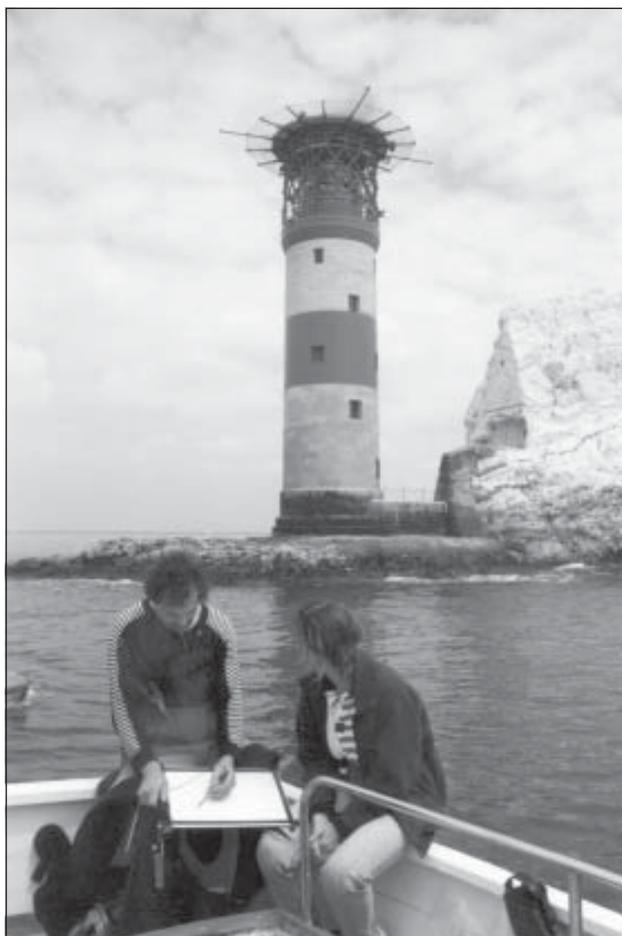
The Needles lie at the end of a large chalk outcrop running west from the Isle of Wight. They are the remnants of a ridge that once crossed Christchurch Bay to Handfast Point on the Isle of Purbeck. Today, they protrude from the water like a row of teeth guarding the mouth of the western Solent. Over time, a number of the Needles have eroded and collapsed leaving submerged stumps which are dangerously close to the surface. It is upon these that vessels of all sizes have come to grief. Even when the Needles are

avoided, the channel into the Solent is narrow, with its northern limits defined by another hurdle for navigation, the shifting gravel banks of the Shingles. Unsurprisingly, the favoured passage to the maritime settlements of Southampton and Portsmouth has historically been east of the Wight. However, if this was the longer route a shortcut into the western Solent could save on the journey time when you got it right!

### **The wreck site**

Since the first discoveries in 1969, over 3,000 items from the wreck site have been excavated, recorded and surveyed. The wreckage lies within an overall depth range of 3-10m on a submerged wave-cut platform. This is terminated to the north by an underwater cliff that drops to the floor of the Solent seaway. This is an area of sharp eroded chalk gullies and ridges aligned along the remains of the former

chalk ridge. The site is west-facing and subject to the full onslaught of the prevailing weather and a fetch that draws on the heavy impetus of the Atlantic Ocean. Due to the exposed nature of the wreck site, very little organic material survives and all the ship's structure has been dispersed.



*Several shipwrecks rest below the lighthouse, an area currently being studied by marine archaeologists*

### **But what is the shipwreck?**

Ordnance and coin evidence gathered in the early years testified to a British naval vessel operating in the region of the Spanish-American colonies. This, and further finds, fitted the profile of the 44-gun *Assurance* lost on her return journey from Jamaica in 1753. It was from there that she was returning with the retiring governor, Edward Trelawny, when she was claimed by the Needles reef on 24th April. Such was the historical and archaeological evidence in 1975, that the site was designated the *Assurance* Protected Wreck Site under the 1973 Act. Dr David Tomalin, supported by the local authority, was requested to act as archaeological adviser.

Work on the site accelerated in 1978 when a team from the Portsmouth Royal Naval Sub-Aqua Club, directed by Cdr John Bingeman, increased the manpower. This enabled detailed surveys to be undertaken. During that fieldwork

season a two-dimensional site plan was surveyed and plotted. This was then employed to position the bewildering scatter of artefacts. The results showed that most items were located in the area below Lighthouse Rock where cannon and other items were clustered along a north-south axis. By the end of that season nearly 300 small artefacts had been raised. As many items dated to the early 19th century suspicions were confirmed that the site contained material from two distinct events. A revised interpretation followed further survey and a reassessment of the data. This revealed the majority of wreckage between Lighthouse Rock and Goose Rock to be from HMS *Pomone* while *Assurance* lay to the north.

### **The loss of *Pomone***

*Pomone* was a *Leda* class 38-gun frigate, constructed in 1805 at Frindsbury near Chatham. Returning from the Mediterranean after five years at sea, she was carrying important military intelligence for the King and Privy Council. Passengers onboard included Sir Harford Jones, the retiring English Ambassador to Persia, along with his colleague, Major-General Sir James Sutherland, who was acting as escort to two young Persian princes from Azerbaijan. During stopovers at Malta and Sardinia, these men had attended secret military meetings and sensitive documents had been assembled for the attention of the Foreign Secretary. The *Pomone* left Sardinia in haste to fulfil her errand despite unfavourable winds. It was this haste that enticed her to take the western channel at the Needles.

*Pomone* struck the Needles in the evening of 14 October 1811. She was holed and wedged between the submerged Goose Rock and the outermost chalk stack. Fortunately, the winds were light, although this did not dispel the belief by some members of the crew that they were witnessing their last hours. In an effort to fortify themselves some turned to the ship's rum ration. Their cowardly antics were then recorded by Sir Harford Jones. When the captain ordered the firing of guns and flares their distress was recognised in Yarmouth. By the end of the night all 283 officers and crew plus passengers were rescued by local pilot vessels and boats of the guard ship HMS *Tisiphone*. It should also be noted that many of the ship's contents were 'liberated from the sea' by local boatmen when the ship broke up during the following days!

### ***Pomone* artefacts lead to further study**

During the 1980s, active survey and excavation in the gullies at the foot of Lighthouse Rock raised a large body of small artefacts. In total, some 90% was eventually attributed to the wreck of the *Pomone*. With the identity of the vessel known, and a simple two-dimensional plan established, attention was given to the position of both the scattered and clustered artefacts and their relationship to the disintegrated ship. Since the entire hull had been destroyed

it was first believed that these items had been randomly strewn or 'scrambled'. When their locations were added to the Pomone database however, distinct patterning became apparent. Despite the fact that the wreck was entirely broken up, the artefacts had become trapped in the gullies and potholes in the seabed. Here, many had very little opportunity to move. By studying this pattern and by drawing correlation with the identifiable ships' fittings, it was eventually possible to reconstruct the approximate position and orientation of the settled vessel. This archaeological evidence made a valuable comparison with the documented account of the wrecking event. The challenge now was to conduct a comprehensive three-dimensional survey to facilitate an understanding of the forces at work in the seabed terrain.

In 1992 collaboration between the HWTMA, the Isle of Wight Council and the Nautical Archaeology Society (NAS) saw a team led by Jon Adams return to the site with a new brief. This built on the work of the previous years. Its aim 'to produce a detailed topographical survey in order to model and analyse the environmental mechanisms and their interaction with the ship' was spelled out in the 1992 interim report by David Tomalin and Jon Adams. It was now realised that historic documents relating to the internal layout of Pomone and the details contained in the plan of the scattered artefacts offered a rare and valuable opportunity to investigate the dynamics and conditions of the wrecking process. This rare juxtaposition of historic and archaeological evidence offered valuable lessons in the interpretation of other wreck sites.

Throughout the 1990s, work continued in establishing datum points around the site and steadily building a network or web of measurements which could be used to calculate relative positions. Vertical profiles were taken between the datums to gain the third, vertical, dimension and the topography of the seabed was recorded.

The methods proved to be generally successful although the irregular height variations of the gullies made the work of the diving team difficult. This was exacerbated by constant exposure to swell and a high tidal flow. Diving was restricted to slack water windows and these never lasted for more than 90 minutes. These limitations led to a search for an improved system which could overcome these physical problems.

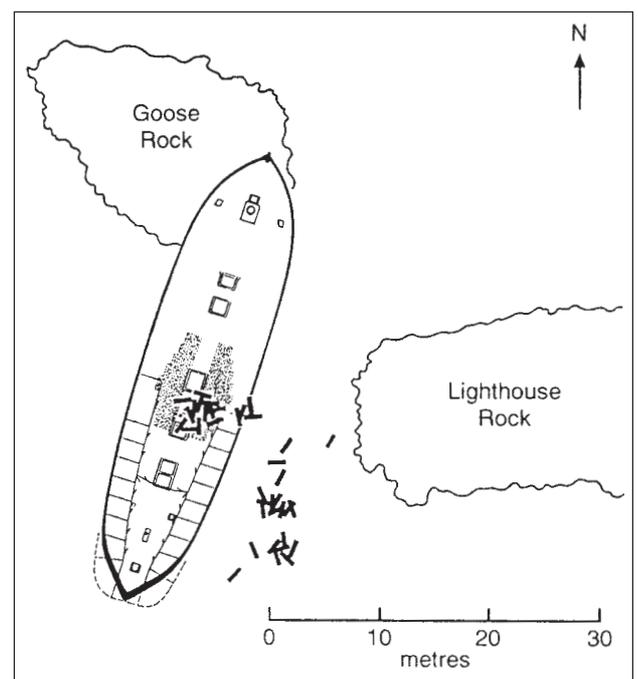
### Could acoustic survey help?

Following the fieldwork of the 1992 season, the use of a remote survey device was assessed although technology could not yet provide a cost-effective answer. The most



*The wreck of HMS Pomone, caught on canvas as she fires distress flares*

widely-used tool employed for seafloor inspection had been the side scan sonar. This is very good for visualising features and interpreting material types but the resultant image is fundamentally two-dimensional. The tool required for the Needles Protected Wreck Site had to give high-level qualitative detail of the seabed while providing an accurate record of the bathymetry in three dimensions. Swath bathymetric survey was identified as the ideal method for resolving this problem and in October 1997 the HWTMA organised a survey in conjunction with Submetrix UK Ltd. The survey tool used was the ISIS 100 (Interferometric Seabed Inspection Sonar), swath bathymetry system. The aim was to provide a model of the seabed topography. This would help understand the processes affecting the movement and scattering of material derived from the wreck of the *Pomone*.



*Studies of the artefact distribution has allowed reconstruction of Pomone's wrecking process and created a valuable control for other sites*

## Submetrix Interferometric Seabed Inspection Sonar (ISIS) 100

The ISIS 100 has been developed by Submetrix, employing the technology of the Interferometric Sonar. This system provides high accuracy centimetric discrimination and has the ability to collect high-quality side scan images while gathering depth data across a wide corridor of the seabed. It can, therefore, be used to identify the nature and composition of the seabed. The corridors can be amalgamated to produce blanket coverage of the whole area of study. This can allow any anomaly with a vertical component to be viewed and mapped clearly.

On completion of the survey a contoured digital terrain map of the *Pomone* wreck site was generated. The survey data was processed at Submetrix where the high resolution of the ISIS depth model enabled detailed charts and pictures to be created. Graphical three-dimensional images were produced using the Surfer software package. With the help of Submetrix the University of Southampton then carried out further imaging work. These images clearly showed the many gullies in the bedrock, as well as the large submerged pinnacle known as Goose Rock. This was where *Pomone* first struck. The results could now be used to aid further investigations and help plan for the future management of the site.

### Application of survey results to the future management of the Needles wreck site

The Needles wave-cut platform is a very interesting site to dive. Its complex and irregular gullies offer a broad range of environments for divers to examine. The presence of wreck material, much of which is concreted to the sea floor or lying in the gullies, enhances the scene. However, the site creates problems for the divers visiting or working on the wreck. Its confused geology makes navigation difficult for the diver and the plotting and logging of features and artefacts can be very difficult to accomplish.

Using the terrain plot produced from the Isis 100 survey as a template, it has been possible to create an accurate topographical plan highlighting the maze of gullies. This is transferred to permatrace which is taken below water by divers as a navigation aid. In addition, a permanent line is to be placed around the site and clearly marked on the plan.

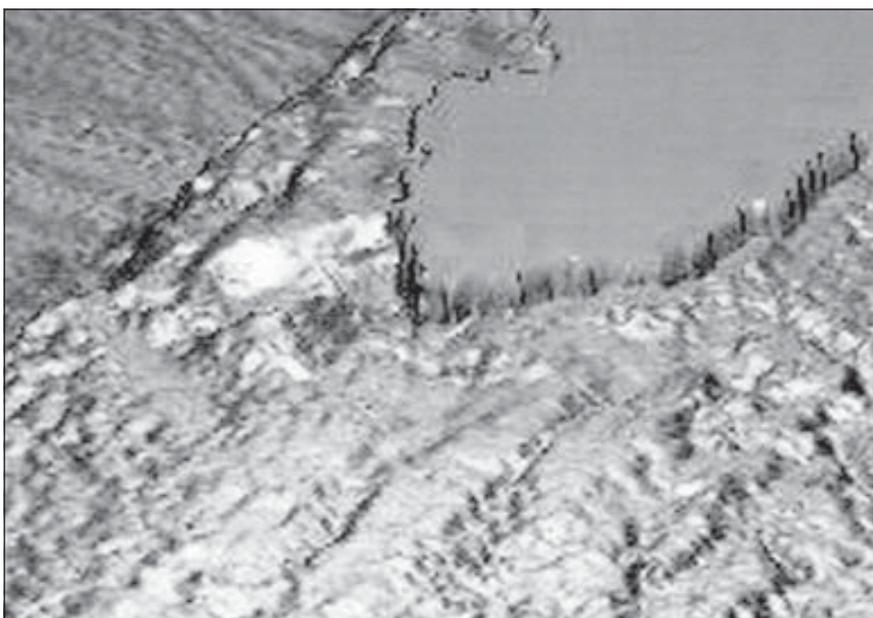
It is now intended to use the Isis plot and diver line in conjunction with the survey of scattered wreck material. This will allow artefacts to be securely



*Three-dimensional survey of the Needles wreck site required the fixing of datums directly into rock*

plotted within their three dimensional terrain. This will aid ongoing research into the natural movement of objects on the wreck site and it will be complemented by erosion-monitoring studies centred on test items which will be positioned in the corrosion potholes which have formed in the chalk bedrock.

The applications for archaeologists diving the site are threefold. First, productivity will be increased when time lost in underwater navigation and orientation is reduced. Secondly, the site plan can be added to the topographical plot and substantially improved. Here features, such as cannon balls and ballast blocks which are easily discernible underwater yet indiscernible on the ISIS plot, can now be placed on the plan in their respective gullies. Any artefacts detected during further site searches can also be quickly and accurately added to the contour plot. This will aid recording by providing a clear additional reference in the third dimension. Thirdly, the plan can be used if some of the artefacts recovered from the site are to be replaced by replicas. The enhanced plan will also be of great help when

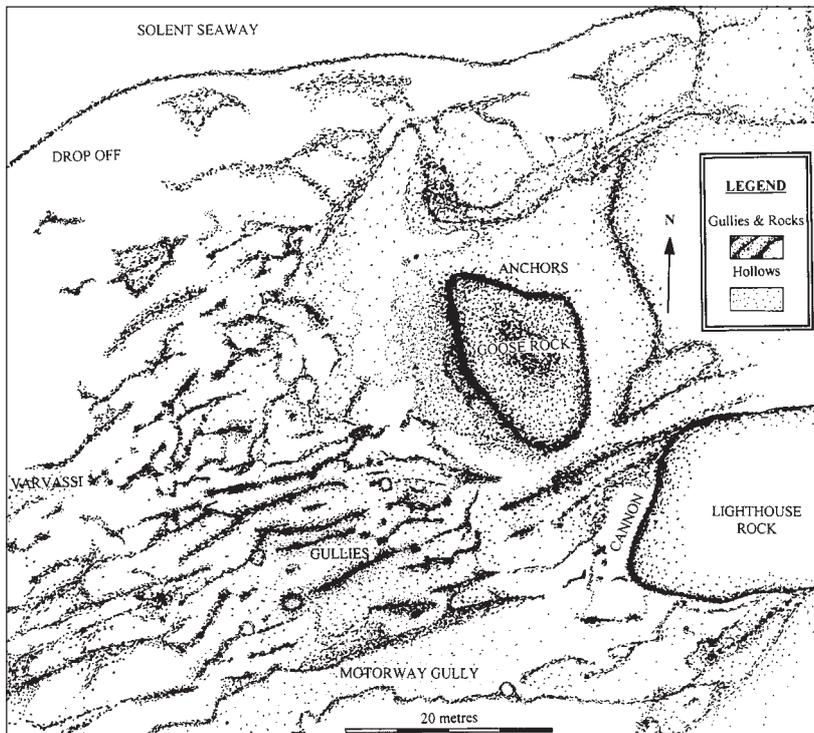


*Digital terrain map of Needles wreck site produced by a Submetrix swath bathymetric survey*

the position of objects in relation to the surrounding topography is assessed. This will be particularly important for the development of a diver trail. When all this information has been added, the plan will become an invaluable tool for understanding the wreck of the ship and its relation to its physical environment.

The completed site plan may also be used as a guide for recreational divers who wish to visit the site. A dive route is being tailored to take divers to the most interesting areas. Here, divers can use the line laid on the seabed, as well as the plan, to navigate themselves between objects and natural features. The more information on the plan, the easier it will be to use and the greater the benefit to the visiting diver. This presents the future possibility of opening a Protected Wreck site to greater recreational and educational opportunities where a dive trail is open to sport divers in licensed and controlled groups. Each group would be briefed before the dive, provided with a dive plan and debriefed on its return. To this end, a trial line has already been laid around the site and dozens of divers have used this with great success.

The results of almost 30 years work has now provided an opportunity to create an innovative scheme for greater public enjoyment of the Protected Wreck site. At the Needles. In future, the site could perform a valuable role in training and educating a wide spectrum of sport-diving community.



*Site plan generated from swath survey showing layout of gullies around the wreck site*



*Many artefacts of interest still remain scattered around the site*



*Trials of an underwater dive trail have proved very useful for site visitors*

# The Mystery Wreck of Alum Bay

A large section of wooden hull was brought to the attention of the Isle of Wight County Archaeological Centre by Steve Robbins in 1991. The wreckage lay in 7m of water below the cliffs of Alum Bay tucked amongst reefs in an area of fine silty sand. It appeared cohesive with iron fastenings and numerous copper pins projecting from the seabed. The Centre contacted the Archaeological Diving Unit (ADU) and Dr Anthony Firth who endeavoured to investigate the site further.

In 1992 the ADU visited the site. The customary low visibility prevented detailed inspection although some preliminary conclusions were drawn. Accordingly the ADU filed a report to the Department of National Heritage, through the Advisory Committee on Historic Wreck Sites (ACHWS), recommending that the site be designated under the Protection of Wrecks Act 1973. It was felt that protection was warranted to prevent interference from other parties during the survey work needed to help record and identify the site. The application was denied as the date and identity of the vessel was unknown. Over the following ten years the HWTMA has conducted further work to help answer these questions and a second application for protection is to be put forward in the near future.

## The HWTMA lends support and survey begins

Early in 1993 it was proposed that the HWTMA take a primary role in co-ordinating work on the site. A core team led by Anthony Firth brought together NAS trained divers from the Isle of Wight and the RAF Odiham Diving Club to conduct an evaluation survey during the spring of that year.

In total, six days were spent on site during which time the team recorded 40 copper pins, 2 rows of iron knees or deck supports, 2 large hawse holes and numerous smaller items within an area of wooden structure over 20m long and 4m wide. The site was tagged and recorded using tape measures for direct survey where the distance between features was plotted in relation to each other.

← Copper pin found on seabed after being pulled from wreck possibly by yacht anchor

The remains appeared to be that of the upper, port section of a wooden vessel lying with its external planking face down in the seabed, oriented north-west to south-east. The visible features elevated above the sea floor were the internal fixtures and fittings. Two lines of knees and iron supports ran down the length of the vessel suggesting decks while the hawse holes, through which the anchor chain passed, signified the bow at the north-east end. The structure lies relatively flat on the seabed with all the timbers interpreted as frames broken along their south-west extremities. This may be an area around or just above the turn of the bilge where this port section parted company with the lower hull.



*Copper pins protruding from timber on wreck site*

## The name of the wreck

A number of diagnostic features were identified during the survey. These included a sheet of copper sheathing protruding from the underside of the vessel near the bow, copper alloy bolts, lead hawse holes, iron knees and suggestions of broad arrows on the bolts. These features all help to narrow down the search for the vessel's identity as they present a time frame for the loss.

The presence of broad arrows is of particular interest. This could identify a Royal Naval vessel although many HM ship components were sold off to private shipyards following the Napoleonic wars.

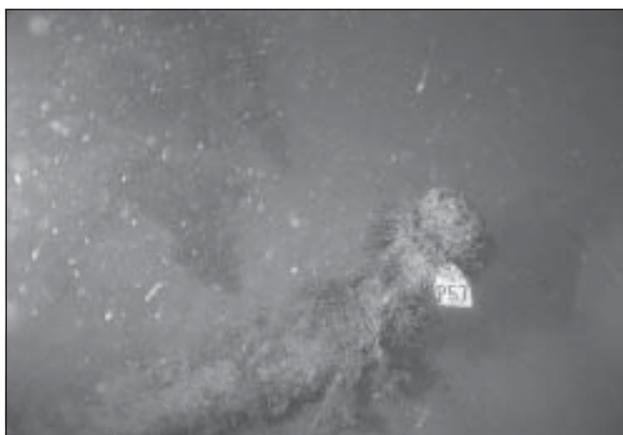
The presence of copper sheathing and copper alloy bolts date the vessel to the late 18th century before which time these components were not used by British ship builders. Also the use of lead hawse holes placed their construction to a time before the use of chain which was widely adopted early in the 19th century. Like the copper components, iron knees were introduced in the 18th century. The French,

to whom the innovation is credited, were the most prolific advocates of iron hanging knees in the middle of the century when sources of good compass grown timber became scarce. The British were soon to follow with the introduction of iron knees to some merchant ships. They were not systematically installed in new ships in the Royal Navy until 1813 with the appointment of Sir Robert Seppings as chief surveyor. For ship repair iron knees were used both during and following the Napoleonic wars.

The evidence, therefore, told of a substantial vessel built somewhere around the beginning of the 19th century, possibly naval, and wrecked in or around Alum Bay. Marrying these facts with known ship losses presented possibilities although the data gathered was not sufficient for confirmation. More work was necessary to narrow down the identity of the mystery wreck.

### **The Solent Maritime Archaeological Project**

The Summer of 1998 saw the first year of the Solent Maritime Archaeology Project (SolMAP), instigated by the HWTMA to involve NAS-trained divers in the marine archaeology of the western Solent. The project was housed in Hurst Castle and enjoyed the support of the New Forest District Council, Hurst Castle Services, the Keyhaven Yacht Club and the Keyhaven Sea Scouts. Several sites were to be investigated, although work was to be concentrated in Alum Bay. Further to the work conducted in 1993, the aim was to comprehensively survey and plan the whole site. Another objective was to provide experience and training for the NAS volunteers.



*Elements of the ship's structure and internal fittings were tagged and numbered for survey*

A survey begun in 1998 by archaeology students from University College London for the HWTMA and continued during SolMAP, produced a plan of the site showing all the features and most of the elements previously recorded. However, inconsistencies in some of the results warranted further work, a challenge that was taken up primarily by members of the London Maritime Archaeology Group

(LOMAG) during SolMAP 99 the following year. A new plan was produced by metre-square planning-frames whose positions were controlled by a network of datums. Relative positions were computed with the aid of the survey programme, 'Site Surveyor', loaned to HWTMA by Pete Holt of 3H Consulting. The result was an accurate scale drawing at 1:10 of all the exposed structure in Alum Bay.

### **The benefit of survey**

The surveys established baseline data that could now be used for the future monitoring and management of the site. Indeed, production of the second survey drew attention to an area which had been subject to disturbance. One of the iron knees towards the south-east end of the site had been physically torn from the structure. It now lay on top of the wreck, leaving behind a fresh scar of exposed red iron. The damage was most probably caused by yachtsmen unwittingly anchoring over the site, as was witnessed in the summer of 1999, or possibly by lobster and crab fishermen, whose pots and adjoining ropes are often dropped on the reef around the site.



*SolMAP volunteers mobilised on Hurst Spit before setting off to Alum Bay*

Although distressing, this is only one of many occasions when damage has resulted from human intervention. Three drift bolts have been recovered from the wreck by the HWTMA after being pulled from the structure by unwarranted interference, and others are known to have been removed by divers. And, only this year, in June 2001, a cursory inspection in low visibility revealed at least one more iron knee knocked from its position.

On the positive side, two of the displaced copper drift bolts were incised with broad arrows, providing strong evidence that it was a Royal Naval vessel. As no other identifying data had been revealed during the survey it was decided to excavate for information that would build a case for protection under the 1973 Act and at the same time define the extent of the cohesive structure. A secondary objective was to provide underwater excavation training

for students of marine archaeology, as it is a discipline that seldom presents opportunities to perpetuate its practical skill base.

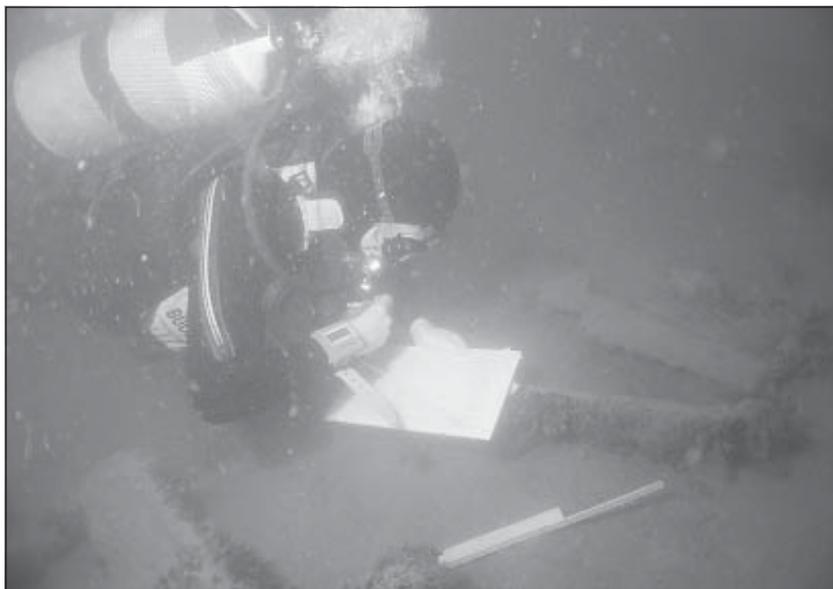
### **Excavation for protection**

To facilitate underwater excavation a hard boat was moored over the site. This provided a rigid platform to carry out operations with both airlifts and a water dredge. The water dredge works with the aid of a small petrol pump and acts like a water-powered vacuum cleaner. The airlifts requires a low-pressure road compressor to force air under water, which as it returns up a length of 6-inch pipe, acts like an air-powered vacuum cleaner. These tools are used to remove the sediment while excavating. Unless used carefully, airlifts can be very destructive and result in the unsystematic digging of holes. Both volunteer and student participants were able to gain valuable experience in using such excavation equipment.

Two specific areas to the north-west and south-east of the site were selected. Excavation near the hawse holes aimed to identify the full extent of structure and uncover a section of copper sheathing for diagnostic purposes. It was hoped it would contain the maker's mark and date of use. On the penultimate day, a small patch of sheathing was freed. Unfortunately, it did not contain the additional information hoped for but it did have a broad arrow stamped at one end, increasing the probability that it was a naval ship. The structure around the hawse holes includes several layers of substantial timbers. These are necessary to stand the extra strain on the hull at the bow and to withstand the forces of the cable when at anchor.

