

Selection Guide

Boats and Ships in Archaeological Contexts

February 2008

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1 INTRODUCTION AND DEFINITIONS

This Selection Guide sets out the considerations that make a boat or ship of such 'special interest' that it might warrant measures such as protection by exclusion zones, recording and recovery, or some other form of mitigation if it is affected by marine aggregate dredging.

'Special interest' can encompass the historic, archaeological, architectural or artistic interest and is the term being used in a range of administrative and legislative reforms that are currently in progress, both on land and at sea, to focus attention on the 'historic assets' that are most important. Overarching 'Principles of Selection' are being developed, and this Selection Guide sets out how such Principles can be applied to boats and ships.

Currently, the remains of boats and ships within marine aggregate areas are dealt with case-by-case in respect of each marine aggregate licence area. There is no overall guidance against which to judge whether a particular wreck warrants special attention on account of its archaeological interest. Some guidance is available in relation to wrecks that might be designated under the Protection of Wrecks Act 1973, but these wrecks are relatively low in number and are not commonly located within marine aggregate areas. Moreover, it may not be helpful to invoke the possibility of designation simply to provide a framework for assessing the importance of wrecks in aggregate areas.

There are a number of reasons for wrecks to be subject to special measures if they fall within aggregate areas, not just 'archaeological' reasons. The risk to dredging equipment, contamination of loads, ordnance, pollution, fishing, sea angling and so on may all have a bearing on the measures taken by the aggregate industry with respect to a particular wreck. This guidance is concerned only with boats and ships as historic assets, that is as feature that contribute to England's historic environment.

Boats and ships embody some of the most complex attributes of any society, not only in terms of their technology but also their organisation, communication and trade. The willingness to put themselves afloat on a hazardous medium, and to venture beyond horizons, might also reveal something of the cultural and spiritual lives of our predecessors that will remain inaccessible to us through terrestrial monuments alone. For these reasons, the physical remains of old boats and ships are an important source of understanding and awareness in society at large; this public interest is expressed both in UK law and policy.

The Guide is limited to boats and ships that are in 'archaeological contexts', that is to say, wrecks that are buried and/or submerged in part or in whole with no prospect of

ever functioning again as a boat or ship. Boats or ships that are in preservation, either floating, berthed or otherwise substantially intact (as an object in a museum collection, for example) are addressed by other schemes, such as the National Register of Historic Vessels.

The Guide is also limited to boats and ships where there are coherent remains of a substantial part of either the vessel or its contents. Discrete elements of a boat or ship situated in isolation – such as a rudder, cannon or individual timber – will generally be regarded as an ‘object’ rather than a site constituting an asset. Such objects may, however, be of considerable interest even in isolation, and consideration will have to be given as to whether they indicate the presence of coherent remains in the vicinity.

In some cases, boat or ship remains may be incorporated by re-use into another type of asset, such as a waterfront or shoreline protection. In such cases, a view will have to be taken as to whether the re-used remains are sufficiently coherent to be of special interest as the remains of a boat or ship notwithstanding such re-use.

It is not necessary for the structural remains of a vessel to be present for an asset to be considered as a boat or ship. In many cases, the remaining contents of a boat or ship – cargoes, ballast, fittings or armament, for example – will be sufficiently substantial and coherent to enable interpretation and appreciation of the former vessel’s build, use or loss.

This Guide applies to all boats and ships in archaeological contexts, irrespective of the environment in which they are now situated. Hence this Guide applies not only to wrecks on the seabed, but also to the remains of vessels embedded in intertidal areas, including vessels that still have upstanding elements. The Guide also applies to vessels that are buried under the ground, both in rural and urban contexts, where reclamation or some other process has caused a former waterway to be covered by dry land. It should be remembered that many of the most significant early boats and ships have been discovered ‘on land’ rather than at sea.

This Guide is also intended to apply to all boats and ships irrespective of the original environment they navigated. Specifically, this guide applies to boats and ships used in inland waters, as well as in coastal waters and the open sea. Many vessels were intended to be used in a range of environments, and in any case developments in building, propulsion, use and so on were shared, hence no ready distinction can be drawn between ‘inland’ and ‘marine’ boats and ships.

Boats and ships are taken here to mean anything that can be navigated on water, either under its own propulsion or with assistance (by being towed, for example). The National Register of Historic Vessels defines a ‘boat’ as being less than 40ft in length and under 40 tons with everything larger being a ‘ship’, but no such distinction is drawn for the purposes of this Guide.

