Compiler’s introduction

Welcome to Issue 2. Please forward to colleagues who would be interested in receiving it, and ask them to contact me to add them to the list. I have received a number of spectacular images which I am attaching as separate files. Plainly you should consult the originators before making any public use of these.

Professor Vince Gaffney has sent a summary of the results of the Birmingham University North Sea Palaeolandscapes Project, with a link to the project website, which I am sending as a separate file. Colleagues will have been saddened to hear of the untimely death of Vince’s collaborator, Dr Kenneth Thompson, and on behalf of all I send Vince our sympathy.

I think you will agree that the number, quality (and file size!) of contributions has increased markedly since Issue 1 and we need to consider whether a simple e-mail list will be adequate from now on. I’d be grateful for feedback on the following points:

1. Is the information in this newsletter useful to you, and do you want it to continue?
2. Do you at present find the format convenient, and are all files easy to access?
3. Would it be better to send contributions out separately, as they arrive?
3. Do you have any suggestions on a preferred format for future issues?

All the best,

Peter Murphy

Research Projects: new initiatives and up-dates

Natural History Museum Rotterdam

The Natuurhistorisch Museum Rotterdam is one of the largest of the so-called regional natural history museums in The Netherlands. It houses a collection of 300,000+ objects ranging in scope from a herbarium, insects, molluscs, other invertebrates with an emphasis on crustaceans, birds, mammals and fossils. The collection of marine bird skeletons (gulls and skuas) is extensive, and is supplemented by a small collection of Pleistocene birds from Mediterranean islands. The interesting collection of Pleistocene mammals from Northwestern Europe, many from the North Sea and its shores, has recently been extended by a gift of Pleistocene marine mammals (Cetacea and Pinnipedia) from the North Sea. This collection was compiled over many years by Klaas Post, an Urk-based fish trader and an enthusiastic amateur paleontologist. This collection will be catalogued and deposited in a newly refurbished storeroom and is available for study. It is the largest collection of fossil marine mammals in Europe, and this situation will probably never change as the collecting method, trawl fishing, is to be abandoned.
Jelle Reumer

Natuurhistorisch Museum Rotterdam, POBox 23452, 3001 KL Rotterdam, the Netherlands, reumer@nmr.nl; also at the dept. of Geosciences, Utrecht University, reumer@geo.uu.nl

Reumer is director of the Rotterdam museum and a part-time professor of vertebrate paleontology at Utrecht University. He began his studies working with extinct island mammals in Mallorca and other Mediterranean islands, then did a PhD (1983) on Plio-Pleistocene shrews and has remained active since. His major interests - next to his old love, the shrews - are with Tertiary and Quaternary ecosystems, northwest European stratigraphy, and the extinction of mammals. Together with colleagues he published the discovery of the Late Pleistocene sabretooth cat from the North Sea in 2003.

The last hunter-gatherers of the Southern North Sea and English Channel: changing lives; changing landscapes.

I have just begun PhD research, registered at Manchester University, which hopes to identify and assess human responses to sea-level rise and the major loss of land during the Mesolithic period. Using the evidence of the flints from Southern Britain and North West Europe, I will look at whether the ultimate isolation of Britain from Europe really resulted in a distinctive British-ness – was the English Channel, once created, really a barrier or did it facilitate movement? This is something that can perhaps be addressed by renewed study of the lithic evidence as a possible means of exploring how the human consequences of land-loss manifest themselves in the archaeological record. What interests me is how this loss of land affected everyday lives of Mesolithic people; and how this loss (of their homes, their territories, and their ancestral lands) may have been perceived. To this end I will compile examples from the ethnographic record of how modern societies have coped with and adapted to the loss of resources, e.g. recent deforestation/rainforest logging.

The dramatic changes to this environment over a relatively short period must have had a profound affect on the people who lived in and around this area. And yet discussions of the drowning of the North Sea plain rarely focus on this, instead concentrating on how and when Britain became technically and culturally separate from Europe. I hope that this research will make a useful contribution to filling this gap; at a time when submerged sites are becoming increasingly more recognised, large datasets revealing the topography of the North Sea are beginning to become available and models of sea level change become ever more refined.

This research is at the formative stage and any advice or ideas from readers would be very welcome.

Jim Leary

Jim works for English Heritage within the Research Department as an Archaeologist (prehistory). This work is being undertaken as part-time doctoral research at Manchester University under the supervision of Dr Chantal Conneller. I am extremely keen to hear from other researchers with similar interests (my e-mail address is jim.leary@english-heritage.org.uk).
Towards mapping the post-glacial chronology and archaeological potential of the southern North Sea.