To the south a group of students from the Centre for Maritime Archaeology (CMA), University of Southampton, led by Jon Adams, were joined by other SolMAP volunteers to investigate the extent of the structure. During the three days of excavation on this part of the site extensive timber remains were uncovered. It was now possible to see and record frames and outer timbers with planning-frames. All the exposed structure was recorded at a scale of 1:10 so that it could be directly related to that produced from the previous survey.

During the week a number of ship fastenings, including copper nails and bolts and interesting concretions, were raised from the site. These had become loose or completely detached, and so were raised to prevent their being lost to natural erosion or anchor damage. However, an unwelcome threat to the site was highlighted by the disappearance of one of the large copper drift bolts that had been due to be lifted following recording. As soon as the project boat left



*A corroded iron surface is freshly exposed due to anchor or fishing damage*

the site another group of divers paid a visit, leaving with the copper bolt as a souvenir.

It is hoped that excavation can be continued, adding to the archive. The site will then be re buried and protected while, in the light of recent disturbances, plans are made for its future management.

### **Proposals for a positive future in Alum Bay**

The 2001 season has already seen a number of positive developments. First, another section of wreck, frequently visited by New Dawn Divers was brought to the attention of the HWTMA and the position dived. It appears to be a portion of hull structure, lying about 100 metres to the east of the 1993 discovery. The site is to be investigated fully during SolMAP 2001 and integrated within the future management of the underwater area.

Secondly, a bathymetric and side scan sonar survey was conducted over the areas being investigated. It covers both sections of wreck structure and large areas of geological and biologically interesting reef in between. Plans are in place to gather data on the sea bed communities in and around a zone containing the hulk sections. This information will add 'meat' to the digital skeleton that was acquired during the survey. As the amount of information collected grows, a meaningful map can be created that divers will be able to follow. This could be a good base for the creation of a marine archaeological and biological diver trail. In addition, now that the three-dimensional digital data has been collected, it is possible to generate a simulated swim through. This could enable non-divers to experience the underwater trail without getting wet.

It is clear from the above that for these initiatives to be implemented controlled management and protection of the site is necessary. Currently, the most effective form of

*Elements of the  
Alum Bay Wreck Site*



*Hawse holes in structure*



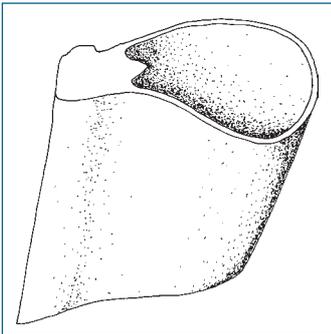
*Divers excavating and recording*



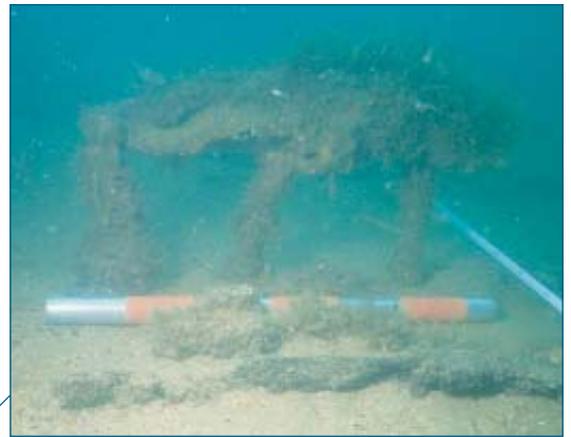
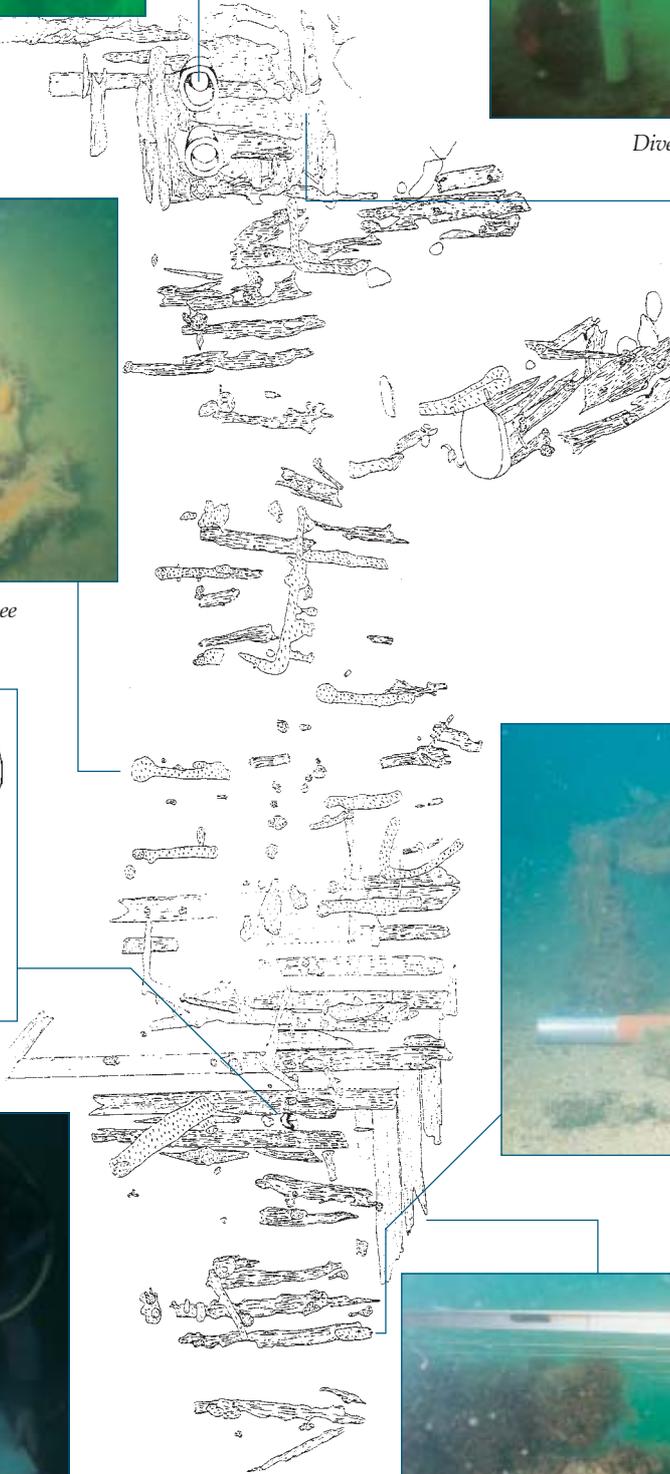
*Freshly damaged iron knee*



*Copper sheathing*



*Lead scupper*



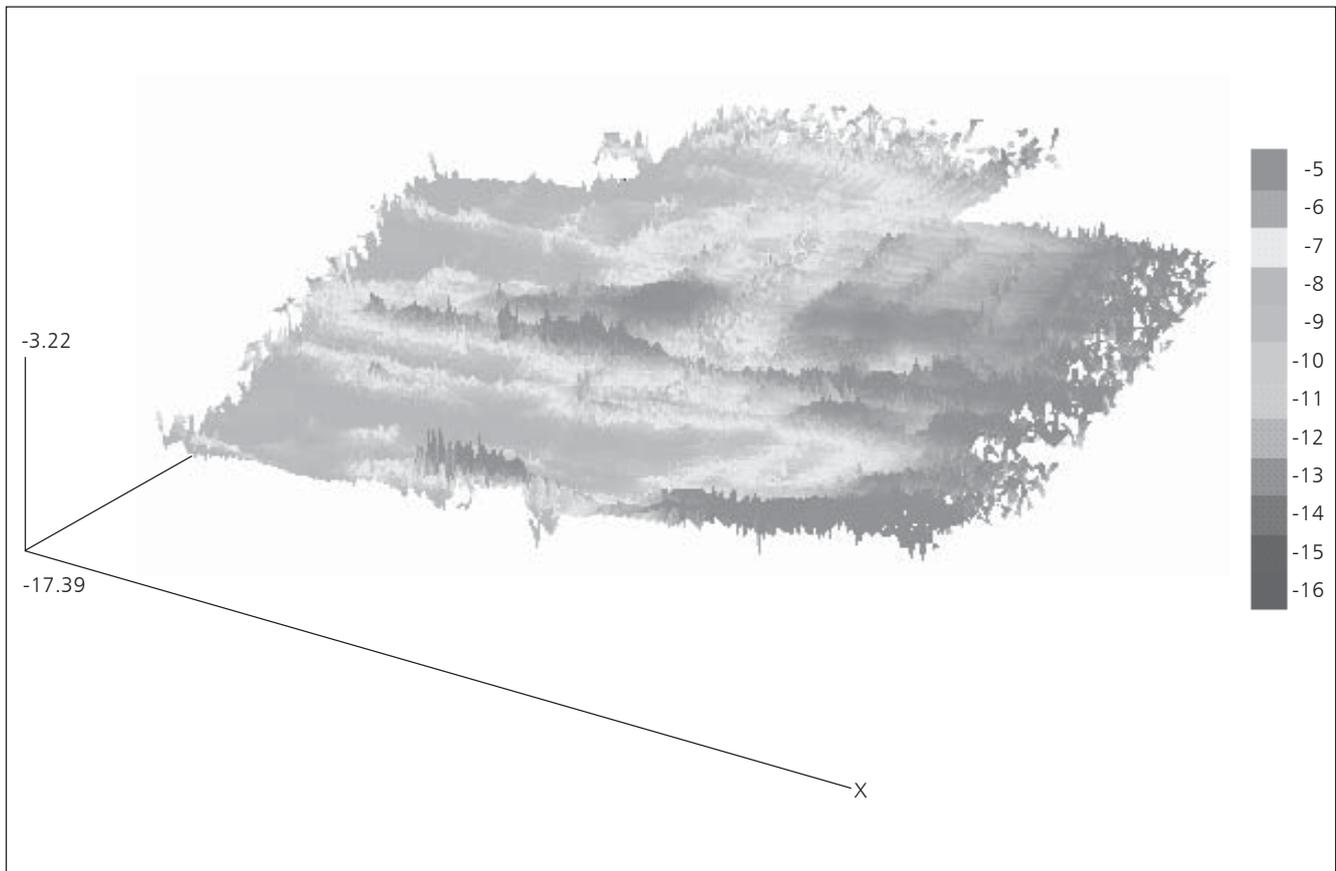
*Internal fitting*



*Diver  
planning*



*Exposed planking being surveyed*



*3 dimensional image of seabed around the Alum Bay wreck site, generated from SEA Ltd swath bathymetric data*

protection is under the 1973 Protection of Wrecks Act, which, although preventing unlicensed interference, still enables divers to visit the site in controlled circumstances.

Similar work is already under way on the Needles Protected Wreck Site where a dive trail is undergoing trials. The addition of the Alum Bay site as a complementary trail would make a very valuable adjunct. Not in the least because the most favoured hypothesis for the identity of the wreck is currently *Pomone*. If this is so, it will be the only known section of remaining structure associated with the *Pomone* after it broke apart in 1811.



*The underwater environment is varied containing archaeological material and a wide range of marine life. It is well suited to host a diver trail*



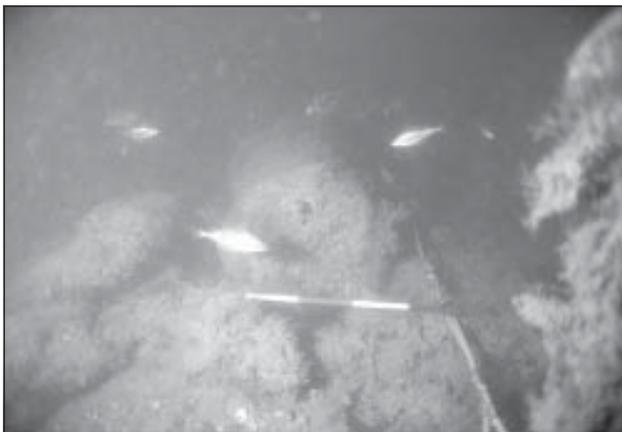
# A Hazardous Wreck

## The loss of *Hazardous*

*Le Hazardeux* was a French 3rd-rate ship of the line, built in 1698. In 1703 she was captured by the Royal Navy and taken as a prize to Portsmouth. There she was refitted and commissioned *Hazardous* on 27 March 1704 as a 4th-rate ship of the line. In November 1706 *Hazardous* was lost in a storm to the north-east of the Isle of Wight. In 1977 a wreck was discovered by members of the 308 branch of the Sub Aqua Association (SAA), approximately 800 metres south-east of Bracklesham Bay slipway. Research conducted by the late Norman Owen coupled with the archaeological evidence, inferred the wreck was that of the *Hazardous*. Subsequently she was designated under the Protection of Wrecks Act 1973.

## The *Hazardous* wreck site

Following her loss the ship lay in shallow water surrounded on three sides by a submerged reef. Today, the remains sit on a clay seabed about 6m below the surface. It is now largely covered with sand and concretion, and to the untrained eye, could easily be mistaken as natural topography. By contrast, when she was initially wrecked, this large intrusion would have disrupted the established equilibrium. Abrasion by waves and currents reshaped the 'anomaly' until a new balance was achieved, integrating her into the natural environment. Notwithstanding any change in the local hydrodynamic regime, this is where her remains would rest, potentially for thousands of years. Unfortunately, the process of erosion appears to have been triggered again, forcing us to question the site's future.



*The concretion-covered muzzle of a cannon lies on the exposed seabed in an area of scour*

Cohesive elements of *Hazardous* are found in an area 40m long by approximately 11m wide. She lies on a north-south orientation in two distinct sections. The majority of

hull structure and features lie in the north towards the stem of the vessel. This area is mostly covered by a sand bar, while numerous concretions are laid bare and visible in the south. Further south still, part of the stern lies under sand. This was accurately recorded in 1992 and 1993 when it became exposed following a series of stormy winters.



*The exposed cannon create a strong visual impact on the seabed*

The prevailing weather is from the south-west although the greater fetch, and hence the greatest impact from storms, is from the south-east. This was borne out in studies by Norman Owen in the late 1980s showing that the majority of artefacts were scattered in the quadrant to the north-west of the site, some being found over 100m away. However, the debris field of artefacts is yet to be fully determined.

Work by the licensee, Iain Grant, and the SAA 308 dive branch has pinpointed an area towards the centre of the wreck where erosion is currently greatest. Here, all ship structure is lost and only concretions remain. They are now exposed on the clay in an area subject to scour and many have become unstable. Changes in water movement and sediment mobility have taken place, leaving the site in a state of flux and under threat.

## The role of the HWTMA

Following a concerted programme of site survey, excavation and publication in the 1980s and early 1990s, activity on the site had been scaled down due to the unfortunate death of leading members. Under the archaeological guidance of Alex Hildred, a policy to monitor the site and rescue unstable artefacts followed. The observations suggested seabed mobility was causing instability. The team realised that observations were not enough. However they were limited by their lack of manpower and resources to conduct a survey with the necessary detail. In 1998 the HWTMA was invited to become involved in the *Hazardous* project and in 1999 the HWTMA Archaeological Officer took on the mantle of archaeological adviser for the wreck.

Building on the previous twenty four years of endeavour, the HWTMA and the licensed team identified a number of objectives. These were to:

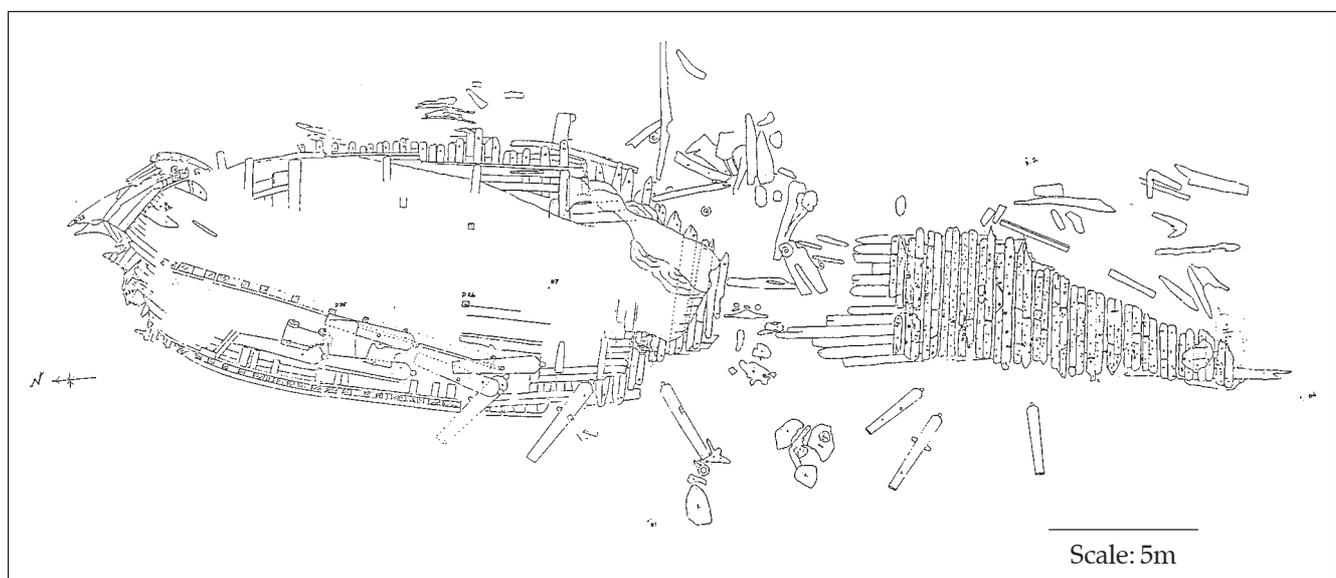
- ◆ quantify threats to the site and artefact assemblage;
- ◆ establish research priorities;
- ◆ promote social inclusion by improving public access;
- ◆ enhance education and practical training opportunities.

## Threats to the wreck site

Continual monitoring and survey over the last twenty four years shows instability. Large areas of the site have been sporadically uncovered, and on one occasion in 1990, timbers including a large wooden knee were moved by wave action around the site causing considerable damage. In 1992 and 1993 Cindy Brashaw recorded the loss of 4 frames out of the 19 that were visible at the southern end of the site. These were some of the largest frames in the sector and they were lost in a single winter.

Comparing Norman Owen's observations between 1984 and the early 1990s with present day evidence suggest that erosion is a relatively recent phenomenon. He noted that newly exposed timbers were in excellent condition with very little damage from marine boring organisms, and previously unseen cannon were identified for the first time. In 1988 the cheek of a gun carriage was exposed in perfect condition with rope and tackle still in place. It was clear that the timbers had been relatively stable following the initial wrecking process but were now subject to renewed degradation. However, there was a need to quantify these observations with tangible scientific evidence. To this end, site surveys of the more vulnerable areas are being repeated to document the magnitude and pattern of erosion. The results of a survey in July 2000 revealed that at least two large timbers had been lost off the south end of the north section when compared with the plan of 1989.

To aid interpretation of the erosive processes around the site, an examination was conducted in May 2000 by Dr David Gregory to determine the corrosion potential of the remaining 10 cannon. Review of the possible corrosion mechanisms involved and observation of the cannon on the seabed revealed that cannon 3,6,7 and 8 had been exposed for the majority of the time since *Hazardous* sank. This was because their depth of concretion was greatest and did not include material that would indicate burial. Cannon 1, 2, 4 and 5 have a thinner covering of concretion with large inclusions of stone indicating that, although they may have been exposed for a while, they had been lying within sediment at some time since their deposition. Furthermore, the corrosion mechanism suggested the cannon had been relatively recently exposed. This last scenario also applies to cannons 9 and 10 where concretion was minimal, indicating a more recent exposure.



Site plan produced by the Hazardous Project team in the late 1980s

Thus, it would appear that after sinking, cannon 3,6,7 and 8 have been exposed to sea water and relatively undisturbed since 1706. Cannon 1,2,4,5,9 and 10 were buried at this point and through time net sediment movement has been in a north-easterly direction exposing first cannon 5 then 4, then 2 and 1. Cannon 9 and 10 have only recently been exposed.

### Threats to the artefacts

The finds from the *Hazardous* wreck site have been surveyed, raised and recorded over the last 24 years. This process has been carried out for diagnostic purposes and to assess its cohesion and magnitude. More recently artefacts have been recovered to prevent the risk of being lost.

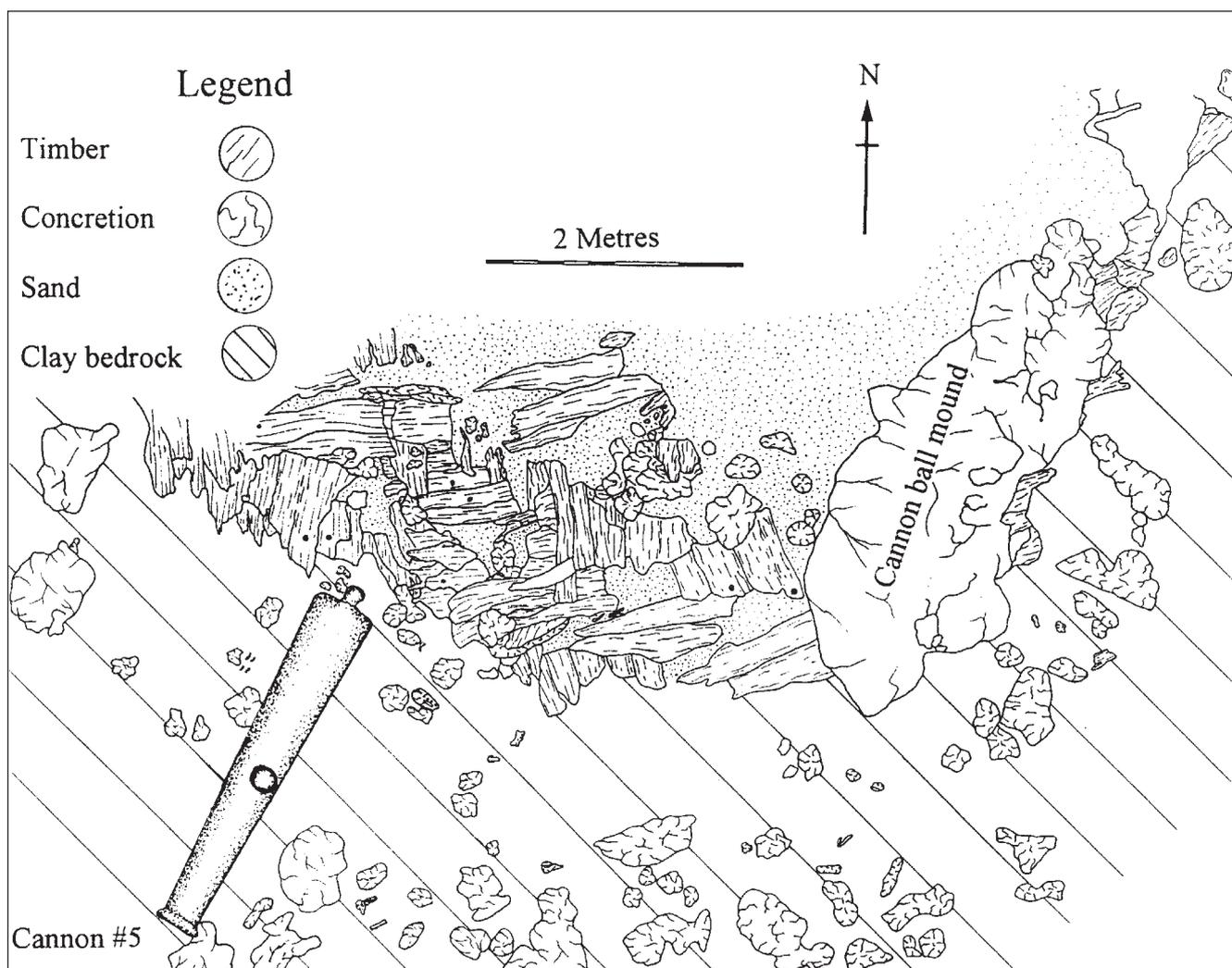
Once items are retrieved, conservation is essential. During the past 24 years over 600 objects have been discovered, raised and are being conserved. Conservation of marine, waterlogged material is a relatively new discipline and during this time new methods have been developed. Work on artefacts from *Hazardous* has contributed to this learning process although it has been a victim of insufficient



*Cannon survey during Hazardous 2000 project*

technical resources and funding. Unfortunately this has led to varied levels of success which in some cases has resulted in a loss of information.

The HWTMA aims to streamline the conservation process and employ the latest techniques as artefacts are brought to the surface. To achieve this, collaboration has been established with Dr Mark Jones of the Mary Rose Trust,



*Survey to monitor erosion in the most vulnerable part of the site which is subject to erosion*



*One of the threatened concretions raised in 1999*

acting as the site conservator, assisted by Catherine Macort. This is particularly important as there are many artefacts on the site under threat that will be lost if not brought to the surface in the near future.

Under water, sediment recharge or sandbagging has been considered, but the numerous structural realignments brought about by storms has demonstrated what limited respect this shallow and highly dynamic site has for all but the heaviest objects.

### **Research priorities**

The research priorities identified fall into two categories, first we need to study the raised artefact assemblage and



*The concretions are x-rayed prior to opening*



*Care is taken not to damage delicate objects when opening concretions*

secondly, we need to look at the wrecking process and artefact distribution on the site itself.

### **Artefact assemblage**

Study and interpretation of the collection will open a window into life at sea, onboard vessels that represented the pinnacle of contemporary technical achievement. The more artefacts are recovered, the broader our understanding will become.

Study of the ship structure, as an artefact in its own right, is another area of research that should not be overlooked. The hull was built in Port Louis, France, in 1698. There do not appear to be any remaining plans of this period. Of particular interest are the cant frames. These are angled frames that compensated for the curvature of the hull near the bow. This was a technique not employed in English warships until 1715.

All artefacts raised have been recorded and catalogued in analogue form, in files and a card index. In more recent years, concretions have been rescued from the site which, owing to limited time and resources have not been fully assimilated into the current recording system. With the advancement of computing technology and a rejuvenation of activity on the site it was felt that the time was appropriate to develop a digital system to help future processing and analysis of the data. This contains information on individual finds which are given a unique identification number allocated while the artefact is on the seabed prior to being raised. In this way the finds can never be confused once on land and undergoing conservation. Many aspects of

the artefact's properties are recorded; these include, form, size, material, shape, condition, description, treatment, storage and museum accession number.

### Rescue and stabilization of threatened material

The survey in 2000 enabled comparison with the site plan of 1991 and highlighted areas of degradation. It can now be used to monitor future erosion which should help identify patterns of seabed mobility. This will help prioritize artefact rescue and recovery.

Detailed distribution analysis of artefacts should be developed. The results would build on the work by Norman Owen more than 10 years ago and include discoveries from the debris field around the wreck. This will i), help interpret the wrecking process and ii), help to understand the processes at work on the sea floor. Data relating to seabed movements accurately dated, i.e. from when the ship was lost, will provide valuable information for coastal managers when unravelling the geomorphological evolution of the local coast.

The work conducted by Dr Gregory has helped with the interpretation of site formation processes. His conclusions have identified levels of threat to the cannon and hence, those which should be lifted in the future if that became an option. He recommends either cannon 9 or 10 as they are presently corroding faster than the other cannon due to their more recent exposure and, from an archaeological perspective, they are the most likely of all the cannon to have retained surface details because of their long-term burial. In the short term, the application of sacrificial anodes to the cannon is to be considered. This will act to reduce the corrosion potential and slow reduction of the iron.