The range of human activities in which boats and ships have been used through history is very wide; some of the principal classes of activity are addressed in more detail below. Clearly, the interest in historic boats and ships arises in part from the class of human activity they were involved in, and those activities will generally have

involved a great range of other types of structures and buildings. Consequently, in considering the special interest of a boat or ship, decisions should also be informed by other relevant Selection Guides (see below). Moreover, this Selection Guide does not address assets involved in the building or repair of boats and ships, which are addressed in other Selection Guides. Reference should be made, among others, to:

Buildings Selection Guides

Transport
Military
Maritime and Naval

Archaeological Selection Guides

Military
Transport
Industrial
Maritime and Riverine

All boats and ships, irrespective of the class of human activity, have been grouped within this single Selection Guide. The one exception to this is boats and ships involved in fishing, whose special interest is to be addressed principally in a specific Selection Guide on Fishing, rather than here.

In all of the following discussion, it is imperative that consideration of 'special interest' is evidence-based, and is related directly to the surviving fabric of the asset.

Not all boats or ships that have special interest will need to be managed *in situ*. Many important boats and ships have been found in the course of development on land, and have been managed (often through recording, recovery and analysis) in such a way that development has been able to proceed without restriction.

This Selection Guide provides generic guidance on the special interest of boats and ships. More detailed guidance may be developed on the characteristics and special interest of specific types and classes of boat and ship in due course.

Both this Selection Guide and any more detailed guidance are likely to be enhanced and updated in the course of future research into boats and ships in archaeological contexts.

2 WHO'S INTEREST?

Boats and ships are intended to travel waterways – rivers or seas – that can separate people, or bind them together. As boats and ships travel around, they go through numerous episodes in different places that have consequences for the material they comprise, whether these be relatively transient, such as the changing possessions of crew or passengers, or cargoes loaded and unloaded, or more enduring, such as refitting or re-building. As a result, boats and ships may not fit as easily into terrestrial demarcations of 'local', 'regional' or 'national' as the static assets that make up most of the historic environment. This is not to say that boats and ships do not have geographically-distinctive characteristics. In fact some boats and ships have very specific attributes that reflect specific environmental circumstances, local traditions,

or the like; but vessels with distinctive 'local' features may have had a very broad range of travel.

To complicate matters, some boats and ships now found in England or UK Waters came here entirely by accident; in their build or use they may have little direct relation to the history of England. Conversely – given the role of sea travel in many activities emanating from England that had such consequences around the Globe, a vessel that seems quite ordinary in an English context may be of great interest to the history of another country.

In considering the special interest of boats and ships, therefore, additional care should be taken about the different geographical dimensions within which it operated. It should be borne in mind that numerous dimensions of special interest may be in play simultaneously. For example, a ship may be of special interest on account of both its locally-distinctive construction and its being en route to a historically-important episode overseas when lost.

As well as having a multiplicity of geographical dimensions, old boats and ships may have numerous layers of special interest to the public, to specific stakeholders, and to historic environment professionals. The archaeological investigation of boats and ships is still a relatively young discipline. For huge swathes of history, and for many types of historical boat-based activity, there is – as yet – no direct evidence of the vessels being used. As a result there are major gaps in understanding and numerous points of contention; even within the historic environment community. There may not be consensus about the special interest of a specific asset. The consideration of the special interest of a specific boat or ship should, therefore, acknowledge its contingent character, and should not unreasonably exclude the subsequent development of alternative perspectives.

Where a boat or ship is also valued for other reasons (as a war grave, a dive site or a favoured angling location, for example), the consideration of special interest should take into account other public interests in accordance with the guidance offered by English Heritage's *Conservation Principles* (English Heritage, February 2007: 48).

Decisions about the special interest of boats and ships can be expected to have direct consequences for the future survival of the asset, bearing in mind that the remains of boats and ships may be particularly susceptible to rapid and irreversible deterioration. Such decisions will, therefore, affect the fabric of the historic environment upon which future generations can draw in developing their own understanding and appreciation of the past. Consequently, in considering the special interest of a boat or ship, due regard should be given to the sustainability of the decision, i.e. the degree to which it might prejudice options for future generations.

3 INTEGRAL FACTORS: WHAT MAKES A BOAT OR SHIP OF SPECIAL INTEREST?

For a boat or ship to be considered to be of special interest, the remains must be capable of making such a distinctive contribution to our understanding or awareness of people's actions in the past that the remains themselves should be protected from uncontrolled damage.

In these terms, boats and ships are important because of what they can say about the people who built them, the people who used them, and the people caught up in their loss. Although such interest may arise out of the specific individuals involved in each stage of a vessel's life, the remains of ships and boats have attributes that enable us to understand broader groups of people, and whole societies, through their craft. For example, toolmarks on a timber can connect us not only to an individual shipwright, but to the way in which people were organised within a shipyard, and to wholesale transitions in the use of skilled labour in manufacturing. Equally, the broad patterning of numerous ship losses might indicate the balance of major trading relationships, providing a context for the activities of a group of merchants as well as the specific cause of a navigational decision by a Master that was to end in tragedy.

