Aggregates Levy Sustainability Fund

MARINE AGGREGATES AND THE HISTORIC ENVIRONMENT

ON THE IMPORTANCE OF SHIPWRECKS

FINAL REPORT

VOLUME I

Prepared on behalf of:

English Heritage

By:

Wessex Archaeology
Portway House
Old Sarum Park
Salisbury
SP4 6EB

Ref: 58591.02A

April 2006

Aggregates Levy Sustainability Fund

MARINE AGGREGATES AND THE HISTORIC ENVIRONMENT

ON THE IMPORTANCE OF SHIPWRECKS

FINAL REPORT

VOLUME I

Ref: 58591.02A

Acknowledgements

Aggregates Levy Sustainability Fund

MARINE AGGREGATES AND THE HISTORIC ENVIRONMENT

ON THE IMPORTANCE OF SHIPWRECKS

FINAL REPORT

VOLUME I

Ref: 58591.02A

Contents

List of Figures

List of Tables

MARINE AGGREGATES AND THE HISTORIC ENVIRONMENT

ON THE IMPORTANCE OF SHIPWRECKS

FINAL REPORT

VOLUME I

Ref: 58591.02A

1.   INTRODUCTION

1.1.   Wessex Archaeology (WA) has been funded by English Heritage (EH) through the Aggregates Levy Sustainability Fund (ALSF) to develop a framework and methodology to evaluate the 'importance' of the physical remains of wrecks on the seabed.

1.2.   The marine archaeological resources in the UK include the remains of ships, submerged landscapes, port and harbour works and other coastal features. While the importance of a holistic view of the marine archaeological resource cannot be understated, this project focuses on a single class of submerged material, that of shipwrecks. Moreover, this project is focusing upon a single aspect of this class of material, how to define the importance of shipwrecks.

1.3.   Areas suitable for marine aggregate extraction often contain shipwrecks within their boundaries. Such shipwrecks include:
 • known and identified wrecks;
 • named and dated casualties thought to have been lost in the area;
 • ambiguous seabed features that might prove to be wrecks;
 • 'unrecorded' wrecks for which there is as yet no evidence.

1.4.   Wrecks, in all these forms, are considered in the course of the Environmental Impact Assessment (EIA) that accompanies applications to dredge marine aggregates. Various existing datasets, secondary sources and geophysical surveys can be used to gauge their likely presence, extents, character, period and so on. However, these sources cannot, in themselves, establish the relative or absolute importance of known or potential wrecks. This is because the 'importance' of a wreck arises from a context that is far wider than the aggregate area under consideration.

1.5.   The notion of 'importance' need not be critical if, in a specific case, the wreck can be readily safeguarded by avoidance at no great expense in the course of aggregate extraction. However, if the wreck is in a location where conflicts between development and preservation *in situ* cannot be resolved so readily, the balance between mitigation and the continued survival of the

wreck is more contentious. The benefits to society of the marine aggregates combined with the costs of mitigation are weighed against the benefits to society of preserving the wreck and the degree to which the wreck will be impacted. The perceived 'importance' of the wreck is the pivotal point around which negotiations to implement mitigation measures revolves.

1.6. EH developed a system for evaluating the importance of terrestrial monuments in the mid 1980s that provided a robust basis for legal protection through scheduling under the Ancient Monuments and Archaeological Areas Act 1979 (Darvill et al 1987; Darvill 1988). The system was implemented through the Monuments Protection Programme (MPP) and comprises three stages: class characterisation, site discrimination, and management assessment. A series of criteria are addressed, and scored, in the course of applying these three stages.

1.7. The absence of a framework for gauging the importance of shipwrecks in the context of their statutory protection under the Protection of Wrecks Act 1973 prompted the application of the Monuments Protection Programme (MPP)/Scheduled Ancient Monuments criteria (to wrecks) by the Advisory Committee on the Historic Wreck Sites (ACHWS) in 1998. However, the published material lacks the evaluation methodology underpinning MPP that would provide a framework capable of use in evaluating wrecks implicated by marine aggregates dredging. Thus, it is the central aim of this project to develop and trial a framework for ascribing importance to shipwrecks suitable for use in the Environmental Assessment of marine aggregates dredging proposals.

1.8. This project incorporated a literature review, consultation with key practitioners, the development of a draft framework and trials on a selection of shipwrecks, and culminated with a workshop for practitioners intended to assess the practical application of the framework. The results of the trial process and the workshop subsequently informed the development of a final draft. In order to facilitate the application of the framework WA has also developed a digital version of the framework, incorporated within a Microsoft Access database.

1.9. This first volume of the two-volume final report (WA ref. 58591.02A) presents the results of the literature review and the consultation process and demonstrates how this contributed to the development of a draft framework. The report also outlines the results of the trials and practitioners' workshop and explains how these activities guided the design of the final draft framework. The second volume (WA ref. 58591.02B) contains pertinent extracts from the materials collated during the literature review; a copy of the questionnaire utilised to the solicit views of practitioners; and copies of the paper versions of the draft and final frameworks which were incorporated into the project database.

1.10. Two guidance documents have also been produced to accompany the final report:

- WA ref. 58591.03 Applying the Framework
- WA ref. 58591.04 Using the Database

1.7. The project database containing the evaluation results is included on the CD accompanying the report Using the Database (WA ref. 58591.04). The CD also includes the materials developed for the workshop.

2. PROJECT AIMS AND OBJECTIVES

2.1. PROJECT AIM

2.1.1. The aim of the project was to develop and trial a framework for ascribing importance to shipwrecks suitable for use in the Environmental Assessment of marine aggregates dredging proposals. The project also sought to address the following priorities for the EH ALSF Programme:

- developing capacity to manage aggregate extraction landscape in the future;
- promoting understanding of the conservation issues arising from the impacts of aggregates extraction on the historic environment.

2.2. PROJECT OBJECTIVES

2.2.1. The basis of this project lies in the need to create an easy-to-use evaluation system which can be shown to reliably differentiate 'importance' across a range of ship types, functions, and periods (dates). Hence, the objectives of the project are;

- to review relevant literature relating to the importance of shipwrecks;
- to develop a process-based methodology for ascribing importance to shipwrecks in which individual wreck evaluations are consistent, comprehensive, transparent and contestable;
- to develop criteria that can be readily applied to key characteristics of wrecks in UK waters, and are understandable to environmental consultants, developers, regulators and the public, as well as archaeologists.
- to conduct trials of framework on wrecks and sources typical of marine aggregates EIAs.

3. METHODOLOGY

3.1. OVERVIEW

3.1.1. The project methodology may be separated into five stages:

- literature review;
- consultation;
- develop a framework and methodology;

- applying the draft framework and methodology;
- workshop.

3.2. LITERATURE REVIEW

3.2.1.   The literature review involved three main tasks:

- a review of literature relating to the assignment of cultural and archaeological value;
- a review of UK legislation and policy regarding the 'importance' of heritage;
- a review of schema for assigning 'importance' to shipwrecks from countries outside the UK;

3.2.2.   Specific examples of legislation and policy relating to importance are varied and numerous in both the UK and throughout the world and there is a vast body of literature relating to the 'value' of heritage. It was not within the scope of this project to review all available texts and frameworks. Rather a selection of published works and statutory and non-statutory documentation relating to importance was reviewed to provide a background against which a framework for evaluating the importance of shipwrecks could be formulated.

3.3. CONSULTATION

3.3.1.   Key practitioners who employ 'importance' factors in their day to day work were consulted to gain further insights into the assessment process, and to determine how best a new framework might be devised to be most beneficial to their work. Interviews were undertaken with a number of practitioners based in the UK, and questionnaires were sent to practitioners outside the UK. Geographical constraints made personal interviews with overseas practitioners impractical and consultation was carried out by-mail.

3.4. DEVELOPING A FRAMEWORK AND METHODOLOGY

3.4.1.   The next stage of the project was to evaluate the data compiled in the literature review and to use this as a basis for developing a framework and methodology for evaluating the importance of shipwrecks.

3.4.2.   The first step was to identify the key themes that emerged from the literature review with regard to:

- what should be measured?
- how should importance be measured?
- how should the results be presented?

3.4.3.   A comprehensive list of the themes applied in evaluating importance was compiled and each of the themes was assessed with regard to its applicability to shipwrecks and its usefulness for the evaluation process. Each theme was categorised as integral, relating to the individual vessel alone, such how build and technology, and/or contextual, relating to a wider view, such as the

socio-economic interest arising from the vessel's use. In addition, modifiers of importance, such as age or survival, were identified.

3.4.4. As part of a previous project, the *Port of London Authority Archaeology Strategy*, WA developed a system of shipwreck assessment based on five factors, which represent all phases of a ships 'career' covering: build, use, loss, survival and investigation (Wessex Archaeology 2004). Commentary attached to the five factors draws together the main attributes of the site, and provides a statement of the site's archaeological interest. It was proposed to develop the use of 'ship biographies' as a basis for evaluations of importance. The applicability of this model was examined with regard to the themes identified within the literature review. The themes were placed into a matrix incorporating the integral/contextual categories and WA's concept of ship biographies to help establish the sequence in which the information available for each shipwreck would be interrogated.

3.4.5. With regard to how importance should be measured, the project explored the desirability of devising a scoring system and examined the categories that should be comprised within a 'band' or 'grading' system. Methods for presenting the results, such as statements of importance, were also evaluated.

3.5. APPLYING THE FRAMEWORK AND METHODOLOGY

3.5.1. The next phase of the project was to trial the framework to evaluate its practical application.

3.5.2. Information was obtained from existing datasets compiled for completed WA projects including:

- recent desk-based assessments (DBAs) and EIAs including areas off Yarmouth and in the Eastern English Channel;
- wrecks assessed as part of the ALSF funded Wrecks on the Seabed project;
- maritime records within England's Historic Seascapes Pilot Area in Liverpool Bay.

3.5.3. The framework was also tested on 42 sites designated under the Protection of Wrecks Act 1973 in England's territorial waters.

3.5.4. United Kingdom Hydrographic Office (UKHO) and National Monuments Record (NMR) data was obtained for each of the shipwrecks and was entered into a Microsoft Access database. To facilitate the trial process a copy of the framework was also incorporated into the database. An interface was designed to bring together the shipwreck data, the framework and the results of the evaluation and thus assist the user with the evaluation process.

3.6. WORKSHOP

3.6.1. On 25th July 2005 WA hosted a small workshop at its Head Office in Salisbury. Invitees included staff from EH, Bournemouth University, WA

and people interviewed as part of the research. The workshop introduced the framework and the database and examined its application to provide feedback to inform a final draft. The framework and the database were subsequently reviewed in the light of comments from the workshop. Wrecks evaluated during the initial trial process were reassessed using the final draft.

3.6.2.   The project database containing the evaluation results is included on the CD accompanying this project report, which also includes the materials developed for the workshop.

4.   LITERATURE REVIEW

4.1.   THE REVIEW

4.1.1.   The aim of the literature review was to explore the theoretical basis of the concept of archaeological value and the existing methodological approaches for evaluating importance. The review incorporated:

- a review of published works relating to cultural and archaeological value;
- a review of published works relating to the value of shipwrecks as a heritage resource;
- a review of UK legislation and policy regarding the 'importance' of heritage;
- a review of schema for assigning 'importance' to shipwrecks from countries outside the UK.

4.1.2.   There is a vast body of literature relating to the 'value' of heritage and the archaeological resource. Selected published works were reviewed to explore the values assigned to the past and the study of material culture.

4.1.3.   Darvill (2005: 21) notes that, while a substantial body of literature has developed on the valuation of archaeological remains, there has been little critical attention paid to the underlying philosophies of valuation frameworks:

> *Key questions such as, valuable to whom? significant in what context? or important for what? rarely seem to be asked, and yet they lie at the heart of the debate* (Darvill 2005: 22).

4.1.4.   A further aim of the literature review, therefore, was to reveal the philosophy underlying existing international charters, national legislation and policy guidelines and to allow us to ask, and answer, these questions in developing a new framework.

4.1.5.   Legislation and policy relating to importance is varied and numerous in both the UK and throughout the world. Within the UK a selection of statutory and non-statutory documentation relating to the protection and management of heritage was reviewed. This also included a review of the recent recommendations from the Department of Culture Media and Sport (DCMS) and EH as part of the Heritage Protection Review (DCMS 2004a) and Historic Scotland's (Historic Scotland 2004) consultation on the

development of new criteria and guidance for assessing national importance. A case study, the Isles of Scilly Rapid Coastal Zone Assessment, was included to assess how such models could be implemented in practice (Johns, et al 2004).

4.1.6. To gain an insight into how models of importance are applied at an international level, the review also examined the criteria employed for the selection of UNESCO World Heritage Sites (World Heritage Committee 2005).

4.1.7. Outside the UK many countries already employ a developed system for evaluating the importance of shipwrecks. Models from the USA, Australia, Canada, Finland and the Netherlands were examined during the course of the literature view along with the framework constructed as part of the MoSS project ((European Community Culture 2000 Programme *"Monitoring, Safeguarding and Visualizing North-European Shipwreck Sites: Common European Underwater Cultural Heritage - Challenges for Cultural Resource Management"*), conducted jointly between the institutes in Finland, the UK, the Netherlands, Denmark, Germany and Sweden (MoSS 2004).

4.2. THE ASSIGNMENT OF CULTURAL AND ARCHAEOLOGICAL VALUE

4.2.1. As Darvill (2005: 22) recognises, notions of 'value' 'significance' and 'importance' are rather vague and ill defined and are commonly used interchangeably. He argues that value and significance/importance are not the same thing but belong to two distinct but associated spheres of meaning.

4.2.2. The Oxford English Dictionary defines 'value' as, 'the regard that something is held to deserve; importance or worth; material or monetary worth'. 'Important' is defined as, 'of great significance or value' while 'significance' is defined as, 'the quality of being significant; importance'.

4.2.3. These definitions reveal how 'importance', 'significance' and 'value' are interrelated but indicate that, while 'value' is fundamentally a measure of worth, in quantitative terms, 'importance' and 'significance' relate more directly to qualitative assessment and high value.

4.2.4. Darvill (2005: 21) suggests that value and importance are both part of a 'process of valuation'. However, he distinguishes between 'value systems' as, 'a set of socially defined orientations applicable to the whole resource', and 'importance systems' as, 'an archaeological or interest groups methodology applicable to specific elements of the resource, in order to allow some kind of ranking or discrimination' (Darvill 2005: 39).

4.2.5. It is clear, therefore, that while the terms are related it is important to be explicit about how each term is to be used within a model and not to employ them interchangeably. Following Darvill's (2005: 39) distinction, 'value' is here taken to be a quantitative measure of the extent to which society values the archaeological resource, while 'importance' is understood to be a

qualitative measure to enable us to make decisions about which site or vessel is more important than another.

4.2.6.   In EIAs the term 'significance' is employed in a very particular way in assessing developmental impact in regard to 'significance of effects' and it is proposed not to use the term with regard to importance. For the purposes of this report, however, where an author or authors have used the term 'significance' it has been included.

4.2.7.   In 1996, Briuer and Mathers undertook a review of literature relating to archaeological significance as part of the Evaluation of Environmental Investments Research Program sponsored by the Headquarters, U.S. Army Corps of Engineers (Bruier & Mathers 1996). The analysis revealed 21 major themes or concepts which characterise the breadth of archaeological views and ideas about significance (**Table 1**).
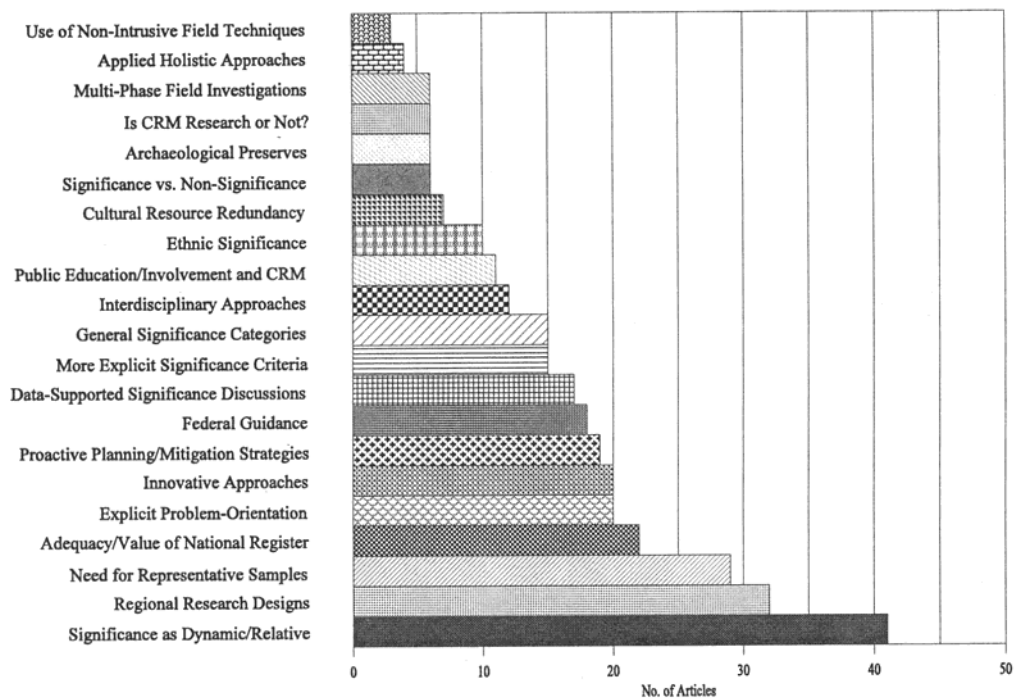
Table 1: Rank-order of significance concepts
(after Briuer & Mathers 1996: 8)

4.2.8.   This analysis suggests that the concept receiving the most amount of attention is that of significance being dynamic and relative. Rather, value depends on the meanings and associations attributed to it within a given context; it is dependent on the observer. Value is thus contextually dependent; a concept created by particular groups at a particular place and time and will change as the underlying philosophies change. As such, different individuals or organisations will place more emphasis on some aspects than others in developing a sense of value.