### Social inclusion and public access

Part of the work in 2000 was the establishment of a diver trail. Large sinkers have been laid at selected points around the sites. These have been buoyed with reference numbers that relate to information sheets. Lines measuring over 200m were run between the sinkers, around the wreck and into the adjacent reef. It has been designed to keep divers away from sensitive areas of the site while introducing them to both the more interesting archaeological artefacts and the marine life on both the natural and artificial (shipwreck) reefs.



*Concrete sinkers were laid around the site for use with the diver trail*

The diver trail opened in 2001 and is to be promoted as a package which includes lectures and a visit to the *Hazardous* display of artefact and wreck site information which is currently held at Earnley Gardens, near Bracklesham. The aim is to raise the profile of this important and interesting site giving more people an appreciation of the wreck, its assemblage and a greater insight into the local maritime heritage.

### Enhance education and practical training opportunities

The main objective of future fieldwork will be to develop the research priorities. However, the nature of the site also presents an opportunity to provide experience for both volunteer student and avocational divers.

Work on the site has brought many people with different skills together on land and in the water. The introduction of new divers and students to the project has proved very beneficial for those involved and it has provided a rare platform for future archaeologists to develop skills. These include underwater survey methods and practice, conservation, finds processing, cataloguing, opening concretions and archaeological display.

### Conclusion

The site of *Hazardous* is of national importance, as one of around fifty protected wreck sites in the UK. It is an irreplaceable resource containing a capsule of unique information about early 18th-century society. The wrecked hull has not only held an artefactual resource, but its remains also reflect the height of technical and engineering achievement for its time. However, it is actively eroding and losing information week after week. The current work of the *Hazardous* Project team is to address these issues and identify management priorities before this national treasure is lost for ever.



*The underwater trail opened in 2001 and has proved a great success with the divers*

# *The Intertidal Landscape*

Between the wet and the dry there is the regularly exposed, invariably muddy, area of the foreshore. All tidal waters have a strip of land which varies in size, shape and composition that is revealed to varying degrees, dependant on the height and state of the tide. These areas line the rivers and harbours of the region and have proved very productive for holding and preserving archaeological remains.

The Solent region has been the centre of intensive maritime activity for thousands of years. Its harbours, estuaries, rivers and creeks have played their part as a link between land and sea. Over the past decade the HWTMA has facilitated, co-operated in, or led projects within the region that focus on these often overlooked environments.

## **Harbours**

Traditionally used as havens during bad weather, such naturally occurring features are often the focus for occupation as they offer the harvest of the sea to those living along their edges. With settlements producing commodities, trade becomes an inevitability and with it the coming and going of vessels, goods and people. This section explores the Langstone Harbour Project which, under the leadership of the county Archaeological Officer, Hampshire County Council, brought together many organisations and individuals to investigate the harbour using a 'integrated' approach for all environments. The HWTMA played a major part in the underwater investigations which contributed to the massing of information on the archaeology, geography, geology,

sedimentology, and hydrography to help better understand the evolution of the harbour. The Portsmouth Harbour Project is investigating this much more industrial and urban area. In conjunction with Portsmouth University the landscape is being studied to try to assess the effect that development has had on the harbour and to ensure that the remnants of the maritime past are identified and recorded. The results of this project are being disseminated via the world wide web; a highly sophisticated site has been set up and hosted by Portsmouth University. Work on the Chichester Harbour Project is in its early stages; the Trust is working with the Chichester Harbour Conservancy, the University of Portsmouth, West Sussex County Council and the Sussex Archaeological Society, to carry out investigations of the submerged and damp heritage.

## **Rivers**

Having many of the natural attributes of the harbours, rivers also make an attractive centre for settlement. Through time they form barriers and boundaries, especially delineating territory. They were often a route inland, meaning they could carry people, goods and ideas into the hinterland. Resources available along the river are easily transported; this was particularly the case with timber used in the shipbuilding industry. Three of the major river systems of the area have been under investigation. The Itchen River Project brought the HWTMA together with Southampton City Council to study a highly urban river system. It has provided many interesting case studies involving: hulk identification and recording; the complicated legislation involved in such an environment, and the potential for

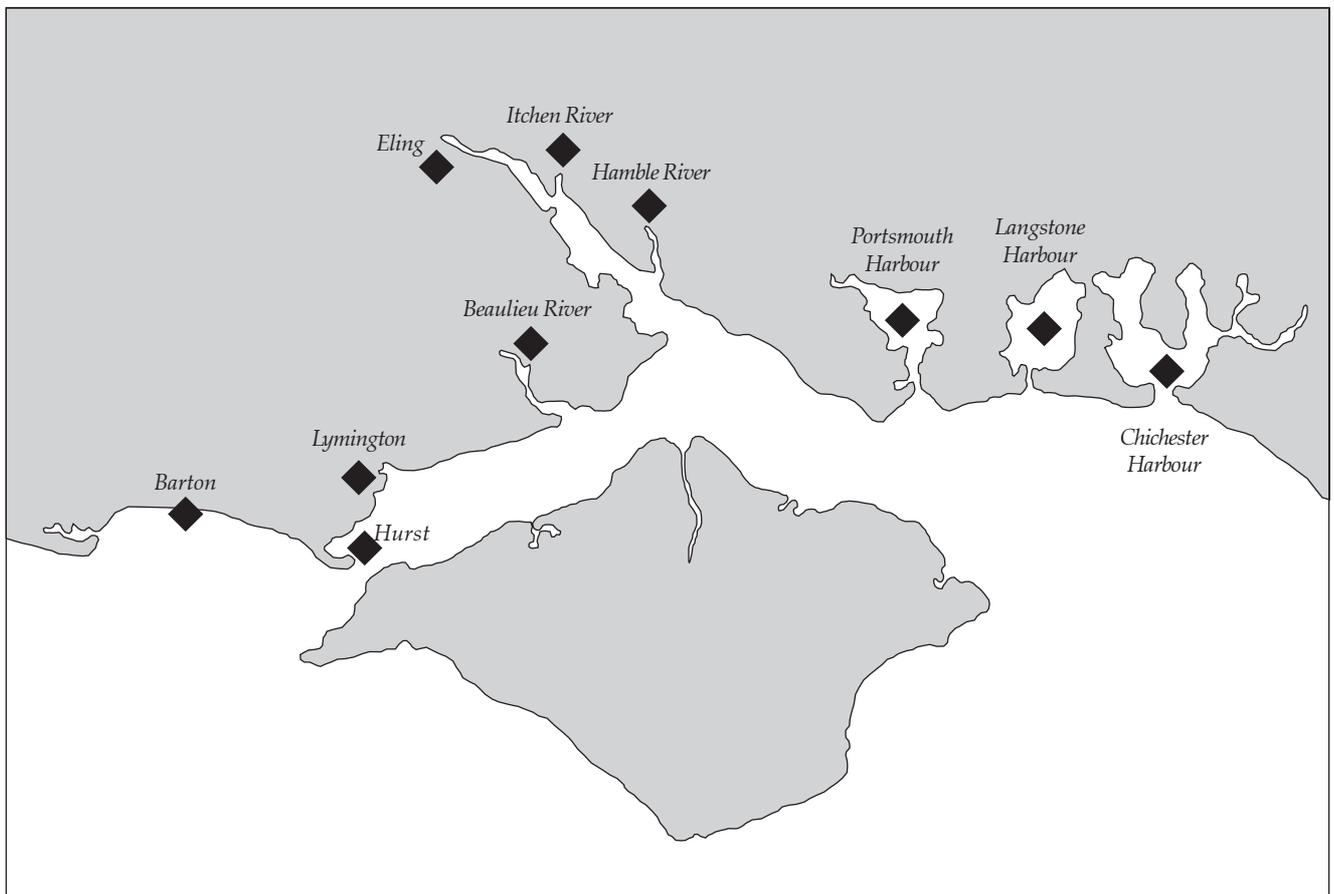


*The intertidal landscape around the Solent contains numerous archaeological features, many of which are exposed when the water drops*

such areas to yield new sites and environmental evidence. In contrast with the urbanised Itchen is the Beaulieu River Project, run in conjunction with the University of Southampton and the Beaulieu Estate, the project sought to answer questions about the development and change of the river over time. In addition to a multi-period, desk-based and field survey investigation, excavation was carried out at Bucklers Hard, a shipbuilding site since the 17th century. One of the HWTMA's most recently initiated projects is the Hamble River Project. This rural river system is proving to be teeming with remnants of the past, from the earliest prehistoric periods to the more modern maritime heritage. Work involves widespread research into cartographic, documentary and photographic evidence, in combination with survey of sites which are particularly important and mostly unrecognised.

## Coastline and creeks

In many places the Solent coastline is lined with mud flats and saltmarsh, these are intertidal environments. They have built up over the centuries and contain archaeological material of many periods within and beneath them. The creeks that wind through these marsh areas are often long established and provide access to dry land. The HWTMA has carried out investigations in this area from both a research perspective and on a contract basis. One part of the region which has been subject to extensive investigations is the New Forest Coast. Work has involved a large number of sites of differing types and characteristics, and a wide range of techniques and methods have been used to survey and record these.



*Chart of projects discussed in the text*

# *Secrets of a Forgotten Harbour*

## *The Langstone Harbour Project*

Langstone Harbour lies between Portsmouth and Hayling Island on the Solent coast of Hampshire. It contains large expanses of intertidal mudflats, shingle banks and sandbanks exposed at low tide. There are dryer saltmarshes on the four main islands in the north and on Farlington marshes in the north-west corner. The harbour is drained by one main and several subsidiary channels with fast running tides near the harbour entrance. The shore and islands have long been known for their archaeological content and limited field investigations in the past have indicated the presence of material from Mesolithic to Roman times.

From the Iron Age, Langstone was a tidal inlet and a principal activity was salt production. During the Roman period it seems to have been a shallow harbour used for salt manufacture and possibly brickmaking and oyster farming, but was less developed than the neighbouring harbours of Portsmouth and Chichester.

Throughout later periods, development remained sparse in Langstone whose main industries were salt making,



*The subtle outline of a Bronze Age urn protrudes tantalisingly from the silts of the harbour*

oyster farming and fishing. It has also played an important part in the defence of the south coast over at least the last three centuries.

In 1993 the first stage of a systematic assessment was undertaken to record the archaeological potential of the harbour, its sedimentary history and physical development. Promoted by Hampshire County Council's Archaeologist, the original multi-disciplinary project team was formed consisting of Portsmouth University's Department of Geography, the Training Officer of the NAS and the HWTMA. The project was coordinated by Wessex Archaeology and took place over a series of fieldwork seasons, culminating in the publication of a comprehensive report.

### **Objectives**

The detailed objectives of the project were:

- ◆ To provide a full database of known archaeological sites within the harbour.
- ◆ To map the archaeological resource by period.
- ◆ To develop a computer-based Geographic Information System (GIS) to hold, display, map and manipulate the database.
- ◆ To develop predictive models for the development and potential for future recovery of archaeological data for each period.
- ◆ To provide a methodological statement for the future study and management of intertidal archaeological resources.

### **Methodology**

A seamless approach, similar to that used on the Wootton Quarr Project, was adopted and adapted, employing the same survey techniques, as far as practicable, on land, in the intertidal zone and underwater. For example, a series of augur transects was undertaken, crossing the harbour, both above and below low water mark and across the islands to record the sequence of sediments. The sediment record was important in establishing and mapping the nature, depth and palaeo-environmental potential of the harbour deposits and provided a basis for understanding the harbour's physical development. In addition, the accessible coastlines of three of the four main islands and some areas of the harbour coast were scanned for artefacts

during a rapid walkover survey. Sample collection of diagnostic artefacts was used to identify, characterise and date areas of archaeological potential.

High precision Differential Global Positioning System (DGPS) equipment was used to provide an accurate survey control network for the digital mapping of the harbour and to fix the positions of many of the augur points. This system formed the basis of information-handling for all future survey and fieldwork.

Geophysical surveys, conducted by University of Southampton staff were also undertaken.

### Role of the HWTMA

The HWTMA concentrated on the underwater aspects of the project. In addition to those augur transects, work included swimover searches, circular searches, survey of particular known sites and ground truthing of anomalies detected by geophysical survey.

### Sinah circle structure

A circle of timbers was identified on the edge of Sinah Lake in the south-east corner of the harbour. The site is about three metres below Ordnance datum and only exposed by exceptionally low tides; normally it is under water.

The discovery of this enigmatic timber 'circle' was made by Arthur Mack during extremely low tides in 1993 and a rapid investigation was made by him and John Bingeman. This revealed 27 (later revised to 28) upright timbers in an approximate circle of about 6 metres diameter. The timbers included roundwood posts and split timber 'planks', some of which had been loosened as a result of snagging during oyster dredging. Remains of 'wattle' were also recovered.

After the discovery had been brought to the attention of the HWTMA, survey and investigation of the feature were formally incorporated into the project.

An underwater survey was conducted and the results entered into the project GIS. Details of the shape and orientation of each timber were recorded and a three-dimensional survey of all features and bathymetry of the seabed topography within the survey area were undertaken, together with a complete two-dimensional survey using offsets to record any other archaeological material. The three-dimensional data were processed to provide both conventional plans, comparable to land-based surveys, and three-dimensional images of the structure.

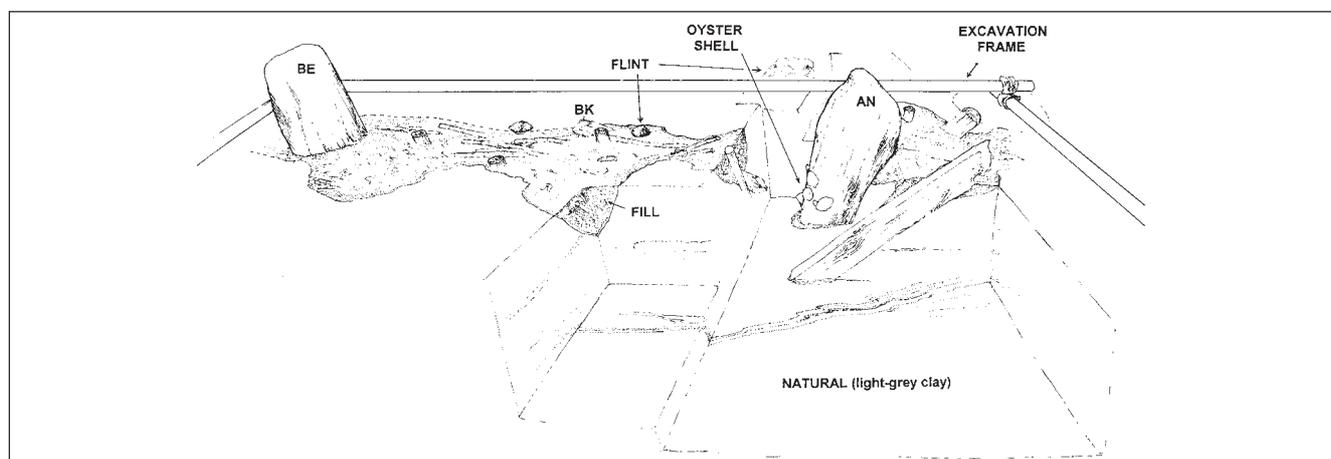


*The enigmatic timber circle in Sinah Lake is yet to be confidently identified*

In view of the continuing doubts as to the circle's function and date, and ongoing erosion some stakes were excavated. Radiocarbon dating on one of the roundwood stakes indicated a date of AD 960-1180. This 11th-century AD date was difficult to reconcile with the theory that the circle could have been a 19th-century oyster pen. The single radio carbon date could not be correlated with any tree-ring dates and the result is open to the usual difficulties posed by single dates.

### Excavation of a Chirp anomaly

A particular *Chirp* (a high resolution, digital sub bottom profiler, named after the noise it creates) survey detected a



*A record of the excavation by Jonathan Adams enabled interpretation of the remaining structure*



*Systematic excavation is necessary to reveal both vertical and horizontal layers*

large wreck shaped feature approximately 1.5 metres below the seabed in the north of the harbour. An excavation was mounted by the HWTMA and the University of Southampton to investigate the anomaly, and over four days, the seabed sediment was progressively reduced down to the level at which the anomaly had been detected. At 1.75 metres a coherent, compacted layer of flint nodules was revealed. Many had marine growth adhering to them, demonstrating that they once had formed the bed of a waterway.

This exercise demonstrated the value of high resolution profiling in determining buried features for sub-surface excavation, maximising cost-effectiveness and efficiency of dive bottom time.

## Wrecks

A number of wreck sites are known in Langstone Harbour but very few details are recorded.

The HWTMA addressed this discrepancy by locating some of the sites and conducting surveys with the aid of local knowledge supplied by Arthur Mack and John Bingeman.

Information recorded during dives has led to the current condition and dimensions of wrecks being documented. The divers were able to validate the Sites and Monuments Record information, with details of length, breadth, elevation and orientation of each wreck.

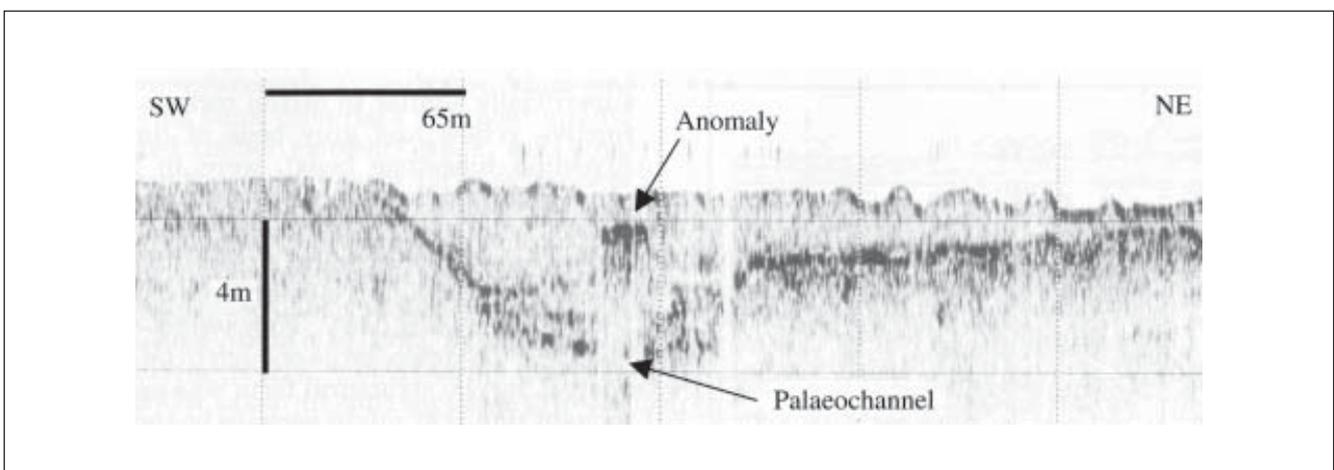
## The Mulberry Harbour remains

The harbour's World War II remains have not yet been subject to detailed survey but are of historical value, meriting recognition.



*A Phoenix caisson, (a section of the Mulberry Harbour complex), is part of the Second World War legacy remaining in the harbour*

Directly north of the Hayling Island ferry pontoon, a large concrete structure sits proud of the water at all states of the tide. It is a large caisson built as part of the outer breakwater for the Mulberry Harbour at Arromanches. These were constructed all along the south coast, submerged so as to be concealed from German reconnaissance, then refloated and towed across the Channel as part of the D-Day landings. This unit is one that did not make it across the Channel and it now rests with its back broken. On the foreshore to the south of the Ferry Inn (south-west corner of Hayling Island) are the remains of a Mulberry Harbour construction and launching site, consisting of a row of concrete slips which are still visible in the shingle.



*A strong dark reflector was acoustically recorded less than 2m below the modern day sea bed*

## Landing craft

In Sinah Lake, within 100 metres of the stake circle, the bows of a landing craft rise from the mudflats. The site is marked with a post and is exposed at all but the highest tides.



*100 metres from the Sinah Lake circle, a landing craft rests after foundering on the mud flats*

## Working under water

It is easy to overlook and underestimate the constraints faced by archaeologists working in the alien underwater environment. Before archaeological skills can be utilised, diving skills have to be honed because, without total control, the material being studied can easily be disturbed

or even destroyed. These problems are compounded where the water is turbid and subject to tidal movements as in Langstone Harbour. Even where currents are light, deposition can cause problems as the seabed will be covered in a soft film of sediments which, if disturbed, cause 'nil visibility'. Consequently, survey under water needs to be flexible, involves considerable preparation and is a much more time-consuming exercise than on land.

## Dissemination

In addition to two Interim Reports, and regular articles in HWTMA Annual Reports and Newsletters, this complex project was marked by two well-attended conferences (1993 and 1995). The conferences, in particular, provided a good platform from which to emphasise the importance of the 'seamless approach' to archaeology in an area such as Langstone Harbour and at Wootton/Quarr.

Dissemination culminated in a 287-page report 'Our Changing Coast; a survey of the intertidal archaeology of Langstone Harbour, Hampshire, published by the Council for British Archaeology in 2000.

## The future

Although the project has been completed, the harbour may still hold many secrets. Its high potential for archaeology both above and below water has been demonstrated but not yet fully quantified.

# *The Home of the Royal Navy and Others Portsmouth Harbour*

Work within Portsmouth Harbour has been continuing for several years, in collaboration mainly with the Department of Geography University of Portsmouth. This is an area which deserves urgent attention; the harbour is subject to the stress of modern development in a way that its neighbours Langstone and Chichester are not.

## The setting

Set at the foot of the chalk scarp which runs along south-east Hampshire, the harbour is a drowned river basin. The northern bank accommodates the impressive Roman coastal fort of Portchester, and to the east lies Portsmouth which grew from a medieval town to become one of the country's principal post-medieval port and dockyard sites. To the



*Portchester Castle stands as a monument to the historic importance of Portsmouth Harbour*

south of Portchester, Gosport stretches from the harbour entrance westwards.

Much of the harbour has been subject to hard engineering and advancement of the shoreline, which has resulted in the loss of mud flats and salt marsh. Added to this, dredging of the main channels poses stress to the archaeological and palaeo-environmental resources in and around the Harbour.



*Portsmouth Harbour is a vibrant centre for the navy, trade and transport*

### **A past forgotten?**

The marketing of Portsmouth's heritage using its historic dockyard and ships is in contrast to the way in which the archaeology of the rest of the harbour is viewed. Modern development has been allowed to go ahead in several areas with little or no archaeological assessment or consideration. Two prime examples of this are firstly, Port Solent a development which obliterated vast tracts of the buried land surfaces that have been shown in this harbour, as in

Langstone, to hold large amounts of prehistoric material. Secondly, the recently completed Gun Wharf development caused the destruction of some of the earliest naval installations in Britain with little archaeological recording.



*The maritime heritage in Portsmouth Dockyard is exploited for tourism and formed a perfect setting for the International Festival of the Sea*

This is not to say that modern development should have been prevented, just that the planning process has managed to 'miss' or 'sidestep' archaeology on numerous occasions in and around the harbour.



*Whereas the heritage value of monuments is recognised on land, many important hulks are broken up or left to rot on the waters edge*

The Sites and Monuments Record for the harbour is split between the unitary authority of Portsmouth and Hampshire County Council. However, not every site of archaeological interest or potential is on this database. This means that although the Sites and Monuments Record is consulted in the planning application stage, an adequate environmental impact assessment is essential to allow for previously buried or unknown sites to be recorded before destruction.

### Addressing the issues

The archaeological record for the harbour is currently biased: towards sites where excavation or watching briefs have taken place, or areas which are easily accessible and where local people find items of interest and report them. This is not an unusual situation, and can be seen in many areas of the coastline. The HWTMA is working towards the creation of a more comprehensive catalogue of the harbour. It is hoped that this will draw attention to the archaeological resource in and around it and help assess which areas are poorly recorded.



*Abandoned but full of memories, the Whip languishes below modern housing*

Historical research is being carried out along with a programme of limited fieldwalking. To date sites in and around Forton Lake and the western side of the harbour entrance have been visited. We are also lucky to have Mr Ted Sutton involved in the project; he is an enthusiastic HWTMA member, and in 1997 he began to make a systematic record of some of the hulks and structures around the harbour. Some of these hulks were local vessels with chequered histories of particular interest.

One such example is the *Whip* a barge which now lies on the western side of the harbour between Forton Lake and Fraten Lake. This large wooden motor barge was built in Newport in 1923 and plied the waters of the Solent transporting sand and gravel between the Island and the mainland. During the war the *Whip* was requisitioned by the Admiralty and was utilised in the Dockyard carrying batteries to demagnetise warships to defend them against

magnetic mines. Post war saw the *Whip* employed by British Road Services carrying flour, but in the 1960s a major change in use occurred when the vessel became a floating nightclub off the Island, with a piano in the hold - the acoustics were said to be 'marvellous'. Various stints as a houseboat followed and eventually the vessel was cut in half and ended up in its present position.



*Once a commercial vehicle, then host to party goes as a nightclub, the hold of the Whip may now look unassuming but harbours a chequered history*

Forton Lake on the western side of the harbour is practically cut off from boat traffic by a bridge across its mouth. It is an area that can certainly be called a ships' graveyard. The skeletons of many wooden, and some iron, ships in various states of repair line the banks, these are a testament to the intensity of maritime traffic in the past, and also to the declining use of Forton Lake which has been relegated to a dumping ground for unwanted vessels. As often happens, the rubbish of the past leaves a rich resource for archaeologists, and here in particular for the study of local vernacular craft of the past two centuries and perhaps more. In the south-westerly end of Forton Lake the current slip is very close to the possible site of an old shipyard of the 18th and 19th centuries, another remnant of the golden age of wooden shipbuilding.



*The wreck graveyard of Forton Lake would enhance the understanding of our maritime past if subject to study rather than neglect*

Such records of sites are being incorporated into our database of maritime sites and monuments, and into the Hampshire county and National record, to make sure they are given due consideration should a planning application become a threat to their survival.

### Looking below seabed

Remote sensing of parts of the harbour has begun. Dr Justin Dix has carried out a limited sub-bottom profiling investigation which has shown that the central harbour deposits are relatively shallow and have built up over the bedrock. The extremes of the harbour are yet to be investigated using geophysical techniques, but have been demonstrated to contain the stratigraphic peat and clay layers of similar sites in the region. When these deposits are interpreted the evolution of the harbour will be better appreciated. This will help us to target specific areas for investigation that may hold archaeological evidence.