Although build, use and loss are useful milestones in addressing the biography of a particular boat or ship, they are not necessarily distinct phases. 'Build' can encompass the factors that instigated the commissioning of a specific ship or class of ships, its design, and the sourcing and processing of materials, as well as the specific sequence of its construction and fitting out. These processes are likely to have been affected by the anticipated use of the ship and, as indicated above, many specific details may arise directly out of large scale trends not only in shipbuilding but in the circumstances that gave rise to shipbuilding activity. 'Build' can also encompass re-building or refitting, whether incremental or as a distinct event, because of the insights into individual, group and societal activity that can be garnered from investigation of the material that has been changed.

Evidence of the use of a vessel – both of the voyages in which the ship was engaged and the everyday activities of onboard life – is likely to arise from any cargo, stores, provisions, tools or personal possessions, and from the remains of the people themselves. The disposition of artefacts across a site, or patterns of wear and tear, might contribute to special interest arising from the vessel's use. Care may be needed to distinguish evidence indicative of the vessel's use over its entire lifespan (such as artefacts within bilge deposits) from evidence of the vessel's last journey.

Boats and ships can be lost in numerous different circumstances. Very many vessels found buried on land or in intertidal areas may have been lost intentionally, that is to say they had reached the end of their useful life (perhaps many different lives) and were 'hulked' having had their contents, fittings or even some of their structure removed. Losses at sea or on the coast are mostly unintentional, with vessels lost due to collision, fire or foundering on a voyage that was otherwise typical of many previous voyages, in which case the remains may have considerable potential to provide insight into 'normal' maritime activity. Other boats and ships will have been lost in circumstances that were highly specific, such as a storm or military engagement, when the vessel's remains may also reveal details of how those events unfolded.

Instrumental factors such as environment, function and technology are important drivers in the build, use and loss of boats and ships, but these are combined with a wide range of other human qualities in day-to-day practice. Strands of symbolism, convention, folklore, religiosity and artistry are often woven through the fabric of a vessel, ranging in scale from the overt iconography of figureheads and carvings, to

details such as mast-step coins or painted bargework. Boats and ships are inhabited places as well as being machines; the whole business of living – whether it be the daily life of a few people on a coasting craft or a long voyage of hundreds in extreme and alien conditions – can be explored. As countless tales tell, people on boats and ships do not always behave according to what seems most rational today, with avoidable tragedies caused by vacillation, arrogance or superstition, matched by acts of insane heroism and spirited resilience.

For a boat or ship to be of special interest in respect of its build, use and/or loss, it must be capable of making a distinctive contribution in terms of the following:

Narrative A boat or ship will be of special interest where it makes a distinct contribution to understanding overall historical processes relating to England or to the globe or – where the boat or ship is related to another country – to processes identified as historically significant by people in that country. The special interest of a boat or ship may arise from its relation to a turning point in history, or to an overall situation or trend that is important. The narrative within which a boat or vessel is of special interest may be social, economic, political, cultural or technological; the vessel's special interest in relation to these narratives may arise from its build, use or loss.

A chronological overview of boats and ships is presented below, within which the contribution of a vessel to a particular narrative can be developed. Similarly, the special interest of a vessel may arise within a narrative based upon the class of activity in which the boat or ship was engaged; these classes of activity are also set out below.

Further detailed guidance may be made available in respect of the key narratives within which specific assets can be regarded as having special interest.

Associations A boat or ship will be of special interest where it presents a distinct, tangible link to a person or event. Such special interest will be all the greater where the boat or ship had a distinct role in shaping the person or event, rather than serving merely as a platform. Although associations may seem strongest in respect of known, named historical people and events, special interest may arise where the remains of the boat or ship impart a tangible association with anonymous individuals or an unrecorded event.

Respect A boat or ship will be of special interest where it was the site of major or otherwise tragic loss of life. Many shipwrecks involved some loss of life, and although a degree of awareness and respect should attend all decisions taken about their investigation or management, loss of life in itself will not normally generate special interest. Special interest may arise where large numbers of people were killed, or where the circumstances are otherwise distinct. Significant loss of life in a shipwreck may give rise to special interest even if no human remains are present; special interest may, however, also arise directly from the presence of small amounts of human remains (either by virtue of the respect they are due, or their possible contribution to understanding the past). The presence of the personal effects of people who lost their lives may also give rise to special interest. Special interest arising from respect may be greater where the loss occurred within living memory, is

associated with significant events in the recent past, or is closely linked to living relatives, survivors or other such stakeholders.

Whereas boats and ships in military service may be regarded as of archaeological special interest on account of loss of life, it should be recalled that separate provision is also made for military remains through the Protection of Military Remains Act 1986, for which selection criteria have been published by the Ministry of Defence.