During most of the last glaciation, the southern North Sea floor was exposed and accessible to humans before subsequently being drowned in the period 12 - 6 ky BP. The landscapes of the southern North Sea remain an almost unexplored field of research with published palaeoenvironmental reconstructions are largely speculative being based on few published sea-level index points (Fig.1) and in the absence of detailed physical and chronological surveys. Similarly the Palaeolithic and Mesolithic archaeological potential is unknown but artefacts and fossils have been found around Brown Bank, Dogger Bank and the Norfolk Banks (Fig. 1).

In our first paper (Ward et al., 2006), we review the post-glacial geochronology for the southern North Sea, which includes 54 radiocarbon ages derived from peat, 17 from molluscs and 1 known dated artefact. The lack of detailed contextual information for many dated samples means that there remains uncertainty in some elevation data, and thus in the resulting interpreted sea level. The archaeological artefacts are mostly derived deposits and thus are of limited use in palaeoenvironmental reconstruction. Overall, the data are consistent with current models of relative sea-level change back to about 10 ky BP (~ 45 m depth) but beyond this, there is very little published data. Much more detailed stratigraphic, microfossil and geochemical analysis is needed to help verify chronological data, to help interpret the sedimentary settings in which fossils and artefacts are found, and to contribute towards more reliable palaeoenvironmental and archaeological reconstructions of the history of the southern North Sea.

In our second paper (Ward and Larcombe, in press) we consider the preservation potential of primary and secondary archaeological material around Brown Bank, Dogger Bank and the Norfolk Banks: a) in the context of the post-glacial evolution of the southern North Sea and; b) regarding natural and anthropogenic processes. A detailed review of the post-glacial evolution, highlighting the range of sedimentary processes and products, is followed by original research material describing a geomorphological approach to assessing preservation potential. In general, low-energy deposits associated with former intertidal, floodplain or lacustrine environments are likely to preserve primary archaeological material, including organic remains, whilst (high-energy) riverine environments are more likely to preserve inorganic secondary archaeological material. Preservation potential is very uneven across the region. The main possible anthropogenic impacts on submerged archaeology result from beam trawling, which may disturb deposits at the seafloor, and aggregate dredging, which may remove secondary deposits. Trawling and aggregate dredging are increasingly contributing to knowledge, through reporting finds through established protocols, and through assisting in funding relevant to multi-disciplinary research.

Integration of geological, sediment dynamic and archaeological disciplines provides the best opportunity to develop tools, such as predictive maps of archaeological potential and risk, which can serve the needs of managers of the marine archaeological heritage. The text and figures presented in these papers are intended to stimulate criticism and comment. In acknowledging the preliminary and ‘framework’ nature of our assessment, we note that the development of clear and logical management plans requires a series of ‘higher-level’ issues to be resolved. These include those of ascribing ‘significance’ or ‘value’ to archaeological and palaeoenvironmental deposits, and determining the practical physical scales at which to address the various perceived risks to submerged archaeological heritage.

Ingrid Ward (English Heritage, Fort Cumberland, Portsmouth, PO4 9LD, UK)
& Piers Larcombe (Centre for Environment, Fisheries and Aquaculture Science, Pakefield Road, Lowestoft, NR33 0HT, UK)
References

![Bathymetric map of the southern North Sea and approximate locations of dated samples and artefacts (modified after Ward et al., 2006).](image)

Figure 1. Bathymetric map of the southern North Sea and approximate locations of dated samples and artefacts (modified after Ward *et al.*, 2006).

News from Scotland

Caroline Wickham-Smith (by e-mail) says:

I guess a zillion people have suggested it but the new sea bed data that is available on Google Earth is worth looking at. It shows what is available and who has done it.


For a web project page on recent work in Orkney see:

http://www.antiquity.ac.uk/ProjGall/wickham/index.html
New Finds

Danger in Rotterdam!
A scimitar cat prowls the Natural History Museum of Rotterdam.