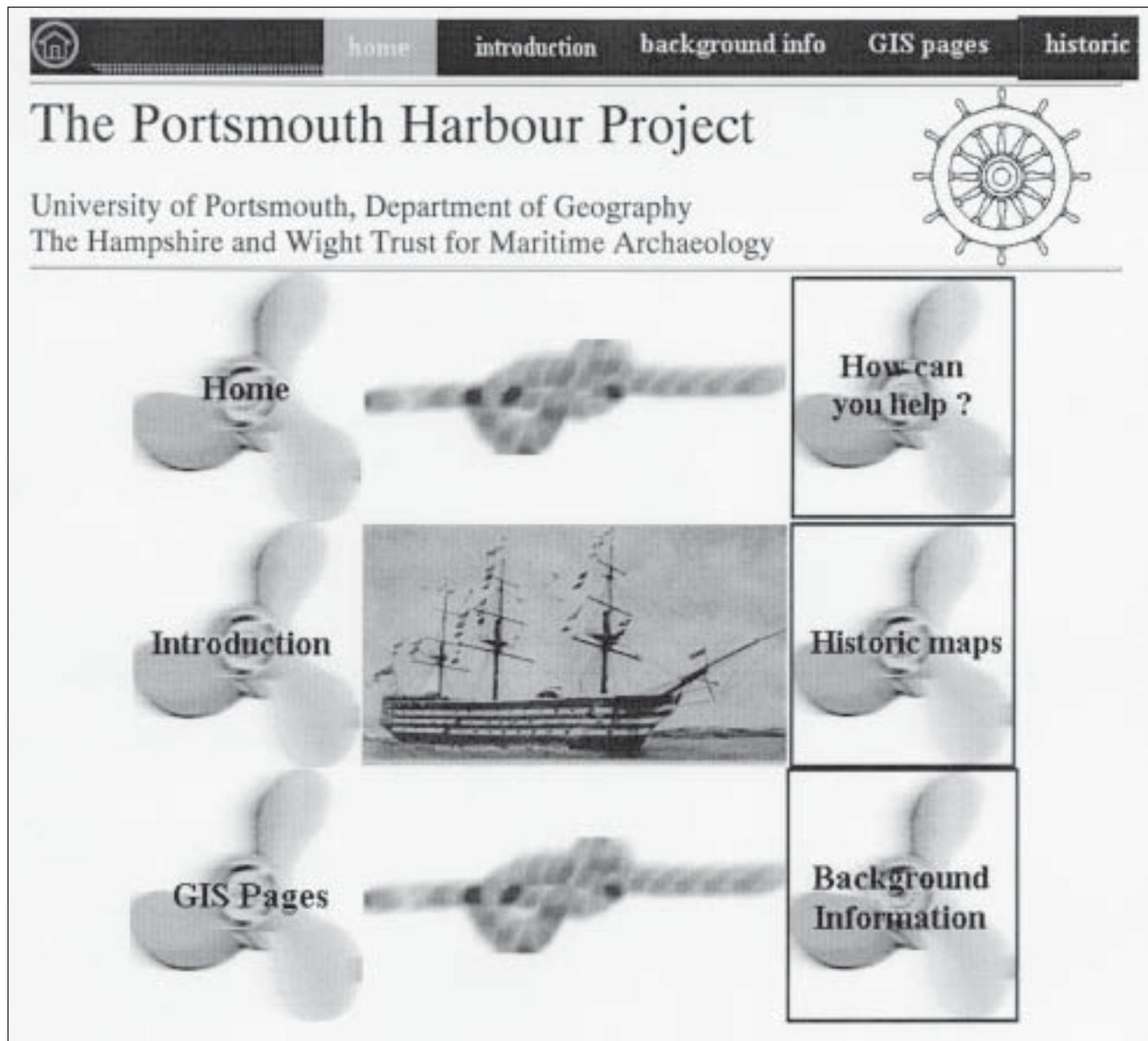
### Innovative data display

Central to the Portsmouth Harbour Project is the development of a Geographical Information System which holds, manipulates and displays data, it allows many different types of data including text, maps, charts, photos and video to be combined together. A selection of information from this system is available to be viewed on the Portsmouth Harbour website, the address is [www.envf.port.ac.uk/geog/research/portsmouth](http://www.envf.port.ac.uk/geog/research/portsmouth).

### An uncertain future

With growing awareness amongst the local community of the maritime heritage in and around the harbour it is hoped that the future will be one of enlightened concern. Until there is a level of awareness the safety of such a maritime legacy remains questionable. Through work with other organisations and volunteers the HWTMA will continue the Portsmouth Harbour Project to record and disseminate information about this marvellous but fragile resource.

Web site



# *Searching in Eastern Waters*

## *The Chichester Harbour Project*



*The evidence of past human activity lines Chichester Harbour*

Chichester Harbour, part of the system of natural harbours which include Portsmouth and Langstone, was formed from a series of drowned river valleys created during the last Ice Age.

There is evidence of Stone Age civilisation, Bronze Age and Iron Age settlements, while the Romans used the harbour for transportation and commerce. Later, the harbour was a wool port in the 13th century and by the 18th century corn was being exported and coal imported. Although water mills and oyster fishing continued, shipping declined and the harbour became commercially obsolete in the early years of the 20th century.

Today Chichester Harbour is a popular venue for yachting but it still holds remains of maritime activities of the past. Archaeological remains are highly evident with site types ranging from the impressive Fishbourne Roman Palace to rotting hulks, or finds of prehistoric flint tools.

In February 1999 a meeting was held with representation from Chichester Harbour Conservancy, West Sussex County Council, the Isle of Wight Council, the Department of Geography, Portsmouth University and the HWTMA, to discuss future archaeological and palaeo-environmental

research in the Harbour in the context of the environmental heritage of the Solent coast. It became apparent that little is known about the intertidal/subtidal archaeology of Chichester Harbour compared with, for example, Langstone Harbour.

### **Objectives**

As part of the overall objectives for this project, which is still in its infancy, the HWTMA will focus on:

- ◆ Interrogation of historical records to point up possible sites of archaeological remains.
- ◆ Site identification by field walking and preliminary recording.
- ◆ Survey and recording of sites that are particularly significant or under threat.
- ◆ Remote sensing in the harbour to investigate submerged remains, with any anomalies to be investigated by divers at a later date.
- ◆ Collection of augur samples in the intertidal and subtidal zones.

## Field walking

Preliminary reconnaissance has been carried out but planned field walking and work in the intertidal zone has been severely affected by the 2001 foot and mouth disease outbreak and the subsequent constraints on access.

## Remote sensing

A side scan sonar survey was conducted in March 2001 by the School of Earth and Ocean Sciences, University of Southampton, led by Dr Justin Dix and in conjunction with the HWTMA. The survey covered an area spanning parts of the harbour mouth and all of the arms of the harbour that the survey boat was able to navigate at high tide. The results will be analysed later in 2001.



*The remains of Hayling Island Wadeway are fragmentary although part of a single structure*



*A multi-disciplinary project in Chichester Harbour has included deployment of state-of-the-art underwater acoustic survey tools*

## The Wadeway

In the north-western corner of Chichester Harbour, between Langstone Village on the mainland and Hayling Island, runs a raised passage known as the Wadeway. This path is constructed from various materials, those visible being mainly gravel and wood. At low tide part of this path becomes navigable on foot for a few hours. However, as a result of channels being cut through the Wadeway, it is no longer safe to pass from one side to the other.

The HWTMA became involved with this site in response to a local request. Due to the possible age and importance of the Wadeway to the history of the local area, and because there had not been a systematic survey of the site completed before, the HWTMA initiated the creation of such a record.

Hayling Island has evidence of significant human occupation which dates to the Bronze Age. In the Roman period, a Romano-Celtic temple was built at the north of the Island. This had been constructed over an Iron Age shrine. It is reasonable to assume (in the absence of firmly dated evidence) that there was a need for a crossing to the island from these early periods, and the construction of the Wadeway may correspond with such dates

In April 2000, a group of 12 local volunteers turned out to help record in detail some of the features of the Wadeway. Work concentrated on the northern half of it where numerous phases of building and repair are visible. Datum points were established and features tagged with individual numbers. A photographic record was also made. This detailed survey was tied together with a topographical survey undertaken by John Cross, Southampton Oceanography Centre, using a total station, allowing an image of the contours of the site to be produced digitally.

It is clear that the Wadeway is a very interesting site which holds many clues to the past route to Hayling Island. As such it forms an important part of the overall study of Chichester Harbour.



*Local volunteers braved the wind and rain to help survey the Hayling Island Wadeway*

# *An Urban Maritime Investigation*

## *The Itchen River Project*



*Students and local volunteers help to record one of the many forgotten hulks along the Itchen*

The project aim is to identify and assess the remaining maritime heritage within the Itchen River before it is lost. This involves locating maritime structures of potential archaeological importance, and targeting those that warrant further fieldwork. This task has been carried out by students and members of the local community, and the results disseminated as widely and in as many formats as possible. The Itchen River Project was set up as a joint venture between the HWTMA and Southampton City Council, but has involved many organisations and individuals including the University of Portsmouth, Southampton Community Archaeology volunteers, the Young Archaeologists Club, students from Southampton University and University College London. Many volunteers and professionals have spent time working on aspects of this project.

### **Background to the river**

The Itchen River has been a centre for human activity since prehistoric times; artefact finds date back to 10,000BC. The river provided a very attractive habitat to live near as well as a passage inland for people, goods and ideas. The Romans exploited the river making their base Clausentum on the promontory that is now Bitterne. Roman activity was considerable with goods being brought into the town from other parts of the empire. Evidence of this is being found from investigations on land and on the foreshore.

The Saxons favoured the opposite bank of the river, establishing 'Hamwic' which then was one of the largest

settlements in the country. This area later spread slightly south and west and developed into the medieval centre and then to modern-day Southampton. Post-medieval times saw much activity on the Itchen once more as it became a centre for shipbuilding; many great naval and merchant vessels were constructed in the river's shipyards. This continued from Napoleonic times into the 20th century, after which it has slowed to almost a standstill; today Vosper Thornycroft are the only large surviving commercial shipbuilders on the river.

### **Out and about on the river**

Since 1997 fieldwork on the river has been ongoing, utilising low tide weekends and involving individuals from many groups.

A large part of the work undertaken has been the identification and recording of the range of hulked vessels that are on and within the riverbed. The examples found are from numerous locations around the river and they represent several centuries of maritime traffic. Over the past three years various 'mud wallowing' expeditions have been mounted to gain records of the hulks. These range from basic dimensions and a photographic record to full-scale planning and three-dimensional survey. These wreck-survey weekends have involved students and local volunteers. Those who joined in got a chance to learn about, and take part in, the recording techniques employed on vessels.

## Detailed recording

Notable vessels include a hulk which is situated in the centre of the river and is one of the oldest vessels visible from Holden's Yard, just south of Northam Bridge. It is



*By excavating the alluvial deposit, the remains of well preserved vessels can be exposed for recording*

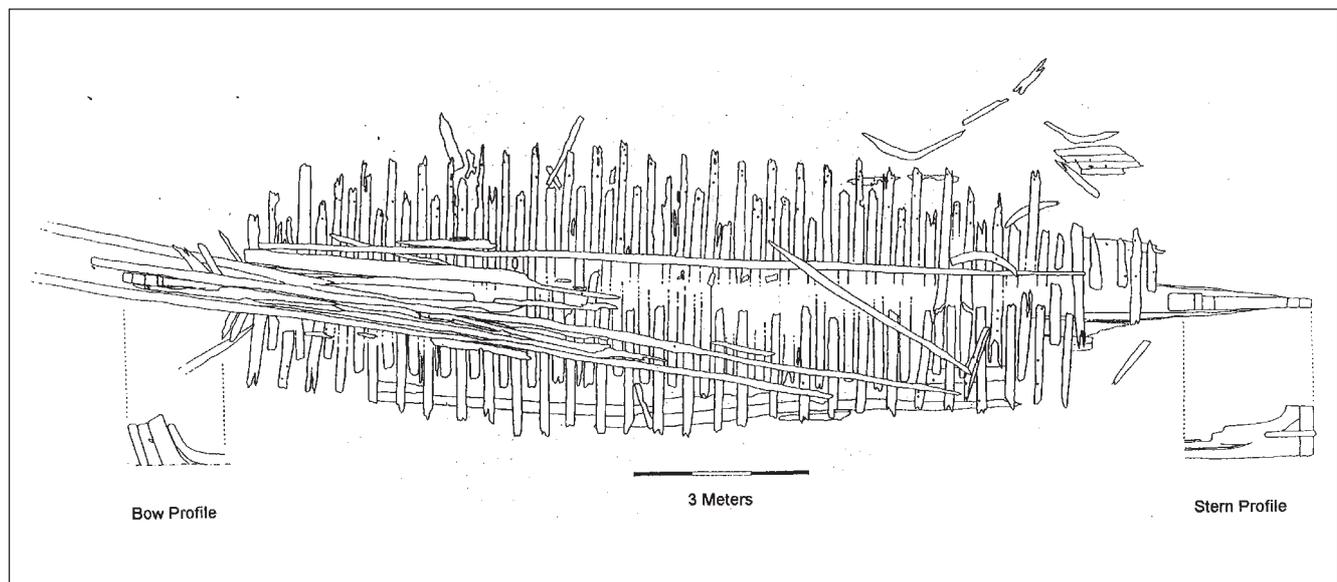
also the one most at risk as it sits on a slightly raised mudbank in the main tidal channel, meaning that it is constantly being eroded. After initial recording in 1999 a full plan of the remains of the vessel was completed in

2000. This gives us a tool to monitor further erosion and loss of structural elements from the site.

A wreck situated just off Janaway Gardens, on the west bank south of Cobden Bridge has also been investigated more extensively by the HWTMA and Southampton City Archaeological Unit. Being close to the shore it provides an easily accessible site for training students and volunteers. The remains of the wreck consisted of the outline of a vessel sticking out of the river mud. This was planned by the HWTMA in 1998. Southampton City Archaeology Unit, under the direction of Dr Andy Russel, undertook to excavate the remains of the wreck. The excavation found that there is only half a vessel present, the stern half being cut off. The remains are those of a wooden barge; it has a flat bottom and heavy transverse framing. In the bottom of the hull some of the ballast blocks still remain.

## Not just hulks

A site of national importance has been brought to light during the Project. An inauspicious row of wooden posts, which stretch from the west side of the river out into the channel south of Cobden Bridge, have been much speculated over as to their origin. Theories range from an old Roman bridge to a jetty used for loading landing craft in the Second World War. The HWTMA and Southampton City Archaeology Unit undertook to survey these posts to see if any patterning could be detected. The work took place over several weekends and involved a potentially treacherous passage out over the river mud; this was overcome by using boards to walk on. The interpretation of the results was undertaken by Mark Edwards, a Masters student from the CMA, University of Southampton. His research indicated that a series of waterfront installations were represented. These involved several phases of jetty building. In conjunction with this tree-ring dates were obtained for the posts dating them firmly in the Roman period.



*Wreck south of Northam Bridge*



*Many structures, including these Roman Posts, were identified and surveyed as part of the Project*

### **Palaeoenvironmental deposits**

In common with many of the rivers and harbours of the region there are vast palaeoenvironmental resources to be found in the river. Such deposits have been brought to light over the years through developments that have involved dredging parts of the river. This material has been found to hold, or overlie, deposits that hold large amounts of prehistoric archaeological material. By examining these layers it is possible to build up a picture of the changes in sea level and the types of environment which accompanied these. Dr Rob Scaife has been examining the palaeoenvironmental evidence from the river, adding to that collected from around the Solent region. Auger cores have been gained from south of Cobden Bridge and from around the Chessel Bay local nature reserve on the east bank south of Northam Bridge. In the future the HWTMA would like to continue this work to build up a map of the layers of peat within the river.

### **Case studies cause a commotion!**

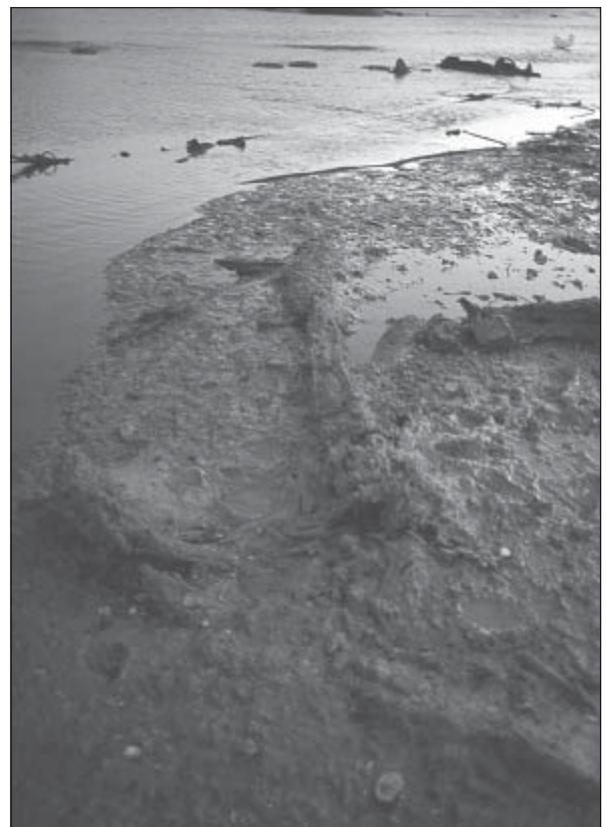
Two cases in particular draw attention to the threats to the maritime archaeological resource. They highlight some of the problems faced when trying to manage the heritage.

### **Rescue work at Cobden Bridge**

In addition to displaying its massive wealth of maritime heritage, the river has highlighted some less-than-impressive aspects of river management. One such instance occurred at a site north of Cobden Bridge, on the western bank of the river. Dr Andy Russel happened to be driving across the bridge only to see one of the hulks identified in the survey of 1998 being attacked with a chainsaw. Further investigation revealed that the hulk was considered an eyesore and happened to be in front of a resident's property who wanted part of the wreck removed. The HWTMA was informed and after negotiations with those breaking up the vessel, stepped in to carry out a rescue survey of the hulk.

Volunteers helped HWTMA staff to carry out the field recording of the ship structure due to be removed. This proved to be very well preserved under its covering of silt and modern rubbish. The wooden structure measured 30 by 6 metres and was fastened by iron bolts. Research into the vessel found that it had been captured in photographs showing it to be a high quality vessel that had become notorious for its capacity to carry a whole band upon its deck during celebrations on the river.

The process of breaking up the wreck continued, but only after two sections of the hulk had been rescued and transported (thanks to the help of local companies and volunteers) to the CMA at the University of Southampton for use by students learning about ship construction and recording techniques. The rest of the vessel was to be burnt on site. However, the wood proved too stubborn to burn, creating enough smoke to prompt neighbours to complain. Interestingly no complaints were registered about the destruction of part of the maritime heritage! The hulk is ending its days in various shattered pieces in a landfill site somewhere in the region. However, the dramatic pictures taken of the digger smashing through the wreck and the following attempts to get rid of it have proved very persuasive when presenting the case for more consideration of hulk remains.



*Remains of pre-historic forests can be seen exposed at the water's edge on the lowest tides*



*Unwelcome excavation exposes the Cobden Bridge wreck*



*With the sediment removed the industrial digger has little problem ravaging the wreck*



*Over 100 years of local shipbuilding history are destroyed in less than a day*



*Only the stern could be rescued and saved for study by students at the University of Southampton*

This dramatic and cautionary tale highlights the lack of protection that such vessels have under the current legislative framework for foreshore archaeology. The only official body that should have been contacted for this particular site is Associated British Ports, the Southampton Harbour Authority. There is a bye law which states that they should be told and agree to any removal from the river. In other areas of the river the case may be different, especially if a site falls within any of the nature designations. If organisations do not have to be contacted as a matter of procedure, then there is no way to trigger any archaeological input. This means that more local irreplaceable vernacular craft will be lost without being surveyed or recorded.

### **Hold on a minute at Holden's Yard**

At Holden's Yard initial recording work had already been carried out on many of the vessels that sit in this shallow area of the river which is tucked behind Northam Bridge. Once busy shipyards now stand derelict or are used for other business, but on their waterfront are the hulks of past decades and centuries. This is true for 'Holden's Yard', which is now being developed for waterside flats.



*Survey of the revetment at Holdens Yard ahead of development*

The HWTMA were not contacted as part of the initial assessment process, but became involved when it was clear that the yard itself contained remnants of maritime heritage; the waterfront revetment would be affected and several of the hulks would be removed. Fieldwork saw several of the more modern wrecks, which were to be removed, assessed and surveyed and the revetment recorded in detail. On closer inspection the revetment proved to be very interesting as it consisted of many pieces of timber reused from older boats and ships.

Investigations on the landward part of the site, carried out by Southern Archaeological Services, found that the waterfront position today is the result of several phases of construction. More wooden barges were found under the present day Holden's Yard. These are now 'preserved in situ' beneath the housing development.

# Investigations along the Itchen River



Emergency hulk recording by Cobden Bridge



Abandoned hulks litter the foreshore



Buried and well preserved beneath the silt



The diminishing heritage is recorded before loss



Volunteers survey a Roman structure



Augering to find ancient landscapes



Many of the wrecks are being left on the waterfront. They are now recorded on the Southampton City Sites and Monuments Record, and so will be considered in any future planning assessments that are carried out on the river.

### How do we manage?

When it comes to managing the archaeology of the river there is a complicated mess of national, regional and local, departments, relevant authorities and groups that have a say in what happens where and when. The nightmare of potential consultees has been highlighted through the Masters degree dissertation of Amanda Bowens (nee Williams), CMA (University of Southampton), which looked at case study areas on the river.

Again on this river, as with other intertidal waters in the area, the sparsity of Sites and Monuments Records relating to maritime vessels and features has been shown. As the SMR is consulted during planning applications being part of the statutory legislation process, it is important that the archaeology is properly represented. The HWTMA is working to address this issue by making sure that information collected is disseminated to the relevant authorities and sources.

### Education and awareness

One of the most important avenues for addressing the situation is to raise the general awareness of authorities and the public to matters of maritime heritage. During this project awareness has been achieved at various levels. Local volunteer participation in fieldwork gives a very direct and tangible appreciation of archaeological remains. For those not wanting to brave the mud there is a project website, designed and hosted by the Department of Geography at Portsmouth University ([www.geog.port.ac.uk/webmap/itchen/index.html](http://www.geog.port.ac.uk/webmap/itchen/index.html)), which details the aims and objectives as well as being packed with information about the sites on the river. The 1999 HWTMA Annual Public Lecture was entitled 'The Itchen River Project', held in Southampton, and presented the findings to an audience of 200 interested people who travelled from around the region.

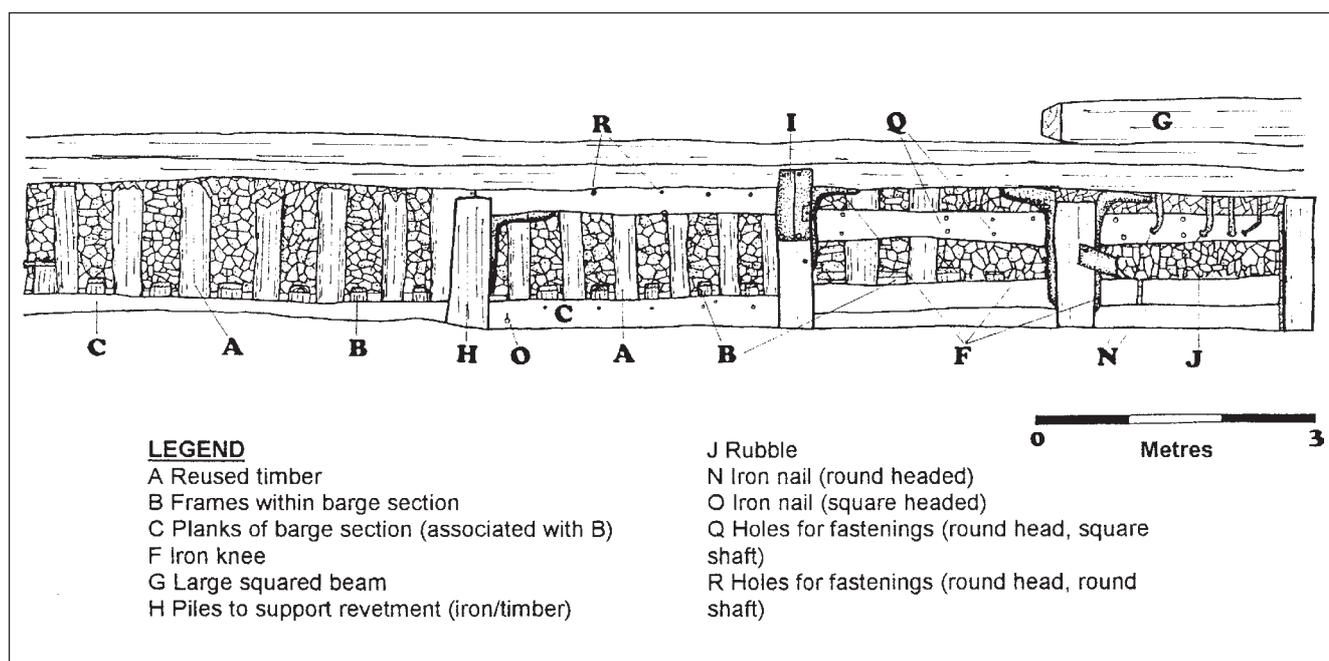


*Involvement of students and volunteers in the survey of hulks along the river was a main objective of the project*

geog.port.ac.uk/webmap/itchen/index.html), which details the aims and objectives as well as being packed with information about the sites on the river. The 1999 HWTMA Annual Public Lecture was entitled 'The Itchen River Project', held in Southampton, and presented the findings to an audience of 200 interested people who travelled from around the region.

### Findings

The most fundamental findings to come out of the project are those concerning the large archaeological potential of a river system which has been heavily developed with modern industry and housing, and the extent to which the various management controls overlap and conflict in their approach to this resource. The river makes a good case study highlighting the plight of the maritime heritage that remains along our river banks slowly rotting without being recorded, and often considered an eyesore rather than a legacy. The many and varied results of the project will be fully published in a monograph later in 2002.



*Many ships' timbers had been reused to create the wooden revetment*

# *Mud, Wood and Students*

## *The Beaulieu River Project*

### **An historical overview**

The Solent and its environs are awash with archaeological evidence from the post-glacial period to the present. Before motorized transport and a viable road system, the waterways served as the most convenient passage for goods around the region. The Beaulieu river basin was an integral part of this maritime network and the earliest recorded use was by Cistercian monks in the 13th century. They took advantage of the shelter offered by the inlet at Ginns Farm, using it as a port to transport goods from their nearby monastery. In the early 17th century, a local shipwright Edward Shish ran a small boatbuilding business in Beaulieu but it appears to have died with him in 1640. The first large recorded shipbuilding project in the area was believed to have been at Bailey's Hard. Here a Royal Navy contract to build a 48-gun man-of-war was begun by the Herring brothers in 1696. The next step in the evolution of the waterway was the development of Bucklers Hard.



*The results of the investigations are made available for the public in the Bucklers Hard Museum*

The village of Bucklers Hard was conceived by the 2nd Duke of Montagu in 1720 when a prospectus was published for the building of Montagu Town. The town was to be developed as a major port for sugar from the West Indies. Ambitions were not realised and only a fraction of the town was completed. However, by the early 1740s the fortunes of the renamed Bucklers Hard were being turned around as it gained shipbuilding contracts from the Navy. Of the ships built at Bucklers Hard, the most famous was the *Agamemnon*, a 54-gun warship. Launched in 1781,

she was commanded during the Napoleonic Wars by Lord Nelson who often referred to her as his favourite ship. The latter part of the 19th century saw a decline in shipbuilding with the slips at Bucklers Hard not seeing a resurgence in activity until the Second World War.

### **Objectives**

The Beaulieu River Project was conceived and designed in 1993 as a joint venture between the University of Southampton, the Beaulieu Estate and the HWTMA. Investigation of the archaeological potential beside the river was to be carried out with the aim of placing the sites within their riverine context. These in turn were to be assessed in a regional perspective by studying the geomorphological, historical and archaeological aspects of the river basin. The project was also to provide practical fieldwork opportunities and training for students of archaeology from the University of Southampton.

### **Methodology**

Fieldwork was carried out by the Department of Archaeology, University of Southampton, in conjunction with the HWTMA and with assistance from the Nautical Archaeology Society (NAS). The 1993 season was directed by Robin Denson to be succeeded by Jon Adams from 1994 onwards. The first phase of the project focused on three aspects: survey, archival research and public representation.

Topographic survey with the aid of a total station achieved two goals. First, it established an accurate grid network. Secondly, the three-dimensional data was used to create a digital terrain model (DTM). This helped identify anomalies (lumps and bumps), of possible archaeological interest. Magnetometry and resistivity surveys were also employed to locate ferrous objects and detect variations in density/moisture beneath the surface.

The fieldwork along the river was complemented by archival research at the Beaulieu estate archives. The knowledge base this provided helped with interpretation of the finds and features as they were uncovered.

The final step was to inform the public of progress, for the dissemination of information was to be a major component of the project from the outset.