4.2.9.   The EH document *Power of Place* published in 2000 recognised that:

- most people value the historic environment and it is seen as a major contributor to quality of life;
- because people care about their environment they want to be involved in decisions affecting it;
- in a multicultural society everybody's heritage needs to be recognised;
- everyone has a part to play in caring for the historic environment;
- Good History accommodates multiple narratives and takes account of the values people place on their surrounding.

4.2.10. Clark (1960) argued that archaeology appeals directly to interests and concerns basic to human beings and recognised the power of archaeology to 'engage attention', thus providing 'innocuous entertainment' and opportunities to educate. He suggests that the highest social purpose of archaeology is its role in helping to promote human solidarity through developing a sense of place and a sense of belonging through attachment with the past. As a historical discipline, archaeology:

> *…helps to lift people out of the limitations of their own time and place and to make them free of the whole experience of mankind* (Clark 1960: 253).

4.2.11. Merriman (1991) believes that the pervasive nature of the past in late twentieth century society resulted from the extreme social and environmental dislocation caused by industrialisation. A new society was created which had no precedent in the past. People turned to the past to explain the present and to seek meaning for the future. For this reason the past is fundamental in identity formation and social continuity (Jenkins, 1996). As Lipe describes consideration of the past:

> *…plunges us directly into the larger common world which exists in the stream of time and hence bridges the mortality of generations (Lipe 1984: 10).*

4.2.12. The literature review carried out as part of the Importance of Shipwrecks project has revealed a similar concentration on the concept of significance as dynamic and relative. However, more recent published works have focused upon the role of legislation in assigning importance to heritage, and on the increasing role of research led frameworks.

4.2.13. In 1984 W.D. Lipe presented a scheme identifying four different types of value:

- associative/symbolic value;
- informational value;
- aesthetic value;
- economic value.

4.2.14. A*ssociative* value relates to the ability of archaeological material to serve as tangible links to the past as symbols or mnemonics in contemporary society (Lipe 1984). *Aesthetic* value is dependent on contemporary appeal and, while

such value is directly related to the inherent properties of archaeological material or structures, such as colour or fabric, the value given to things is dependent on the observer. *Economic* value relates to the utilitarian value of archaeological material, the ability of the cultural resource to serve a material end, dependent on prevailing economic conditions within a group or society. Finally, *informational* value concerns formal research, largely dependent on intellectual context and constrained by the balance between the needs of the present and the needs of the future.

4.2.15. Lipe (1984: 2) argued that while all cultural material has some potential value or use in the present or future, for practical reasons it is not possible to preserve everything. It is necessary, therefore, to make judgements regarding the 'resource potential' of material. This is further complicated by the notion that value is not inherent in archaeological material, rather:

> *Value is learned about or discovered in these phenomena by humans, and thus depends on the particular cultural, intellectual, historical, and psychological frames of reference held by the particular individuals or groups involved* (Lipe 1984: 2).

4.2.16. Thus archaeological values are contextually dependent, a concept created by particular groups at a particular place and time. As ideas about importance change so will the requirements of future generations:

> *This complicates the lives of planners who must use the criteria of today to decide which cultural materials and properties to attempt to save for tomorrow; these decisions will undoubtedly be re-evaluated in the future by standards we cannot now predict* (Lipe 1984: 2).

4.2.17. Darvill (1993) also recognises how values change with time and identified three main phases in the development of 'value systems' relating to archaeological remains. The first phase is a Medieval system based on monetary value (archaeological material as treasure) and curiosity value (legend and folklore associated with archaeological remains). The second phase is a Post-Renaissance value system associated with 16th and 17th century antiquarianism and based upon the aesthetic value of the material itself and the historic value of archaeological remains as the true record of human progress and achievement. Finally, Darvill identifies three main value systems prevalent in the 20th century with regard to the archaeological resource, characterised as use value, option value and existence value.

4.2.18. Darvill's (1993: 13-20; 1995: 43-45) 'use value' system relates to the demands or uses placed upon the archaeological resource by contemporary society. The archaeological resource is seen as something that can be exploited for a tangible return, whether in terms of knowledge, aesthetics, symbolism and legitimisation or economic gain. Examples of such uses are suggested by Darvill including:

- archaeological research (the discovery of information or knowledge about the past);

- scientific research (the uses of data drawn from archaeological sites by other scientific disciplines);
- creative arts (the numerous uses of the aesthetic qualities of ancient objects);
- education (the use of the archaeological resource in the general education of adults and children);
- recreation and tourism (the use of ancient monuments for recreation, tourism and entertainment);
- symbolic representation (the abundant symbolic uses of archaeological sites, in advertising for example);
- legitimisation of action (the use of archaeological evidence to support or legitimise particular propositions, especially politically motivated propositions such as the archaeological research carried out to support the claims of supremacy by Nationalist Socialist Germany);
- social solidarity and integration (the use of archaeological remains to bolster social solidarity and promote integration);
- monetary and economic gain (legitimate uses, such as the selling of books and publications, guided tours, production of souvenirs and so on, and illegitimate uses, such as the robbing of monuments and the sale of antiquities).

4.2.19. Darvill recognises that these are only a few of possible uses for the archaeological resource and suggests that new uses of the past are constrained 'only by the limits of our imaginations to invent them' (Darvill 1995: 44).

4.2.20. Darvill's (1993: 20; 1995: 46) second value system is that of 'option value', the preservation of archaeological remains for future generation, the goal of which is, 'the physical preservation of things (i.e. physical remains) in order to achieve the notional preservation of options'.

4.2.21. Present legislation in the UK is heavily weighted in favour of the preservation of the archaeological resource. For example, the general duties of EH established under Section 32 of the National Heritage Act 1983 include:

- to secure the preservation of ancient monuments and historic buildings situated in England;
- to promote the preservation and enhancement of the character and appearance of conservation areas situated in England;
- to promote the public's enjoyment of, and advance their knowledge of, ancient monuments and historic buildings situated in England and their preservation.

4.2.22. *Planning Policy Guidance 16: Archaeology and Planning* (PPG16) also demonstrates a focus on the preservation ethic underlining the importance of

archaeological remains as a finite and non-renewable resource (paragraph 6). Paragraph 8 reads:

> *Where nationally important archaeological remains, whether scheduled or not, and their settings, are affected by proposed development there should be a presumption in favour of their physical preservation.*

4.2.23. Grenville (1993:131) suggests that the preservation ethic in heritage management stems mainly from two main beliefs. Firstly, the onus is on the present generation not to destroy evidence our successors might wish to study. Secondly, that future generations will have vastly improved techniques of data capture so the important parts of the resource should be left intact. In addition to this Grenville suggests that the preservation ethic may also stem from the fact that it is cheaper to leave archaeology where it is. As Grenville points out, however, if we do not continue with research then how can future research agendas develop and if we do not continue to address the problems of large scale data capture and analysis how will improved techniques develop?

4.2.24. Darvill (1993) recognises that the realisation of option value stands in opposition to use value and presents the idea of a value gradient. The ideal would be to preserve everything intact but at the other end of the gradient is the idea that some things can be judged less important than others and may be sacrificed in order to save the more important things.

> *Not all archaeological evidence is of the same quality or importance, and whereas preservation may certainly be the appropriate course of action in some cases, perhaps the majority of cases, sensitive exploitation to realise the use value of the resource may be appropriate in other cases* (Darvill 1993: 22).

4.2.25. In practice this is recognised in UK planning guidance. For example, paragraph 1.2 of Planning Policy Guidance 15: Planning and the Historic Environment (PPG15) states that:

> *The objective of planning processes should be to reconcile the need for economic growth with the need to protect the natural and historic environment.*

4.2.26. Darvill's (1993: 20-21; 1995: 47-48) third value system is that of 'existence value', value relating simply to the existence of the resource. Feelings of well-being, contentment and satisfaction the -'feel-good factor'- are central to the realisation of existence value and are based upon the 'psychological imperative in having a past', particularly with regard to:

- cultural identity (identity established and reinforced by knowledge of the existence of a past);
- resistance to change (arguments for the retention of threatened structures or institutions stemming from the latent strength of existence value. Historical precedent legitimising action on the assumption that what has been should continue to be or be again).

4.2.27. Darvill (1993: 21; 1995: 48) recognises that in theory all three systems are equally legitimate although, in reality, different individuals or organisations will place more emphasis on some than others and will place a different emphasis on what is important within each system. Management options favouring preservation *in situ* indicate more emphasis placed on the option and existence value systems. However, to those who earn their living from development or tourism, for example, emphasis will lean towards the use value system. Darvill (1993: 22) highlights how the choices made during the management process involve not just archaeologists but also developers, planners and other advisors. It is necessary, therefore, to consider values other than option and existence value when developing management strategies.

4.2.28. Lipe (1984) and Darvill (1993) have been praised by Carver (1996: 46) for recognising that different values are at work although he suggests that they do not go far enough in demonstrating how values compete with each other, particularly with regard to other, non archaeological values. Carver's (1996: 51) definition of archaeological value is based solely upon the importance of archaeological remains with regard to the information they contain about the past, their *academic value*.

4.2.29. Carver (1996: 46) argues that the value sets listed by Lipe and Darvill ultimately derive from the realisation of the results of archaeological research. The real challenge, he suggests is to deal with the undiscovered archaeology. Carver recognises that archaeology provides, 'a story designed to bring the past alive' and that 'this story is constantly changing as field archaeology provides it with new dramas and stage props' (1996: 47). As archaeology creates new stories or models of the past it also creates both aesthetic and traditional values.

4.2.30. Carver (1996: 53) argues that models which look at the eligibility of sites for protection through ranking and scoring deal only with the archive of what has already been recognised. Carver's argument also follows from the conclusions of PPG16 and the York Archaeology and Development Report (1991) which offered a new definition which changed the emphasis from the national importance of individual monuments to the national importance of a research agenda giving the context. Carver (1996: 55) suggests that the political programme should include a transition from a system driven by culture as treasure to a system driven by culture as knowledge.

4.2.31. Andrews et al (2000: 527) agree with Carver's (1996) view that the value of the resource depends upon the amount of information about the past which that resource might impart. However, they suggest that rather than expressing value as an issue of 'information' it should be expressed as an issue of knowledge and understanding and that it should be a matter for active enquiry. This is based on the premise that archaeological material:

> *...only becomes a cultural resource insofar as it has the potential, through survey, excavation and analysis, to extend our understanding of human history* (Andrews et al 2000: 527)

4.2.32.   Thus, value is not inherent in materials but is realised through the practice of archaeology (Firth 1999:10 and Firth 2002:37).

4.2.33.   Carman (1995) draws attention to the role of legislation in attributing publicly recognised value to archaeological material. He argues that in applying law to archaeological material changes the material from an archaeological to a legal phenomenon:

> *...the point of passing laws is to promote certain types of material for some ulterior motive* (Carman 1995: 22).

4.2.34.   Through the application of law, specific items are moved from the private into the public domain, categorised, quantified and placed on a value gradient. Society is, therefore, dependent on the law to tell them what is valuable; specific areas of law give specific bodies of material specific kinds of value (Carman 1995: 30).

4.2.35.   More recently, Carman (2005: 43) has identified a distinction in heritage management between those who understand the object of concern as 'stuff', comprising objects, monuments, landscapes, and ideas about such things from the past, and those who think of it as a 'discipline' or range of 'practices'. Carman (2005: 48-53) identifies three current values schemes applied to archaeological heritage:

- the accounting school of value: the financial value of museum collections and the market value of antiquities;
- the economic school of value: distinction between 'use' and 'non-use' values (as identified by Darvill 1993; 1995) concerned with the benefits individual components of the heritage can provide;
- the social school of value: the belief that the fundamental purpose of heritage is to be heritage and the role of institutions (museums, laws, academic disciplines) created to raise heritage above the ordinary, outside the realm of accountancy and economic.

4.2.36.   Firth (1995: 56) argues that while authors such as Carman and Darvill recognise that archaeological material may be subject to different value systems they do not pay as much attention to how archaeologists themselves are motivated by different value systems and how these value systems are incorporated institutionally in management. Firth demonstrates how management is also subject to non-archaeological values, such as commercial values, aesthetic values, value systems derived from faith and value systems associated with the state such as nationality and territoriality. As value systems within archaeology and resource management change through time any one value system may be dominant although other value systems may co-exist with it and exert a subordinate, but observable, influence.

4.2.37. Smith (2005) argues that in recent heritage management attention has been diverted away from the long-term observations that values changes between time and place and from the idea that values held by other groups may be fundamentally different from those held by archaeologists. Archaeological values are given priority, the:

> *…result of the authority conveyed by their claims to scientific expertise and rationality embedded in archaeological significance criteria* (Smith 2005: 81)

4.2.38. As Tainter and Bagley (2005) argue, the unconscious assumptions that guide our decisions about significance both shape and suppress the archaeological record that we pass to the future. They suggest that the first step to resolving this is to expose and debate the assumptions.

4.2.39. These published works indicate that archaeology *is* valued by society and that there a number of different types of value: economic value; recreational value; value for promoting social integrity and political legitimisation and so on. Values are context dependent and will vary between different groups of people and will change over time. However, most of these values can only be realised through the practice of archaeology and through the information that sites, monument and artefacts can reveal about our past. The importance of shipwrecks, therefore, depends upon the research frameworks and legislative structures through which information is generated and heritage is protected. As a consequence, it is necessary to explore the assumptions implicit in such frameworks before meaningful debate can take place.

4.3. VALUES SPECIFICALLY ASSOCIATED WITH SHIPWRECKS

4.3.1. Shipwrecks are a unique form of archaeological evidence. As Martin (1997: 1) described, a ship is a self contained entity carrying within it all the materials, foodstuffs and artefacts needed for the survival, health, and recreation of those on board, its routine management and maintenance, and the particular activities or enterprises for which it was built:

> *It is an encapsulated society, a technological microcosm, and an expression of predatory, mercantile, or military endeavour* (Martin 1997: 1)

4.3.2. In addition to their archaeological value, shipwrecks also have specific types of value for other groups of people. Kaoru and Hoagland (1994: 200) divide these into use value and non-use value. Use values are those derived from actual uses, such as, 'the visual contact with or physical use of a shipwreck or its artefacts' (Kaoru & Hoagland 1994: 201). Non-use values are those, 'intangible benefits associated with the satisfaction that individuals experience due to historic shipwreck preservation in the absence of current visual contact or physical use' (Kaoru & Hoagland 1994: 202).

4.3.3. These non-use values correspond to what has been termed by Delgado (1988: 6) as 'cultural' and 'aesthetic' or 'romantic' value. The 'cultural value' of shipwrecks lies in their importance as sites linked with the fabric of society,

in lore and legend, for example, as wreck events imprinted in the national or local consciousness, or as graves or memorials. In Pearl Harbour, for example, the hull of the *U. S. Arizona* is a grave for approximately 1000 servicemen lost during the bombing that brought America into the Second World War (Lenihan 1990). The explosion that destroyed the *Arizona* was the central event of the Japanese attack on Pearl Harbour. Consequently the wreck is still central to the memories of most of the survivors and has been cemented into the national memory as a naval memorial, a war grave and a national symbol.

4.3.4. The emotional power of shipwrecks such as the *U. S. Arizona* is a facet of 'aesthetic' or 'romantic' value (Delgado 1988: 8). According to Delgado (1988: 5), shipwrecks fascinate society in that the wrecking event itself highlights 'the capricious nature of the sea and the fragility of human pride and endeavour'. As Delgado points out, accounts of extreme bravery and cowardice are found in the tales of many shipwrecks and it is in moments of disaster, such as shipwrecks, that the best and the worst in human behaviour emerges.

4.3.5. The use value of shipwrecks corresponds to what Delgado (1988) has termed 'recreational' 'monetary', 'historic', 'archaeological' and 'anthropological' value. Recreational value relates to the use of shipwrecks by sports divers and as underwater parks. Delgado suggests that monetary value, looking at wrecks as 'collections of potentially valuable antiques', is detrimental to all other values and argues:

> *It is important that managers determine the values of "their" shipwrecks, then work to protect those wrecks from uses incompatible to those values, while striving to accommodate the needs of many groups* (Delgado 1988: 9).