Aesthetic A boat or ship will be of special interest where it made a distinct cultural contribution either directly through its build, or indirectly through being represented in other artistic media, such as painting, sculpture, design, storytelling or song. Boats and ships have often been highly decorated or have otherwise involved design or artistic craft in their structure. Equally, boats and ships have often inspired creativity through their build, use or loss. In order for aesthetics to give rise to special interest, the surviving remains should be expected to provide a tangible, evidential link between the boat or ship and the artistry.

Current Relevance A boat or ship will be of special interest on account of its current relevance if it embodies distinctive attributes that are also practiced or applied today. Current relevance is likely to give rise to special interest in relation to technological innovations in the past that are being developed or re-examined for current use, though there may be other distinct parallels between past and present that warrant consideration.

4 RELATIVE FACTORS: IDENTIFYING PRIORITIES AMONGST BOATS AND SHIPS

The section above set out the integral factors that any boat or ship must exhibit if it is to be considered as of 'special interest'. This section considers the factors that enable boats and ships to be sorted relative to each other. Having established that a boat or ship is capable of making a distinctive contribution in terms of narrative, associations, respect, aesthetics or current relevance, consideration should be given to the following factors in comparing it to other similar assets:

Rarity Where there are very few other examples of comparable boats or ships, rarity will add to the special interest of a specific asset. However, rarity need not confer special interest in itself, if there is little in the way of a tangible link between the material remains and the narratives associations etc. discussed above.

For any particular class or type of boat or ship, identifying only one as a single example of their 'special interest' is unlikely to be sustainable, because the additional measures that are put in place may not guarantee its survival. Consideration should be given to replicating protection, by implementing additional measures on several comparable vessels of special interest.

Representivity Where special interest arises in respect of a class of boats or ships, decisions about mitigation should consider which examples most comprehensively represent the attributes from which their special interest arises. In addressing the representativity of a boat or ship, consideration should be given to protecting what was 'typical' of overall patterns of activity, as well as what was innovative.

Representativity may take into account the completeness of a boat or ship, and the presence and character of fittings, cargo, personal possessions or other contents.

Diversity Decisions about special interest should take into account the diversity of forms that boats and ships may take, either within a period or within a functional group. Again, attention should be paid as to what was 'typical', so as not to accrue only examples of the unusual at the expense of what might have been most important day-to-day. Diversity should address, in particular, regional variations in the building and usage of ships and boats, bearing in mind that some examples may be found far from their place of origin.

Potential Special interest will be enhanced where there is demonstrable potential for yet greater interest to develop. Potential may arise in respect of greater understanding through investigation and research, or for greater awareness and appreciation where a boat or ship lends itself to wider access. Potential may arise from the presence of as yet buried material, or from structural details or artefactual assemblages that can be pursued. Potential is likely to be greatest for boats and ships from periods or classes of activity that are poorly understood, but some boats and ships from better known periods may also have great potential where they relate to significant turning points or events.

Survival The special interest of an asset will be affected by the degree to which the physical remains giving rise to that interest have survived. Survival can therefore be gauged in terms of completeness, bearing in mind that it is the completeness of the features that give rise to special interest that should be considered, not necessarily the completeness of the asset as a whole.

In some instances, the interest of an asset may be so great that even fragmentary remains might be considered 'special'.

Additional interest may arise where the survival of the asset can shed light on the processes that cause sites to be preserved or to deteriorate. Understanding these site formation processes is important for understanding, for example, patterns in the overall distribution of assets or -- within the bounds of a single site -- what effect differential survival might have had on the interpretation of the material that remains. Understanding site formation processes is also very important in developing approaches to asset management. Although 'survival' can be a source of additional interest, it is unlikely to confer sufficient interest in respect of an otherwise unremarkable site for that asset to be considered 'special'.

The anticipated future survival of physical remains does not provide grounds for gauging special interest; this is only relevant to considering what management measures are appropriate.

Documentation The special interest of a boat or ship may be increased by the availability of documents, map, images, oral testimony, literary references or other evidence that enhances understanding or appreciation of the asset. Records of previous investigations, archaeological or otherwise, may also add to special interest, especially where the investigation of the boat or ship was in itself a significant development of the discipline.

In some cases, the availability of detailed documentation may mean that the interest of the material remains is less, because the documentation presents an alternative source of understanding. However, an asset may still be of special interest despite the availability of documentation. Also, it should be borne in mind that even in recent times, documentation that is assumed to exist may not, either because it was not created, or because it has been lost or destroyed. In any case, the material remains of an asset may vary markedly from the documentary evidence.

Additional interest attributable to documentation will favour assets from more recent periods. This fact must not be allowed to bias the overall resource of protected assets to the detriment of boats and ships from earlier periods.

Grouping The special interest of a boat or ship may be increased by its being grouped with other assets. These other assets may be other boats and ships, or they may be different types of assets entirely. For example, the interest of a wreck may be increased by being situated close to its building slip or the harbour where it worked. A collection of boats and ships need not be similar in order to form a group; ship graveyards can present a cross-section of chronology and types; multiple wrecks on a hazardous rock can demonstrate continuity or change; and multiple sinkings might demark an armed engagement.