Exhibition is 01 September until 25 November 2007

Dick Mol sends us this press release:

Climate change, higher temperatures and higher sea levels are hot items in the daily news. We have to protect ourselves against the rising North Sea. Geologists and paleoclimatologists know that this is no news. Climate change has happened through the ages. In the recent geological past, the British Isles were connected to the continent of Europe. We would have been able to walk from Rotterdam to London without getting our feet wet, some 28,000 years ago. Fossils on the North Sea floor prove this. Thousands of remains of mammoths, bison, rhino, giant deer (Irish elk) as well as fossils of predators are being recovered from the mud of the sea floor. The analysis and interpretation of these fossils give us a picture of the landscape with the biota of that time: vast dry grassy plains, hardly any trees, and large herds grazing while being stalked by large predators. Now the picture is submerged. It is a landscape 30 meters below sea level, the current North Sea.

Some years ago fishermen collected the lower jaw of a scimitar-toothed cat or European sabre-toothed tiger. With carbon dating it was determined that this specimen roamed this region some 28,000 years ago. As the prevailing scholarly view was that this animal went extinct 270,000 years earlier, this was sensational news.

Using scientific research and the fossil record of this species, Remie Bakker, a Rotterdam resident, modelled a life-sized replica of this powerful and impressive predator. This sabre-toothed cat will be on display in the Natural History Museum in Rotterdam, along with the original North Sea jaw, its evolution throughout the millennia, and a lot more. The exhibition demonstrates which large predators turned our past landscape into a very dangerous place. When the North Sea area gradually became sea again, some 10,000 years ago, the danger from predators diminished. But was replaced by the danger of a rising sea. Fortunately modern structures are in place that serve to protect us!

He also now has a radiocarbon date for his Pleistocene wolverine.
Radiocarbon results on *Gulo gulo* LINNAEUS, 1758 from the North Sea

The almost complete left mandible of a wolverine (*Gulo gulo* LINNAEUS, 1758) with almost complete dentition still in place which was collected from the North Sea floor for the first time in November, 2006, and briefly mentioned and figured in the first issue of this e-newsletter has been radiocarbon dated by Professor Dr Hans van der Plicht at Groningen University. The results for the first sample (CM-DM-121) is 10.730 +/- 60 BP which makes this fossil the first Pleistocene evidence for the species in the Southern Bight of the North Sea between the British Islands and The Netherlands.

Fieldtrip to Westerschelde

Since 1995 the Zeeland Society (Middelburg, Netherlands) has organised a yearly daytrip to the Westerschelde with the mussel cutter ZZ-10 to trawl for fossil remains. This year the trip took place on July 7th. As in the previous years, one particular area, a trench up to 30m deep near the city of Terneuzen (Netherlands), was sampled by means of short drags with a mussel net, one on each side of the vessel. Heavy elements, which erode from the walls and the floor of the trench are accumulating in the trench and are subsequently grown by
estuarine organisms. Twenty-five drags were made, yielding dozens of fossilised remains mostly of cetaceans, with a Miocene to Pliocene age. A few Late Pleistocene bones were also caught. After cleaning and desalination, the trawled remains will become part of the collections of the Zeeland Society and the Natural History Museum Naturalis (Leiden, Netherlands). The pictures below give an idea of the atmosphere on board and of the finds.

Figure 3. The participants gather around the catch

Figure 4. Closer look on another part of the catch. One can recognise a row of five cetacean bullae in the middle right

Bjorn De Wilde
Publications


This paper is directed primarily at landscape archaeologists and historians who may have little knowledge of maritime archaeology and it hence includes some explanatory sections on topics which will be familiar to most readers. It presents a summary of published results available at the end of 2006. However, it will soon be superseded by the publications of the *Seabed in Prehistory* and the *North Sea Palaeolandscapes* projects - an indication of the rapid progress being made at present.


A fossil marine mammal assemblage from the southern North Sea is discussed. Carbon data confirm its Mid-Late Weichselian origin and proof that marine transgressions occurred in this area during several intervals of the Mid-Late Weichselian.

Introduction

Remains of extant marine mammal taxa have been recognised during the second half of the 20th century amongst the abundant fossil remains of Late Pleistocene terrestrial mammals dredged from the southern North Sea. These marine mammal fossils were considered to originate from Early Pleistocene, Holsteinian, Late Eemian, Early Weichselian and/or Early Holocene sediments (Erdbrink 1972; Kortenbout van der Sluijs 1971; Bosscha Erdbrink & van Bree 1986, 1990b, 1999c; van Bree & Bosscha Erdbrink 1987; Vervoort-Kerkhoff & van Kolfschoten 1988). These assumptions were primarily based on the generally accepted hypothesis that the southern bight of the North Sea was dry land during the entire Mid- to Late Weichselian (Oele 1971, Laban 1995). Late Weichselian marine conditions occurred during the deposition of the Dogger Bank Formation and are postulated for the northern North Sea; however, neither sedimentary nor seismic evidence for Mid- or Late Weichselian marine transgressions in the southern North Sea had been produced (Laban 1995).