4.3.6. Delgado's (1988: 6) 'historic value' refers explicitly to vessels with a particularly significant history, i.e. associated with particular historical events or significant historical figures. He also includes in this category those vessels representing a specific, important type. Delgado (1988: 7) also recognises that shipwrecks make particularly important archaeological sites. He suggests that, until recent times, shipwrecks were inaccessible and, as a result, have not commonly been subjected to the forces threatening terrestrial archaeological sites such as salvage, vandalism or disturbance. Moreover, because shipwrecks are generally 'well-preserved pristine sites', Delgado argues that they also have 'anthropological value' as they allow archaeologists to make a leap from "first level" questions about particular historical events or ship's architecture to more fundamental questions of human behaviour.

4.3.7. In reality shipwrecks sites in the UK are rarely 'well-preserved' and 'pristine' and have often been subject to substantial damage from both natural (oceanic processes and biological decay) and cultural (commercial salvage, dredging, trawling and treasure hunting) processes. However, this does not necessarily detract from the value of shipwrecks as 'closed finds'.

4.3.8. Wrecks have often been described as 'time capsules' or closed-finds preserving a moment in time. Delgado (1988: 7) notes that ships were built as compact, largely self sufficient structures and that, once the cargo, crew and passengers came aboard a ship, they were sealed off like time capsules:

> *…a ship is an enclosed entity wherein the characteristics and the aspirations of a culture are placed and then sent elsewhere – in search of trade, exploration, colonisation or defence* (Delgado 1988: 4)

4.3.9. Therefore the archaeological assemblage of a shipwreck will include nearly everything that was on board and will reflect the, 'life and times of that ship and the ports it visited' (Delgado 1988: 4).

4.3.10. Gibbins (1990: 377) recognised that wreck sites preserve a largely contemporaneous group of materials which were not intended for discard and as such they may be described as 'fine-grained', where all characteristics are associated in a distinctive way through the depositional event. As a result wreck assemblages have particularly high resolution (relative homogeneity of the events or conditions whose by-products are present in the deposit) and integrity (relative homogeneity of the agents responsible for materials in a deposit). As Martin (1997: 4) described, deposition of a number of artefacts in contemporary use through calamity makes for a better representative sample of cultural material that the collections of discarded rubbish which characterises most terrestrial sites.

4.3.11. Adams (2001: 296), however, argues that the notion of contemporaneity can apply only to the wrecking event as it does not necessarily follow that assemblages carried on board were also contemporary with one another. As Adams (2001: 297) describes, the biography of an individual ship is potentially 'kaleidoscopic'. A ship can be in use for very many years, during which time the vessel is subject to repairs and enhancements, the uses to which the vessel was put may have changed several times and ownership may have been transferred. Some artefacts may have been on board the ship for days, some may have been in use for decades and residues of previous cargoes and ballast may remain on board. Adams (2001: 297) terms this as 'onboard stratigraphy' indicating dangers in the notion of a wreck as a 'single-event phenomena'. Moreover, following the wrecking itself vessels are often further exploited, for example by salvors or divers, or transformed by natural processes at the site which may also leave their signature on the wreck site. These activities in themselves thus become part of the ships biography.

4.3.12. This does not, however, detract from the importance of shipwrecks as an archaeological resource and there are a number of other forms of evidence available from wreck sites which are invaluable to reconstructing the past. For example, ships are vehicles of major social enterprise (Gibbins & Adams 2001: 281). The construction of a vessel represented an enormous investment in resources and, as Adams (2001: 300) argues, shipbuilding has been a complex social activity involving organisation, co-operation and long term investment. Muckelroy (1978: 3) wrote that:

In any pre-industrial society, from the upper palaeolithic to the nineteenth century AD, a boat or (later) a ship was the largest and most complex machine produced.

4.3.13. As such, a vessel's form and design, the use of materials and how they were fashioned and the detailed carpentry of its construction can reveal much about contemporary technological achievement (Martin 1997: 1). In many cases, hull remains are likely to be the only reliable indicators of actual building practices as detailed records of these activities were kept only in the comparatively recent past.

4.3.14. In addition, Martin (1997: 1) identifies how the working and management of ships involves specialised artefacts which may provide an insight to activities such as navigation; medicine at sea; the administrative procedures of weighing, measuring and accounting; and a wide array of everyday activities. Wrecks often contain commonplace objects that seldom survive in other archaeological contexts. Analysis of cargoes, for example, can reveal aspects of mercantile enterprise including methods of packing and stowage. Moreover, the potential for organic preservation on waterlogged sites means that artefacts made from bone, wood and textiles, for example, are more likely to survive, as well as a wide range of environmental data. Thus shipwrecks provide a unique form of archaeological evidence

4.3.15. As the preceding sections of this report have shown, 'Importance' is not a simple or straightforward concept; rather it comprises a variety of cultural values, sometimes complimentary and sometimes conflicting. Moreover, these values vary in their significance to individuals or groups depending on motivations and special interests.

4.3.16. Despite this, there are themes which appear to achieve a consensus as being essential, and are used to create the theoretical frameworks that underpin the practice of heritage conservation in the UK and abroad (an analysis is presented in **Table 2**). As maritime archaeology is a relative new discipline, maritime archaeologists have been forced to borrow much from theoretical and legislative models designed for terrestrial sites and monuments. These models are presented below.

4.4. REVIEW OF LEGISLATION AND POLICY

4.4.1. The examples of legislation, policy and guidance and non-statutory schema collated for review are as follows:

- The Waverly Criteria;
- Protection of Wrecks Act 1973;
- Ancient Monuments and Archaeological Areas Act 1979 and the Monuments Protection Programme;
- Protection of Military Remains Act 1986;
- Planning (Listed Buildings and Conservation Areas) Act 1990 and Planning Policy Guidance 15: Planning and the Historic Environment;

- The National Register for Historic Vessels;
- English Heritage: Heritage Protection Review;
- Historic Scotland: New Criteria and guidance for assessing National Importance;
- Isles of Scilly Rapid Coastal Zone Assessment.

4.4.2.   The specific factors for evaluating importance incorporated in each of the above is summarised in **Table 2**. The models are outlined in detail in **Volume 2: Appendix I**.

4.4.3.   To gain an insight into how models of importance are applied at an International level the review also examined:

- UNESCO World Heritage Sites;

4.4.4.   The documentation collated relating to World Heritage Sites is outlined in detail in **Volume 2: Appendix II**.

4.4.5.   Outside the UK many countries already employ a developed system for evaluating the importance of shipwrecks. The review included:

- USA: US National Parks Maritime Initiative and the National Register of Historic Places;
- Australia: Historic Shipwrecks Act 1976 and 1994, and Australian Register of Historic Vessels;
- Canada: Canada Shipping Act and Historic Sites and Monuments Act;
- Finland: Register of Traditional Ships;
- MoSS Project's Management Plan of a Shipwreck Site;
- ROB (Netherlands) Project Vaarwegverbetering Westerschelde.

4.4.6.   The specific factors for evaluating importance incorporated in each of these models is summarised in **Table 2**. The models are outlined in detail in **Volume 2: Appendix III**.

4.4.7.   The models were also examined with regard to the use of scoring. Only four of the models commonly employed scoring as a means of resource assessment:
- Monuments Protection Programme;
- National Register for Historic Ships;
- Isles of Scilly Rapid Coastal Zone Assessment;
- Finland Register of Traditional Ships.

4.4.8.   A detailed description of these systems may be found in **Volume 2: Appendices I** and **III**.

	Waverly Criteria	Protection of Wrecks Act 1979	Ancient Monuments and Archaeological Areas Act 1979	Monuments Protection Programme	Protection of Military Remains Act 1986	Military Aircraft Crash Sites	PPG15	National Register for Historic Ships	List of Historic Sites and Buildings of England	Historic Scotland: New Criteria and Guidance	USA National Register of Historic Places	Australia Historic Shipwreck Act 1976	Canada Shipping Act (Parks Canada 1998)	Finland Traditional Register of Historic Ships	MOSS	Netherlands Project Vaarwegverbetering Westerschelde
Period of time in which a monument, site or artefact was in use	*	*	*	*	*		*	*			*	*	*	*	*	*
Scarcity of surviving examples of a particular type		*	*	*		*	*	*		*	*	*	*	*		*
The extent to which a vessel is representative of a period, type or function		*	*	*			*	*	*	*	*	*	*	*	*	*
Extent of preservation		*	*	*		*	*	*		*	*		*	*	*	*
Potential threats to continued preservation	*	*	*	*	*		*	*							*	*
Potential of site or monument to contribute to scientific enquiry	*	*	*	*		*			*	*	*	*	*	*	*	*
Technological properties of a monument and their regional and chronological variations		*	*	*			*	*		*	*	*	*	*	*	*
Potential of a monument as a visual, educational and recreational resource.	*	*		*		*		*		*	*	*	*	*	*	*
Location in relation to other sites or monuments		*	*	*			*	*	*	*		*			*	*
Previous investigation of the site		*	*	*		*										
Contemporary associations with historical people or events		*				*	*	*	*	*	*	*	*	*		
Contemporary use and meaning of a site or monument for the society that created it					*			*		*	*		*		*	
Economic value	*											*				
Potential in the context of conservation interests				*								*				
Potential for successful protection					*											
Potential for public approval					*											
Likelihood of human remains					*											

Table 2: Criteria for evaluating importance employed in models from the UK and overseas

4.4.9. An examination of the models reviewed during the course of the project has a revealed a number of key themes associated with the evaluation of importance. These themes, and the factors commonly employed to evaluate importance, were used to formulate a questionnaire which formed the main part of consultation with practitioners.

5. CONSULTATION

5.1. INTERVIEWS AND QUESTIONNAIRES

5.1.1. In addition to the literature review, key practitioners, who employ 'importance' factors in their day to day work, were consulted to gain further insights into the evaluation process, and to determine how best a new framework might be devised to be most beneficial to their work.

5.1.2. Interviews were carried out with the following practitioners:

- Ian Oxley, Mark Dunkley and Jessie Ransley, EH maritime team;
- John Paton, Secretary, National Historic Ships Committee;
- Steve Webster, Project Manager, Wessex Archaeology;
- Paul Jeffery, Heritage Protection Review Project Manager, EH;
- John Schofield, Head of Military and Naval Evaluation, Characterisation Team;
- Gill Andrews, Archaeological Consultant.

5.1.3. The interviews were based upon a series of questions aimed at evaluating the practical application of the various models. Practitioners were asked which factors they utilised and which factors they felt were most important with regard to archaeological importance in general, the value of the archaeological resource and the importance of shipwrecks. They were also asked whether or not they used scoring or grading systems in their day to day work, and to identify the key benefits and/or drawbacks to scoring systems. Finally, they were questioned as to the benefits of identifying a dimension of importance with regard to local, regional, national or international importance.

5.1.4. These questions were also formulated into a questionnaire that was sent via e-mail to overseas practitioners. Responses were received from the following:

- Professor Mark Staniforth, Flinders University, Southern Australia;
- Jeremy Green, Western Australian Maritime Museum;
- Jens-Peter Schmidt, Archaeological Statemuseum of Mecklenburg-Vorpommern, Germany;
- Göran Ekberg, Stockholm Maritime Museum, Sweden;

- Martijn Manders, Netherlands Institute of Ship and Underwater Archaeology.

5.1.5. A copy of the questionnaire may be found in **Volume 2: Appendix IV**.

5.2. INTERVIEW RESULTS

5.2.1. The first question asked practitioners to indicate how regularly they used the following factors in evaluating archaeological importance and which they felt were the most important:

- scarcity of surviving examples of a particular type;
- period of time in which a monument, site or artefact was in use;
- contemporary associations with historical people or events;
- contemporary use and meaning of a site or monument for the society that created it;
- location in relation to other sites or monuments;
- extent of preservation;
- potential threats to continued preservation;
- technological properties of a monument and their regional and chronological variations;
- potential of site or monument to contribute to scientific enquiry;
- potential of a monument as a visual, educational and recreational resource;
- previous investigation of the site.

5.2.2. The results indicate that scarcity of surviving examples and the extent of preservation are the most regularly used factors (**Figure 1**). Previous investigation of the site was the least commonly used factor although three practitioners stated that this was regularly considered.

5.2.3. The factors identified as the most important were scarcity of surviving examples, extent of preservation and potential for scientific enquiry (**Figure 2**). The least important factors were contemporary associations, contemporary use and meaning and location in relation to other sites and monuments.

5.2.4. Additional and related factors highlighted during interviews included:

- assessing the sustainability of conservation projects (John Paton, NHSC);
- identifying the most representative example to conserve (John Schofield, EH; Gordon Barclay, HS);
- identifying the legibility of original components, the extent to which a site or monument has been altered (John Schofield, EH; John Paton, NHSC).

5.2.5. The second question asked practitioners to indicate whether or not they used scoring systems for evaluating importance, including ranking or grading systems or numerical measures, and to identify the key benefits and key drawbacks of such systems. Six practitioners answered that they never use scoring systems and five stated that they use scoring or grading regularly or occasionally for evaluating importance. The key benefits included:

- scoring allows an overview of the whole collection or range of artefacts and provides a standard by which to judge similar objects;
- scoring allows statistical comparison between sites and enables managers to prioritise the resource and management;
- scoring provides a clear indication of importance that makes public accountability easier and more transparent;
- scoring allows managers to clearly articulate importance and simplifies working with non-expert administrators

5.2.6. The key drawbacks included:

- it is difficult to get a universal consensus on a viable scoring system;
- scoring systems can get complicated and difficult to explain;
- scoring systems don't allow flexibility;
- scores can be misleading and are easily misinterpreted;
- scores only test our knowledge of the resource, not importance;
- scoring systems are attributed a false notion of objectivity when they can be very subjective;
- scores change over time as values and ideas about importance change.

5.2.7. The third question asked practitioners to identify the types of value they considered on a day to day basis and the importance they attribute to the different types of value. The types of values they were asked to comment upon are as follows:

- the information that can be obtained in regard to archaeological, historical and scientific knowledge;
- the economic potential of the archaeological resource;
- the use of the archaeological resource in the general education of adults and children;
- the contribution of heritage as a leisure industry;
- the aesthetic properties of archaeological material;
- the ways in which sites and monument help to promote social identity through attachment with the past;
- the requirement to conserve material for future generations.

5.2.8. The results demonstrate that the requirement to conserve material for future generations and the information that can be obtained are the values

considered most important by practitioners (**Figure 3**) and those most frequently considered in evaluating the importance of a site or monument (**Figure 4**). The economic value of the resource was the type of value considered least often and while economic value and the aesthetic properties of archaeological material were considered least important. None of the types of value indicated were identified as being not important.

5.2.9.   Other types of value highlighted during interviews and responses included:

- social inclusion (John Paton, NHSC);
- the ability of the resource to assist in re-generation (John Paton, NHSC);
- the use of an archaeological site as a testing pace for research, for example with regard to site formation processes and the cost of in situ preservation (Martijn Manders, Netherlands Institute of Ship and Underwater Archaeology);
- political values (Martijn Manders, Netherlands Institute of Ship and Underwater Archaeology);
- memory value (Martijn Manders, Netherlands Institute of Ship and Underwater Archaeology).

5.2.10.   Question four asked practitioners, who deal specifically with shipwrecks in the course of the daily work, to identify the factors which they regularly considered with regard to evaluating shipwrecks. All practitioners were asked to identify which of the factors they felt were the most important. The factors included as suggestions are as follows:

- the original design and construction of the vessel;
- the rebuilding, repairing and refitting of a vessel during its life;
- the contemporary use of the vessel, such as mercantile or military functions;
- the shipboard communities associated with the use of the vessel;
- the circumstances of the vessels demise;
- the survival and condition of a vessel;
- the processes affecting the survival of the vessel on the seabed;
- the survey and excavation history of the vessel to date;
- the use of shipwrecks in sport diving;
- the practical and economic requirements of fishermen and boat users.

5.2.11.   Responses indicated that the original design and construction of the vessel, survival and condition, the processes affecting the survival of the vessel and the survey and excavation history of the vessel were the most regularly employed factors in evaluating shipwrecks (**Figure 5**). The least commonly employed factors were those more associated with amenity value and resolution of potentially conflicting and/or exploitative uses of shipwreck

sites, i.e. the use of shipwrecks in sport diving and the practical and economic requirements of fishermen and other boat users.

5.2.12. The difference of perception between maritime and non-maritime practitioners was notable in response to the questions relating to survival (quantity of material) and condition (quality or state of preservation). The processes affecting the survival of the vessel on the seabed were regarded as the least important by the non-maritime practitioners, in contrast to the maritime practitioners who considered these the most important. Overall, survival and condition was indicated as the most important factor by both groups of practitioners, with the use of shipwrecks in sport diving and the requirement of fishermen and boat users as the least important (**Figure 6**).

5.2.13. Other factors and related considerations identified by practitioners included:

- historical significance (Jeremy Green, Western Australia Maritime Museum);
- ability to contribute to knowledge (Jeremy Green, Western Australia Maritime Museum);
- value of assemblage as a whole (Martijn Manders, Netherlands Institute of Ship and Underwater Archaeology);
- Condition of wreck and the condition of its environment (Martijn Manders, Netherlands Institute of Ship and Underwater Archaeology).

5.2.14. The final question asked practitioners to identify which factors are considered with regard to local, regional, national or international fields of enquiry. The large majority of practitioners responded that all factors should be considered within each field of enquiry.