Setting and Context The special interest of a boat or ship may be increased by its being situated in a place that adds to its understanding or appreciation. The setting or context of a vessel will add to its interest where it has a tangible link to its build or use (it is unusual for boats and ships not to have a tangible link to the place of their loss). It should be borne in mind that although unintentional losses such as shipwrecks are 'accidental', the remains of a boat or ship within its normal range of voyaging can generate interest by evoking patterns of activity that have left no visible trace on the surface of the sea.

Associated Collections The special interest of a boat or ship may be increased by the presence of an associated collection of artefacts in a museum or other archive. An associated collection may have been recovered from the boat or ship in previous investigations, or it may have been collected from elsewhere but retain sufficient direct connection with the boat or ship to enhance the interest of the asset. The increase in interest created by an associated collection will often depend on the way in which recovery was conducted; poorly conducted recovery will have reduced the special interest that the boat or ship might have attained had high archaeological standards been employed. This guidance applies only to collections already in museums or archives; it is not, in itself, an argument for further recovery.

Exceptional Although the above factors should enable people to spell out why a boat or ship is of special interest, in some cases there might be so little in the way of comparable sites or context that the framework is insufficient to make judgements. As noted above, boat and ship archaeology is still a young discipline and the historic environment is still likely to yield many surprises. The special interest of some assets may be all the greater because it is 'exceptional' and does not bear comparison.

5 HISTORY

Age

In the guidance above, age itself has not been used as a source of special interest. However, the age of an asset is likely to invoke many aspects that do give rise to special interest, especially in relation to narratives of earlier times for which material remains are the only evidence, and for which the material remains are themselves so rare.

Although the special interest of some vessels will be indicated by their age, in every case it will be necessary to articulate the special interest of a boat or ship in terms of the factors set out in the preceding guidance.

By considering the current record of dated wrecks from England¹ in conjunction with the broad chronology of the shipbuilding and use, it is possible to draw out a few generalisations about age and special interest, as follows:

before 1500 AD	So little is known and remains are so rare from this period that all examples are likely to be of special interest.
1500-1815	Remains of boats and ship dating to this period are also rare; the majority of boats and ships dating from this period can be expected to be of special interest
1815-1914	There are more examples of boats and ships from this period so greater discrimination is warranted in determining which ones are of special interest. However, this period is also a time of massive change in how vessels were built and used; boats and ships that make a distinct contribution to understanding and appreciating this century should readily be regarded as having special interest.
1914-1945	The highest volumes of known boats and ships lost in UK waters were casualties of WWI and WWII, with lesser numbers lost in the inter-war years. Greater discrimination will be required. Nonetheless, technological changes, the magnitude of events and the consequences locally and globally of activities in these years will clearly give rise to some boats and ships having special interest.
after 1945	The volume of boats and ships lost to archaeological contexts falls dramatically. A strong case will need to be made for boats and ships lost after 1945 to have special interest.

In the following paragraphs, a brief overview is given of some of the important phases in the history of boats and ships.

¹ In September 2007, a query to the National Monuments Record (NMR) resulted in a total of 5307 shipwreck records (i.e. physical features on the seabed recorded as wrecks, rather than documented shipping losses (casualties) or net fastenings). This total did not include boats and ships found on land.

Of the 5307 recorded shipwrecks, 2800 were dated. Of the dated shipwrecks, about 100 are dated to periods earlier than 1860. Approximately one third of these wrecks are designated under the Protection of Wrecks Act 1973. About 500 wrecks date to the period 1860-1913. In total, 2170 (over 77.5% of those dated) are attributable to the First World War, the inter-war period, and the Second World War. A further 24 date later than 1945, bearing in mind that 1945 is the cut-off point for the NMR.

Of the 2507 recorded shipwrecks that are not yet attributed to a period, the majority seem likely to date to the later Nineteenth Century and to the first half of the Twentieth Century.

Chronological Overview

It should be borne in mind that some aspects of the archaeology of boats and ships are as yet so poorly known that they are commonly addressed on a European or even international scale. Recalling the earlier discussion of who may find a boat or ship to be of special interest, some boats and ships found in England and UK Waters will be of special interest far beyond England.

Although a case can be made for the use of boats around the World by people prior to the last (Devensian) glacial maximum, about 18,000 years ago, there is as yet no evidence from England. As the ice sheet receded and England was repopulated across the now-submerged lowlands of the North Sea and English Channel, about 12-13,000 years ago, it is likely that boats came to be used. These were millennia of change in sea-level, in environment, and in the types of stone tools being used by people we know as Late Upper Palaeolithic, Late Glacial and Mesolithic. Fragments of a very early skin boat have been found in Germany, and Mesolithic logboats are known from Denmark and the Netherlands; the distribution of Mesolithic activity in Scotland's Western Isles shows that people were travelling by water in and around Britain. Although there is currently no direct evidence of Mesolithic boats in England, their use and survival can be reasonably inferred.