*Students being trained how to use a theodolite*

## **Bucklers Hard**

Bucklers Hard was selected as a focal point and base from which work along the river could be conducted. The range and high quality of the archaeology uncovered ensured it retained a central role in the project.

The early years of fieldwork concentrated on site measurement and survey. Adopting a seamless approach, this was extended into the subtidal zone by hydrographic survey. The underwater data was collected by John Cross onboard the vessel *Coastal Survey* to produce a bathymetric plot of the riverbed. Anomalies could now be located and subjected to diver inspection.

On completion of the surveys by the end of the 1994 season, seven slipways and the remains of buried structures had been identified. Exploratory test pits and trenches were excavated in, and adjacent to, the intertidal zone. It soon became clear that much more structure remained than had been previously anticipated. The two main slipways to the north-west of the site still retained large elements of their original timber lining but the most complete and best preserved was Slipway 1, and it was here that the next few years of excavation and survey were concentrated.

An area particularly rich in archaeology was within the oxygen-free environment of the permanently saturated

intertidal silts. A layer of well-preserved sawn oak timbers measuring up to 0.5m wide by 0.3m thick defined the base of the slip. These were lying in a tightly constructed lattice up to six deep. Excavation and recording was conducted when the tide was out. As the tide returned and the diggers were forced inland, HWTMA and student divers continued to survey and excavate the lower parts of the slip underwater. A purpose-built scaffold grid was used to support the divers as they worked over delicate areas with brushes, trowels and a water dredge to aid the removal of excavated sediment.

The work at Bucklers Hard revealed an extensive area of timber surviving below the silt dating from the heyday of 17th- and 18th-century shipbuilding. As the work on the site has been scaled down, it can be seen that a large body of new information has been exposed on the construction techniques and materials used in the ship yard. This is an area of study that has been relatively little studied when compared with that of the wrecks of the ships that sailed from them. The work at Bucklers Hard has now gone some way to redress the balance.



*Trench across the slipways showing the massive timber elements that survive buried under the mud*

## **Training**

The involvement of the University, the HWTMA and the NAS brought in a large number of students and volunteers,

many without previous experience in maritime archaeology. The NAS also ran a number of training courses in underwater excavation on the site. Work on land included a number of surveying techniques as well as excavation, recording and finds work. The marine element of the project provided what is a rare opportunity to teach the methods of excavation underwater.

### Dissemination

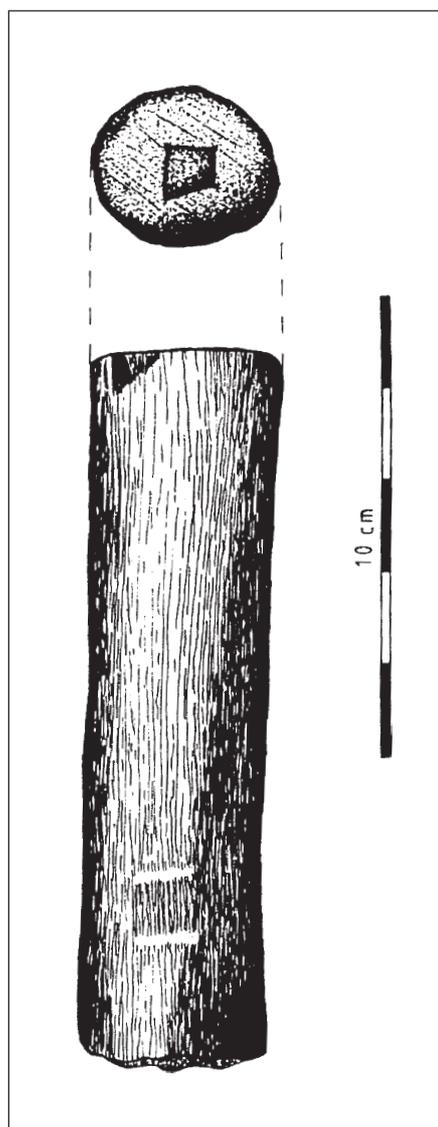
As the main excavation site of Bucklers Hard is situated in a popular tourist area, there was considerable public interest in the ongoing work. From the outset the project included community involvement issues. While work was in progress regular site tours were conducted by excavation staff and students. This was in addition to special open days and two well-attended lectures at Beaulieu, given by Jonathan Adams. A report on the 1993 and 1994 fieldwork seasons was published in December 1994. It is also planned that future redesign of the display in the Bucklers Hard Maritime Museum will incorporate results of the work. Further promotion continues through Web sites and during HWTMA lectures and presentations.

### The bigger picture

Four other sites along the river were also targeted for survey. These were the shipbuilding site at Bailey's Hard, the old village and ancient Iron Age promontary fort at Exbury, the site of the Medieval hard at Ginn's that saw imports of French wine for the Cistercian Monks, and a hydrographic survey off Gull Island. Work on each site together with that at Bucklers Hard has helped to recreate a picture of human activity along the waterway that dates back into prehistory. The wealth of archaeological material has in turn placed the river in a regional and national context by merit of its maritime heritage.



*The flurry of activity preparing for diving operations to begin*



*Wooden treenail recovered from Buckler's Hard excavation*

# *A Rural Odyssey*

## *The Hamble River Project*



*The beautiful and busy river Hamble from just south of the A27 road bridge*

The River Hamble is the focus for intensive boating activity. It is famous for the 'yachty' lifestyle of those featured in the popular 1980s television programme 'Howard's Way'. Its role in World War II is also remembered by an older generation. Marinas line the banks of the lower Hamble; during the summer months these are full of yachts and busy with sailors and tourists. Existing alongside the marinas and in the upper Hamble are many varied species of wildlife. Its diverse habitats have been recognised through several nature designations which protect the flora and fauna. Boatbuilding and repair still take place on the river, albeit on a much smaller scale than that of previous centuries. The visible remnants of shipbuilding yards and hulks from the medieval period to the 20th century are a testament to the prominence of the river during this period. However, much earlier than this the river was still an attractive place for settlement; prehistoric remains from the Mesolithic period onwards are represented along the river banks.

### **The state of the record**

Bearing in mind the busyness of the river in the past we would expect to find large amounts of maritime archaeological material recorded on the Sites and Monuments Record (SMR), but this is not the case. There are entries on record for the most significant and generally earlier archaeological sites, but prior to the initiation of the Hamble River Project the only hulks entered on the record were those of the *Grace Dieu* and the possible site

of the *Holigost*. Just one afternoon of field walking demonstrated that there were many maritime related structures in and around the river. Some of these sites are still remarkably well preserved. With interest sparked, the HWTMA then began to investigate the documentary, pictorial and cartographic sources available.

This research is ongoing and is bringing to light many other sites along the river. There are several publications written about the river which question whether remains are still visible or survive at all, but no one appears to have gone looking for them. By doing so we have recorded three major shipbuilding yards of the 17th and 18th centuries. These can be seen on the Murdoch-Mackenzie chart of 1783, and are still surviving in the riverbanks and within the silt and mud of the intertidal area. In addition, remains from all periods of the past are still to be found and identified in and around the river.

### **Evidence found to date**

A quick chronological run through of the finds and sites of various periods found on the SMR, and those identified recently from fieldwork, gives an impression of the scale and nature of settlement on the river, and how the communities used and relied on the river to sustain their existence.

The SMR shows sites from the prehistoric period. These include many lithics: some finished tools, others scatters



*Murdoch Mackenzie map of 1783 showing ship building sites on the river*

of debris from their production. The river was an attractive place for settlement due to being a watering place, but also due to the fish and oyster resources. The river environment was equally attractive to the Iron Age peoples who built a promontory fort at Hamble Point and produced salt in several saltern sites, which they probably traded via waterborne routes to local centres and perhaps to the Continent.

It is no surprise that the Romans also favoured the river. The villa site in the upper Hamble where the river forks is on the Roman route from Southampton along the south coast. The many kiln sites indicate that they were producing and trading pottery or tiles. Further evidence in the lower reaches at Badnam Creek includes an important find of a bronze wall plaque with an inscribed dedication to Neptune, and also further pottery and tile finds.

The remains of Henry V's ship the *Grace Dieu* lie buried in the mud flats north of Bursledon. This vessel is of great archaeological significance and as such is designated under the Protection of Wrecks Act 1973. These ship remains are indicative of the maritime traffic that has been active in these waters for centuries.

During the Medieval period, the Hamble began to be a focus for shipbuilding. With its rich timber resources and

sheltered creeks it was only natural for shipbuilding to flourish. Ships of all types and sizes were needed in the rapidly expanding ports of Southampton and Portsmouth. During this period coastal positions had to be heavily defended; the Hamble was no exception. St Andrews castle was built near the river mouth, and the remains of this structure can be seen eroding from the foreshore of Hamble Common. The river would have been a hive of activity with settlements at its banks at Hamble, Warsash, Bursledon and Swanwick. There were ferry services between the opposing villages and transport up and down the river. Trees were felled in the wooded upper river and left to season in creeks, or brought downstream for shipbuilders on the river, or for those further afield. Agriculture was also important with several Medieval farmsteads around its banks, one of the largest being at Manor Farm. With its buildings and chapel this was the forerunner of modern Botley. A fish trap located in the upper river was likely to have been attached to Manor Farm. It is around half a mile from the farm following a direct route to the fish trap. This important discovery is, to date, the only recorded fish trap in Hampshire.

### **Shipbuilding galore!**

Throughout the 17th, 18th and 19th centuries large numbers of ships were built on the river to supply the Navy in its seemingly constant conflicts with nations on the Continent. Some relics of this period have been researched historically and sites of interest identified. However, it is not until recently that an initiative to locate some of these finds has been put forward by the HWTMA.

The local shipbuilders on the river include the Wyatts, Ewers, Parsons and Janverin, although these were not all working at the same time. The Wyatts were some of the first with a yard at Bursledon founded in 1620. This was taken over by Philemon Ewer. Moody Janverin was his master shipwright. Both men also built at other sites, the former at Cowes, the latter at Hamble, Lepe and Bucklers Hard. In 1777 George Parsons started building ships at Bursledon Point and launched many ships there including



*Some of the surviving timber elements of the old docks in the imaginatively named Dock Creek*

the *Elephant* which was Nelson's flagship at the Battle of Copenhagen. He transferred his yard to Warsash in 1807, and built from this new location. It is the two yards of George Parsons which are being investigated by the HWTMA; both are still preserved in the mud at their respective locations.

### Bursledon Point

Bursledon Point has been subject to survey. There are timbers littering the foreshore, with uprights sticking out of the mud and large horizontal timbers which would have provided part of the base of the slipway. These were brought to our attention by Mr John Madin, in whose garden the timbers are situated. Survey points have been established around the site and planning frames used to draw the timbers in detail. Further work is planned to complete this survey. In addition, documentary research continues and we have also visited Bursledon Church yard which holds the graves of, and memorials to, many of the prominent shipbuilders of Bursledon.

### Fish and Slips

At Warsash the old slipway is less easy to discern. However, on closer inspection uprights and horizontals are visible. A



*Volunteers planning elements of the shipyard at Bursledon Point*

number of more modern features on the site demonstrate continued activity following the demise of the shipyard. The remains include hulks and an oyster bed. All of these features are being surveyed and researched.

Survey of two hulks which now protrude from the river mud, and research into their history has lead us to believe they were two crabbing vessels, probably the *Eagle* and *Stella*. Such remains demonstrate the changes in industries on the river. As the oyster stocks became overfished in the 1870s many local fishermen went crabbing. The vessels employed were usually converted local trading craft. They had a 'wet hold' which was constantly flooded to keep the catch of crabs alive on the journey home. Until relatively recently the lobster pond survived under the present day yard next to the Harbour Master's Office. This was used to hold the catch, keeping the crustaceans alive before being distributed.

### Incredible hulks

The wealth of hulks and ship remains surviving in and around the river has been a pleasant surprise to us. There are examples of craft from the late 18th to 20th centuries. This type of vernacular craft is often little understood and unrecorded. The lack of large-scale development, apart from the marinas, has preserved many of the vessels discarded in the quieter areas of creeks and riverbank. This maritime resource has even been used in engineering the footpath at Bunny Meadows where a hulk has been built into the raised bank, an interesting example of 'preservation in situ'! Through the 'Hamble River Project' we will be ensuring that such hulks are recorded on the SMR and hope that research will enlighten us further about their past.



*Planning an old crabbing vessels on the foreshore at Warsash*

## World wars

The Hamble as a base for maritime activity had a resurgence during the wars. There are many remnants of this period in and around the river. These include old jetties, landing places and hulks.

Aerial photographs from 1945 of the Bursledon area are particularly interesting showing the range of vessels of different types and sizes that were berthed on the river. Prototype mini-submarines were being developed and tested in its waters in a top secret assignment.



*Hulks at Satchell marsh...*



*...and hulk in Lincegrove marsh...*

## Conclusion

The extent of the resource is proving that there are many years work ahead of us in the Hamble River. The wealth and diversity of its archaeological remains are a testament to past maritime glories. The project will endeavour to place these sites on the SMR ensuring they will be given consideration in any future planning consents. This should safeguard against the removal of archaeological remains without their presence being at least acknowledged or recorded before removal or destruction.



*...and hulk north-west of Downkilm Cope!*



# The New Forest Coast

The New Forest shores are a haven for wildlife and tourist alike. They are visited in large numbers each year by many species! These quiet shores overlook the busy Solent; the two have a relationship that has spanned millennia. In fact the dividing line between land and sea has been fluctuating considerably in the past. The vast areas of salt marsh and mud flats are very mobile and have been receding rapidly in recent years (chapter 4 looks at the sub-tidal resource of this coastline).

HWTMA involvement along the New Forest coast has included contractual work, research projects, and site specific investigations. A range of techniques have been employed which include desk-based study, fieldwalking, survey and excavation.



*Recording the remains of a warping pile on the Lymington River*

## Remains on the Lymington River

In 1994 it was brought to the attention of the HWTMA that timber features resembling ship timbers had been reported to be visible at low water on the edge of the marshes on the west side of the Lymington River. A survey was carried out using the direct survey method, and

measured drawings, backed up by photography. The structure consisted of an octagonal upright with surrounding timbers which were arranged in a symmetrical pattern, while horizontal timbers ran between them. Discussions with the Harbour Master's staff and further research pointed towards the structure being an old warping pile which would have originally been covered in stones at its base. Barges delivering up the river would sail to the channel mouth and then use such piles to haul themselves to their destination.

## Hurst Spit anomaly

Mr John Cross, Coastal Research, University of Southampton, is a HWTMA member who is often out working in the maritime environment. His interest in the Hurst Spit area (along with others) is never failing. In 1997 he pointed out to the HWTMA the existence of an octagonal-shaped feature which showed up in an aerial photograph on one of the spurs of the spit to the North of the castle. This intriguing feature was researched and was not found to be shown on any of the plans, photographs or paintings of the spit. This was surprising as many of the



*The results of a trial trench dug into the Hurst Spit anomaly are diligently recorded*

other earthwork lumps and bumps on the spit can be directly related to buildings which were once standing.

A topographical survey of the site was carried out by Mr Cross with the help of local volunteers, this confirmed the highly regular nature of the 'anomaly'. With no further clues to identity the only other course of action was excavation, this was carried out under the supervision of HWTMA staff. Results of the test pit which was dug into the south-west side were to show that the 'lump' consisted of entirely natural material, mostly gravel, which formed three distinguishable layers. This stratigraphy was directly related to natural processes. Very compact material made up the bulk of the mound; this was overlain by a gravel/soil mixture, and capped by a soil layer that was interspersed with modern debris.

While this result may at first seem disappointing, it served to investigate an anomaly which had been thought to be of archaeological interest. This is another example of 'ground truthing' and goes to prove that not every 'earthwork' has an archaeological element and that nature can conspire to fool us!

### **Barton Cliff**

Following a report from St Barbe Museum at Lymington the HWTMA engaged in a controlled search for Iron Age coins on the beach at Barton. For several years coins had been found by chance on the beach. These dated to around 60BC and had originated from three different Gaulish tribes. The source of these coins was a mystery; some believed they had been part of a cache on land that was eroding out of the cliff, others that they originated from a ship wrecked somewhere off the shore.

A team of volunteers was brought together over several weekends to systematically search the beach using metal detectors. Corridors were marked out on the beach using 50m tapes, running parallel to the sea, these moved down the beach following the water as the tide retreated. During the search if any metal objects were detected they were excavated and stored in finds bags, while finds of archaeological significance were surveyed and left in situ.



*Corridor search using metal detectors on Barton Beach*

Much to everyone's disappointment no coins were found. This is not to say that no further coins will be discovered in the future as the beach is part of a very dynamic environment which is subject to heavy erosion. However, other finds were made: an object consisting of two iron plates and a large piece of wood could have originated from a wooden vessel; and a concentration of copper rivets and nails in one area, was likely to be from the breaking up or burning of a small clinker-built vessel.

### **Salt production & salterns**

The New Forest coastline was once a major centre for salt production. Its shores have been marked by the installations of this industry which has a history dating



*Exposed fragile timbers being battered by the sea*

back to the Iron Age. Most of the visible remains are found between Lymington and the Hurst Spit area and date to the post-medieval period.

Due to the ever shifting-nature of Hurst Spit and the deposits offshore there are often items of archaeological interest uncovered following particularly heavy storms. This happened after the storms of 1989. There was a major shift and several features of interest were revealed. These include a brick floor laid in a herringbone pattern, rows of stakes and cut stone blocks. The site was visited by local historian Jude James, HWTMA member Mr John Cross and Dr Bradbury of the New Forest District Council and a photographic record was produced. The photographs show a line of cut stone to the seaward side of wooden uprights.

These may have been the remains of a hard against the saltmarsh and the cut stone used to retain the camp shedding; the loose material that vessels sit on at low tide. These remains were subsequently either lost to the sea or reburied under the spit. This was an unfortunate loss before a further more comprehensive archaeological investigation could be undertaken. The remains were believed to be those of structures relating to the historically recorded saltworking site of 'Hordle parish saltern' which was once in the lee of the spit.



*The ill fated Oxey Dock before the construction of the sea wall*

Another site which has been subject to disturbance is Oxey Dock which was used to bring in coal for the saltmaking industry and to export salt. It was a purpose-built structure and believe to be the only one of its kind surviving. The dock was intertidal so the ships would come alongside to unload and settle into the camp shedding between tides. Dressed stone was laid in a line to prevent the camp shedding from being swept out to sea. However, when the new sea wall was built, it was constructed directly over the top of the dock. Fortunately, friends of St Barbe Museum and Members of the Hampshire Field Club produced a photographic record and measured plan of the site prior to its burial.



*Remains once under Hurst Spit, now revealed after winter storms*

## Eling tide mill

A mill has been recorded at Eling since the Domesday survey in 1086, the present mill dates to the 18th century. The site has been in continuous use for over 900 years. The HWTMA was interested to hear that some unusual timbers had been reported in the area of the mill. A survey showed that timbers extended down the creek for around 35 metres. They consisted of a variety of shapes and sizes. Four large round timbers project out into the channel, but together they seem to have no obvious pattern. They were found in a bad state of preservation, although others may lie buried, there were no obvious markings, joints or any indication of being worked. The results of the investigation proved to be inconclusive. However, it is believed that the timbers may have been part of an attempt to shore up the side of the creek.



*An unusual collection of timbers protruding from the mud in Eling Creek*

## Fishing further

Another fruitful area of investigation has been through contact with local fishermen, many of whom have collections of artefacts dredged up during their work. In particular Mr White has a collection of more than 60 Palaeolithic, Mesolithic and Neolithic worked flint pieces. The activities of such oyster fishermen in the area offers a glimpse into the potential wealth of prehistoric archaeological material in the area. The need to develop links with locals with knowledge of the sea is another avenue for future work.

At Keyhaven Mr Pitt, an oyster fisherman has been particularly helpful in trying to locate a wreck upon which his nets had been snagging for some time. The timbers which he has dredged up are wooden fastened and are potentially



*Worked flint tools dredged up from the Solent seabed by local fishermen*

archaeologically significant. During SolMAP a controlled trawl was carried out by Mr Pitt and the HWTMA to try to locate the site. Unfortunately it was not found, but further searches by divers may yet prove successful.

### **Miscellaneous (but interesting!)**

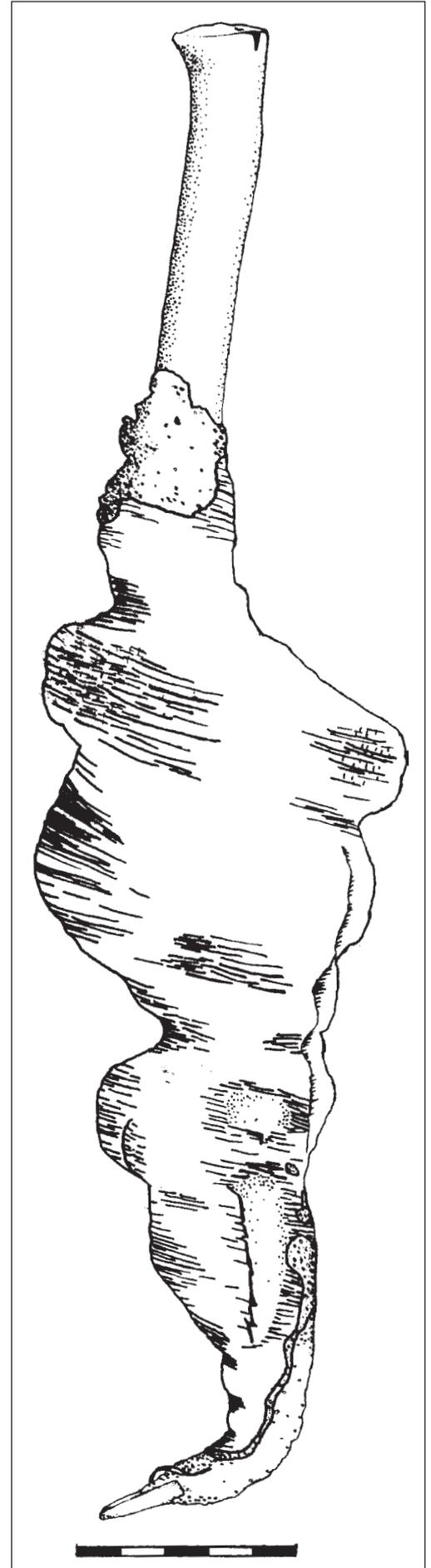
Over the past ten years there have been a number of reports from local people who have an interest in their maritime past. These include the handing in of items recovered from the foreshore. One example came from Mr Graeme Herlihy who brought a copper pin attached to a piece of wood to the HWTMA. This had been washed up on Hurst Spit after storms, and has come from a vessel offshore.

A local historian and author, Mr A T Lloyd, has discovered over 250 flints which date from the Palaeolithic and Mesolithic periods. They have been collected from the area of Barton-on-Sea where there are large gravel pits and from the shoreline as the cliff recedes. He has been kind enough to show these to the HWTMA and a photographic record of the collection has been taken.

### **Roundup**

The coastline here has proved to be of immense interest, one where remains of activities from many periods in the past are to be found. The projects which the HWTMA has undertaken along the coast have provided information on sites which are but a small part of the larger picture. The docks which served the salt-making industry are a good example of that which has been overlooked in the past. The earthworks associated with the salterns have been recorded but not the infrastructure which gave them the vital coastal link for imports and exports.

The threat of increased erosion is one that confronts archaeological remains of all periods from the prehistoric to World War II. The recording, monitoring and management of such remains provide a challenge for maritime archaeologists in the future. It is vital that such an important resource is better reported, recorded and understood before it is lost forever.



*Copper pin with wood still attached found washed up on Hurst Spit*

# *Archaeology on Land Now Underwater*

## **Why submerged landscapes**

Thoughts of the sea all too often evoke images of sailors struggling heroically against tempestuous waters in the name of adventure, or of great naval battles where a wicked foe is defeated and chased from the kingdom. Chronicles of maritime achievements may be laid down in historical text or propagated by folklore while the physical remnants of wrecked ships rest silently on the sea bed. The discovery and excavation of lost vessels can produce evidence and artefacts to validate a legend or in cases where no legend exists, mysterious treasures of great antiquity may create one. It should not, therefore, be surprising that sediment covered, amorphous looking, inundated landscapes were often overlooked by pioneering marine archaeologists in favour of tangible, self-contained shipwrecks. Indeed, to many, marine archaeology is still viewed in the same light today. However, research to assess the importance of the submerged landscape is beginning to bear fruit as its potential is being realised.

## **The great flood**

As the climate warmed following the last Ice Age which drew to a close about 10,000 years ago, the sea level rose by over a hundred metres. Rising waters separated Britain from mainland Europe inundating large tracts of coastal plains before working up the river valleys and bursting banks to flood the adjacent countryside. This was a period when human occupation in the region was becoming more tenable and where the most productive areas were adjacent to the coast. The sea level trend continued, although interrupted by the occasional fall, until about 5,000 years ago when the rate of rise slowed markedly. Prior to this time, human activities and occupation were witnessed by a land that now lies largely under the sea.

## **Archaeological potential**

The potential of drowned lands for the preservation of extensive and important prehistoric archaeological material can be great. In sheltered inlets or estuaries where inundation is not exacerbated by the sustained action of the sea, erosion may be minimal. In many cases water-borne sediments would have been deposited as sea levels



*A humanly formed flint core discovered 6 fathoms below the surface*



*A perfectly preserved hazelnut from the a peat deposit over 8,000 years old*

rose. These could then seal and preserve a land surface with its contents. In addition, a rise in sea levels could cause the ponding back of fresh water systems to encourage the formation of peat in anaerobic conditions. Where a coastal site has been flooded and quickly encapsulated in sediment, a broad spectrum of artefacts will survive. In particular, the preservation of organic material within submerged sites can be superior to terrestrial sites of comparable date. Not only will they be well preserved, but since they rest in an environment free from many of the compaction stresses experienced on land, deformation will be greatly reduced.