6. DEVELOPING A FRAMEWORK AND METHODOLOGY

6.1. DEFINING THE COMPONENTS OF THE FRAMEWORK

6.1.1. The responses to the questionnaires and the interviews revealed a number of issues to consider in formulating a framework for evaluating importance. Together with the key themes identified during the literature review, these issues were considered alongside the concept of a 'ship biography' to develop a draft model for evaluating the importance of shipwrecks.

6.2. GATHERING INFORMATION: THE SHIP BIOGRAPHY

6.2.1. WA has developed a system of shipwreck assessment based on five factors, which represent all phases of a ships 'career' covering: build, use, loss, survival and investigation (Wessex Archaeology 2004). Commentary attached to the five factors draws together the main attributes of the site, and provides a statement of the site's archaeological interest.

Build	Interest arising from the vessel as built, rebuilt, fitted, refitted and so on. Including: design, construction, materials, technologies, propulsion, fixtures and fittings, armament, etc.
Use	Interest arising from the vessel as used, including: cargo, personal possessions, trade links, wars, life aboard, social organisation, etc
Loss	Interest arising from the circumstances of the vessels demise, including last voyage, last action, cause of loss, acts of loss, etc.
Survival	Interest arising from the wrecks incorporation into the seabed, both to date and in the future, including condition, preservation, fragility, vulnerability, formation processes, etc.
Investigation	Interest arising from the vessel being examined in the past, or in the future, including place in history of discipline, legal precedents, methodological developments, archaeological documentation, potential, etc.

6.2.2. The use of ship biographies moves interpretation away from the idea of shipwrecks as 'time capsules' and examines them in the context in which they were built and used, the manner is which they were lost, how they have survived and how they have been investigated.

6.3.   EVALUATING IMPORTANCE: WHAT SHOULD WE MEASURE?

Themes for Evaluating Archaeological Importance

6.3.1. Despite slight variations in terminology and definitions, the themes that have emerged with the most citations throughout literature review and interviews can be distilled as follows:

- scarcity of surviving examples of a particular type;
- period of time in which a monument, site or artefact was in use;
- contemporary associations with historical people or events;
- contemporary use and meaning of a site or monument for the society that created it;
- location in relation to other sites or monuments;
- extent of preservation;
- potential threats to continued preservation;
- technological properties of a monument and their regional and chronological variations;
- potential of site or monument to contribute to scientific enquiry;
- potential of a monument as a visual, educational and recreational resource;
- previous investigation of the site.

6.3.2. One additional theme emerged from the review and that is the need to determine the relative importance of each criterion and to address the relationships between them. For example, is socio-economic importance of more interest than technological innovation or historical associations? Does the fact that a wreck is particularly well-preserved transcend any archaeological interest it may have or may not have by association to historic events? If some factors are more important than others, then should they be given more weight within the framework?

6.3.3. Each of the factors is discussed below according to their usefulness in evaluating importance, for their applicability to shipwrecks and their contribution to the framework. Each factor has also been categorised as 'integral', those that deal with the vessel itself, 'contextual', those that deal with the vessel in its wider context, or 'modifier', those that may change a shipwreck overall perceived importance of a shipwreck.

Scarcity of surviving examples of a particular type

6.3.4. The literature review and interviews indicate that scarcity is a key factor in decisions concerning what to protect. If a particular site, monument or vessel is the only known example of its type then its scarcity alone is often enough to warrant protection. Consultation revealed that, along with survival, this criterion was the most regularly used and regarded as the most important factor in evaluating importance.

6.3.5. Scarcity may be categorised as a *contextual* factor, in that it depends upon the comparison of an individual shipwreck to other known examples, although it may be more usefully described as a *modifier* to importance. An example of a particular type of vessel may be of high importance for a number of reasons relating to other factors, such as technical interest, function and potential, but if many examples are known then the requirement to protect this particular shipwreck may be less.

6.3.6. However, several practitioners indicated that assessments of scarcity within the maritime resource are problematic due to the limited data that is available. Maritime archaeology is a comparatively new discipline and to date so little has been recorded that almost everything will be attributed a measure of scarcity and, consequently, everything will be important. Thus, Steve Webster, manager of the WA Protection of Wrecks Act team, suggested that scarcity may not be usefully employed as an initial criterion for evaluating the importance of shipwrecks. Maritime Archaeologist EH Jesse Ransley noted how, in practice, assessments are based on personal knowledge and experience of what is and is not scarce, rather than on any substantial body of data.

6.3.7. It may be detrimental, however, to dismiss the utility of scarcity as a criterion simply due to a lack of data. Any framework for evaluating importance needs to be designed with regard to what *should* make a vessel important and not upon the data that may or may not be available. In evaluating a shipwreck it will often be necessary to make professional judgements and any evaluation

of importance will be a subjective decision based upon the evaluator's current knowledge of the resource. Thus, frameworks need to be flexible and open to re-evaluation as new data becomes available.

6.3.8. The review indicated that rarity and/or scarcity is intimately bound up with the concept of representivity, with regard to identifying the best known examples to protect, and that a shipwreck may be rare and/or scarce with regard to more than one feature:

- rarity of type (the technological properties of a shipwreck from a particular period of time);
- rarity of function (the contemporary use and meaning of a shipwreck);
- scarcity of surviving examples (extent of preservation).

6.3.9. Thus, in conjunction with other factors rarity of type and/or scarcity of surviving examples can be a useful criterion with regard to selecting a representative sample for protection. Through the ship biography it is possible to assess the rarity of a shipwreck with regard to individual features within each phase of the vessels life. This facilitates the identification of any aspect of the vessel or its remains which may be considered rare or scarce.

Period of time in which a monument, site or artefact was in use

6.3.10. Age is frequently employed as an indicator of what is or is not deemed 'historic' in legislation and policy, often being used in isolation to define the cultural heritage. In the Republic of Ireland, for example, all wrecks over one hundred years old are protected by law (Department of Arts, Heritage, Gaeltacht and the Islands 1999: 45). Similarly, the UNESCO *Convention on the Protection of the Underwater Cultural Heritage* (UNESCO 2001) also defines underwater cultural heritage as remains on the seabed over hundred years old.

6.3.11. These approaches have often been criticised. The UNESCO definition, for example, has been criticised as being unnecessarily broad and for failing to include any criteria for archaeological or historical significance (Boestan 2000; Stemm 2001).

6.3.12. In the UK the vast majority of known shipwrecks date to the 18th –20th centuries corresponding to the introduction of more systematic and centralised documentation of shipping losses by the government and organisations such as Lloyds of London. Prior to this date comparatively little data is available for shipwrecks. Together with the assumption that older vessels will be rarer, as they are less likely to survive, many models attribute extra weighting to older vessels in evaluating importance (as such, age may also be considered a *modifier* to importance). For example, the selection criteria for the National Register of Historic Ships attribute a score from one to five to ships according to their date of build:

Date of Build	Score
1945 – 1896	1
1895 – 1845	2
1844 – 1795	3
1794 – 1745	4
1744 –	5

6.3.13. If weighting according to age is to be usefully employed then the weighting needs to be flexible and open to re-evaluation as ideas about what is important change. For example, when provisions for Listed Buildings were developed during the Second World War the Ministry of Public Buildings and Works restricted listing to buildings built before 1840 (Smith 2000). During the 1960s, growing realisation of the value of nineteenth century architecture saw the cut off date moved to 1939. Subsequently, the Department of the Environment issued a Statutory Instrument to introduce the 'Thirty Year Rule', allowing for any building begun more than thirty years ago to be considered for listing in 1987. The 'Ten Year Rule' was introduced at the same time to allow buildings begun more than ten years ago to be considered for listing if they satisfied two conditions:

- that it is threatened with alteration or demolition;
- that it qualifies for inclusion on the list as an 'outstanding example' at either grade II* or grade I.

6.3.14. A further problem with weighting in favour of older vessels is that attention may be drawn away from highly important vessels of a more recent date. If a guiding principle is the need to preserve a representative sample then disregarding wrecks over a certain age or assigning lower importance to more recent vessels may have far reaching implications for the resource passed on to the next generation. The last surviving example of a particular boat type is no less important because it is only 50 years old. Using age is likely to mask other aspects of importance and may result in important ships being destroyed unnecessarily. As HS (2004) argue:

> *no period of Scotland's past and no part of Scotland's land is inherently more or less likely to produce monuments of 'national importance' than another*

6.3.15. Age may, however, act as a useful indication of rarity and representivity. The age range of dates of build (and/or loss) included in NMR reports, for example, when combined with information about construction techniques, vessel configuration, propulsion and equipment, might be used to assess questions of representivity in relation to developmental and optimal forms. Thus, while it is disadvantageous to include age within a framework for evaluating importance, the period in which each particular shipwreck is built, used and lost is an integral part of identifying rarity and representivity of the shipwreck.

Contemporary associations with historical people or events

6.3.16. Six of the ten UK models reviewed and four of the six overseas schema for evaluating shipwrecks included contemporary associations with historically significant people, places of events. The interviews and questionnaires suggested, however, that this was not one of the most important criteria but rather an additional factor that might aid a decision as whether to protect as a monument or not. During interview, archaeological consultant Gill Andrews suggested that while this aspect can be useful in presenting a monument to the public it is not a fundamental criteria. Paul Phillip Jeffrey of the EH Heritage Protection Review also noted how associations act as 'hooks' for the public in terms of stories and that while they may indicate one monument to be more important than another without associations, this is not a key criterion.

6.3.17. In the literature review, Kerr (2000) was the only scholar to attribute this criterion more than a passing mention. Kerr separates 'associations' into associations for which evidence survives and associations for which there is no surviving evidence (Kerr 2000: 14). In this latter category he includes events such as Captain Cook's landing on the Kernell peninsula for which there may never have been any physical evidence of the association. These associations, he suggests, in which the accidental or transitory association of the 'Great' with a 'place', does not confer significance. He also provides an indication of how to measure the level of significance and suggests that assessment of the level of significance in associational links requires knowledge of (Kerr 2000: 17):

- the level of importance of the associated event or person to the locality or to the nation;
- the level of intimacy and duration of the association;
- the extent to which evidence of the association survives, either in physical evidence at the place, or as evidence of the impact of the place on persons, literature and events;
- the intactness or evocative quality of the place and its setting relative to the period of the association.

6.3.18. However, a wreck does not become more or less important simply according to the relative importance of a person, place of event with which it may be associated. Such associations can help to place a wreck in context and may highlight certain areas of history to which the wreck is related, and for which the remains may have potential, but they do not in themselves contribute to the archaeological importance of the wreck. For example, *HMS Victory* is not important because 'Nelson slept there', but it is important because it was the flagship of Nelson's fleet and had a role in a major battle and because it is the location at which Nelson was shot and killed.

6.3.19. Thus, while it may be useful to draw attention to any historical associations it may be inappropriate to attribute a level of importance to a shipwreck on this basis. A historical association is a *contextual* factor although it is less important than other criteria for evaluating importance. For the purposes of

this framework associations have been included as an additional and separate section which does not contribute to the overall importance of the shipwreck.

Contemporary use and meaning of a site or monument for the society that created it

6.3.20. This criterion incorporates the use or function of a monument or vessel and the meaning it held within the social, political, military, economic or ritual systems of which it was part. It is linked to the 'associations' criterion in that its function may explicitly or implicitly be associated with documented people, places or events. As outlined above, function is also related to rarity. Rare examples of vessels performing a particular function may be considered of greater importance.

6.3.21. In the early 1990s, when the RCHME was developing controlled terminology to describe maritime craft for the NMR, it was decided to base its primary method of classification around the functions that vessels were performing at time of loss. Using the querying capabilities of the NMR it should be possible to extract all vessels that were performing a particular function at time of loss. The quantity of records returned might be used to assess the rarity and/or scarcity of the functional type of vessel in archaeological record.

6.3.22. However, in many cases the data incorporated within an NMR record is not specific enough to obtain a representative overview. For example, the term 'cargo vessel' is employed to classify a large proportion of vessels for which no detailed information is available.

6.3.23. A further problem with using a functional thesaurus is that the function the vessel was performing at loss may not have been the primary function for which it was designed, or for which it may have the most historic associations. For example, it is known that HMS *Beagle* (famously linked to Charles Darwin's voyages of discovery) ended its life as a customs hulk.

6.3.24. This suggests that while the functional thesaurus may provide an indication of rarity, thorough assessments depend upon a body of knowledge of the resource that will be unavailable in many cases.

6.3.25. Two of the UK models and three of the overseas models utilise rarity as a criterion. However, interviewees suggested that, while rarity may not have been identified as a key factor for evaluating importance, it was still regarded as a useful indicator of the vessel's importance within a wider context. Thus, rarity may be categorised as a *contextual* factor of importance.

6.3.26. The 'history' of a vessel necessarily informs an evaluation of a shipwreck and contributes to importance primarily with regard to the information that may be obtained from the remains. Identifying aspects of the ways in which the vessel was worked, life on board the vessel and its role within contemporary society, for example, indicate particular aspects for which the remains may advance knowledge and understanding. The 'use' category of

the ship biography allows these areas of interest to be identified and evaluated for importance with regard to associated factors such as rarity and/or scarcity, extent of preservation, and potential, and facilitates the identification of any historical associations.

Location in relation to other sites or monuments

6.3.27. The review indicates that to gain a true picture of the importance of a site, monument or shipwreck it is necessary to examine it within its wider context, both with regard to contemporary society, as outlined above, and including its physical location today within a landscape or seascape. Six of the models examined from the UK and three of the overseas models included 'location in relation to other sites and monuments' as a criterion for evaluating importance. The majority of responses to the questionnaires indicated that this factor was regularly employed in evaluating importance and that it was an important criterion. This factor enables shipwrecks to be examined in their wider context and as such may be categorised as a *contextual* criterion.

6.3.28. In *The Power of Place,* EH (2000) noted that people value places and the whole environment, not just individual sites and monuments; thus suggesting that it is anachronistic to remove sites and monuments from their wider context to evaluate them as individual entities. In his response to the project questionnaire Professor Mark Staniforth recognised how archaeological research often requires many similar sites in order to answer research questions and that, as a result, many sites need to be preserved and to be available for research. Moreover, he suggests that systems which assess sites on an individual basis often conclude that a monument is not important whereas if the questions is asked, 'is this group of sites important and why?' that same monument may be considered of high importance as part of a wider landscape.

6.3.29. While it is easy to visualise the sites and monuments of a particular terrestrial landscape it is less easy to conceptualise the totality of an underwater seascape that is hidden from view. Steve Webster stated during interview that, while the 'group value' of a vessel is important, in practice the focus is often on individual sites.

6.3.30. Within the ship biography, shipwrecks can be assessed with regard to their location within a seascape (or landscape) in contexts relating to the build, use, loss, survival and investigation. For example, a vessel surviving in context with its place of build, such as a ship that was hulked and abandoned close to its place of build, may be regarded as having higher importance because of that proximity. Thus, the framework allows an examination of the 'group value' of a shipwreck with regard to the vessels and structures with which it may have been associated at any point during its career.

Extent of preservation

6.3.31. The survival (quantity of remains) or condition (quality of preservation) of shipwreck remains figured highly in the models reviewed for this project.

Along with rarity/scarcity this factor was identified as the most important for evaluating importance and is regularly employed by all practitioners. This factor is related to the potential to contribute to knowledge and understanding, as it is often the case that a better preserved site will contribute more to knowledge than a badly preserved one. It is also related to age and rarity, in that material degradation curves may be slowed by good preservation conditions but ultimately older shipwrecks are less likely to survive as extensively or coherently as more recent wrecks. Gill Andrews, however, described during interview how the relationship between survival and potential is not always clear cut and gave the example of recent excavations at Heathrow Terminal Five where survival was poor but the information that has been retrieved has been of enormous importance.

6.3.32. It was a widely held belief among the early generations of Mediterranean wreck archaeologists that only well preserved 'tumulus' wrecks were worth excavating (Frost 1962; Dumas 1972 quoted in Gibbins 1990: 382). Heavily salvaged or damaged wrecks are often perceived as having less importance than better preserved examples, and wrecks that do not survive in an intact condition are often believed to have lost their status as 'closed finds'. However, survey and distributional analysis has isolated meaningful patterns at even the most dispersed and poorly preserved sites (Gibbins, 1990: 382). Through an analysis of site formation processes it may be possible to reconstruct the earlier relationships between artefacts and thus extract the 'closed find' attributes of a shipwreck.

6.3.33. If it is accepted that a vessel's impact on maritime history is unchanged whether or not a substantial portion of the wreck survives, then survival and condition could be viewed as *modifiers* rather than an integral part of a shipwreck's importance. The ship biography moves the focus away from ships as 'time capsules' and, rather than simply assessing the completeness of the vessel, also examines the quality and range of the surviving material with regard to the information it can reveal.