Similarly, there are no known Neolithic (4000-2400 BC) boats from England, but Neolithic logboats have been discovered in Ireland, including one example offshore. The distribution of artefacts such as axe heads clearly demonstrates overseas trading, so again the use and survival of Neolithic boats can be reasonably inferred.

Another reason for assuming extensive use of boats in early prehistory in England is the clear technical accomplishment of boat builders in the Bronze Age (2400-700 BC). Several internationally-important examples of Bronze Age boats are known from England, including the very large logboat discovered at Brigg, Lincolnshire, sewn boats from Dover and from Ferriby on the Humber, and a plank-built 'raft' also from Brigg. As previously, evidence for Bronze Age seafaring can be found in examples of artefacts of Continental origin, and in the wrecks or lost cargoes found at Langdon Bay off Dover, and at Moor Sand and Salcombe in Devon which are designated under the Protection of Wrecks Act 1973.

Iron Age (700 BC – AD 43) logboats have been found at Hasholme in Yorkshire and Poole in Dorset, among others, but plank-built boats are also likely to have been in regular use in the waters around England. Trading ports investigated at Mount Battern in Plymouth and Hengistbury in Dorset, and Roman accounts of the Veneti people based in Brittany, suggest that England's Iron Age populations were using sea-going sailing ships. The presence of a distinct 'tradition' of Iron Age shipbuilding is inferred from the 'Romano-Celtic' family of ships, which includes examples from London (Blackfriars; New Guy's House) and St. Peter Port, Guernsey, as well as in boats found on the Continent. Undoubtedly, boats and ships originating in the Mediterranean, as well as from other parts of the empire, were used in the Roman period (AD 43 – 410) in England's waters. 'Roman' vessels may also have been built in England, such as the County Hall Ship which is thought to have been built in South East England by a shipwright experienced in Mediterranean techniques. Discoveries

of both isolated artefacts and concentrations, such as the pottery from Pan Sand in the Thames, point to the survival of lost cargoes and shipwrecks from the Roman period.

The key examples of Early Medieval (AD 410 – 1066) vessels from England are the vestiges of the Sutton Hoo ship (c. AD 600) from Suffolk and the Late Saxon Graveney Boat found in North Kent. These, with examples from other countries bordering the North Sea, belong to traditions that would give rise to Viking ships in their various forms. Numerous archaeological and literary sources give a flavour of the very extensive use of watercraft in this period but, as yet, known examples are few.

The same is generally true in later Medieval (1066 – 1499) periods. There are plentiful sources from the Bayeux Tapestry onwards of the extent and volume of vessel traffic, but material remains from England are fragmentary, at best. The potential for coherent remains to survive is demonstrated by the Magor Pill wreck and the Newport ship from Wales, but in England the *Grace Dieu* (built 1418; lost 1439; designated under the Protection of Wrecks Act 1973) is the only known – and atypical – example of Medieval seacraft.

A century later (by which time seafarers were exploring the New World), there is another atypical (though fabulous) example in the *Mary Rose* (built 1509-11; lost 1545; designated under the Protection of Wrecks Act 1973). Post-medieval seafaring is better represented in the known archaeological record than earlier periods, but the wrecks that have been investigated are only a tiny fraction of the numbers likely to have been lost, and an even smaller fraction of the overall volume of shipping. In the building of larger vessels, European traditions coalesce around hulls made up of a skeleton of frames covered by planks laid edge to edge ('carvel') to provide a smooth outer surface, though the precise details of construction still reveal chronological and regional distinctiveness. This form prevails through the C16th to C19th century, with larger ships generally having three masts but smaller ships having one or two. At the smaller end of the scale there is greater diversity of form and construction with overlapping planks ('clinker') pointing back to earlier traditions.

In the C16th to mid C19th the separation of ships built for fighting and ships built for transport becomes more marked, though many larger merchant ships are also armed. Engagements are fought broadside to broadside, with fleets of capital ships meeting each other in lines ahead and astern (hence 'ship of the line'). Warships mount one, two or three decks of guns. There is a rough progression (with key exceptions) from wrought iron, to cast bronze, and then to cast iron for the main armament, and a large number of cannon on the seabed is often the most obvious indication of the presence of a wreck. Throughout the Post-medieval period there are relatively few years that can be described as peaceful in the seas around England, though the combatants vary. Key engagements increasingly happen in more distant theatres, but the various powers' comings, goings and sinkings – from misfortune as much as action – still add to the record in England's waters.