These landscapes not only offer the possibility of well-preserved archaeological material, they also hold a sequential archive of information that reflects climate change. Peat contains organic datable plants and



*Auger into ancient peat deposit*

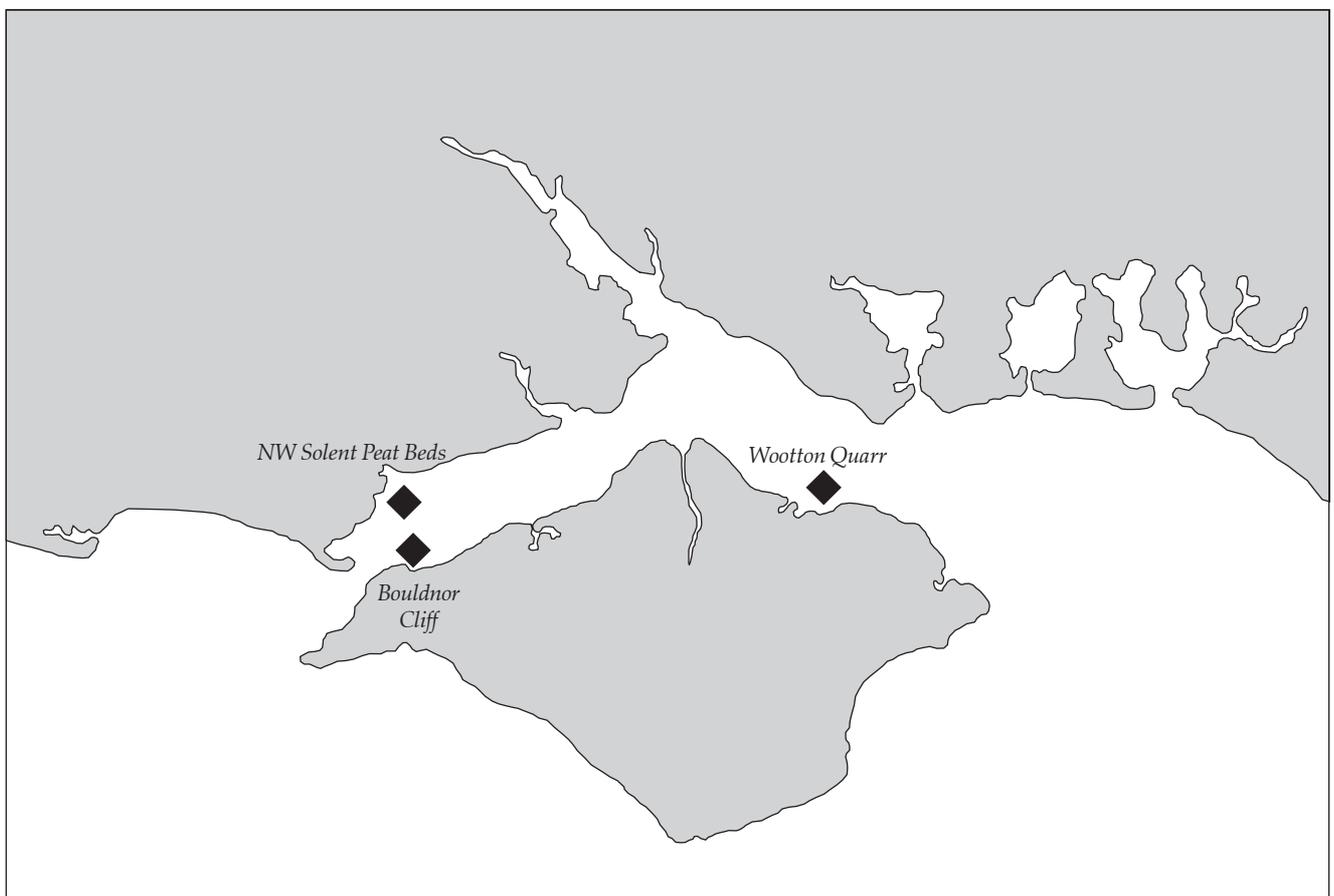
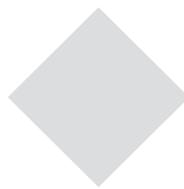
insects that can tell of the conditions in which they thrived. Additionally studies of the sediments can reveal levels of salinity, give clues to climate change, show fluctuations of groundwater run off and indicate variations of sea level.

### Show-case Solent

By about 8,500 years ago the rising waters had a direct impact on the Solent. The marine processes that gradually overwhelmed the area, coupled with the shelter afforded by the Isle of Wight have created and retained pockets with ideal conditions for the preservation of archaeological material. Many finds, such as the numerous lithics and ancient terrestrial deposits dredged from the seabed by oyster fishermen, allude to a rich source of material below the water. These finds helped create an impetus for investigation in and along the fringes of the Solent.

### Research to unravel the past

Over the last ten years the Trust has been directly involved in projects looking at the prehistoric landscape beneath the Solent. Three distinct areas have been investigated; offshore Wootton in the eastern Solent as part of the Wootton Quarr Project, the submarine cliff at Bouldnor in the south-west, re-instigated as part of a European LIFE Project and large expanses of peat deposit in an area off Lymington in the north-west Solent. Each project has addressed different objectives and identified different problems which have warranted different solutions, but each has helped to achieve the common aim of unravelling the archaeological and palaeo-environmental potential remaining under water.



*Chart of projects discussed in the text*

# *Above and Beneath the Waves at Wootton Quarr*

## **Project conception**

Investigations along the north-east coastline of the Isle of Wight, between Wootton Creek and Quarr Beach, in the late 1980s were instigated by the Isle of Wight County Archaeological Unit following the recovery of large numbers of artefacts from the intertidal foreshore. The magnitude of these discoveries, coupled with concerns about localised erosion, resulted in a survey and evaluation by the Unit in 1990.

The survey identified a rich source of archaeological material, much of which was exposed due to a loss of the protective surface sediments. It was clear that this cultural resource needed to be recorded and monitored before it was lost, so a further project to investigate the nature, scale and pace of heritage-loss began in 1992. The project was led by the Isle of Wight County Archaeological Unit under the direction of Dr David Tomalin with funding from English Heritage.

## **A coastline without boundaries**

Sites of particular note that were detected during the survey included post alignments and wooden trackways of Neolithic date. The trackways extended directly offshore and were only visible at the lowest spring tides. It was recognised that a 'seamless' approach was necessary where survey methods could be extended beyond the conventional terrestrial limits and into the sub-tidal zone. Accordingly, a complementary assessment was made in the marine zone

with support from the University of Southampton Department of Oceanography and the HWTMA. The areas to be assessed were the submerged landscape immediately offshore plus the shoals of Mother Bank and Ryde Middle Bank. It was acknowledged that these areas were integral to the understanding of human activity on the shore as well as the processes of past and present coastal change and shoreline erosion.

## **Objectives**

The main objectives were to investigate the timetable of coastal change along the Wootton-Quarr foreshore; to provide an overview of the eroding cultural resources; to establish the history of sea-level rise and to map the submerged landscape of the Solent. The project sought to identify and quantify the coastal archaeological features in this sample area so that the issue of cultural resource management could be addressed in this vulnerable and changing environment. It was to result in a conceptual framework which could be applied to the whole Solent estuarine system and its environs.

## **Under water on Ryde Middle Bank**

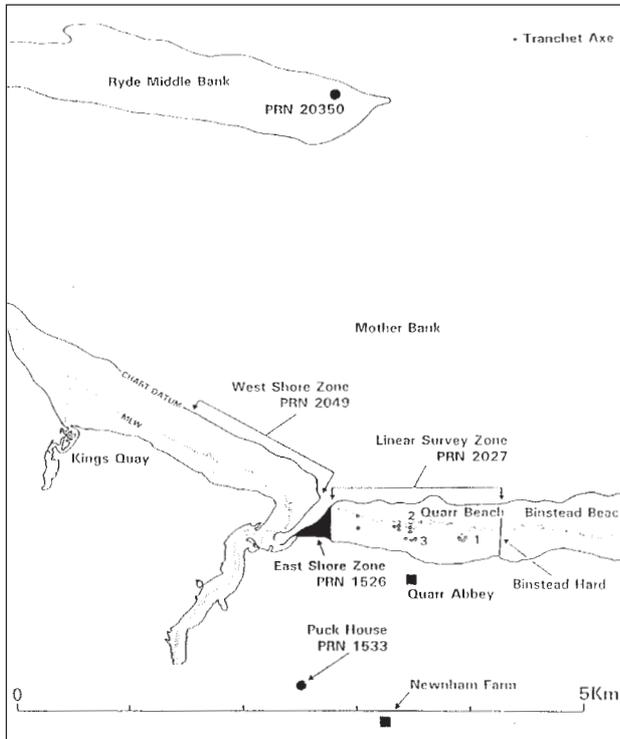
A large mid-channel shoal measuring over 4km from east to west and almost 1km wide occupies the eastern Solent. It rises from a depth of 20m to a crest which is some 3m below lowest astronomical tide. This bank is a geological feature which was once flanked by channels of the Solent River. This landscape was lost to post-Glacial sea level rise

embodied in the Flandrian Transgression which followed the last Ice Age. The position of the bank, near the entrance to Wootton Haven, has impeded boat access to the Island since prehistoric times. Being in the main eastern approach to Southampton it seems to have offered a particular threat to shipping when the sea level was lower. The large number of items trawled up by Solent fishermen supports the proposition by suggesting vessel losses.

In the early summer of 1994 the HWTMA conducted a series of transects and contour searches on and around the southern flank of the bank. The aim was to make a visual inspection for archaeological contexts, to sample artefacts and to recover environmental samples. The top of the bank was covered with vast deposits of ancient oysters which



*Survey along the shores of Wootton and Quarr revealed hundreds of archaeological features in the intertidal zone*

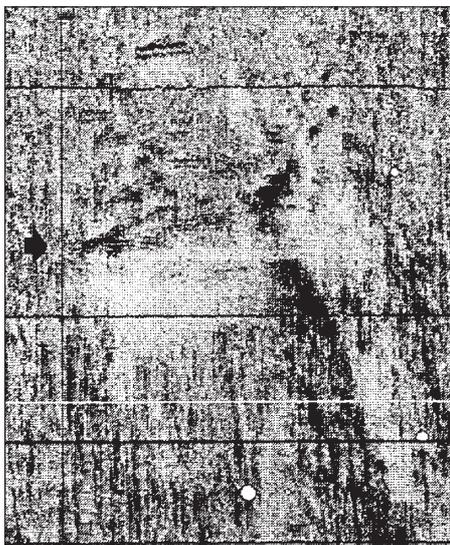


*Ryde Middle Bank lies just offshore Wootton Haven where it may have acted as a hazard for shipping over the past two millennia*

seemed to denote healthier breeding conditions in the past. A scatter of modern objects and the presence of scooped hollows suggested that much of the surface had been disturbed by oyster dredging. The relative sparsity of artefacts observed in the field inspections was inconsistent with the large quantity of items previously recovered by fishermen. It was consequently decided to conduct a seismic reflection survey and a controlled trawl around the shoals to help locate the source of this material.

### Seismic reflection survey

Side scan sonar was conducted over the eastern side of Ryde Middle Bank early in 1995. The survey was conducted



*Side Scan Sonar trace showing an irregular shaped anomaly in the Solent*

by the School of Ocean and Earth Sciences/Centre for Maritime Archaeology Group of Southampton University. It was directed by Dr Justin Dix with the data analysis by Mr Tony Hanks. A number of anomalies were detected during the survey and after this a series of 'ground truthing' dives was carried out by the HWTMA to secure a visual inspection of the seabed environment.

Dives by HWTMA officers and members of the Poole Bay Archaeological Research Group in the same summer identified several anomalies and many more artefacts. Most of these were of 20th century date and the source of the dredged Roman and medieval artefacts still remain elusive. Since this inspection was completed acoustically generated images of the seabed proved very successful. The wider availability of the Differential Global Positioning System (DGPS) has since allowed accurate positions to be plotted and divers to be deployed within a few metres of the target. As a result of this fieldwork, further seismic surveys were undertaken over the next two years.

In 1996 and 1997 surveys were conducted by the same group, covering Ryde Middle Bank, Mother Bank (a shallow shelf of some 6m lying to the south-east off Quarr beach), and a swath of seabed running 5km north from the entrance of Wootton Creek. In addition to side scan sonar, a sub-bottom profiling system was deployed to look below the sediment to help identify buried archaeological material or ancient landforms. Divers were deployed to identify anomalies on the seabed, but these proved to be relatively modern in date.

### Controlled trawl

Although divers were recovering few artefacts of archaeological significance, items dating to the Roman and medieval periods were still turning up in fishermen's nets. In an attempt to locate the origin of this dredged material, permission was given by the Ministry for Agriculture, Fisheries and Food (MAFF) to perform a controlled trawl around the shoals in 1995. As part of the Wootton Quarr project the trial trawl was conducted by the HWTMA for the Isle of Wight Council under the guidance of Dr Tomalin.

The results were very encouraging. Over a period of two days an oyster trawler covered 65 km of sea bed. Of the 184 trawl grabs, 176 proved to contain a total of 773 artefacts. Analysis of the material, much of which was ceramic, revealed significant items from the Roman and medieval periods. However, the chronological distribution of objects within those periods was broad. The inference was that the arrival of historic jetsam on the sea floor was due to many different incidents of casual loss rather than a single event such as the wrecking of a vessel. The location of two historic anchorages at Mother Bank and Spit Head may have particularly contributed to a build-up of debris during the post-medieval period. Items cast overboard could



*A controlled trawl over designated areas around Ryde Middle Bank recovered almost 800 artefacts*

have been transported along the seabed, coming to rest at the foot of the submerged bank.

### **Excavation off Quarr beach**

A further component of the project was an excavation in the sub-littoral zone at Quarr beach. When the water receded sufficiently during a low spring tide, Neolithic trackways from circa 3700 to 3000 BC had been recorded on Quarr and Binstead beaches. These were partly concealed within peat and marine sediments almost 3m below OD. The trackways ran directly offshore where they were to be traced by the HWTMA in an attempt to define their limits. These structures offered an opportunity to study archaeological features which rarely survive on land. The trackway would have been built to cross a salt marsh or coastal wetland which was subject to rising water. This has important implications for calibrating the scale and pace of sea level rise over the past 5,000 years.

In April 1998 the HWTMA mobilized a team of marine archaeologists and students from the University of Southampton to excavate a trench across one of the trackways below the low water mark. The excavation revealed a peat deposit strewn with ancient submerged trees. These had fallen when this landscape and its trackways had finally succumbed to rising water in the 3rd millennium BC. The peat measured 150mm thick and was stratified below a layer of soft grey silt. This rested on a substrate of hard clay. Closer to the shoreline, the overburden of silt was being thinned by the present effects of coastal erosion. In deeper water, core samples taken with a 1 m-long gouge

auger revealed a thickening of the covering sediment. These deposits were considered to be a sediment archive of past coastal changes and it was realised that, within recent times, significant changes had occurred in which a benign and depositional environment on this coast had been transformed by new conditions which were destructive and erosive. It was now evident that the sediments and the archaeological structures extended further than had previously been recorded. As the true extent has yet to be ascertained, this is a site that warrants further investigation.

### **Conclusion**

Many aspects of the Wootton Quarr project have pioneered new approaches to the recording of heritage-loss and the study of long term coastal change. This was a project that was initially concerned with the foreshore but it was soon realised that the study would need to look below low water mark if a full picture of human response to local coastal changes was to be obtained. In addition, it recognised the importance of coastal archaeology in identifying specific markers for sea level and climate change. Interpretation of these archaeological remains has highlighted the dynamic nature of the past and present shoreline of the Solent and has helped to calibrate the scale and pace of erosion. This approach has since been studied by the European Commission in its LIFE study of Coastal Change and Ground Movement and its principles of archaeological and palaeoenvironmental investigation have now been adopted in the Best Practice Guide for those authorities who are dealing with these problems.



*Selected areas were subject to excavation underwater which demonstrated the extension of the archaeological landscape below low water mark*



*Neolithic trackways over 5000 years old were recorded extending below the low water mark*

# Uncovered after 6,000 years and open for investigation

The western Solent conceals a legacy of palaeo-environmental and archaeological treasures. The geomorphological evolution of its coastline as a result of climatic changes and sea level fluctuations during the Holocene has allowed the accumulation of silt and sediments with a high potential for preservation. Within and under these deposits, human activity has left its mark on ancient landscapes.

## Charting the north-west Solent

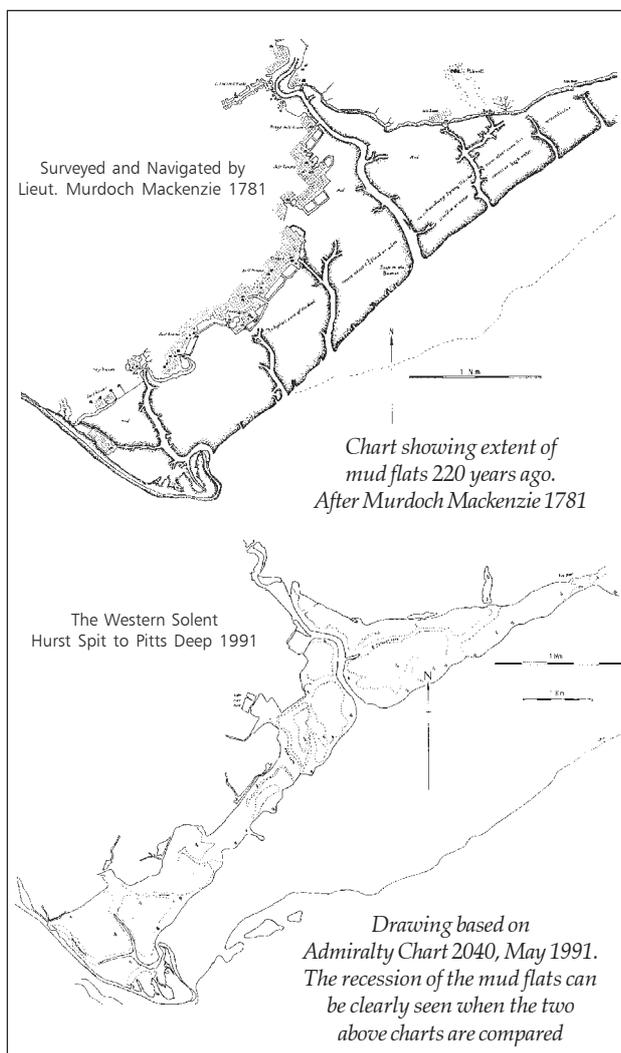
Examination of historical charts from the past 200 years indicates large recession of the mud flats between Pitts Deep and Hurst Castle. Comparison of modern Admiralty charts with the Murdoch Mackenzie chart of 1781 suggests that about half the salt marsh has been lost. As the mud flats have eroded away, areas of peat and submerged forest have been seen at the lowest tides off Oxey Marsh near

Pennington, and oyster fishermen have dragged up Stone Age tools in their nets. It appears that the mud flats are a covering deposit which is being lost to reveal a seabed containing the remains of human occupation.

## Trawling up the past

Evidence for ancient forests below the waves of the western Solent has been unearthed many times in the past, but the information seldom reaches the ears of officialdom. Tree trunks and clumps of peat are often trawled by oyster dredges only to be returned to the seabed as inconvenient net snags rather than clues to the past. It has, however, been thanks to these recoveries that the archaeological significance of these lost lands is now being recognised.

Mr White, of Pennington in the New Forest, trawled the western Solent for many years. While doing so he recovered flints and cobbles with his oysters, some of which appeared unnatural. Accordingly he began to collect and research the more interestingly shaped objects, discovering some to be worked Stone Age tools. Today he is retired and has his museum in his back garden. As part of his artefact assemblage he has over sixty very well-preserved Paleolithic, Mesolithic and Neolithic worked flint pieces. This is only a sample of the flints that undoubtedly have been dredged as the majority would be discarded, most fishermen overlooking the significance of their catch. Even when worked tools are recognised, the locations from which they came are rarely recorded so the positions of finds are vague. However, we do know that the majority have come from an area in the Solent between Pitts Deep and the Lymington River.



Worked flint tools have been recovered in the nets of fishing trawlers from the western Solent, enthusiasts have made collections but many have undoubtedly been discarded

The large number of unrecorded finds from and near the peat beds of the north-west Solent implies a very rich resource of prehistoric material. This compares rather unfavourably with the Hampshire Sites and Monuments Record, which, until the mid 1990s had only contained a few comparable artefacts from the immediate vicinity. Before the discoveries from the Solent were recorded, the area appeared poorly served with archaeology from this early period. Perhaps the finds will help focus more attention on the ancient coastal landscapes which were flooded by the rising waters that followed the Ice Age. For these were productive areas that would have been highly attractive to our ancestors.

### Ancient peat beds rediscovered

The archaeological discoveries and reports of peat in the north-west Solent caught the attention of the HWTMA. Early in the 1999 field season a number of drift dives were conducted parallel to the New Forest coastline off Tanners Hard and Pitts Deep. The aim was to identify, track and record any peat deposits.

The searches revealed an extensive peat bed a couple of metres below chart datum. These appeared to be intersected by channels which exposed the clay beneath. A small cliff terminated the seaward extremities of the peat. The cliff was about half a metre high, below which clumps of eroded peat lay on the seabed.

In June, further searches were performed to the west of the Lymington River and to the north-east of Hurst Spit. Participants in the Solent Marine Archaeology Project (SolMAP 99) revisited areas of peat bed off Hawkiers Lake

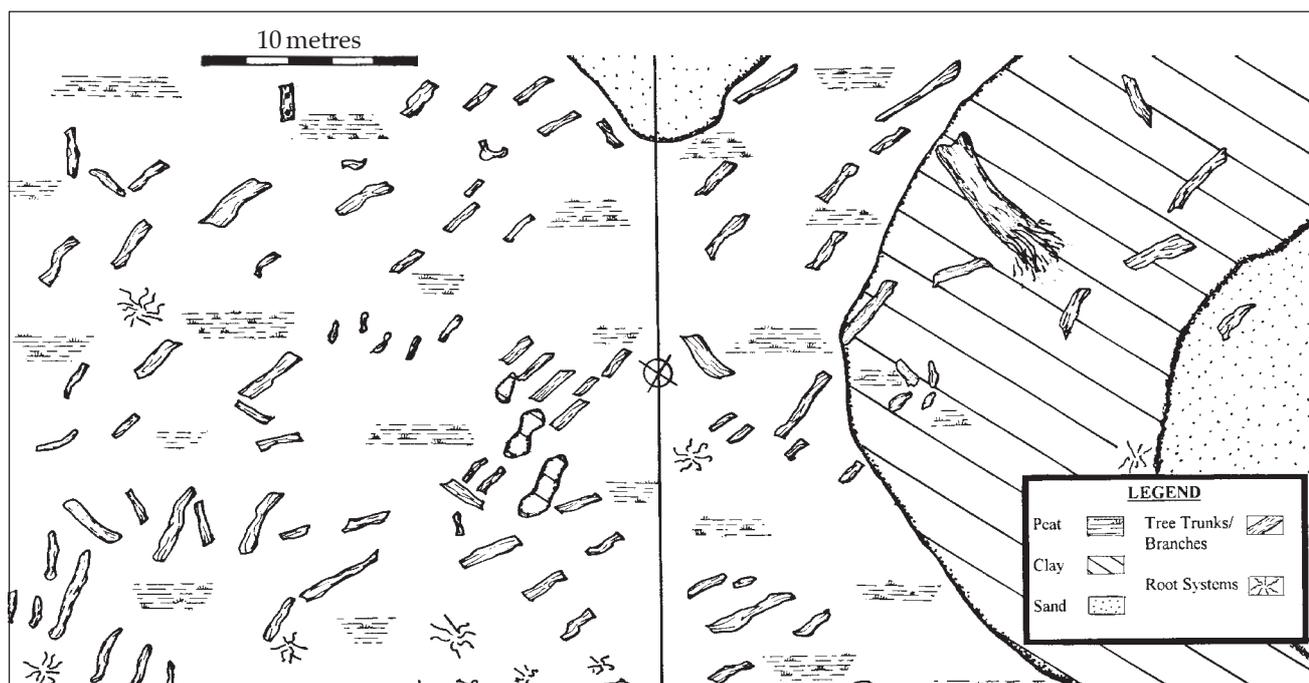
that they had discovered the previous year while looking for a wooden wreck. Here, a 60m by 30m area of seabed was surveyed in more detail to identify the concentration of trees in the peat, look for evidence of human activity and assess the relationship with surrounding sediments. The area surveyed showed peat inlaid with timber and interspersed with linear clay patches. Sand was recorded covering some areas of clay.

The searches and survey illustrated some of the benthic characteristics and revealed the extent of the peat deposit, which, although subject to fragmentation, stretched for at least 6.5km and was up to 800 meters wide. Differing forms and stages of erosion were being recorded and distinct channels through the peat were evident. The initial searches provided information that is helping to map the deposits and identify sites with a high potential for archaeological material. The aim of the following season was to focus on areas that would help define the interfaces between the sediment types.

### Survey in a new millennium

For the purpose of survey during SolMAP 2000, the north-west Solent was divided into two distinct areas separated by the Lymington River. The area to the west was primarily investigated by a team from Bristol University Underwater Club while research in the east was conducted by the Poole Bay Archaeological Research Group. More detailed surveys with accurate position fixing and depth measurements were conducted.

To the west of the Lymington River the peat deposits appeared more confused than to the east. The nature of



*Survey has demonstrated that the submerged peat deposits of the north-west Solent are both extensive and were once densely forested*

the remaining peat generally contained more pitting and hollows. To the east of the river, the surface erosion appeared smoother and more consistent. Searches of Hawkers Lake in the west, were unable to locate a definitive edge at the seaward end of the peat. The greater the distance from land, the more the peat became fragmented revealing increasing quantities of underlying clay seabed until it became the dominant substrate. Interruptions of the peat continuity was more frequent off the Keyhaven marshes than Pitts Deep and Tanners Hard. In the area near Pennington Outfall, in front of the sea wall, the seabed was a soft grey silty sediment over a metre deep without any sign of peat.

The searches to the east of Lymington River were carried out from Mike Markey's boat, *Peveiril Myth*, during SolMAP 2000, by the Poole Bay Archaeological Group. A bathymetric survey was conducted and divers were deployed to drift along contours and in areas with anomalous features. Large expanses of peat intersected by clay channels were recorded. By cross-referencing the location of the observed breaks in peat against the channels that were charted as cutting through the mud flats over 200 years ago, a strong correlation could be seen. Whether these channels are purely a product of the current, albeit eroding, salt marsh system, or relic palaeo-channels which drained the land before it was inundated is a question yet to be answered.



*The peat deposit measuring over 30cm thick is clearly defined above in a small section of the submerged cliff*



*Investigation of the deposits has included the use of augers to collect samples and track the stratigraphy towards the shore*

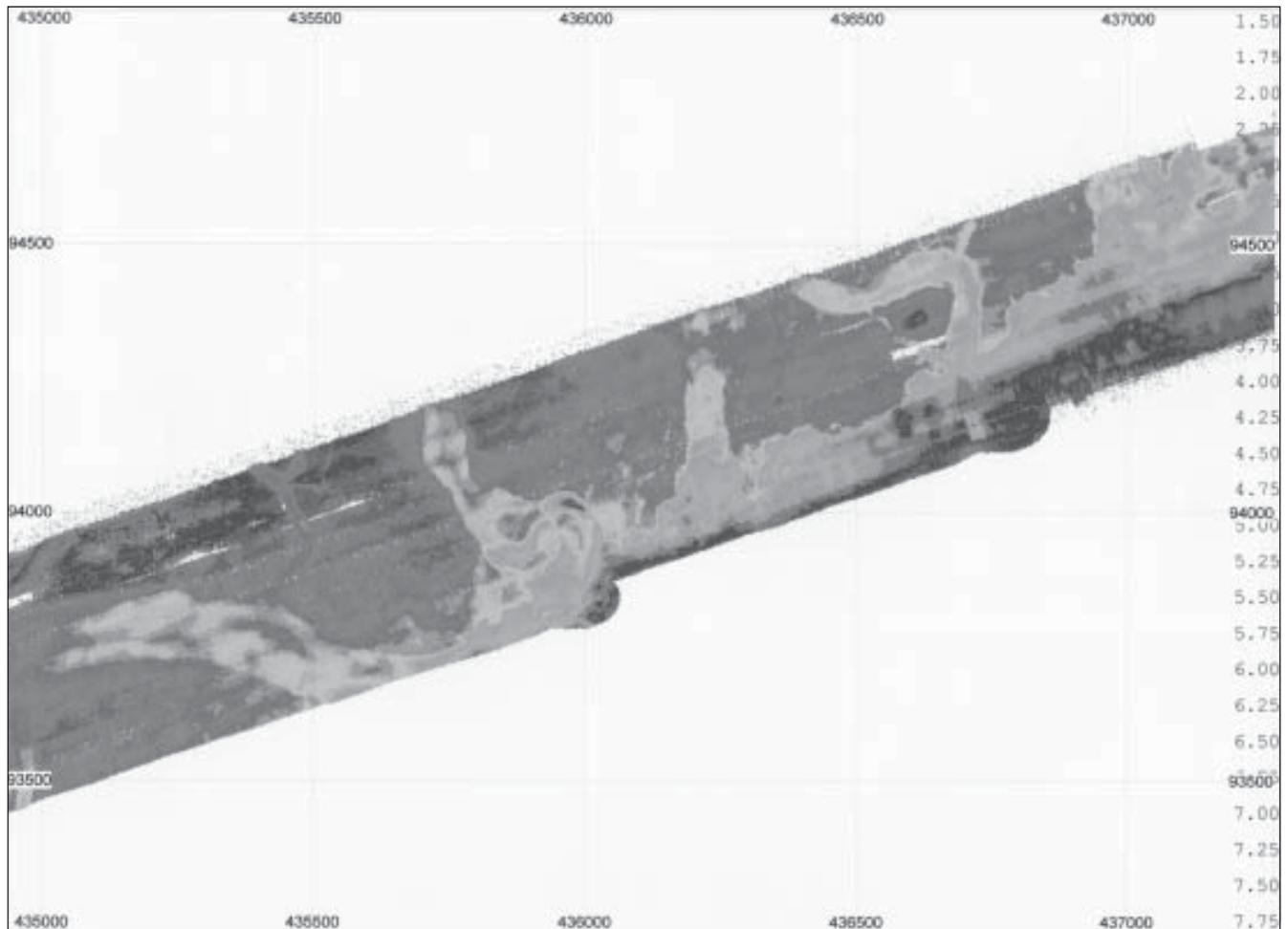
South of Pitts Deep, in a depth of 3.7 and 4.1m below OD, a cliff of over 1m in height was discovered that defined the southernmost limit of the upper peat beds. The cliff was capped with peat above clay. The foot of the cliff was peat which extended south by several metres before it was lost to erosion. The depth of the peat beds are comparable with the upper peat beds found below Bouldnor Cliff. Here, three layers of peat deposit have been overlain with alluvium. Investigations as part of a European LIFE Project (see Bouldnor Cliff section) confirm past periods of accretion and sedimentation. This attests marine inundation which has been interrupted by episodes of falling or static sea level, thereby allowing the shoreline to advance and reclaim land from the sea. The base of the deposit has been dated to 4525 - 4330 Cal, BC. This period, towards the end of the Mesolithic and beginning of the Neolithic, saw levels of population grow and occupation patterns became more sedentary. Work on similar locations in Langstone Harbour and the intertidal reaches of the Severn Estuary has shown extensive exploitation of such environments. Evidence is particularly rich adjacent to palaeo-channels which lie within the peat deposits. Here, the remains of structures, indications of boat activity and evidence of coastal fishing with fish traps have been identified. It is highly probable that such sites exist within the upper peat deposits of the north-west Solent.