Potential threats to continued preservation

6.3.34. Maslowski (1996: 37-38) suggests that knowledge concerning the processes and agents which impact archaeological sites and the geomorphological and cultural aspects of site formation will aid in determining the potential integrity of a site. However, while this factor is often at the forefront of heritage protection, the literature review and interviews both indicate that the perceived threats to the resource do not in themselves determine importance. The concept of fragility or vulnerability was dropped by Historic Scotland as inappropriate for considerations of national importance (Historic Scotland 2004) while in the MPP this criteria is regarded as an aspect of management appraisal rather than a factor of importance. As John Schofield stated during interview, the fragility or vulnerability of a site does not influence its importance, but it does influence decisions about how to manage it.

6.3.35. Thus, 'threat to continued preservation' is excluded from the framework developed for this project. The particular factors that are threatening the site

do not make a site, monument or vessel more or less important but simply indicate the need for mitigation to safeguard the resource. With regard to environmental assessments, it is only after a threat i.e. a development impact, has been identified that an evaluation of importance will be required.

Technological properties of a monument and their regional and chronological variations

6.3.36. Collated responses to the questionnaires and from the interviews suggest that the technological properties of a monument were considered by all the practitioners as important or very important and that this factor was applied to evaluations of importance either regularly or at least sometimes. However, with regard to shipwrecks, while most practitioners indicated technology as either important or very important others suggested that this was not the most important factor.

6.3.37. The themes of original design and construction are often used to find a site, monument or vessel's place in a typology. As with function, design and construction are essentially employed in categorising sites and are linked to rarity and representivity. If a vessel demonstrates innovation of design or technology then it is likely to be attributed more importance, particularly if the innovation is then utilised widely by other vessels. Moreover, if the shipwreck can be identified as a first example, or a particular good example of a seminal or optimal form it will be given greater importance in terms of tracing technological development and in representing typologies. As with function, it may also be possible to search by vessel type using the NMR thesaurus with regard to assessing rarity and representivity.

6.3.38. In some models, technological aspects of a vessel have been employed as cut off points for inclusion on a list or register. The National Register of Historic Vessels, for example, only includes ships over 40 tons displacement and/or over 40ft (12.19 metres) in length. Similarly, the register of traditional vessels in Finland stipulates that vessels must be a minimum of 12 metres in length. While this may useful as a criterion for selecting a sample, it does not follow that a vessel under 12 m in length, for example, is less important than a larger vessel.

6.3.39. The technological properties of a shipwreck are also important for what they can contribute to an understanding of the construction of ships or boats in a given period. Moreover, ships are often rebuilt, refitted or adapted many times throughout their service life, and it is important to assess how the technology of a vessel has developed and been altered, as well as its original design. As Gill Andrews suggests, this type of data can reveal much about longevity of technologies, how vessels were valued and the perceptions of shipowners and shipbuilders.

6.3.40. Thus, the technology of a vessel may be categorised as both *integral*, with regard to the technical interest of the design and construction, and as *contextual*, with regard to the vessels place in the development of shipbuilding, its representivity and rarity and its potential to contribute to

knowledge and understanding. Technology is incorporated within the 'build' section of the ship biography. This includes interest arising from the vessel as built, rebuilt, fitted, refitted and so on and includes features of design, construction, materials, technologies, propulsion, fixtures and fittings and armament.

Previous investigation of the site

6.3.41. Consultation indicated that the archaeological and historical documentation associated with a site or monument is regarded as important for evaluating archaeological importance although it was rarely applied in practice. Four of the UK models incorporated assessments of previous investigation of the site although none of the models from outside the UK employed this factor in evaluating importance.

6.3.42. Good historical documentation is often seen as enhancing the importance of a site or monument. Large amounts of documentation, however, has the potential to create biases in favour of 'famous' wrecks over those that are less 'well-known' but comparable in other ways (period, function, etc). The availability of documentation may create scenarios where the products of large shipyards consistently appear to have more 'importance' than the UK's wealth of vernacular craft forms.

6.3.43. If a good archaeological record of a site exists then the wreck may also be regarded as having less importance. If no records of a shipwreck exist then the remains may be regarded as highly important. As soon as a record is compiled the conservation of the remains becomes less crucial. Although preservation by record should not seen as a substitute for preservation of remains, this factor may need to be considered when justifying mitigation costs to developers, for example. Thus, it may be more appropriate to consider good documentation as decreasing the importance of remains on the seabed rather than enhancing the importance by adding to the history of the vessel.

6.3.44. Previous investigation of a site may also become part of the 'history' of the site and thus have relevance for evaluations of importance, particularly with regard to landmark excavations or key practitioners. For example, shipwrecks associated with Keith Muckelroy, a pioneer in the development of the discipline of maritime archaeology, may have added value through association with the part they played in developing early approaches to the investigation of site formation processes. There are also wrecks which have prompted significant developments with regard to legislative and management frameworks, such as the impact upon the site of the Dutch East Indiamen, the *Amsterdam,* which prompted the introduction of the Protection of Wrecks Act in 1973.

6.3.45. Previous investigation may be categorised as *integral* with regard to the archive associated with a particular shipwreck, and as *contextual* with regard the place of the shipwreck in the development of the discipline. These

features are incorporated within the 'investigation' section of the ship biography.

Potential of site or monument to contribute to scientific enquiry

6.3.46. All but three of the models reviewed during the project included archaeological, historical or scientific potential as a key criterion for evaluating the importance of a site. As identified above, 'the information that can be obtained in regard to archaeological, historical and scientific knowledge' was also one of the key reasons for which we value the heritage resource.

6.3.47. Ultimately, the practice of archaeology is about adding to knowledge of the past and the information that a site has contributed, is contributing or may contribute in the future is of key importance. As Andrews et al (2000: 527) identify, archaeological material:

> *…only becomes a cultural resource insofar as it has the potential, through survey, excavation and analysis, to extend our understanding of human history*

6.3.48. Kerr (2000: 12) defines potential as the 'ability to demonstrate'. Hence, 'potential' incorporates aspects of design, including function, technology and process, plus evidence of use and misuse. The author further argues that in considering 'ability to demonstrate', the assessor is concerned with 'establishing how early, seminal, intact, representative, rare or climatic an example is' (Kerr 2000: 16). As a consequence, 'potential' is intimately bound up with each of the other factors employed in evaluating importance.

6.3.49. Survival, rarity and representivity, associations, function, technology and the place of a site within the social, economic or political systems in which it operated and within the landscape are all *modifiers* to the potential of a shipwreck. A shipwreck may have potential to contribute to both knowledge and understanding of *integral* features of the vessel and site and *contextual* features of the society in which it was built used and lost, the region in which it survives and the future development of the discipline. Potential is included within the investigation category of the ship biography.

Potential of a monument as a visual, educational and recreational resource

6.3.50. The potential of a monument as a visual, educational and recreational resource is considered in all of the models examined from outside the UK and in six of those from the UK. However, the consultation process indicated that, as with threat, this is more a concern for management decisions than an aspect of archaeological importance. The popularity of a site with tourists, for example, or the value of a monument as a teaching aid do not make a site or monument more or less archaeologically important, although their use as such contributes to decisions on how to manage them.

6.3.51. In many cases models focused specifically upon the issue of 'cultural importance' as discussed earlier in this report. To date this is a factor which

has not really been considered with heritage frameworks in the UK. Amenity value, in terms of 'the potential of a monuments as a visual, educational and recreational resource within the landscape/townscape' was introduced as a factor as part of the MPP but in practice the 'cultural importance' of sites and monuments has not been explicitly employed in assessing national importance. Following the Heritage Protection Review, however, heritage management in the UK is moving away from a purely archaeological *raison d'être* towards a more culturally based view of heritage:

6.3.52. It is important to recognise that some features that are not of great archaeological or historical significance are nevertheless important contributors to local identity and character (Johns et al 2004: 1906). A respondent to the HS consultation wrote:

> *We consider it important to reflect the fact that while some monuments may not be significant in physical terms, their cultural significance to the local community, is an equally strong justification for their protection for present and future generations* (Historic Scotland 2004)

6.3.53. As argued above, however, archaeologists are best placed to evaluate the archaeological or scientific potential of its site and as such, the significance of archaeological sites must be judged on these grounds. This does not mean that other types of value, including amenity value and cultural value, should not be considered but rather that such considerations should be taken into account at the management stage.

Dimensions of Interest

6.3.54. Nearly all the models examined during the literature review were designed to reveal 'national' or 'international' importance to justify designation, statutory protection or inclusion on a national list. However, models that focus on national importance often fail to consider the importance of an individual or group of sites to other nations, regions or groups.

6.3.55. For example, Professor Mark Staniforth suggested that sites of low significance at a national level in the UK may often be of considerable importance to another country, 'the country of build, the country of "origin" or the country of destination, for example'. Shipwrecks are often multi-cultural in their nature and may often be relevant to the history of more than one society:

> *If a vessel was built with wood from the south-eastern Baltic coast in Poland in the 13th century and it carried artefacts from Ireland, Wales, Norway, Scania, Lübeck and Greifswald before it sunk in German territorial waters, this discovery is of high historical significance to all these countries* (MoSS 2004: 3)

6.3.56. A 2003 memorandum by the Joint Nautical Archaeology Policy Committee (JNAPC) recommends recognising the overall international importance of Britain's underwater cultural heritage as a maritime nation with a history of world-wide influence, and of its significance for people's history and cultural

identity. This is different to the concept of 'international importance' as a measure of significance. Rather, the identification of groups outside the 'national' sphere of interest assists in a fuller assessment of a vessel's relevance, and hence importance.

6.3.57. Thus, to fully evaluate a site or monument it is necessary to consider its relevance within spheres of interest other than its national importance. A regional approach as a research framework is becoming increasingly popular in published literature. For example, Schelberg (1996: 20) suggests that archaeological site significance is most usefully determined by:

- assessing the data requirements of the surrounding region;
- exploring and expanding the data potential of that region.

6.3.58. He notes that when little is known about the resource then everything will be significant. Thus, non-significance or redundancy cannot be realistically discussed or understood until a problem (a research strategy) has been defined and a reliable body of data for use in evaluative processes exists.

6.3.59. Historic Scotland (2004) recognise that the existence of a strong regionality is reflected in many aspects of the archaeological and built heritage, such as the regionally restricted designs of many prehistoric monuments and medieval buildings. The concept of 'national' prehistories or histories is rejected in favour of an aggregation of related prehistories and histories of different regions, which may have wider national or international links. It is suggested that through these linked regional histories and prehistories the history of Scotland and the UK can be understood.

6.3.60. Examining sites within a local or regional context also has implications for making management socially inclusive. In *Review of Heritage Protection: The Way Forward* consultation indicated that local as well as national importance should be reflected and that account should be taken of:

> *the local and regional context of an asset, its significance, its relationship with a site, its local relevance and value* (DCMS 2004a: 41).

6.3.61. It was felt that bringing a local and regional dimension into management strategies would facilitate the engagement of communities with heritage and reflect a more inclusive approach to the past. If local, regional and national levels of importance are defined, questions are brought to the surface such as how nationally important places are viewed in the local context and why everything of national importance is generally accepted as also having local importance but not vice versa (Mathers et al 2005: 8).

6.3.62. Maslowski (1996: 37) suggests that because of their nature and abundance, evaluating sites of local significance is often more difficult than evaluating sites of regional significance and it is much easier to justify mitigation that involve sites of regional or national significance.

6.3.63. James Semple Kerr, author of *The Conservation Plan, 2000* for the National Trust in Australia, warns against the use of terms such as local, regional or national as ways of expressing significance as they lead to 'administrative muddle' and a loss of integrity in the registering process (Kerr 2000: 20):

> *In assessing levels of significance it is better to avoid the terms local, regional, state and national altogether as they now come loaded with meanings irrelevant to the assessment process.*

6.3.64. Kerr believes that the 'current fashion' for using such terms equates to government agencies reasoning that places of local significance must be administered at a local level and so on. He suggests that as government policies and political conveniences change, places will be moved from one administrative level to another and back again.

6.3.65. The consultation carried out by Historic Scotland also revealed concerns that in dealing with 'national' designations, engaging at a local level may mean that local pressure could potentially schedule monuments with 'ephemeral associations' (Historic Scotland 2004). HS agreed that prioritising local views on a monument over the national interest undermines the purpose of scheduling in the 'national' interest. However, if options other than designation are regularly considered as part of heritage management, and designation is not seen as the only option by which to protect a site, 'local-pressure' does not need to undermine 'national interest'. Rather the management of sites with 'local' importance can become inclusive and utilise local interest to develop appropriate strategies. Sites with 'ephemeral associations' can be appropriately protected within and by the local community.

6.3.66. Thus, the literature review has indicated several benefits of examining the importance of shipwrecks in local, regional and international contexts as well as identifying national 'importance'. However, a distinction needs to be made, between local, regional, national and international 'importance' and the importance of a site, monument or vessel within local, regional, national and international spheres of interest or 'dimensions'. The aim should not be to use these terms as a *measure* of importance, but rather to indicate to whom they are important and the realm within which appropriate management strategies should be formulated.

6.3.67. Within this framework, provision was made to identify the dimension of interest for each category, build, use, loss, survival and investigation; this provides an opportunity to indicate a local, regional, national or international context of interest and will facilitate the identification of the dimension in which a vessel may be considered important. A vessel built at a particular shipyard, for example, or used within a specific environment may have higher importance for interpreting the history of a locality or region but have little potential for contributing to national or international knowledge or understanding.

6.3.68. More than one dimension may be applicable to an individual vessel. The designated wreck *Amsterdam*, for example, has:

- international interest as a ship involved in international trade networks;
- national interest in the Netherlands as a ship belonging to the Dutch East India Company;
- local interest to the town of Hastings as a landmark and mnemonic for local legends and stories concerning the loss.

6.4. EVALUATING IMPORTANCE: HOW SHOULD WE MEASURE?

6.4.1. One of the most contentious issues identified during the review is that of scoring. During consultation, practitioners were asked to identify the key benefits and key drawbacks of scoring. The responses suggest that the main benefit of scoring is providing clarity to evaluations of importance and facilitating comparison between sites. The main drawbacks included the lack of flexibility allowed by scoring systems, and the fact that scores are easily misinterpreted as they are attributed a false notion of objectivity.

6.4.2. Of all the models examined during the review only three regularly employed scoring systems in evaluating importance:

- The Monuments Protection Programme
- The National Register of Historic Ships
- and the register of traditional ships from Finland

6.4.3. More than one practitioner indicated that there are no benefits to scoring systems.

6.4.4. Darvill (1988: 13) argued that scoring has the effect of focusing attention on the variables that determine importance, which in turn leads to a better understanding of how and why sites should be preserved. The scoring system devised for the MPP was not intended in itself to define thresholds of importance. Rather, ranking of the monuments using a scoring system was intended to enable professional judgements to be made in a consistent way. Ranking through scoring was expected to bring together groups of monuments of comparable importance and not to establish hierarchical relationships.

6.4.5. However, the literature review and consultation indicate that the drawbacks of quantitative, numerical scoring systems far outweigh the benefits. During interview John Schofield, formerly of the MPP, indicated that at the time MPP was developed the scoring system facilitated a rapid overview of the sites recorded in the Sites and Monuments Records but that in practice, scores are now rarely applied. John Paton, secretary of the NHSC indicated that the application of scores to historic ships was extremely useful in setting up the National Register of Historic Vessels. However, the scores have frequently been misunderstood and have led to competition from boat owners who see the score as an absolute measurement of their boats importance rather than a tool for management.

6.4.6. EH recognised a 'widespread naivety' about the use of scoring systems and suggested that the need to use such systems as part of a 'system-aided' professional judgement is often forgotten:

> *Too much reliance on raw evaluation scores in isolation can be very misleading, and they are more useful as a framework within which to exercise professional judgement* (English Heritage 1996: 3).

6.4.7. Startin (1993: 185) suggests that archaeological remains cannot be given absolute values and there is no absolute scale of value that can be applied to archaeological sites:

> *…it is important to avoid the intellectually and philosophically redundant exercise of quoting total scores* (Startin 1993: 194).

6.4.8. Value is thus described in comparative terms. Startin (1993: 192) states how experience suggests division into three groups

- clearly nationally important;
- clearly not nationally important;
- around the threshold.

6.4.9. Rather than employing criteria as a means by which to devise a score to identify importance, the majority of the models reviewed offer a set of criteria that any site, monument or vessel must meet to be regarded as important. The literature review carried out by Briuer and Mathers (1996: 13), however, suggested that levels of significance may be better than a simple yes or no. For example, Kerr (2000: 19) refers to a ladder of significance with exceptional significance on the top rung, considerable significance on the second, some significance on the third and little significance on the bottom.

6.4.10. During interview, Paul Jeffery of EH Heritage Protection Review suggested that on a site to site basis a simple high, medium or low evaluation is more useful for allowing comparison between sites and to enable managers to prioritise resources. For the purposes of this framework it was decided that a similar approach may be the most beneficial option for evaluating the importance of shipwrecks.

6.4.11. As part of the On the Importance of Shipwrecks framework, a relative, and necessarily subjective, judgement on the scale of importance in terms of higher, median, or lower is required with regard to assessing each of the factors under each of the categories of the ship biography, build, use, loss, survival and investigation. This simple tripartite scale has been chosen to minimise the potential for variable judgements. In addition, the terminology, high, moderate or low, is regularly employed in Environmental Assessments with regard to assessing impact and the significance of effects and is thus easily comprehensible to developers.