Seaborne conflict was not all 'abroad'; today's labels do not lend themselves to the complex webs of relations that enmeshed the dynasties, governance and religious orders of England, Wales, Scotland, Ireland and Continental powers in seaborne

contact and conflict. Even a matter as 'local' as the English Civil War had a significant maritime element.

Seafaring was also intrinsic to the expansion of European influence around the globe, through exploration, colonisation and commerce. The shipping routes of many countries crossed the waters around England, with English ports themselves playing a major role in the movement of goods and people (often on inequitable terms) around the World. Global shipping movements were augmented by huge volumes of seaborne activity on more regional and local scales, with water transport being more swift and economic not only along the coast but also well inland, though the network of navigable rivers and, later, canals.

Although there was continuity in the main forms of vessels in the Post-medieval period, there was still technological innovation – not only in building, fitting and arming ships, but also in navigation, sailing rigs, steering, provisioning, storage and so on. Innovation gathered pace with the industrial revolution; developments in the use of iron and steel for construction and steam for propulsion were foreshadowed in the C18th, but it was the C19th that saw the most numerous, rapid and radical changes. Iron is used first to supplement structural elements, before being used for the entire frame and later for the covering of the hull. In warships, iron is also used as armour cladding, then to protect the central battery and later for all-metal, armoured hulls. Steam propulsion is first most common in paddleships with screw propulsion demonstrating its greater efficiency somewhat later; steam is at first supplementary to sail, and then supplemented by sail before sail is done away with entirely. Steam pistons give way to turbines that are later fired by oil. Innovations also occur in machinery with the development of powered winches and capstans, and in all manner of fittings. These new technologies take time to prove themselves, both technically and economically, so there is often a difference of several decades between earliest use and widespread adoption, especially in the take up in commercial shipping. Moreover, the strengths of wooden construction and sail, demonstrated over millennia, are such that both continue well into the C20th.

The volume of shipping in the C19th results in numerous losses, with collision – because new propulsion meant that ships could move at speed on headings independent of the wind – becoming such a problem that it prompts some of the first international conventions. There is better centralised recording of losses, and the presence of metal hulls and/or fittings means that wrecks of the C19th are often more evident than their predecessors. The 'known' archaeological resource therefore expands, though the same factors also skew the results so that knowledge is related to a particular segment of past maritime activity, favouring bigger ships.

Whereas seaborne conflict is exported out of the waters around England for much of the C19th, the C20th sees its return at altogether different levels of magnitude. Although some actions are directed at warships, by far the greatest losses are amongst merchant vessels. The new technologies of the submarine, torpedo, mine and aircraft are mostly responsible. The outright intention to destroy shipping – and anyone on board – is in itself a deviation from earlier centuries, where the emphasis was on blockade or capture. The list of both losses and known wrecks in the waters around England goes off the scale for the ten years 1914-18 and 1939-45. Amongst such boats and ships, special interest is likely to be more widely dispersed, though

the loss of life in many cases will have been so cataclysmic or numerous that respect will often be warranted.

Boats and ships continued to enter the archaeological record through the inter-war period and after 1945. Although ships and boats are far less numerous, and far less prone to disaster, the overall volume of trade by sea continues to be very high. Losses of big ships grab national headlines, not least due to the threat of pollution; losses amongst smaller vessels – including fishing vessels – gain less notice. Amongst these vessels, some might be of sufficient special interest to warrant additional mitigation measures.

6 THE SPECIAL INTEREST OF DIFFERENT CLASSES OF BOATS AND SHIPS

The broad chronology of boats and ships set out in the previous section has taken into account developments in the major classes of shipping, notably transport and military vessels. There are numerous sub-classes of activity, all of which have to be addressed in their own historical circumstances. In this section, the intention is not to set out an account of all the types of boats and ships that have occurred through time, but to draw out some examples that illustrate how special interest can arise with respect to specific themes.

Care should be taken to avoid identifying special interest on the basis of the volume of available evidence, especially documentary evidence. In later periods especially, there may be a great deal of information about some types or classes or vessel, which might give rise to the feeling that such a level of previous attention attests to the interest of the class. However, this will clearly diminish the possible recognition of interest in as yet poorly understood classes of vessel.

The need to consider openly the possible interest of boats and ships is especially important in relation to smaller vessel and vernacular craft, which have often been unremarked in documentary sources and for which, consequently, archaeological evidence may be the only remaining source. This is true not only of individual vessels, but also for overall patterning in the use and loss of smaller vessel types. Lack of recognition may belie the importance of such boats and ships in day to day life, and hence their special interest in trying to understand people's maritime experience.