### An exciting future!

A key objective for future work is to identify seabed topographic variations within the peat deposits as potential signatures for ancient palaeo-channels. Initial searches have proved very informative and are helping to map the deposits although it is a slow process. A combined study of geophysical survey with seabed sampling in areas within the western Solent is currently underway with a bathymetric survey conducted in conjunction S.E.A./Submetrix Ltd. having been completed in June 2001.

### To conclude

The area is a prime example of geomorphological adaptation to a changing environment. Study of the palaeo-environmental and archaeological material can provide a temporal framework for archaeological, climatic and environmental events.



*A bathymetric survey by S.E.A Ltd has enabled the undulations in the submerged landscape to be clearly defined*



# *Six Fathoms Down off Bouldnor Cliff*

## **Introduction**

Underwater excavation by the HWTMA in May 2000 recovered worked and burnt flints from a submerged forest in the Solent. The site lies about 300m off Bouldnor Cliff, north-east of Yarmouth on the Isle of Wight. Below the water, a peat-capped silty clay cliff drops from 4m to 11m below sea level. It runs for almost 2 kilometers east to west, paralleling the shore. At the foot of the cliff, a further peat platform has become exposed as the overlying deposits are eroded. Inlaid through the peat are the victims of sea level rise, large oak trees which remain where they fell over 8,000 years ago. It is within and below this ancient landscape that the tools of our prehistoric ancestors were discovered.

## **Discovery of the site**

The submerged landscape in the western Solent was first identified in 1976 when local fishermen dredged up timbers and peat. John Cross, Coastal Research, University of Southampton, then traced these to their source at the foot of an underwater cliff in 1985. Preliminary investigations by Drs David Tomalin and Rob Scaife recognised the significance of the find and a programme of monitoring was put in place. Tree roots and boles were examined and active erosion of the site was noted. With the help of English Heritage, an absolute date was obtained at 6430 - 6120 calendar years BC (GU-5420). In 1991 this section of the Solent coast was identified as a key area to be investigated by HWTMA and in 1997 this site was adopted

as a study area for a European LIFE Project, giving new impetus for further research.

## **Background**

With the melting of the ice cap towards the end of the Pleistocene, sea level began to rise sharply. This was a time characterised by adaptations in technology and habitation patterns when the Mesolithic or Middle Stone Age cultures about 10,000 to 6,000 ago, moved north onto the British land mass. As the climate warmed the north European grasslands and tundra were colonised by temperate forest and the lowlands were covered or fractured by water. These changes interrupted the migration territories of wild herds, a major food source for the Upper Palaeolithic, forcing the population into a fragmented landscape that presented many new challenges. This new landscape required a much more adaptable lifestyle that has been defined in the archaeological record by tool development and a greater use of small *microliths*.

These new peoples lived in semi-nomadic societies based on fishing, hunting and gathering. Territories were occupied within which seasonal patterns for exploitation of local resources were established. The priority was survival, so a primary aim of any group would be to locate the most productive 'patch' which was invariably the coastline. Consequently, it is not inconceivable that the greatest concentrations of population were along the coastline, an area that became inundated as sea levels rose.



*In the gloom six fathoms below sea level, the roots of ancient trees can be seen projecting from the 8300 year old submerged landscape*

For the archaeologist, drowned coastal landscapes offer a high potential for well preserved discoveries from cultures that are relatively little understood. Studies of human activity in response to a fluctuating coast may indicate demographic adaptations to change. It will also aid identification of past environmental impacts resulting from interaction by people. To the geomorphologist or the coastal manager, submerged landscapes that have been laid sequentially over time hold an archive of environmental information that can tell of past coastal processes. These include sea level change and climatic change which were the main focus of research for a European LIFE Project (see over).



*Despite the disparity in the geomorphological mechanisms that created the landscape, the scale and appearance of the submerged cliff is not dissimilar to that found directly inshore*

## **European Community LIFE Project**

In 1997 a European Community L'Instrument Financière de L'Environnement (LIFE) Project titled, *Coastal Change, Climate and Instability* was instigated by the Isle of Wight Centre for the Coastal Environment. Alongside the HWTMA, six project partners contributed to the final report. These were; the Isle of Wight Council, the School of Ocean and Earth Sciences, University of Southampton, the Discovery Programme, Eire, the National research Council IRPI of Italy, and the University Bordeaux and BRGM of France. One of the three objectives was to assess the value of archaeological and palaeo-environmental evidence as a means of measuring the scale and pace of coastal change. The research sought to examine the evolution of coastal areas within the European Union where human settlement has been subject to adverse coastal processes such as erosion or submergence.

The archaeological task within the LIFE project has been conducted in conjunction with a team led by Dr Justin Dix from the School of Ocean and Earth Sciences (SOES), University of Southampton. The key objectives were to: characterise morphologically the submerged cliff by conducting geophysical surveys; compare the morphology and formation of the submerged cliff with the terrestrial cliff; investigate the submerged cliff stability; and explore the implications of the Holocene transgression in the western Solent.

## **Issues of sea level change and coastal evolution**

Submerged palaeo-landscapes are a diminishing and irreplaceable resource. They represent an archive of information relating to previous glacial low sea levels and sea level-rise during the Holocene which followed the last glaciation. Peat deposits and evidence of human activity at known depths can reveal information about sea level and local environments at that time. The formation processes of the deposits and spatial relationships between them can show rates of change. Archaeological investigation can indicate habitation responses to these circumstances. In the light of rising sea levels, this knowledge of coastal evolution as a response to varying patterns of sea level fluctuations may forewarn coastal managers of possible future changes. The submerged landscape off Bouldnor Cliff was identified as a site that could demonstrate a link between past environmental changes and current process, thus helping to predict future scenarios.

To gather the necessary information, monolith and gouge core samples were taken from the submerged landscape. Once the samples were collected, palaeo-environmental analysis of the pollen and diatoms was conducted by Dr Rob Scaife, Dept. of Geography, University of Southampton. This told of a net sea level rise overwhelming a landscape dominated by woodland. The rising seas were however, interrupted by the occasional drop in water level, intermittently allowing natural land reclamation.

## Survey

In the midst of the geophysical and palynological investigations, the HWTMA deployed divers to inspect and record the seabed. Of particular interest were the number and concentration of fallen oak trees, still visible in the basal peat. These lay along a platform 11 - 12m below Ordnance datum, which held immaculately preserved fronds of vegetation, whole hazelnuts and fine root systems. Samples of trees were recovered and radiocarbon dated to 6615-6395 cal BC (Beta-140104). The sheer scale of the feature, which measured up to 20m wide and stretched for over one kilometre east to west presented a high potential for archaeology. In an attempt to identify evidence of human activity, an area approximately 15m by 30m was surveyed in detail.

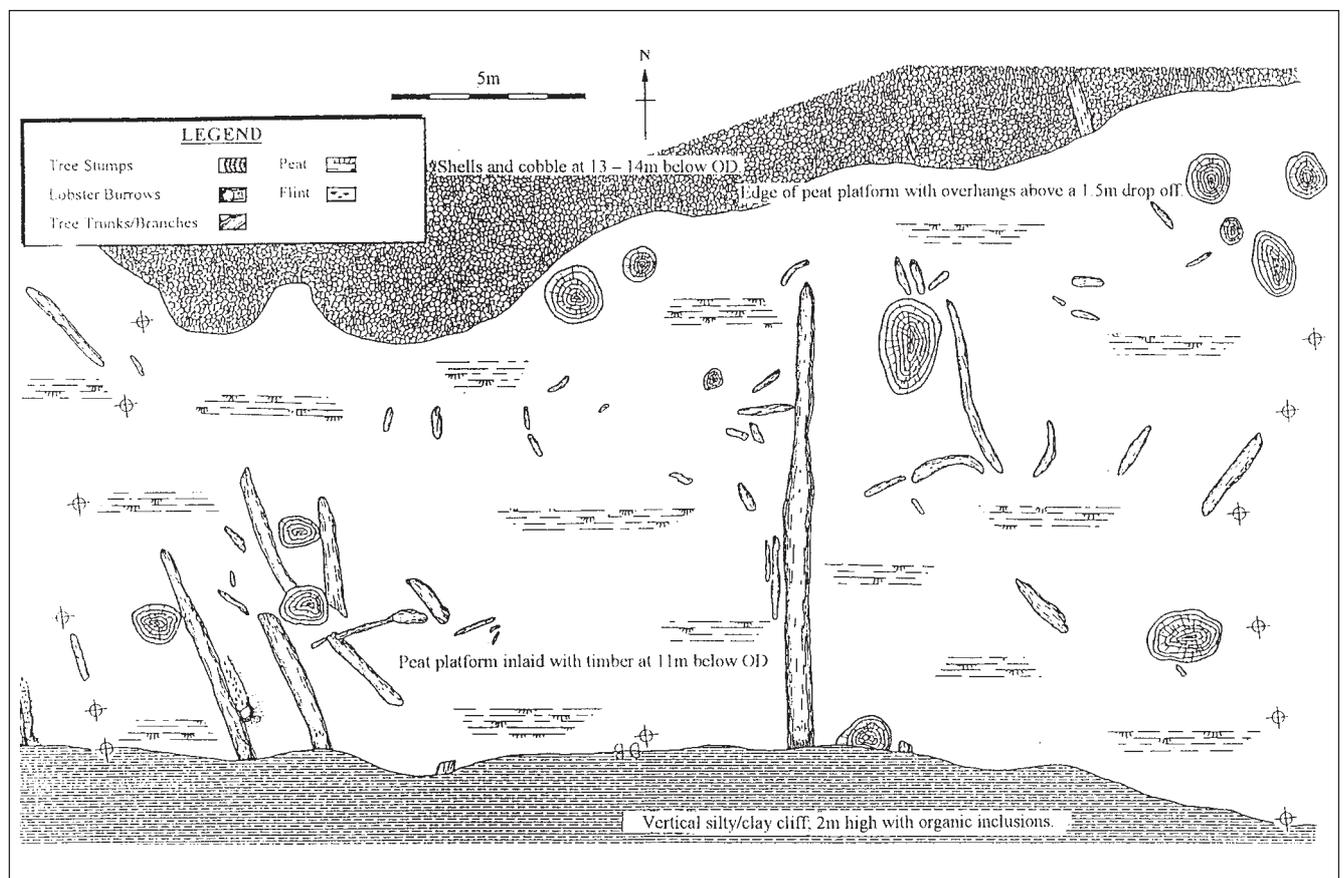
### Diver survey of the submerged peat platform

On the face of it, manual underwater survey in the western Solent presents many challenges and does not appear too promising. Off Bouldnor Cliff, water speeds reach over 2 knots with each turn of the tide and slack water lasts only a few minutes. Visibility averages about 1.5m but can be reduced to zero when the sediment load increases on the ebb tide. Visual difficulties are compounded by the dark peat seabed, which absorbs light. Consequently, effective methodical techniques needed to be employed to achieve results.

On site, 3m-wide lanes in a 30m-long strip running east-west were inspected using the corridor search technique. The survey covered the total width of the platform at this point and revealed a peat sea floor sloping gently to the north. Trees were inlaid in the organic deposit with boles and associated root systems reaching into the underlying substrate. The drowned forest lies about 11.5m below Ordnance datum at the foot of a 1.8m vertical section of submerged cliff. Within the area surveyed, 13 tree boles, extensive pieces of timber and 9 substantial trunks were plotted. One trunk, orientated south to north, measured over 12m in length. At its southern end, where it emerged from below the cliff, its full diameter, including bark was intact. At the northern edge of the platform, scour was found to be undercutting the peat, creating overhanging tree boles on ledges up to 1.5m high. This eroding boundary was visibly subject to failure and collapse which clearly defined the area of study.

### Discovery of lithics

Despite the hostile conditions the corridor search revealed worked flints, some measuring less than 5mm wide and 30mm long. The flints were recorded and positioned before being recovered. At this point, their close proximity to a lobster hole was realised. In fact, it appeared that the pieces of worked flint had been excavated from the peat or underlying clay by lobsters. A lack of marine growth on the flints suggested recent exposure by these creatures.



*The submerged peat platform at the base of the underwater cliff is studded with trees, all of which are subject to horizontal and vertical erosion*

In total, 50 flints showing signs of human industry were found in two discrete locations. These lay 5m apart, each at the entrance to lobster burrows. 35 humanly-struck flints were present, 8 pieces showed evidence of burning and a further 7 small waste flakes. The worked flints comprise one implement, 3 cores and 31 waste flakes. The discovery of the tools testified human occupation but where was the origin? Although it appeared they had come from lobster burrows this was yet to be confirmed. It was possible that they had been washed there from a deposit further up the cliff.

The next step was a series of short cores into the peat. Of the cores taken, two contained small amounts of flint, one piece possibly being a product of toolmaking. Water current monitoring was undertaken and the mobility of flint-making debitage on the site was studied. It was concluded that the circumstantial evidence for worked flints being eroded from the immediate surroundings was strong enough to warrant excavation. To date, no stratified site in this depth of water has yet been discovered around the United Kingdom. If definite confirmation of human artefacts within the context of the cliff were to be found, the archaeology could be directly related to climate change and sea level rise.

## Excavation

Between 23 and 30 May 2000 the HWTMA organised an excavation to locate stratified Mesolithic material. The project was run from Flat Holm, Coastline Surveys 23m vessel which was moored over the site. The ship was home to eight diving archaeologists, accommodating additional experts and volunteers on a daily basis. The excavation was conducted using surface supply diving equipment (SSDE) with air lifts, trowels and purpose made coring boxes in an area delineated by a stainless steel grid, (built specifically for the project by Analytical Engineering). All the work was recorded on a head-mounted Seahawk



*Many worked and burnt flints were recovered from the submerged cliff during the excavation in May 2000*

camera system provided by Kongsberg Simrad, linking the dive supervisor and archaeological director with the excavator.

When sections of the seabed were collected in the cores, they were recovered to the surface for examination. The artefacts within them were excavated and recorded on deck. To date over 300 humanly worked or burnt pieces of flint have been assessed, revealing technology that compares favourably to the early to mid Mesolithic. Analysis of flint distribution revealed an increase in concentration towards the eastern end of the excavated trench, suggesting a centre for the site.

In addition to the archaeological and palaeo-environmental studies, 8 samples of timber were sawn from trees within the peat. Providing. This provided a 280-year sequence following tree-ring analysis by Nigel Nayling of the University of Wales,



*Tree ring data from the samples collected has provided a 280 year sequence. The early date of the sample means it is too old to fit with any established chronologies*

## Conclusion

The submerged landscape off Bouldnor Cliff contains information that will cast new light on the Stone Age occupation during a period of climate change and rapid sea level rise. It is a site of national importance that is dynamic and subject to change. Unfortunately this presents a threat to the cliff and its archaeology, necessitating further work before it is all lost to erosion.

In many ways the Bouldnor Cliff Project developed some of the themes considered when investigating the intertidal zone on Quarr beach. It demonstrated the importance of archaeological and palaeo-environmental evidence as markers for sea level and climate change, and is helping us to re-create scenarios for geomorphological evolution of the western Solent. An understanding of this process is essential when considering the longterm management of the coast.



*Dive supervisor ensures safety*



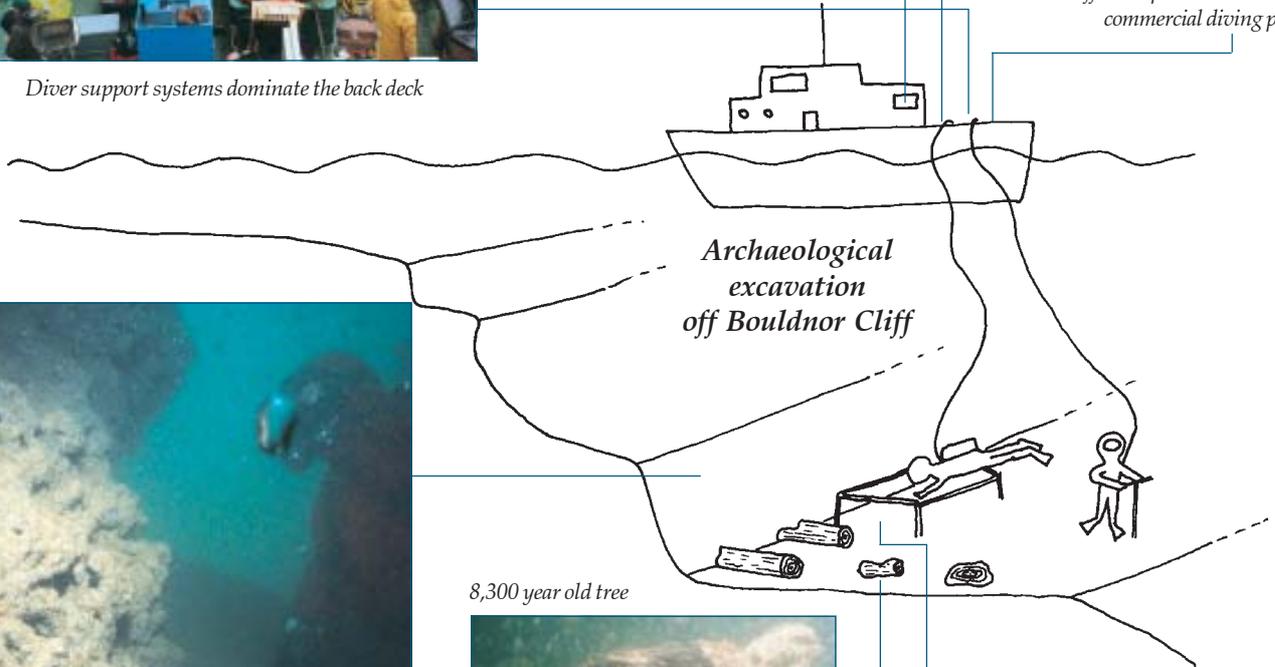
*Excavation of sample on deck*



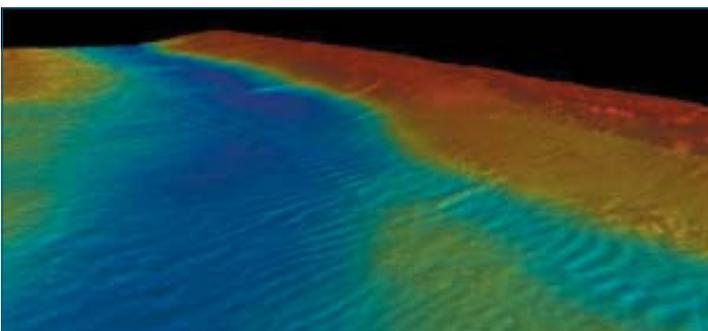
*Difficult operations necessitated commercial diving practices*



*Diver support systems dominate the back deck*



*Underwater cliff of soft clay*



*Underwater landscape generated by Centre for Maritime Archaeology, University of Southampton from Submetrix Ltd bathymetric data*



*A lobster excavating worked flints below a fallen oak tree in 6 fathoms of water*

# *The Way Forward*

## **Looking back to look forward**

Over the past ten years the HWTMA has undertaken a number of research and associated projects which have covered wreck and non-wreck sites in an area of special importance in terms of maritime archaeology and heritage. Two of its main strengths have been a clear aim and broad set of key objectives. These have given a lead on what has been required of the HWTMA and set markers for individual projects.

That is not to say that ideas have been set in concrete during the past decade because, as with any organization, a certain amount of evolution has taken place - and rightly so. In many ways the 'learning curve', particularly in the earlier years, has been steep. Lessons learnt have included the need:

- ◆ to allocate sufficient time and resources for each individual project from concept to final report/ dissemination stage;
- ◆ for educational projects e.g. lectures, seminars, exhibitions; publications, to be given high priority;
- ◆ for a virtually continuous fund-raising campaign;
- ◆ for good PR and proactive 'networking';
- ◆ and, of course, for efficient administration and sound financial control.

## **From little acorns....**

Although remaining a small organization, the HWTMA has built up a large network of partnerships and this has enabled it to act as a catalyst to 'get things done'. For example, initiatives such as the multi-disciplinary, seamless approach used in certain collaborative research projects, ground truthing following geophysical surveys, diver trails to ease passage around and access to wreck sites, involvement and inclusion of large numbers of volunteers, comprehensive historical research, the discovery of new and important archaeological sites, the development of survey and excavation methodologies under water, the development of a GIS database, the production of an Annual Report, newsletters and other publications, a winter lecture programme, the permanent Maritime Heritage Exhibition on the Isle of Wight and temporary displays, representation at meetings and media coverage have all helped to raise

the profile of maritime archaeology in Hampshire, the Isle of Wight and adjacent areas.

## **It ain't easy**

To keep all balls in the air has been and continues to be a challenge when staff numbers have never exceeded 2.5 posts. This challenge is exacerbated by the inherent difficulties associated with underwater archaeology and, to a certain extent, intertidal archaeology. The Solent is one of the UK's busiest waterways (a problem for the marine archaeologist in itself), with a vicious tidal regime, limited underwater visibility and, quite often, adverse weather conditions. Safety is of paramount importance and risk assessments must err on the side of caution - another limiting factor. Useful archaeological diving can only be carried out during periods of neap tides during relatively brief periods around slack water. For example, it is rare that more than a 90-minute dive period can be achieved on the Needles Protected Wreck site and then when only the calmest conditions prevail. Intertidal estuarine zones cut off by a rapidly rising tide coupled with soft mud under foot can also be dangerous. Close supervision is necessary at all times. All this means that the HWTMA operations take longer, require more resources and are more costly than most land-based archaeological projects.

Within these constraints, the HWTMA has demonstrated that not only can work be conducted safely and efficiently with a small team but, also, that large numbers of volunteers can be effectively managed and directed. Their contribution has been key to much of the HWTMA's fieldwork success where the increase in numbers has enabled large areas of seabed to be searched and surveyed.

## **So where do we go from here?**

On a strategic level, the progress of the HWTMA has been closely watched and the consensus is that it is providing an excellent model for similar organizations that, given the political will at national and local level, could be set up in other areas of the UK. Much will depend on the outcome of the transfer of national responsibility for maritime archaeology from the Department for Culture, Media and Sport to English Heritage.

On a tactical level, many of the objectives of the HWTMA are being realised, as it now takes a fuller role in the projects in which it is involved. Liaison with many organizations, institutions and authorities continues to increase. Where

the HWTMA facilitates projects or gives support at meetings and seminars, it provides a vital function. Examples include the recent launch of the *Hazardous* diver trail, work in Chichester Harbour, geophysical survey of the *Grace Dieu* site and Society for Underwater Technology symposia. Holistic multi-disciplinary projects that the HWTMA has been involved with, such as the Wootton/Quarr, Langstone Harbour and Bouldnor projects, have been supported by key funding bodies.

SolMAP as a concept has proved very successful and has evolved into a good model for future work utilizing volunteer divers to identify and record the archaeological resource. However, it has come to a stage where the emphasis needs to change. The expectations placed on volunteers have become greater as the tasks they are now being asked to perform are sometimes and, in some cases, over and above their current levels of archaeological expertise and experience. In these cases, the management requirements of HWTMA personnel are often stretched to their limits and additional supervisors are needed to maximise the input of the avocational diver.

### **A methodical approach to research - six steps**

Building on past experience, the HWTMA favours the following approach to future research projects:

- ◆ The first step towards quantification of this still little known archaeological resource must be the maritime record at national and local level, which has been developed and enhanced.
- ◆ The next step is to develop the database by finding more maritime sites, that is, to locate specific areas suspected of harbouring archaeological material, and survey them remotely.
- ◆ The third step is to dive on sites to validate the information and produce preliminary reports. Volunteer divers are seen as key to this step.
- ◆ The fourth step is to prioritize sites that warrant further investigation. Sampling and detailed survey should then be conducted which can be used for future management and further assessment. Again there is a role here for volunteers.
- ◆ The fifth step, if justified, is to excavate.
- ◆ The final and most important step is to process the information and to publish and disseminate the results, both for the specialist and the general public.

### **And what about education?**

No excuses are made for repeating that education, in the widest sense of the word, is and will remain a key activity

of the HWTMA. Publications, reports, seminars, conferences, lectures, exhibitions, displays and websites have all played their part and will continue to do so.

Despite all this educational activity, there is no room for complacency and further avenues for 'spreading the word' must be explored. A series of evening classes in 1992 and a summer academy course in 1999 demonstrated the potential for the HWTMA to get more deeply involved in lifelong learning, with its spin-off of social inclusion. When resources permit, further courses should be initiated. Following another pilot scheme, the HWTMA is also aware of the need to devote resources to school liaison which can range from giving talks in schools, getting schools to 'adopt a wreck' and check work on it to the production of booklets that would fit in with a particular key stage of the National Curriculum. It is possible that members of the HWTMA's Society of Friends could help with these initiatives.

### **In summary - steady as she goes or starboard thirty five?**

Neither, the HWTMA is certainly heading in the right direction although a touch of the tiller to take on board the comments regarding research and education will be necessary. Regular monitoring of progress, updating of plans, search for new funding and further partnerships must continue.

In the wider spectrum, the HWTMA must be ready for change in the national management of archaeology. It must continue its representation on the Joint Nautical Archaeology Policy Committee and collaborate even further with the Nautical Archaeology Society and ensure that English Heritage officers are aware of its role and example in the management and development of maritime archaeology.

With the appropriate resources and backing, the HWTMA can look forward to the next ten years (and more) with confidence.