6.4.12. In addition to the high, moderate or low scale there is also an option for 'unknown'. Where there is insufficient data to fully address any factor with confidence then the 'unknown' option should be indicated. The intention is to discourage ill-informed judgements and to enable clear identification of any aspects of the ship's history for which data is lacking. A N/A option is also included for circumstances where sufficient data is available but a factor has no relevance to the vessel being evaluated.

6.4.13. Wherever possible the judgement should be made by an informed practitioner and be based upon the best available data. As Kerr (2000: 16) points out:

> *The quality of the assessment will depend on the assessor's contextual and comparative knowledge of the subject and period*

6.4.14. Kerr (2000: 17) suggests that assessors should be chosen with regard to the relevance of their actual range of skills, experience and contextual knowledge. In practice, no one assessor is likely to have an overarching knowledge of the shipwreck resource and the history and archaeology of boat and shipbuilding, the use of watercraft and the history of maritime archaeology. Moreover, as previously outlined, for many shipwrecks very little will have been recorded, hence the data for making evaluations will be unavailable. It is crucial therefore that frameworks for evaluating importance are flexible enough to enable re-evaluation as new data becomes available and re-interpretations are made.

6.4.15. As a consequence, the database containing the On the Importance of Shipwrecks framework developed for this project includes an audit trail showing the data used for evaluation, the personnel responsible for the evaluation and the reasoning behind judgements on the scale of importance. As such, judgements can be reviewed where necessary and can be updated as appropriate.

6.5. EVALUATING IMPORTANCE: HOW SHOULD WE PRESENT THE RESULTS?

6.5.1. As part of the Heritage Protection Review the idea of 'statements of significance' was introduced in *Protecting our Historic Environment* (DCMS 2003b: 13). Consultation demonstrated that 92% of respondents to questions about 'statements of significance' were in favour although they should be more appropriately regarded as 'assessments of importance', statements of reasons to list or not list (DCMS 2004a: 42). The report on the consultation generally agreed that such statements would:

- give a transparent and rational explanation for decisions and bring much needed openness and clarity to the process;
- enable understanding of importance and wider context by asset owners (for instance it would be helpful in a "sellers pack" or owner's logbook and should be written in layman's language);

- make public aware of the value and significance of what was in their community (it should include all local knowledge available) so they felt ownership;

- provide an understanding of character, which would be essential to inform decision-making for future management of the asset and provide a user-friendly basis for effective discussions between owners, and local authorities who would feel more included in the process;

- remove much uncertainty from the system and therefore sustain confidence. It would add clarity, integrity and quality control to the process.

6.5.2.   After consultation, therefore, it was concluded that to avoid confusion the term 'summary of importance' should be used instead of 'statement of significance', normally used in the context of drawing up conservation and management plans.

6.5.3.   In *The significance of Cutty Sark* (2003) the Cutty Sark Trust present an assessment of the significance of the vessel based on the NHSC criteria and HLF guidelines. They identify 17 different ways in which the *Cutty Sark* may be regarded as significant:

Historical Use
Merchant ship
Clipper
Tea Clipper
Wool Clipper
Portuguese trader
Training ship at Falmouth
Training ship at Greenhithe
Multi-cultural workplace
Scottish built
Present Use
Aesthetic Qualities
Educational experience
Greenwich landmark
London landmark
International 'icon'
Memorial to the Merchant Navy
Structure
Composite construction vessel
Sailing ship

6.5.4.   These factors were scored to identify the most significant, and used to form a Statement of Significance:

> *Cutty Sark* is of significance because:
>
> - She is the world's sole surviving clipper, a type of vessel that was the highest development of the fast commercial sailing ship, with the majority of her hull fabric surviving from her original construction.
>
> - She is internationally appreciated for her beauty and is one of the most famous ships in the world.
>
> - Her fine lines – a considerable part of her appeal – are defined by her frames which form part of the vessel's composite construction, a construction technique of which she is the best surviving example and of which she is of exceptional quality.
>
> - She is a popular visitor and educational attraction both nationally and internationally.
>
> - She is a gateway to the World Heritage Site at Greenwich and is a key asset to both the World Heritage Site and the Borough of Greenwich.
>
> - As a tea clipper, she was a participant in a significant chapter in 19th century trade and cultural life.

6.5.5. *Protecting our Historic Environment* (DCMS 2003b: 13) states:

- a summary of importance should be short, accessible and jargon-free. It should enable the user of the document (owner, local authority official and developer) to understand what the protected item is (building or site type), its physical and cultural context and significance. It would justify the inclusion of the item on the Register;
- a summary of importance would also provide the caveat that it and the description to which it was attached did not form a complete record and would be unlikely to provide a sufficient basis in itself for future changes and intervention.

6.5.6. A number of things followed on from this:

- the summary of importance would need to be made clear that the designation document simply flagged the item's special interest and importance and was the first step in a process that would manage its future;
- that further down the line a full statement of significance might need to be drawn up which probed the item's importance more fully; took other specialist and non-specialist – including community – values into account; and assesses the item's fragility or robustness: i.e. the vulnerability of its significant elements to change;

- that guidance as to next steps should be available to owners and local planning authorities.

6.5.7. The final product of the On the Importance of Shipwrecks framework, therefore, will be a statement of importance formulated to identify the key aspects, (i.e. those judged as being of high or moderate) which make a particular vessel important. The proposed format for the statement is:

- **Summary History**: a summary of known history and archaeological context of the vessel
- **Summary Statement**: a summary of why the ship is important, the degree of importance and the dimension.
- **Importance**: a summary of the key aspects and the degree of importance of the vessel for each of the categories in the framework:
  - Build
  - Use
  - Loss
  - Survival
  - Investigation

6.5.8. Although the completed On the Importance of Shipwrecks framework questionnaire for each vessel assessed will be available for re-evaluation, it is only the statement of importance that will be relevant to developers as part of an EIA. In addition, where a large number of vessels may need to be presented as part of a report, it may be appropriate to produce a gazetteer of vessels and their importance. This may include the name and any UIDs, a short summary of the wreck and the judgements of importance from the evaluation.

Name	UID	Summary	Build	Use	Loss	Survival	Investigation	Importance
Amsterdam	NMR 1082114; UKHO 20591	1749, Remains of a Dutch East Indiaman wrecked during her maiden voyage after the crew mutinied during a severe storm and beached the vessel at Bulverhythe	Moderate	Moderate	High	High	Moderate	**High**
Royal Anne Galley	NMR 1082128; UKHO 22725	1721, Remains of a 5th rate oared galley, the last oared fighting ship built for the Royal Navy, wrecked on Stag Rocks while carrying Lord Belhaven, the new governor of Barbados, to the West Indies	High	Insufficient data	High	Moderate	Moderate	**High**

Table 3: Example of a project gazetteer

6.6. DRAFT FRAMEWORK

6.6.1. The previous sections have given an indication of which factors are most useful for evaluating the importance of shipwrecks. They have also revealed how these factors are interrelated and how this influences the evaluation

process with regard to the ship biography. The next task for the project was to develop a matrix which would help structure the framework and the sequence in which the information available for each wreck would be interrogated to arrive at a summary of importance.

6.6.2.   **Table 4** below indicates how each of the usable themes identified during the literature review were first summarised.

Theme	Summary Title
Scarcity of surviving examples	Rarity of type (age/period) Scarcity in archaeological record
Period of time in which a monument, site or artefact was in use;	Representivity (age/period)
Contemporary associations with historical people or events	Historical associations
Contemporary use and meaning of a site or monument for the society that created it	Dimension of interest Cultural Landscape
Location in relation to other sites or monuments	Group value
Extent of preservation	Survival (quantity) Condition (quality)
Potential threats to continued preservation	(Not included in framework)
Technological properties of a monument and their regional and chronological variations;	Technology Function
Potential of site or monument as a visual, educational and recreational resource;	Potential
Previous investigation of the site.	Documentation Archaeological Associations

Table 4: Summarising the criteria into themes

6.6.3.   **Table 5** shows how the themes were then incorporated into a framework comprising the ship biography, and integral and contextual categories. As consultation had suggested that historical associations were not one of the most important criteria but rather an additional factor, this was separated into an additional category. Furthermore, as the literature review had indicated the several benefits of examining the importance of shipwrecks in local, regional and international 'dimensions of interest', a 'dimension' category was also included in the framework.

	Integral	Contextual	Associations	Dimension
Build	Technology	Representivity (age/period) Cultural landscape Rarity of type (age/period) Scarcity in archaeological record Group value	Historical associations	Dimension of interest
Use	Function	Cultural landscape Rarity of type (age/period) Scarcity in archaeological record Group value	Historical associations	Dimension of interest
Loss	Function	Cultural landscape Group value	Historical associations	Dimension of interest
Survival	Survival Condition	Cultural landscape Group value		Dimension of interest
Investigation	Documentation	Potential	Historical and archaeological associations	Dimension of interest

Table 5: The incorporation of criteria themes within the draft framework

6.6.4. A series of questions relating was then generated for each cell of the framework, with the aim of prompting the user to consider the full range of possible areas of interest that may be associated with a shipwreck.

6.6.5. For each question a judgement of scale is required, either high, medium, low, unknown or N/A, For each category the user is also prompted to note any significant associations that the vessel may have with historic people, places or events. This question is not attributed a scale. Finally, an indication of 'dimension' is also requested for each category, either local, regional, national or international.

6.6.6. The framework is presented as a form to be filled out by the user. The questions are divided according to category and subdivided according to integral, contextual, associations and dimension. For each question space was provided to enter a text answer and tickboxes were employed to indicate the 'scale' of importance for each question. There is an additional yes/no tickbox to indicate whether or not the answer to each question contributes to the vessel's importance. This helps the user to identify the particular aspects which contribute to the importance of the vessel and which will be carried forward in the statement of importance.

6.6.7. A copy of the draft framework is included in **Appendix V**.

7. APPLYING THE FRAMEWORK

7.1. INTRODUCTION

7.1.1. The next phase of the project involved trialing the framework on a number of shipwrecks to evaluate its practical application. Information was obtained from existing datasets compiled for completed WA projects including:

- recent DBAs and EIAs including areas off Yarmouth and in the Eastern English Channel;

- wrecks assessed as part of the ALSF funded Wrecks on the Seabed project;
- maritime records within England's Historic Seascapes Pilot Area in Liverpool Bay.

7.1.2. The framework was also tested on 42 sites designated under the Protection of Wrecks Act 1973 in England's territorial waters.

7.1.3. UKHO and NMR data was obtained for each of the shipwrecks and was entered into a Microsoft Access database. UKHO data was primarily obtained digitally through SeaZone although MS Word documents of the records for the Designated Wrecks had to be obtained directly from the UKHO and manually entered into the database. PDF files of the NMR records were used to strip out the necessary data for input into the database. Records from the UKHO and NMR were matched where possible using co-ordinates.

7.1.4. To facilitate the trial process, a copy of the framework was also incorporated into the database. An interface was designed to bring together the shipwreck data, the framework and the results of the evaluation, summary histories and the statement of importance and thus assist the user with the evaluation process. The database also includes a facility for recording further documentary evidence consulted during the evaluation process.

7.1.5. Using the UKHO and NMR data, published works and data from the Internet, summary histories were compiled for each of the shipwrecks. Viewed in isolation, most individual UKHO and NMR records hold insufficient data by which to evaluate importance, so it was decided that only the wrecks where UKHO and NMR data could be correlated would be employed in the trial process. Using the summary histories, each shipwreck was then assessed using the framework. An attempt to generate an overall scale of importance for each vessel was made using the number of highs/lows/mediums/unknowns/insufficient data each wreck achieved as a guide.

7.2. YARMOUTH AGGREGATE DREDGING AREA 401/2 A AND B

7.2.1. Five UKHO records and eight NMR records were obtained from the Yarmouth study area. Four of these were matched and trialed using the importance of shipwrecks framework:

UKHO ID	NMR ID	Site name	Summary
11007	912944	SCOTIA	Remains of Swedish steamship, 1942
11023	912971	HMS PELTON	Remains of British trawler, 1940
11016	880002	UNKNOWN	Wreck of destroyer, condition unknown
11022	880006	UNKNOWN	Wreckage, possibly part of nearby wreck (HMS Pelton)

7.2.2. All four losses are likely to be wartime losses. For example, *HMS Pelton* was an armed trawler and possibly used for a variety of convoy, mine clearance

and reconnaissance duties. The unknown destroyer is possibly *HMS Exmoor*, a Hunt Class Type 1 escort destroyer. Both were sunk by German Schnellboats (E boats) during World War II.

7.2.3.   For each vessel, there was insufficient data on the actual physical remains on the seabed to assign a level of overall importance. Although in aspects of the ship biography, factors of high and moderate importance were identified to help form the summary statements.

7.3.   EASTERN ENGLISH CHANNELS AREAS 473, 474 AND 475

7.3.1.   45 UKHO records and 90 NMR records were obtained from the Eastern English Channel study area. Only two of these vessels could be matched from the two sources:

UKHO ID	NMR ID	Site name	Summary
20317	903587	BERNICA	Scottish cargo vessel, 1916
20332	903410	SEAFORD	English ferry, 1895

7.3.2.   As with the Yarmouth studies, for both vessels, there was insufficient data with regard to the current state of the physical remains on the seabed to assign a level of overall importance. However, possible archaeological interest was noted in aspects of the ship biographies for the two vessels. For example, William Denny & Bros Ltd, the builder of the *Seaford*, was the leading supplier of cross-channel steamers from the end of the 19th century until the company stopped production in 1963. There were several competing railway companies operating across the channel to France and the Channel Islands, and all used Denny-built steamers. It seems likely that the *Seaford* (built in 1894) may have been one of the hull designs tested for speed and performance during the early years of Denny's world-famous testing tank. The tank, completed in 1883, was the first privately-owned hull testing facility and gave the company a significant advantage over its ship-building rivals.

7.4.   ALSF ENGLAND'S HISTORIC SEASCAPES PILOT AREA A – LIVERPOOL BAY

7.4.1.   368 NMR records and 319 UKHO records were obtained from the Historic Seascapes pilot area in Liverpool Bay. The data set included a cross section of vessel types and uses, primarily consisting of 19th and 20th century steamers, tugs and Mersey 'flats' operating from or to the port of Liverpool.

7.4.2.   275 of these were matched and 180 were evaluated for their importance. Two sites were considered of moderate importance and one of high importance. 177 wrecks had insufficient or no recent survey information (e.g. most often only a report of what was done at the time of loss to disperse the wreck). Hence it was very difficult to evaluate the sites and assign an overall scale of importance focussing on the actual remains on the seabed. It was noted that the Mersey Docks and Harbour Board were particularly active in quickly dispersing wrecks (often by explosives). This factor may have a

broader implication for site formation processes within Liverpool Bay as a whole.

7.5. ALSF WRECKS ON THE SEABED

7.5.1. The wrecks selected for study during the ALSF funded Wrecks of the Seabed project carried out by WA were chosen from UKHO and NMR records and dive guides from Sussex and Hampshire. For twelve of the wrecks from this project (primarily where both NMR and UKHO data was available) were thus trialled with the Importance of Shipwrecks framework:

WA ID	UKHO ID	NMR ID	Site Name	Summary
5003	20518	911523	UNKNOWN	Unidentified metal shipwreck, mostly buried
5004	20064	911210	CONCHA	Steamer
5005	20549	911536	THE GUN WRECK	Torpedoed in 1918 and mostly buried
5006	20515	911939	SS DEVON COAST	Steamer
5007	20563	911546	UNKNOWN	Steamer, few discernible features apart from ship's boiler.
5009	20446	911492	SS TALIS	Steamer
5012	20178	911224	SHOAL OF LEAD	Lead ingots found in area of multiple shipwreck reports
5013	20067		UKNOWN	Wooden sailing barge
5014	20487	911512	THOMAS LAWRENCE	General cargo vessel lost in 1862
5017	19149	805615	ROYAL GEORGE	1st Rate ship of the line
5019	20473	911918	RIO PARANA	Cargo vessel torpedoed in 1915.
5020	20180	911248	UNKNOWN	Iron vessel (WA determined to be remains of pipeline after diver survey)
	19134	767405	UNKNOWN	Wooden barge
	19079	767342	UNKNOWN	Wreck

7.5.2. Three sites were considered of low-moderate importance, one of moderate importance and one of high importance. The remainder were determined to have insufficient data to make an overall determination of importance. It is noted that the ALSF Wrecks on the Seabed fieldwork programme is continuing, and it is likely that some of these evaluations can be revisited.