Boats and ships used on inland waters also fall within this blind spot. England's waterways – in their unmodified state, improved for navigation, or as artificially constructed canals – have long provided the critical 'upstream' arm of transport and communication. A huge diversity of boat and ship types has been used on inland waters, some of which have a coasting if not fully sea-going capability. Types may be regionally distinctive, fashioned to address the particular environment and traditions of the waterways they served, whereas some are specific to a particular industry or cargo. As with sea-going ships, inland craft embody various developmental strands in their history, including responses to both technical and economic changes, as well adapting to changes in social practices and cultural conventions.

6.1 Transport

Boats and ships have always been – and still remain – central to the transport of goods, over both short distances and long. Even boats and ships constructed for other purposes need sufficient capacity to be able to sustain themselves with stores and provisions. The volume of cargo that a boat or ship can carry will be a key factor in its construction and operation, though this may be heavily constrained by market forces, technical capability, environmental factors and other essentials, such as the need for speed or for armed defence. While the capacity to carry general cargoes will offer the advantages of operating flexibly, other cargoes demand a specialised approach, whether the cargo is live fish or petroleum.

People are a very specialised cargo, especially when transported in large numbers. Throughout history, most boats and ships have had the capacity to carry passengers in relatively small numbers. Even in recent centuries, mass transport of people has relied on general cargo vessels, adapted to some degree to cope with human needs. The degree of adaptation will have depended on the relation between those doing the carrying, and the people being carried; for thousands of slaves, refugees, migrants, convicts, labourers and other ranks, the only lasting evidence of the conditions they experienced lies on the seabed.

Other classes of people have travelled in rather better, highly adapted boats and ships, especially with the advent of tourism in its various forms. Passenger ferries accommodate people for a matter of minutes or many days and nights, and may have been designed for a specific route or have more general capability. On longer transits the journey itself becomes part of its attraction, encapsulated in the ‘liners’ of the mid-C19th to the mid-C20th. Cruising, in which the journey alone is the attraction, encompassing both recreational boats and huge ships, is largely a C20th innovation, though fast sailing ships known as yachts have antecedents in earlier centuries.

6.2 Military

Aside from transport, the uses of boats and ships for military purposes are most prominent. The specialisation of craft to warfare has resulted in very specific forms, and a great range of types especially in recent centuries. At times, cargo vessels have been adapted for military use, cargo vessels have been used in conjunction with fighting ships for transporting troops and stores and, as noted above, some cargo vessels have mounted armaments. Nonetheless, vessels constructed specifically as warships can be identified in various periods back to antiquity, and some forms of vessel – such as the submarine – have been used almost exclusively for military purposes.

Warships may often give rise to special interest not only because of their involvement in key episodes of historical narratives and their associations, but also because military competition has been a major driver of technical development. Naval development has occurred in areas as diverse as hull forms, propulsion, sailing practice, armament, food, clothing and language, some of which continue to shape civilian life today.

The consideration of military boats and ships has to encompass not only capital ships but also the very numerous smaller warships and auxiliary craft that make up a navy.

Military shipping also includes vessels attuned to fighting that were not within navies – such as privateers and pirates.

6.3 Fishing

Fishing has, throughout history, been an activity that has required very specific ways of life, and very specific boats and ships. As noted in the introduction, fishing boats and ships are addressed in a separate Selection Guide that also takes in shore-based fishing and infrastructure.

6.4 Industrial

Present-day shipping includes vessels that are highly adapted to specific maritime industries. Although antecedents might be identified back into the early C20th and possibly C19th, high levels of industrial specialisation are less readily identifiable in earlier boats and ships. Some vessels were built or adapted to specific tasks, such as dredgers, hoppers, sheer hulks and so on, but widespread and distinctive classes of industrial craft are – with the exception of fishing – unusual.

One form of maritime industry that does warrant attention because of its contribution to England's economy, and ultimately its global impact, is whaling. The history of whaling is both long and accompanied by technical adaptations and developments that will be reflected in the surviving remains of whaling ships and boats. Although much of the hunting and processing of whales was conducted in distant waters, many ships were built, based and lost in England's waters.

6.5 Other Classes

There are a number of other functional groupings that have given rise to distinct forms of boats and ships. Amongst non-military craft associated with **law and government**, for example, are vessels operated to enforce customs and revenue. Quarantine hulks are an example of vessels operated for **health and welfare**; floating chapels and missions might also be addressed within this category. Examples of **commercial** vessels, used for face-to-face selling, might be limited to small boats selling victuals and stores within ports. The many craft involved in **agriculture and subsistence** will largely have been involved in moving agricultural goods and have been addressed under the heading transport, above. However, some craft may have been specifically adapted for cultivation, hunting or gathering, such as ferries for animals or duck punts. There is, however, a wider range of craft adapted for **domestic** use, in the form of houseboats, both in inland waters and at the coast. The use of watercraft for **recreation** has already been noted in relation to transporting people; aside from cruise ships, recreational boating has generally focussed on smaller craft, leading to a huge number and range of cruising and racing types in the C20th, some of which may be considered as having special interest.

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