## **APPENDIX ONE**

### *List of Presidents, Vice-Presidents, Patron, Chairmen, Vice-Chairmen and Management Committee Members*

*June 1991 to September 2001*

#### **Presidents**

The Lord Mottistone CBE (to September 1994) ♦ Mrs Mary Fagan JP (September 1994 onwards)

#### **Vice-Presidents**

The Rt Hon the Earl Jellicoe KBE DSO MC FRS PC (January 1992 to October 1996)

Sir James Scott Bt (from January 1992 to 1993) ♦ The Lord Mottistone CBE (September 1994 to October 1996)

Mr CDJ Bland (from January 1996) ♦ The Lord Montagu of Beaulieu (from February 1997)

The Earl of Selborne KBE FRS (from October 1996)

#### **Patrons**

The Lord Mottistone CBE (from October 1996) ♦ The Rt Hon the Earl Jellicoe KBE DSO MC FRS PC (from October 1996)

Sir Charles Tidbury DL (from October 1997) ♦ Mr M Aiken (from October 2000)

#### **Chairmen**

Councillor DA Keep (from September 1991 to September 1994 and from October 1997 to October 2000)

Mr EW Hibberd MBE (from September 1994 to October 1997) ♦ Mr DEJ Guy MBE JP DL (from October 2000)

#### **Vice-Chairmen**

Mr EW Hibberd MBE (from September 1991 to September 1994)

Councillor DA Keep (September 1994 to October 1997 and from November 2000)

Mr DEJ Guy (from November 1997 to October 2000)

#### **Management Committee Members**

Mr J Adams (from September 1994) ♦ Mr RH Adams (to September 1991)

Mr JM Bingeman (from October 1998) ♦ Mr M Boswell (to September 1991) ♦ Mr G Cadman (from October 1996)

Councillor CBW Chapman (to September 1991 and from September 1993 to May 1994)

Professor MB Collins (from September 1991 to September 1996)

Mr D Court (to October 1997) ♦ Mr M Drummond (from September 1991)

Mrs S Emery-Wallis (from October 1998) ♦ Mrs V Fenwick (from September 1991)

Mr A Firth (from September 1991 to September 1994) ♦ Ms A Gale (from October 1995 to October 1999)

Councillor D Giles (from October 1998 to June 2000) ♦ Mr DEJ Guy (to September 1991 and from October 1997)

Mr EW Hibberd (to October 1998) ♦ Mr MF Hughes (from October 1996 to October 1998)

Councillor Mrs M Jarman (from May 1994) ♦ Dr J Jones (to September 1991)

Councillor DA Keep (from September 1991) ♦ Mrs P Laking (to September 1991)

Professor S McGrail (to September 1991) ♦ Mr C McMurray (from September 1991 to September 1996)

Sir John Nicholson (to September 1991) ♦ Professor DPS Peacock (to September 1991)

Councillor PA Ross (from June 2000) ♦ Councillor RO Smith (September 1991 to May 1993)

Professor B Sparkes (to September 1991) ♦ Mrs MO Stolworthy (to September 1991)

Mr R Yorke (from September 1991 to October 1995) ♦ Councillor G Wilson (from June 1993 to August 1993)

# *The Trust's Policy Statement*

## **Aim**

The Hampshire and Wight Trust for Maritime Archaeology will promote interest, research and knowledge of maritime archaeology and heritage in Great Britain with core activities concentrated in the counties of Hampshire and the Isle of Wight and the adjacent South Coast areas.

## **Key Objectives**

The Trust will:

- ◆ Promote maritime archaeological study in accordance with professional and museum codes of conduct and practice.
- ◆ Promote the in situ preservation and management of important archaeological sites in its area of interest.
- ◆ Support local, regional and national initiatives for improvements to the legislation regarding the preservation and management of the maritime archaeological heritage.
- ◆ Promote public awareness, enjoyment and participation in the maritime archaeological heritage.
- ◆ Provide a maritime archaeological service to Hampshire County Council, the Isle of Wight Council, Southampton City Council, Portsmouth City Council and other Local Authorities.
- ◆ Ensure that maritime archaeology plays an important role in coastal planning, management and policies in the Solent and Wight areas.
- ◆ Carry out maritime archaeological surveys and investigations for incorporation into environmental assessments and similar studies.
- ◆ Compile and maintain a database, and base chart, of all known maritime archaeological sites in the Solent and Wight areas and exchange information with local SMR holders and the National Archaeological Record (Maritime Sites).
- ◆ Promote archaeological awareness and competence amongst divers.
- ◆ Support, and where possible, assist in the publication of the results of maritime archaeological investigations, surveys and research undertaken in the Solent, Wight and adjacent South Coast areas.
- ◆ Liaise with other local, regional and national organisations involved in maritime archaeology and related disciplines.



## APPENDIX THREE

# *Partnerships*

Department for Culture, Media and Sport

Hampshire County Council

Isle of Wight Council

West Sussex Council

Dorset County Council

Southampton City Council

Portsmouth City Council

New Forest District Council

Royal Commission on the Historical Monuments of England

English Heritage

The Crown Estate

Nautical Archaeology Society

Environment Agency

Solent Protection Society

Standing Conference on Problems Associated with the Coastline

Universities of Southampton, Portsmouth, Bournemouth, Bristol and University College, London

The Mary Rose Trust

Severn Estuaries Levels Research Committee

The Archaeological Diving Unit

The National Maritime Museum

The Royal Naval Museum

Sponsors and the Local Community



## APPENDIX FOUR

# *Representation*

*The Trust attends meetings of the following organisations:*

Chichester Harbour Project Committee

Council for British Archaeology Wessex

Dibden Forum

Hamble River Estuary Management Plan - Topic Group

Joint Nautical Archaeology Policy Committee

Langstone Harbour Advisory Group

Nautical Archaeology Society Executive Committee

Poole Harbour Project Steering Committee

Solent European Marine Sites - Strategic Advisory Group

Solent Forum

South Wight Maritime European Marine Sites - Advisory Group

Standing Conference on Oil and Gas

Standing Conference on Problems Associated with the Coastline

Underwater Science Group and Diving and Submersibles Committee,  
Society for Underwater Technology

Wessex Forum for Archaeology



## APPENDIX FIVE

# *Reports and Publications*

HWTMA Annual Reports 1991/92, 1992/93, 1993/94, 1994/95, 1995/96, 1996/97, 1998/99, 1999/2000, 2000/01

Marine Archaeology and Geophysical Survey: A Review of Commercial Survey Practice and its Contribution to Archaeological Prospection, Draper-Ali, S (1996)

'The Story Beneath the Solent' (2nd edition, 2000)

Survey of the Resurgam. Irish Sea Forum Seminar Report, Momber, G (1999) 71-76

Reflections on the Legal Standing of Underwater Archaeology in Britain. Underwater Technology, Journal for the Society for Underwater Technology. SUT. Vol 24#3, Momber, G (2000)

Drowned and Deserted: a submerged prehistoric landscape in the Solent. I.J.N.A., Momber, G (2000) 29.1: 86-99

The application of the Submetrix ISIS 100 Swath Bathymetry system to the management of underwater sites. I.J.N.A., Momber, G (2000) 29.1: 154-162

Looking Underwater to visualise the past, 5th Underwater Science Symposium Abstract, SUT, Momber, G (2001)

### **Contributions to:**

Our Changing Coast: a survey of the intertidal archaeology of Langstone Harbour.

Allen, M & Gardiner, J. (2000). CBA Research Report 124

Coastal Change Climate and Instability. EC LIFE project report (2001)

Beaulieu River Project Report ♦ NAS Newsletters ♦ Diver Magazine ♦ Scubaworld Magazine ♦ SubSea Magazine

CBA Wessex Newsletter ♦ Solent News ♦ CoastNet Magazine ♦ Solent Protection Society Newsletter

Standing Conference on Problems Associated with the Coastline (SCOPAC) Newsletter

### **Archaeological Impact Assessments conducted by the Trust**

6 Archaeological Assessments in the areas of the Nab Tower and Inner Owers bank ahead of gravel extraction

Belfast Lough ahead of pipeline deployment ♦ Bembridge Approaches ahead of commercial development

Cracknore Hard ahead of commercial development

Double dykes to the Long Groyne, Hengistbury Head ahead of improved sea defences

Dover and Folkestone assessment ahead of commercial development

Eling Creek and Tide Mill Archaeological Assessment

Hamble River Archaeological Assessment

Holdens Yard ahead of commercial development

Irish Sea Telecommunications Submarine Fibre Optic system Link

Itchen River Archaeological Assessment

Larne Lough ahead of pipeline deployment ♦ Nash Bank ahead of gravel extraction

New Forest Shoreline Archaeological Assessment

Proposed Offshore Wind Development: Assessment of 16 proposed areas

Shingles Bank ahead of gravel extraction

Southampton Water and River Test ahead of dredging and commercial development

West Solent Shoreline Management Plan Archaeological Assessment

West Bay ahead of commercial development

## APPENDIX SIX

# *Record of Lectures, Presentations and Seminars*

### 1992

Royal Commission on the Historical Monuments of England  
HWTMA Annual General Meeting Presentation  
Mr R Key MP Under Secretary of State,  
Department of National Heritage  
Isle of Wight Dive Clubs  
HWTMA Annual Public Lecture - Mr J Adams & Dr D Tomalin  
Adult Education Department, University of Southampton  
Southampton Branch, British Sub Aqua Club

### 1993

Worthing Archaeological Society  
Solent Forum  
County Planning Officer, Dorset County Council  
Forum for Wessex Archaeology  
Portsmouth South Rotary  
HWTMA Annual General Meeting Presentation  
HWTMA/Hampshire County Council Seminar, University of Portsmouth  
Society for Nautical Research (South)  
Bournemouth Natural Sciences Society  
Cultural Services Sub Committee, Isle of Wight County Council  
HWTMA Annual Public Lecture - Mr M Hughes  
Marine Conservation Society

### 1994

Portsmouth North Rotary  
Principal Engineer, New Forest District Council  
6th Form, Portsmouth Grammar School  
Bosmere Hundred Society  
Hampshire Archaeological Societies  
HWTMA Annual General Meeting Presentation  
Yarmouth Society  
Bracknell Branch British Sub Aqua Club  
Department of Conservation Science, University of Bournemouth  
HWTMA Annual Public Lecture - Professor D Peacock

### 1995

Newport Rotary  
Beaulieu  
Friends of Havant Museum  
(Southampton) 'Diving with a Purpose'  
Chief Executive Associated British Ports plc  
Newport Rotary  
Royal Geographical Society (South East Region)  
HWTMA/Hampshire County Council Seminar, University of Portsmouth  
HWTMA Annual General Meeting Presentation  
Solent Coastal Managers  
HWTMA Annual Public Lecture - Mr G Milne  
Royal Solent Yacht Club

### 1996

Langstone Harbour Advisory Committee  
Society for Underwater Technology (co-sponsored by HWTMA)

Nautical Archaeology Society AGM  
King Alfreds College Archaeological Society  
Isle of Wight Society  
Friends of St Barbe Museum, Lymington  
HWTMA Annual General Meeting Presentation  
Culture & Heritage Services Committee, Portsmouth City Council  
Soberton History Society  
HWTMA Annual Public Lecture - Mr C Dobbs  
Langstone Harbour Seminar, Society of Antiquaries

### 1997

Salisbury Historical Society  
Langstone Harbour Board  
HWTMA Annual General Meeting Presentation  
Totton and Eling Historical Society  
Bitterne Local History Society  
EC LIFE Project Steering Committee  
HWTMA Annual Public Lecture - Mr A Aberg  
Newbury Yacht Club  
Dorset County Council - Day School on Maritime Archaeology

### 1998

Hampshire Genealogical Society  
Poole Harbour Project Steering Committee  
Woolmer Forest Archaeological Society  
Langstone Harbour Open Forum  
Friends of Portsmouth Museum and Records  
Bournemouth University  
Nautical Archaeology Society AGM  
'Low Tide Day' Lepe Country Park  
'World Ocean Day' Fort Victoria  
HWTMA Annual General Meeting Presentation  
HWTMA Annual Public Lecture - Mrs V Fenwick  
City of Southampton Society  
Keyhaven Yacht Club  
New Milton Rotary  
Solent Coastal Managers Forum

### 1999

Irish Sea Forum  
Bangor University  
Gerrards Cross Yacht Club  
Poole Maritime Trust  
Standing Conference on Problems Associated with  
the Coastline (SCOPAC)  
Hampshire Ambassadors  
Amandus Club  
Hythe Rotary  
Nautical Archaeology Society Day School  
Nautical Archaeology Society AGM  
Submetrix Seminar  
Dept of Continuing Education University of Southampton  
Christchurch Borough Council

HWTMA Annual General Meeting Presentation  
 Friends of Gosport Museum  
 HWTMA Annual Public Lecture - Dr A Russel & Mr G Momber  
 Lymington Town Sailing Club  
 Wightlink Ltd Management  
 Avon Valley Archaeological Society  
 Solent Protection Society

## 2000

Crown Estate officers  
 Selsey Society  
 Bournemouth University (Coastal Management Course)  
 London Maritime Archaeology Group AGM  
 Ireland  
 Southampton City Museums Archaeological Society  
 Highcliffe Rotary  
 Soberton Fellowship  
 Solent Forum

HWTMA Annual General Meeting Presentation  
 Mayflower Club  
 Nautical Archaeology Society Seminar Day  
 Council for British Archaeology, Wessex  
 University College London  
 HWTMA Annual Public Lecture - Mr D Motkin  
 Calshot Activities Centre Staff  
 St Barbe Museum Friends  
 Lymington Rotary  
 Solent Association of Women Graduates  
 Friends of HWTMA  
 Keyhaven Yacht Club  
 Dolphins Cruising club  
 Friends of HWTMA  
 Christchurch Local History Society  
 Society for Underwater Technology  
 Nautical Archaeology Society AGM

| Date        | Function           | Organisation  |
|-------------|--------------------|---|
| 30.06.92    | Lecture            | Royal Commission on the Historical Monuments of England               |
| 08.09.92    | AGM Presentation   | HWTMA   |
| 02.10.92    | Presentation       | Mr R Key MP Under Secretary of State, Department of National Heritage |
| 28.10.92    | Lecture            | Isle of Wight Dive Clubs  |
| 12.11.92    | 1st Public Lecture | (Newport, Isle of Wight) Lecturers: Mr J Adams and Dr D Tomalin       |
| 01.12.92    | Evening classes    | Adult Education Department, University of Southampton                 |
| 07.12.92    | Presentation       | Southampton Branch, British Sub Aqua Club                             |
| 13.04.93    | Lecture            | Worthing Archaeological Society                                       |
| 22.04.93    | Presentation       | Solent Forum  |
| 22.06.93    | Presentation       | County Planning Officer, Dorset County Council                        |
| 29.06.93    | Presentation       | Forum for Wessex Archaeology  |
| 24.08.93    | Lecture            | Portsmouth South Rotary   |
| 07.09.93    | AGM Presentation   | HWTMA   |
| 23.09.93    | Seminar            | HWTMA/Hampshire County Council, University of Portsmouth              |
| 09.10.93    | Lecture            | Society for Nautical Research (South)                                 |
| 16.10.93    | Lecture            | Bournemouth Natural Sciences Society                                  |
| 26.10.93    | Presentation       | Cultural Services Sub Committee, Isle of Wight County Council         |
| 18.11.93    | 2nd Public Lecture | (Winchester) Lecturer: Mr M Hughes                                    |
| 14.12.93    | Lecture            | Marine Conservation Society   |
| 21.01.94    | Lecture            | Portsmouth North Rotary   |
| 02.02.94    | Presentation       | Principal Engineer, New Forest District Council                       |
| 11.02.94    | Lecture            | 6th Form, Portsmouth Grammar School                                   |
| 16.03.94    | Lecture            | Bosmere Hundred Society   |
| 26.03.94    | Lecture            | Hampshire Archaeological Societies                                    |
| 06.09.94    | AGM Presentation   | HWTMA   |
| 13.10.94    | Lecture            | Yarmouth Society  |
| 03.11.94    | Lecture            | Bracknell Branch British Sub Aqua Club                                |
| 16.11.94    | Lecture            | Department of Conservation Science, University of Bournemouth         |
| 18.11.94    | 3rd Public Lecture | (Cowes) Lecturer: Professor D Peacock                                 |
| 25.01.95    | Lecture            | Newport Rotary  |
| 17.02.95    | Lecture            | (Beaulieu)  |
| 22.02.95    | Lecture            | Friends of Havant Museum  |
| 23.02.95    | Presentation       | (Southampton) 'Diving with a Purpose'                                 |
| 07.03.95    | Presentation       | Chief Executive Associated British Ports plc                          |
| 29.03.95    | Lecture            | Newport Rotary  |
| 20.05.95    | Lecture            | Royal Geographical Society (South East Region)                        |
| 29.09.95    | Seminar            | HWTMA/Hampshire County Council, University of Portsmouth              |
| 06.10.95    | AGM Presentation   | HWTMA   |
| 19.10.95    | Presentation       | Solent Coastal Managers   |
| 30.11.95    | 4th Public Lecture | (Winchester) Lecturer: Mr G Milne                                     |
| 09.12.95    | Lecture            | Royal Solent Yacht Club   |
| 08.02.96    | Presentation       | Langstone Harbour Advisory Committee                                  |
| 22/24.03.96 | Conference         | Society for Underwater Technology (co-sponsored by HWTMA)             |
| 20.04.96    | Lecture            | Nautical Archaeology Society AGM                                      |
| 07.05.96    | Lecture            | King Alfreds College Archaeological Society                           |
| 23.07.96    | Lecture            | Isle of Wight Society   |
| 06.09.96    | Lecture            | Friends of St Barbe Museum, Lymington                                 |
| 06.10.96    | AGM Presentation   | HWTMA   |
| 10.09.96    | Presentation       | Culture & Heritage Services Committee, Portsmouth City Council        |

| <b>Date</b> | <b>Function</b>    | <b>Organisation</b>  |
|-------------|--------------------|--|
| 12.11.96    | Lecture            | Soberton History Society   |
| 14.11.96    | 5th Public Lecture | (Newport) Lecturer: Mr C Dobbs   |
| 22.11.96    | Seminar            | Langstone Harbour Seminar, Society of Antiquaries                      |
| 18.02.97    | Lecture            | Salisbury Historical Society   |
| 11.04.97    | Presentation       | Langstone Harbour Board  |
| 03.10.97    | AGM Presentation   | HWTMA  |
| 07.10.97    | Lecture            | Totton and Eling Historical Society                                    |
| 11.10.97    | Lecture            | Bitterne Local History Society   |
| 27.10.97    | Presentation       | EC LIFE Project Steering Committee                                     |
| 06.11.97    | 6th Public Lecture | (Southampton) Lecturer: Mr A Aberg                                     |
| 13.11.97    | Lecture            | Newbury Yacht Club   |
| 29.11.97    | Lecture            | Dorset County Council - Day School on Maritime Archaeology             |
| 14.01.98    | Lecture            | Hampshire Genealogical Society   |
| 02.02.98    | Presentation       | Poole Harbour Project Steering Committee                               |
| 04.02.98    | Lecture            | Woolmer Forest Archaeological Society                                  |
| 14.02.98    | Presentation       | Langstone Harbour Open Forum   |
| 26.92.98    | Lecture            | Friends of Portsmouth Museum and Records                               |
| 16.03.98    | Lecture            | Bournemouth University   |
| 09.05.98    | Presentation       | Nautical Archaeology Society AGM                                       |
| 23.05.98    | Lecture            | 'Low Tide Day' Lepe Country Park                                       |
| 07.06.98    | Lecture            | 'World Ocean Day' Fort Victoria  |
| 02.10.98    | AGM Presentation   | HWTMA  |
| 12.11.98    | 7th Public Lecture | (Newport) Lecturer: Mrs V Fenwick                                      |
| 23.11.98    | Lecture            | City of Southampton Society  |
| 03.12.98    | Lecture            | Keyhaven Yacht Club  |
| 07.12.98    | Lecture            | New Milton Rotary  |
| 08.12.98    | Presentation       | Solent Coastal Managers Forum  |
| 14.01.99    | Lecture            | Irish Sea Forum  |
| 14.01.99    | Lecture            | Bangor University  |
| 27.01.99    | Lecture            | Gerrards Cross Yacht Club  |
| 02.02.99    | Lecture            | Poole Maritime Trust   |
| 04.02.99    | Presentation       | Standing Conference on Problems Associated with the Coastline (SCOPAC) |
| 23.02.99    | Presentation       | Hampshire Ambassadors  |
| 24.02.99    | Lecture            | Amandus Club   |
| 01.03.99    | Lecture            | Hythe Rotary   |
| 24.04.99    | Lecture            | Nautical Archaeology Society Day School                                |
| 15.05.99    | Lecture            | Nautical Archaeology Society AGM                                       |
| 10.06.99    | Presentation       | Submetrix Seminar  |
| 03/09.07.99 | Course             | Dept of Continuing Education University of Southampton                 |
| 29.09.99    | Lecture            | Christchurch Borough Council   |
| 15.10.99    | AGM Presentation   | HWTMA  |
| 12.11.99    | Lecture            | Friends of Gosport Museum  |
| 18.11.99    | 8th Public Lecture | (Southampton) Lecturers: Dr A Russel and Mr G Momber                   |
| 24.11.99    | Lecture            | Lymington Town Sailing Club  |
| 29.11.99    | Presentation       | Wightlink Ltd Management   |
| 01.12.99    | Lecture            | Avon Valley Archaeological Society                                     |
| 06.12.99    | Lecture            | Solent Protection Society  |
| 01.02.00    | Presentation       | Crown Estate officers  |
| 10.02.00    | Lecture            | Selsey Society   |
| 17.02.00    | Lecture            | Bournemouth University (Coastal Management Course)                     |
| 19.02.00    | Presentation       | London Maritime Archaeology Group AGM                                  |
| 03.00       | Lecture            | Ireland  |
| 14.03.00    | Lecture            | Southampton City Museums Archaeological Society                        |
| 16.03.00    | Lecture            | Highcliffe Rotary  |
| 18.04.00    | Lecture            | Soberton Fellowship  |
| 20.09.00    | Presentation       | Solent Forum   |
| 06.10.00    | AGM Presentation   | HWTMA  |
| 19.10.00    | Lecture            | Mayflower Club   |
| 28.10.00    | Lecture            | Nautical Archaeology Society   |
| 04.11.00    | Conference         | Council for British Archaeology, Wessex                                |
| 16.11.00    | Lecture            | University College London  |
| 23.11.00    | 9th Public lecture | (Newport) Lecturer: Mr Motkin  |
| 05.12.00    | Presentation       | Calshot Activities Centre Staff  |
| 05.01.00    | Lecture            | St Barbe Museum Friends  |
| 31.01.01    | Lecture            | Lymington Rotary   |
| 06.02.01    | Lecture            | Solent Association of Women Graduates                                  |
| 23.02.01    | Presentation       | Friends of HWTMA   |
| 08.02.01    | Lecture            | Keyhaven Yacht Club  |
| 24.02.01    | Lecture            | Dolphins Cruising club   |
| 01.03.01    | Presentation       | Friends of HWTMA   |
| 06.03.01    | Lecture            | Christchurch Local History Society                                     |
| 03.01       | Seminar            | Society for Underwater Technology                                      |
| 19.05.01    | Presentation       | Nautical Archaeology Society AGM                                       |
| 28.09.01    | Lecture            | Botley and Curbridge Local History Society                             |
| 16.10.01    | Lecture            | Titchfield History Society   |

## APPENDIX SEVEN

The Hampshire and Wight Trust for Maritime Archaeology gratefully acknowledges the generous support of the following:

### *Grants and Donations*

Department for Culture, Media and Sport (formerly Department of National Heritage)  
Hampshire County Council ♦ Isle of Wight Council (formerly Isle of Wight County Council)

Royal Commission for the Historical Monuments of England

National Monuments Record ♦ English Heritage ♦ European Commission LIFE Programme ♦ Crown Estate  
Environment Agency ♦ Rural Development Agency

West Sussex County Council ♦ Southampton City Council ♦ Portsmouth City Council ♦ New Forest District Council

Berkeley Group plc ♦ British American Tobacco plc

British Marine Aggregate Producers Association ♦ Brabant Petroleum plc ♦ Exxon Chemical Ltd ♦ Wightlink Ltd

Standing Conference on Problems Associated with the Coastline ♦ Solent Protection Society

Esmée Fairbairn Foundation (formerly Esmée Fairbairn Charitable Trust)

Charlotte Bonham-Carter Charitable Trust ♦ Hilton Cheek Trust ♦ John Coates Charitable Trust ♦ Gosling Foundation  
Inverforth Trust ♦ Robert Kiln Charitable Trust ♦ Oakmoor Trust ♦ Pilgrim Trust ♦ Daisie Rich Trust  
Herapath Shenton Trust ♦ Alan and Babette Sainsbury Charitable Trust ♦ Garfield Weston Foundation

Peninsular and Oriental Steam Navigation Company ♦ Portsmouth Printing and Publishing Ltd

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Drapers' Company Charitable Fund ♦ Earl Fitzwilliam Trust ♦ Ferguson Trust ♦ PH Holt Charitable Trust

John and Ruth Howard Charitable Trust ♦ Manifold Trust ♦ Mercers' Company Charitable Foundation

Peacock Trust ♦ Leopold de Rothschild Charitable Trust ♦ Sammermar Trust

EJH Stephenson Charitable Will Trust ♦ Swire Charitable Trust

Nigel Vinson Charitable Trust ♦ Royal Geographical Society ♦ Avon Valley Archaeological Society ♦ Selsey Society

Gerrards Cross Sailing Association ♦ Institute of Archaeology, UCL ♦ Lymington Town Sailing Club

Royal Archaeological Institute ♦ Southampton City Museum Archaeological Society ♦ Rotary Club of Highcliffe-on-Sea

The Lord Ashburton KG KCVO DL ♦ Mr HJ Agnew ♦ Mr CDJ Bland ♦ Mr DEJ Guy MBE JP DL

The Lord Mottistone CBE ♦ Sir Charles Tidbury DL

### **Assistance in Kind and Services**

Hampshire County Council ♦ Isle of Wight Council (formerly Isle of Wight County Council)

New Forest District Council

University of Southampton ♦ University of Portsmouth ♦ University College London ♦ Nautical Archaeology Society

Royal Naval Museum ♦ Royal Yacht Squadron ♦ Mary Rose Trust

Bembridge Maritime Museum ♦ Fawley Power Sailing Club ♦ 3H Consulting Ltd ♦ Yeoman Group plc

Sea Trax Services ♦ Sonardyne Ltd ♦ Community Action Hampshire ♦ Keyhaven Yacht Club

Trimble Navigation Europe Ltd ♦ Hurst Castle Services ♦ Coastline Surveys Ltd

Southampton Oceanography Centre ♦ Treble Light ♦ Analytical Engineering Ltd ♦ Kongsberg Simrad

Poole Bay Archaeological Research Group ♦ Submetrix Ltd ♦ SEA Ltd ♦ Sea Tech Commercial Diving Services

LOMAG ♦ Seaflex Ltd ♦ Clifton Sub-aqua Club ♦ Bristol University Sub-aqua Club ♦ TUG

A DECADE OF  
*Diving, Delving  
&  
Disseminating*

**The Hampshire & Wight Trust  
for Maritime Archaeology  
1991-2001**

The Solent and adjacent coasts are a special area for exploring the human past. Sea level rise at the end of the last Ice Age turned a river valley into the Solent, submerging prehistoric settlements and creating the Isle of Wight.

Prehistoric tools have been found on the beaches and the seabed, along with traces of the lands which ancient peoples roamed.

England's southern coastline has for over 2000 years been the passageway to a bustling centre of commerce, and evidence for this is strewn across the Solent seabed, in its harbours and rivers.

This Ten Year Review describes how the Hampshire and Wight Trust for Maritime Archaeology, launched in 1991, has been undertaking research to reveal the wide range of local maritime sites. This has included work on both wreck and non wreck sites, in the Solent, its harbours, its rivers and along the coasts of Hampshire and the Isle of Wight. Disseminating the results of this research has been achieved through exhibitions, lectures, publications and web sites.

This Review draws conclusions on work undertaken to date and the management of the maritime archaeological resource of Hampshire, the Isle of Wight and immediately adjacent areas.



Registered Charity Number: 900025