7.6. WRECKS DESIGNATED UNDER THE PROTECTION OF WRECKS ACT 1973

7.6.1. There are 42 designated shipwrecks in English waters:

UKHO ID	NMR ID	Site name	Summary
20248	911782	HMSM A1	Remains of British submarine, 1911
19505	1082099	YARMOUTH ROADS	Possibly the remains of the Santa Lucia
19515	1082101	STUDLAND BAY	Merchant trader from Spain, possibly 16th century.
22643	1082103	RILL COVE	Probable Spanish cargo vessel
20195	1082104	BRIGHTON MARINA	Probably a 16th century vessel

19055	1082105	HMS ASSURANCE	Remains of 1753 wreck of British 5th Rate ship of the line
19057	1082106	HMS POMONE	Remains of 1811 wreck of British frigate
20224	1082107	HMS HAZARDOUS	Remains of British 4th Rate ship of the line, 1706
17300	1082108	SCHIEDAM	Remains of a former Dutch East India fluit in naval service, 1684
18068	1082109	MOOR SAND	Assemblage of Bronze Age weapons
12349	1082110	IONA II	Remains of an American paddle steamer, 1864
19370	1082111	HMS INVINCIBLE	Remains of 1758 wreck of British third rate ship of the line
12353	1082112	GULL ROCK	Assemblage of cannon and stone shot
18417	1082113	ERME INGOT	Scatter of tin ingots found in 1992
20591	1082114	AMSTERDAM	Dutch East Indiaman, 1749
14745	1082115	HMS STIRLING CASTLE (PROBABLY)	English 3rd Rate ship of the line, 1703
14748	1082116	HMS RESTORATION (POSSIBLY)	English 3rd Rate ship of the line, 1703
14756	1082118	HMS NORTHUMBERLAND (PROBABLY)	English 3rd Rate ship of the line, 1703
13642	1082119	LANGDON BAY	Bronze Age wreck and finds
20613	1082120	HMS ANNE	British 3rd Rate ship of the line, 1690
19319	1082121	GRACE DIEU	English warship, 1439
14868	1082122	ADMIRAL GARDNER	Remains of English East Indiaman, 1809
21815	1082123	TEARING LEDGE	British 3rd Rate Ship of the Line, possibly the Eagle, 1707
18302	1082124	CHURCH ROCKS	Remains of a possible 17th century vessel
17703	1082125	CATTEWATER	Cargo vessel, 1500s
21907	1082126	BARTHOLEMEW LEDGES	Mid 16th to early 17th century armed cargo vessel of Iberian origin
17299	1082127	ST ANTHONY	Portuguese carrack, 1527
22725	1082128	ROYAL ANNE	Remains of British warship, 1721
17646	1082129	CORONATION (OFFSHORE)	British 2nd rate ship of the line, 1691
17912	1082130	CORONATION (INSHORE)	British 2nd rate ship of the line, 1691
18404	1082131	ERME ESTUARY	Cannon Assemblage
16452	1121918	HANOVER	English packet, 1763
10848	1121935	DUNWICH BANK	Possible warship
58964	1121972	SALCOMBE CANNON SITE	Possible mid 17th century wreck site.
19160	1121974	MARY ROSE	English Warship, 1545
58965	1181945	LOE BAR	Possibly the President, English East Indiaman, 1683
58963	1312495	SEATON CAREW	Remains of English collier brig of 18th century date
21858	1343769	HMS COLOSSUS	British 3rd rate ship of the line HMS, 1798
14135	1359455	SOUTH EDINBURGH CHANNEL	Swedish cargo vessel, 1700 – 1800
6429	1366264	BONHOMME RICHARD	1779 wreck of American privateer
65423	1397999	HMS HOLLAND V	British submarine, 1912
65434	1408546	SWASH CHANNEL WRECK	17th century wreck

7.6.2. Of the sites evaluated, fifteen were given an overall assessment of high, two an assessment of moderate-high, six an assessment of low-moderate and eighteen were suggested to have insufficient data.

7.6.3. What became noticeable during the process is that although the sites are relatively well known, the amount of readily accessible published and archive material is limited. As the Importance of Shipwrecks project was obviously limited in the amount of time which could be spent on searching out new material, it was often difficult to collate sufficient to feel confident that the context of each wreck had been fully explored. On the other hand, there are sites where the 'insufficient data' assessment was fully justified; reflecting a quick reactive designation to protect a site whose full archaeological potential is suspected as substantial. Once again, the Ship Biography approach was particularly useful in highlighting the particular aspects where information was available and also the obvious gaps in knowledge.

7.7. CHANGES TO THE FRAMEWORK ARISING FROM THE TRIAL

7.7.1. During the trial process a number of problems and potential improvements were identified.

7.7.2. The primary concern was in assigning an overall level of importance. Few wrecks had sufficient data to fully evaluate their importance with regard to each factor. During trials an overall level for each wreck was obtained by counting the number of responses for each level of importance (high/moderate/low/unknown/N/A) and attributing a level on the basis of mostly 'high', mostly 'lows' and so on. This proved inappropriate in most cases as there was insufficient data to answer enough questions to gain an overall judgement other than 'unknown'.

7.7.3. Consultation suggested that an overall scale was desirable, particularly with regard to EIAs. Thus it may be more useful to use professional judgement to assign a high, moderate or low scale to a wreck in some cases, even though there is insufficient data to provide an answer to most questions. Within the ship biography, a judgement may also be provided for each of the categories build, use, loss, survival and investigation. It does not follow that a vessel of high importance for build is also of high importance for use and by recording judgements for each category it will be possible to identify at a glance the aspects for which a vessel is or is not important. The key benefit of having these aspects highlighted is that a research agenda can be devised to guide further investigation of the site.

7.7.4. Another problem relates to the current condition of the remains. For many wrecks the only available reports on the vessels' survival were those of the UKHO, in many cases these dated to thirty years ago or more. It was, therefore, often impossible to make a judgement on the survival of the remains. This supports concerns presented during consultation that as so few wrecks have been archaeologically recorded, there would be insufficient data

to evaluate their importance. However, as stated above, a framework cannot be based only on what we know but needs to be developed according to what *should* make a shipwreck important. As such, the framework is effective at demonstrating just how little is known about shipwrecks and in identifying the particular areas for which further work is necessary.

7.7.5. During trials, the lack of data also prompted a focus on historical documentation for evaluating importance. As the trials progressed it became clear that the distinction between historical and archaeological importance had become blurred. In many cases the evaluation was almost entirely concerned with the importance of the vessel, rather than of the shipwreck as an archaeological site. It was felt that more questions relating to the material on the seabed and the nature of the shipwreck as a site would be appropriate. The importance attributed to this factor during consultation suggests that the nature of the evidence on the seabed should be incorporated within each of the categories build, use, loss, survival and investigation. In this way the particular forms of evidence, and their potential to contribute to knowledge and understanding, can be identified.

7.7.6. The draft framework incorporated two questions regarding potential, one for archaeology and history, and one for scientific enquiry. During the trials, however, it was recognised that a shipwreck may have potential to contribute to knowledge and understanding in any one of the categories build, use, loss, survival and investigation:

- build: potential to contribute to knowledge and understanding of ship technology within a particular period and the development of shipbuilding;
- use: potential to contribute to knowledge and understanding of the systems in which it operated;
- loss: potential to contribute to knowledge and understanding of the nature of shipping losses in a particular period;
- survival: potential to contribute to knowledge and understanding of the processes affecting the survival of marine and/or intertidal sites;
- investigation: potential to contribute to the future development of the discipline.

7.7.7. As with the nature of evidence, the importance attributed to 'potential' during consultation suggests that this factor should be incorporated within the framework with regard to each aspect of the ships biography.

7.7.8. During the trials, the evaluation process itself and the formulation of the statements of importance proved to be a fairly rapid process. However, the time required to formulate summary histories was an issue for concern. In most cases the data held by the UKHO and the NMR was extremely limited and data had to be sought from other sources including published works and the internet. This took much more time than was initially anticipated and resulted in fewer wrecks being evaluated than had been proposed.

7.7.9. Moreover, although the trials were being carried out by qualified maritime archaeologists there were still certain areas in which personnel were insufficiently knowledgeable to evaluate a wreck without undertaking a certain amount of further research. As the trials progressed and the knowledge of personnel increased the process proceeded at a much faster rate. This underlines the utility of an audit trail associated with each wreck so that wrecks may easily be re-evaluated as knowledge within a particular area improves and new data becomes available.

7.7.10. Other minor issues with the framework, including problems with the terminology used in some questions. These were altered accordingly as the project progressed.

8. WORKSHOP

8.1. INTRODUCTION

8.1.1. On 25th July 2005, WA hosted a small workshop at its Head Office in Salisbury. Invitees included staff from EH, Bournemouth University, WA and people interviewed as part of the research. Those practitioners who attended the workshop included:

- Ian Oxley (EH Maritime Team)
- Mark Dunkley (EH Maritime Team)
- Jesse Ransley (EH Maritime Team)
- Steve Webster (WA PWA Contract)
- Dave Parham (Bournemouth University)
- Olivia Merritt (Bournemouth University)
- Julie Satchel (IFA Maritime Archaeology Group)
- Gill Andrews (Archaeological Consultant)

8.1.2. Prior to the workshop invitees were sent a short report (58591.01) introducing the framework and explaining how it is applied. During the workshop the practical application of the framework and the database was examined to provide feedback to inform a final draft.

8.2. WORKSHOP ACTIVITIES

8.2.1. The results of the literature review and consultation, and the formulation of the framework, were presented to those attending the workshop. They were then given a computer exercise as an introduction to the database. Each attendee was provided with a summary history for a vessel from the Liverpool Bay study area, *HMS Clarence,* and was asked to create a new record for the wreck including UKHO and NMR data and a summary history. They were also given time to examine the digital version of the framework questions.

8.2.2. The main part of the workshop focused upon the evaluation process itself. Attendees were required to apply the framework to one of three vessels:

- *Parker*: the wreck of a British wooden sailing vessel dating to the later 19th century for which there are no archaeological reports and only minimal documentary data.
- *HMS Cochrane*: the wreck of a Warrior class armoured cruiser built in 1905 for which there is a large amount of documentary data but no archaeological archive;
- *The Cattewater Wreck*: an early 16th century merchantman, designated under the Protection of Wrecks Act 1973 for which there is no documentary data but a substantial archaeological archive.

8.2.3. Attendees were divided into groups and each group was asked to complete an evaluation and write a statement of importance for one of the three wrecks. The aim was to provide a cross section of the types of data that are available for shipwrecks and to gain an insight into how this affected the evaluation process. Each group was asked to provide feedback on the process and the wreck they were evaluating. Finally, difficulties with the practical application of the framework and ideas for further improvements were discussed. These are outlined below.

8.3. SUGGESTED CHANGES TO THE FRAMEWORK ARISING FROM THE WORKSHOP

8.3.1. It was felt that the integral questions relating to 'build' relied too much on innovations and that the inclusion of two questions required the user to supply too much information:

- What is the technical interest of the *original design* of the vessel? *Were there any significant innovations?*
- Were there any significant features *or innovations* in the methods employed to build the vessel?
- What is the technical interest of the fixtures or fittings, propulsion or armament of the vessel? *Were there any significant innovations?*

8.3.2. It was recommended that the word 'innovation' should be removed and that questions should be more specific and further divided if necessary. In addition, it was suggested that the term 'original design' implies a document based approach when the framework should remain focused upon archaeological evidence.

8.3.3. Further problems were revealed with the questions dealing with rarity and representivity:

- Was the vessel representative of a particular type or class of vessel? Was it a first example, seminal example or optimal form?

- Was the vessel a common type or class during the period in which it was built?
- Is the vessel type or class well represented in the *archaeological record* or as surviving examples?

8.3.4.   One group stated that the request to identify rarity and representivity of a 'class or type' was not specific enough and indicated how a shipwreck may be common type but one of only a few of a particular class. *HMS Cochrane*, for example, is common as an armoured cruiser but one of only four of its particular class. It may be more appropriate, therefore, to assess rarity and or scarcity with regard to the survival and range of particular features of a vessel rather than attempting to identify their how representative of a type they are. Another group was uncertain whether 'archaeological record' meant physical surviving evidence, or archival records of archaeological work at a site. Rephrasing this question will be necessary to clarify that this refers to the survival of actual remains.

8.3.5.   It was suggested that the phrase 'far reaching' in the question, 'Did the design or construction of the vessel have *far reaching* implications for the development of this particular type or class' should be removed. It was felt that the phrase may discourage users from recording innovations that they believe are unimportant but which may be relevant within certain research frameworks.

8.3.6.   Difficulties were encountered in agreeing on what was meant by 'in context', 'in proximity' and 'geographically removed' and 'large-scale', 'moderate-scale' and 'small-scale' in the questions:

- Is the current location of the shipwreck in context with its place of build:
  - Located in context with place of build
  - Located in proximity to place of build
  - Geographically removed from context of build
- Did the vessel operate as part of a wider social, military or economic system that may add to its importance?
  - Part of a significant, large scale system
  - Part of a notable system of moderate scale
  - Part of a nominal, small scale system

8.3.7.   One group suggested that the terms local, regional, national and international should be used. However, associating these terms with a question, and thus a judgement of importance, conflicts with attempts to see these as 'dimensions' of interest rather than as levels of 'importance'. It may be more appropriate to reword these definitions to indicate a clearer picture of what type of answer is required. Similarly, one attendee questioned the use of the term 'dimension' and suggested that 'scale' may be a better word although this also implies that a measure of judgement is being attributed.

8.3.8.   It was suggested that 'environment of use' in the question, 'is the current location of the vessel in context with its *environment of use*', implies use in

the sea, and consequently everything will survive in context. 'Sphere of operation' was offered as a more appropriate term.

8.3.9.   During discussions it was indicated that questions concerning the survival of remains on the seabed should be further defined with regard to the hull, fixtures and fittings and personal artefacts. As noted above, the trials also demonstrated that there was insufficient focus in the framework on the nature of evidence on the seabed and that further questions should be added to address this issues.

8.3.10.   One group suggested that the question 'how extensive is the archaeological archive for this vessel', should be expanded to address the archaeological archive for a particular class or type. It was suggested that the absence of archaeological records for large numbers of vessel types is highly significant. For example, a vessel for which no records survive will become less crucial if a similar vessel is recorded. It will be beneficial, therefore, to make provision for this information in the framework.

8.3.11.   With regard to the question, 'does the site, structure and/or artefacts assemblage have significant potential to contribute to *scientific enquiry*', it was felt that 'scientific enquiry' was insufficiently explained and required further definition. The potential for including a more detailed evaluation of the potential of a shipwreck to contribute to scientific knowledge of site formation processes was also discussed. As part of the ship biography the 'survival' category incorporates interest arising from the wrecks incorporation into the seabed, both to date and in the future, including formation processes themselves as well as condition. *Integral* aspects of survival may include the processes at the site, the survival and non-survival of materials and their variation across the site. *Contextual* aspects may include how the survival and formation processes compare to other sites and the wider region in which the wreck is located. This, however, has not been covered sufficiently in the draft framework and needs to be addressed in the final draft.

8.3.12.   There were also a number of more general comments and observations that emerged during the workshop. For example, the groups using the framework appeared to be reluctant to assign 'unknown' to a question for which there was insufficient data to provide a judgement of high, moderate or low. In the final draft, therefore, it may be beneficial to omit the term 'unknown' and provide an opportunity to select 'insufficient data' instead as this is a less negative option.

8.3.13.   The inclusion of an audit trail was a suggested as a useful addition to facilitate re-evaluation. It was agreed that a record of who had completed the evaluation, when it had been completed and whether or not the record had been checked should be built into the database. It was also deemed beneficial to include a capacity to add to the evaluations without erasing previous entries. In this way previous evaluations could be incorporated within the archive for a shipwreck.

8.3.14. During discussions, concerns about consistency were indicated and it was suggested that the methodology was not specific enough to ensure that different evaluators would achieve the same result. In response, it was suggested that perhaps a better aim for the Importance of Shipwrecks framework is to highlight which areas of the shipwreck are important enough to justify mitigation in the face of development, and potential legislative protection, through a statement of importance, not to provide an indisputable level of importance. Variations in judgements are less important than making sure that as many possible areas of importance are considered with regard to formulating the statement of importance.

8.3.15. The final point raised during the workshop was that the framework will need to be accompanied by additional guidance so that a greater measure of consistency might be attained. Research frameworks should be established prior to evaluation so that the ideas which are likely to colour the evaluations may be identified. Moreover, some questions will inevitably be regarded as more important than others in pursuit of various research aims and these need to be identified if the framework is to operate effectively.

9.   FINAL FRAMEWORK

9.1.   Following the trial process and workshop, the Importance of Shipwrecks framework was redesigned to incorporate the recommendations outlined above. Notable additions to the theme categories are 'evidence' and 'potential' to reflect the physicality of archaeological remains and the inclusion of site formation processes as a theme reflects the significance that is placed on this facet of maritime archaeology. **Table 6** below indicates how each of the themes or criterion identified during the literature review, trials and workshop were incorporated into the final framework.

	Build	Use	Loss	Survival	Investigation
Evidence	Survival Condition	Survival Condition	Survival Condition	Survival Condition	Survival Condition
Integral	Technology	Function	Function	Site formation processes	Documentation
Contextual	Cultural landscape Representivity Rarity Scarcity Group value	Cultural landscape Representivity Rarity Scarcity Group value	Cultural landscape Representivity Rarity Scarcity Group value	Cultural landscape Representivity Group value	Cultural landscape Representivity
Potential	Potential	Potential	Potential	Potential	Potential
Associations	Historical associations	Historical associations	Historical associations	N/A	Archaeological associations
Dimension	Dimension of interest	Dimension of interest	Dimension of interest	Dimension of interest	Dimension of interest

Table 5: The incorporation of criteria within the final framework

9.2.   As with the draft framework, the final framework is presented as a series of questions relating to these themes, organised under each of the headings of the ship biography and the following categories:

- evidence: the extent to which the quality and range of surviving material on the seabed may contribute to an understanding of a vessel's build, use, loss, survival or investigation;
- integral: questions that deal with the vessel itself;
- contextual: questions that deal with the vessel in its wider context;
- potential: the potential of the remains on the seabed to contribute to knowledge and understanding of a vessel's build, use, loss, survival or investigation, or to the wider maritime cultural landscape.

9.3.   For each question a judgement of scale is required, either high, medium, low, unknown or N/A, For each aspect of the ship biography, the user is also prompted to note any significant associations that the vessel may have with historic people, places or events. This question is not attributed a scale. Finally, indications of 'dimension' of interest are also requested for each aspect of the ship biography, covering local, regional, national or international.

9.4.   A copy of the final framework is included in **Volume 2: Appendix VI.** The project database was updated to incorporate the final framework and a comprehensive audit trail was added. Wrecks evaluated during the initial trial process were reassessed.

10.   CONCLUSIONS AND RECOMMENDATIONS

10.1.   This project has identified a number of commonly employed criteria for evaluating importance and has discussed the underlying theoretical arguments concerning the value of archaeology. This information has been employed to develop a new framework for evaluating the importance of shipwrecks. A final draft of the framework has been formulated in accordance with the results of the trials and the workshop recommendations. A copy of this version is included in **Volume 2: Appendix VI**.

10.2.   Throughout this report it has been stressed that this framework was developed to establish archaeological importance. However, the literature review and consultation also indicated a number of other types of value and importance that should be considered at a management level. One of the primary philosophies underlying models for evaluating importance is the requirement to conserve a representative sample for future generations. However, this aim needs to be weighed up against the use of heritage in wider society, both by archaeologists and other stakeholders:

> *Conserving heritage means looking after it, both for ourselves*
> *and for future generations. This does not mean freezing it, but*

> *does mean caring for it, using it, enjoying it and making it accessible to others in a way that does not damage what is important about it* (Heritage Lottery Fund 2005: 1)

10.3. Thus, management decisions will necessarily have to consider other factors such as:

- economic considerations (what funding is available, can a site or monument contribute economically through recreation and tourism);
- cultural considerations (how will the decisions made affect 'quality of life');
- stakeholders (the diverse range of groups with an interest in the shipwreck as a historic and recreational resource).

10.4. The project has shown that shipwrecks will have to be regularly re-assessed in relation to new discoveries and information, and as research frameworks and ideas about what is important change. Accordingly, this framework has been designed to be flexible and open to re-evaluation.

10.5. For the purposes of the project, a Microsoft Access database was developed to facilitate the application of the framework. The benefits of using a digital interface to evaluate shipwrecks, to store the data and retain an audit trail of the evaluations became apparent during the trial process.

10.6. The framework has been trialled on a total of 240 shipwrecks, approximately 3% the known wrecks recorded within the Maritime Record of the NMR (i.e. not including documentary losses where the actual presence of a site on the seabed in uncertain). Hence further testing would be beneficial.

10.7. The project has also demonstrated that the time needed to undertake assessments can be considerable. The gathering of necessary data, the diversity of the criteria, and the multiple aspects comprising each shipwreck's individual story, all conspire to make each site a unique challenge for the assessor.

10.8. During the course of this project it has also become clear that criteria commonly employed in evaluating importance need further definition and that evaluators would benefit from an accompanying documents providing basic background on the nature of the resource and the specific aspects which make shipwrecks important. In 1998 EH published *Identifying and Protecting Palaeolithic Remains, Archaeological Guidance for Planning Authorities and Developers*. A similar document providing guidance for evaluating the importance of shipwrecks may be beneficial.

11.   REFERENCES

Adams, J., 2001, Ships and boats as archaeological source material, *World Archaeology* 32.3: 292-310.

Andrews, G., Barrett, J. C., Lewis, J. S. C., 2000, Interpretation not record: the practice of archaeology, *Antiquity* 74: 525-530.

Aubry, M. C., 1992, Federal and State Shipwreck Management in the U. S., *Cultural Resource Management Bulletin* 15.4: 17-23

Australia ICOMOS, 1999, *Burra Charter* (revised), http://www.icomos.org /australia/burra.html.

Australian Institute for Maritime Archaeology and Australian Cultural Development Office, 1994, *Guidelines for the Management of Australia's Shipwrecks*, Australian Institute for Maritime Archaeology and Australian Cultural Development Office.

Boesten, E., 2000, Protecting Underwater Cultural Heritage: Theory or Practice, *Underwater Magazine*, www.underwater.com/archives/arch/novdec00.07. shtml

Briuer, F. L. & Mathers, C., 1996, *Trends and Patterns in Cultural Resource Significance: An Historic Perspective and Annotated Bibliography*, U.S. Army Corp of Engineers.

Carman, J., 1995, The importance of things. Archaeology and the law, in Cooper, M. A., Firth, A., Carman, J. & Wheatley, D. (eds.), *Managing Archaeology*, Routledge: 19-32.

Carman, J., 2005, Good citizens and sound economics. The trajectory of archaeology in Britain from 'heritage' to 'resource, in Mathers, C., Darvill, T. & Little, B. J. (eds), *Heritage of Value, Archaeology of Renown: Reshaping Archaeological Assessment and Significance*, University Press of Florida: 43-57.

Carver, M., 1996, On archaeological value, *Antiquity* 70: 45-56.

Clark, G., 1960 (1939), *Archaeology and Society*, University Paperbacks.

Cutty Sark Trust, 2003, *The Significance of the Cutty Sark. A Discussion Paper*, http://www.cuttysark.org.uk/papers/Cutty%20Sark%20significance.pdf.

Darvill, T., Saunders, A. & Startin, B., 1987, A question of national importance: approaches to the evaluation of ancient monuments for the Monuments Protection Programme in England, *Antiquity* 61: 303-408.

Darvill, T. C., 1988, *Monuments Protection Programme Monument Evaluation Manual Part I: Introduction*, English Heritage.

Darvill, T., 1993, *Valuing Britain's Archaeological Resource*, Bournemouth University Inaugural Lecture.

Darvill, T., 1995, Value systems in archaeology, in Cooper, M. A., Firth, A., Carman, J. & Wheatley, D. (eds.), *Managing Archaeology*, Routledge: 40-50.

Darvill, T., 2005, 'Sorted for Ease and Whiz?' Approaching value and importance in archaeological resource management, in Mathers, C., Darvill, T. & Little, B. J. (eds), *Heritage of Value, Archaeology of Renown: Reshaping Archaeological Assessment and Significance*, University Press of Florida: 21-42.

Deeben, J., Groenewoudt, B. J., Hallewas, D. P. & Willems, W. J. H., 1999, Proposals for a practical system of significance evaluation in archaeological heritage management, *European Journal of Archaeology* 2.2: 177-199.

Delgado, J. P., 1988, The value of shipwrecks, in. Murphy, J. W. (ed), *Historic Shipwrecks: Issues in Management*, National Trust for Historic Preservation/Partners for Liveable Places.

Delgado, J. P. and a National Park Service Maritime Task Force, 1992, *Nominating Historic Vessels and Shipwrecks to the National Register of Historic Places*, National Register Bulletin 20, U.S. Department of the Interior, National Park Service, National Register, History and Education.

Department of Arts, Heritage, Gaeltacht and the Islands, 1999, *Framework and Principles for the Protection of the Archaeological Heritage*, Government Stationary Office.

Department of Culture, Media and Sport, 2001, *The Historic Environment: A Force for Our Future*, Department of Culture, Media and Sport.

Department of Culture, Media and Sport, 2003a, *UK Export Licensing for Cultural Goods: Procedures and Guidance for Exporters of Works of Art and Other Cultural Goods*, Department of Culture, Media and Sport.

Department of Culture, Media and Sport, 2003b, *Protecting our Historic Environment: Making the System Work Better*, Department of Culture, Media and Sport.

Department of Culture, Media and Sport, 2004a, *Review of Heritage Protection: The Way Forward*, Department of Culture, Media and Sport.

Department of Culture, Media and Sport, 2004, *Protecting our Marine Historic Environment: Making the System Work Better*, Department of Culture, Media and Sport, the Welsh Assembly Government, the Scottish Executive and the Department of the Environment Northern Ireland.

Department of the Environment, 1994, *Planning Policy Guidance 15: Planning and the Historic Environment*, HMSO.

English Heritage, Undated, *Criteria for Designating Wreck Sites, English Heritage Website,* http://www.english-heritage.org.uk/server/show/nav.001002003007002001001

English Heritage, 1996, *The Monuments Protection Programme 1986-96 in Retrospect*, English Heritage.

English Heritage, 2000, *Power of Place: The Future of the Historic Environment*, English Heritage.

English Heritage, 2002, *Military Aircraft Crash Sites. Archaeological guidance on their significance and future management*, English Heritage.

English Heritage, 2005, *Listing is Changing*, English Heritage.

European Commission, 1996, *natura 2000: European Commission DG XI's Nature Newlsetter* 1 (May 1996), http://europa.eu.int/comm/environment/news/natura/nat1_en.htm.

European Commission, 1998, *Enlarging the Environment: Newsletter from the European Commission on environmental approximation* 8 (April 1998), http://europa.eu.int/comm/environment/news/enlarg/news8.htm.

European Union, 2004, *Habitats Directive (As Amended)*, http://europa.eu.int/comm/environment/nature/nature_conservation/eu_nature_legislation/habitats_directive/index_en.htm

Firth, A., 1995, Ghosts in the machine, in Cooper, M. A., Firth, A., Carman, J. & Wheatley, D. (eds.), *Managing Archaeology*, Routledge: 51-67.

Frost, H. 1962. Submarine Archaeology and Mediterranean Wreck Formations. Mariner's Mirror, 48: 82-89.

Gibbins, D., 1990, Analytical Approaches in Maritime Archaeology: A Mediterranean Perspective, *Antiquity* 64: 376-389.

Gibbins, D. & Adams, J., 2001, Shipwrecks and maritime archaeology, *World Archaeology* 32.3: 279-201.

Grenville, J., 1993, Curation Overview, in Hunter, J. & Ralston, I (eds.), *Archaeological Resource Management in the UK*, Sutton: 125-133.

Heritage Lottery Fund, 2005, *Conservation Management Plans*, http://www.hlf.org.uk/NR/rdonlyres/F6B05389-9FF5-4565-800A-73439A7ABFDF/505/HLFConsPlan05.pdf.

Historic Scotland, 2004, *Report on Scottish Executive Consultation CON32: New criteria and guidance for determining National Importance under the terms of the Ancient Monuments and Archaeological Areas Act 1979*, Historic Scotland.

Jenkins, R., 1996, *Social Identity*, Routledge.

Johns, C., Larn, R.., Tapper, B. P., 2004, *Rapid Coastal Zone Assessment for the Isles of Scilly*, Historic Environment Service, Cornwall County Council.

Joint Nautical Archaeology Policy Committee, 2003, *Memorandum submitted by the Joint Nautical Archaeology Policy Committee*, www.publications.parliament. uk/pa/cm200304/cmselect/cmenvfru/76/3121002.htm

Kaoru, Y. & Hoagland, P., 1994, The Value of Historic Shipwrecks: Conflict and Management, *Coastal Management*, 22: 195-213.

Kerr, J. S., 2000, *Conservation Plan. A guide to the preparation of conservation plans for places of European Cultural Significance* (fifth edition), The National Trust of Australia.

Lenihan, D. J. (ed), 1990, *Submerged Cultural Resources Study USS Arizona Memorial and Pearl Harbour National Historic Landmark*, Submerged Cultural Resources Unit, National Park Service.

Lipe, W. D, 1984, Value and meaning in cultural resources, in Cleere, H. (ed.), *Approaches to the Archaeological Heritage*, Cambridge University Press: 1-11.

Longworth, I., 1993, Portable Antiquities, in, Hunter, J. & Ralston, I., *Archaeological Resource Management in the UK*, Alan Sutton Publishing Ltd: 56-64.

Maslowski, R. F., 1996, Significance in cultural resources management: an Ohio Valley example, in, Briuer, F. L. (ed), *Cultural Resource Significance Evaluation: Proceedings of a U.S. Army Corps of Engineers Workshop 3-4 October 1994, Vicksburg, Mississippi*, U.S. Army Corp of Engineers: 34–41.

Manders, M., 2004, The Safeguarding of BZN 10, *Moss Newsletter 2004: III*: 6-7.

Martin, C, 1997, Ships as integrated artefacts: the archaeological potential, in, Redknap, M. (ed.), *Artefacts from Wrecks*, Oxbow Monograph 84.

Mathers, C., Darvill, T & Little, B. J., 2005, Introduction: Archaeological value in a world context, in Mathers, C., Darvill, T. & Little, B. J. (eds), *Heritage of Value, Archaeology of Renown: Reshaping Archaeological Assessment and Significance*, University Press of Florida: 1-18.

Merriman, N., 1991, *Beyond the Glass Case*, Leicester University Press.

Ministry of Defence, 2001a, *The Military Maritime Graves and the Protection of Military Remains Act 1986: A Consultation Document by the Ministry of Defence,* www.mod.uk/linked_files/maritime_graves.pdf

Ministry of Defence, 2001b, *Report of the Public Consultation on Military Maritime Graves and the Protection of Military Remains Act 1986,* www.mod.uk/consultations/maritime_graves/

MoSS, 2004, Theme: Safeguarding, *MoSS Newsletter* 3/2004

Naab, M. and the National Park Service, 1990, *The Secretary of the Interior's Standards for Historic Vessel Preservation Projects*, U.S. Department of the Interior, National Park Service, National Maritime Initiative.

National Historic Ships Committee, Undated, *About the National Historic Ships Committee*, http://www.nhsc.org.uk/aboutNHSC.cfm.

Paton, J. & Kentley, K., 2003, *The Shipping Forecast Part One. Towards a policy for the United Kingdom's historic fleet. Interim Report 1: A review of the National Historic Ships Committee's Core Collection*, National Historic Ships Committee, National Maritime Museum and English Heritage.

Paton, J. & Kentley, K., 2004, *The Shipping Forecast Part Two. Towards a policy for the United Kingdom's historic fleet. Interim Report 2: A review of the National Historic Ships Committee's Designated Vessel List*, National Historic Ships Committee, National Maritime Museum and English Heritage.

Parks Canada, 1998, *Guidelines for Evaluating Shipwrecks of National Historic Significance in Canada*, http://www.pc.gc.ca/progs/pfa-fap/itm4-/arch4_a_e.asp

Parks Canada, 2004, *About the Historic Sites and Monuments Board of Canada*, http://www.pc.gc.ca/clmhc-hsmbc/clmhc-hsmbc/index_E.asp

Peacock, E., 1996, Some comments on significance and federal archaeology, in, Briuer, F. L. (ed), *Cultural Resource Significance Evaluation: Proceedings of a U.S. Army Corps of Engineers Workshop 3-4 October 1994, Vicksburg, Mississippi*, U.S. Army Corp of Engineers: 42- 50.

Prescott, R. G. W. & Groom, D., 1996, *Towards a National Policy on Historic Ships*, Unpublished Report, National Historic Ships Committee, University of St Andrews.

ROB, undated, *Appendix I: Project Vaarwegverbatering Westerschelde, Requirements for archaeological assessment of sites 601, 603, 617,* Unpublished specification.

Schelberg, J. D., 1996, Site significance in the context of regions, research designs, and redundancy, in, Briuer, F. L. (ed), *Cultural Resource Significance*

Evaluation: Proceedings of a U.S. Army Corps of Engineers Workshop 3-4 October 1994, Vicksburg, Mississippi, U.S. Army Corp of Engineers: 20-27.

Smith, P., 2000, Post-war listed buildings, *Context* 65. http://www.ihbc.org.uk/ context_archive/65/postwar/postwar.html

Smith, L., 2005, Archaeological significance and the governance of identity in cultural heritage management, in Mathers, C., Darvill, T. & Little, B. J. (eds), *Heritage of Value, Archaeology of Renown: Reshaping Archaeological Assessment and Significance*, University Press of Florida: 77-88.

Startin, B., 1993, Assessment of Field Remains, in Hunter, J. & Ralston, I (eds.), *Archaeological Resource Management in the UK*, Sutton: 184-196.

Stemm, G., 2001, Where do we go from here?, *Underwater Magazine*, http://www.underwater.com/archives/arch/016.03.shtml

Tainter, J. & Bagley, B., 2005, Shaping and suppressing the archaeological record. Significance in American cultural resource management, in Mathers, C., Darvill, T. & Little, B. J. (eds), *Heritage of Value, Archaeology of Renown: Reshaping Archaeological Assessment and Significance*, University Press of Florida: 58-73.

UNESCO, 2001, *Convention on the Protection of the Underwater Cultural Heritage*, UNESCO.

Wessex Archaeology, 2004, *Port of London Authority Archaeology Strategy: Progress Report*, Unpublished Report, Wessex Archaeology.

World Heritage Committee, 2005, *Operational Guidelines for the Implementation of the World Heritage Convention* (Revised February 2005), UNESCO