Based on marine mammal fossils and 14C results, some authors came to consider the possibility of marine transgressions (Post & Kompanje 1995, Post 1999, 2000). The conflict between traditional geological data and the possibility of marine intervals based on marine mammal fossils caused a careful reconsideration of borehole sediments and resulted in the recognition of a series of short marine transgressions during the Mid- and Late Weichselian (Laban & Rijsdijk 2002, van den Berg 2003).

This article summarizes fossil data, 14C results and stratigraphic evidence pertaining to the marine mammal assemblage and its paleoecological environment.

DEINSEA publishes original papers and short communications dealing with zoology, palaeontology and (urban) ecology. Contributions that are entirely or partly based on material from the collection of the Natural History Museum Rotterdam (coll. NMR) and/or that are the result of research by NMR staff, have priority. Papers dealing with other collections or written by ‘outsiders’ will however be considered. DEINSEA welcomes lengthy papers (over 30 printed pages).

To order: [www.nmr.nl](http://www.nmr.nl)    Dick Mol (Natural History Museum Rotterdam dickmol@tiscali.nl)
PalArch’s Journal of Archaeology of northwest Europe

The North Sea is a wonderful archaeological resource. When you think about North Sea archaeology, often the first thing that springs to mind is the archaeology of shipwrecks, which of course this sea has a fair share of. But more regular archaeological treasures can also be found in the North Sea. Off the coast of the Netherlands, we have the Brittenburg, a Roman ruin last seen above sea level in the seventeenth century. Of a much older date are the diverse flint and bone tools that wash up after every storm along our North Sea beaches. So as well as fish, there is plenty of archaeology in the sea.

Publication of new finds and new ideas is plainly essential. PalArch’s Journal of Archaeology of northwest Europe is an internet based scientific journal that encourages the publication and discussion of archaeological research. Publication with PalArch is entirely free of charge and because it is internet based, publications are not limited in word count or amount of figures. More importantly, publication is quick. With some traditional journals, the process of publication can be so long that the content of the article is out of date even before it is published. Quality of the articles is guaranteed by our editorial board, members of which are all professional archaeologists and well experienced article reviewers.

PalArch welcomes a wide variety of articles (find descriptions, (preliminary) research results, overview articles, etc.) from both senior and junior researchers (we prefer content over reputation). Perhaps a special North Sea issue is a possibility for the (near) future?

PalArch (ISSN 1573-3939) can be found here: http://www.palarch.nl

Natasja den Ouden

Natasja studied prehistoric archaeology at Leiden University (the Netherlands) and palaeobiology at Bristol University (United Kingdom). She is particularly interested in mammalian body size trends and Late Pleistocene extinctions. At the moment she works as an ecological archaeologist for BIAX Consult, Zaandam, focussing mainly on wood and charcoal from archaeological sites. She is also one of the managing editors of PalArch’s Journal of Archaeology of northwest Europe and a board member of the WPZ (Dutch Society for Pleistocene Mammals).

New Methodology

Geophysical and geotechnical survey techniques – the search for submerged landscapes.

March 2007 saw the completion of the Seabed Prehistory Project funded over four years through the Aggregates Levy Sustainability Fund (ALSF). The project was administered by English Heritage and the Minerals Industry Research Organisation (MIRO).

The project aimed to develop methodologies for assessing the prehistoric archaeological potential of submerged deposits and to provide guidance for the identification and mitigation of these deposits to the marine aggregate extraction industry. This was accomplished by assessing and applying industry standard geophysical and geotechnical tools for archaeological evaluation.
The survey areas were selected on the basis of their palaeogeographic features such as palaeochannels or peat deposits, but also by their proximity to marine aggregate extraction areas so that the results could be used to gain a better archaeological understanding of these areas. The project focussed on four aggregate dredging zones around the UK coast, two of which were situated in the North Sea: a site offshore of Great Yarmouth and one south of the Humber Estuary.

Geophysical and geotechnical sampling surveys were undertaken in each area. The geophysical survey included acquisition of sidescan sonar, single-beam echosounder and sub-bottom profiler data. The echosounder data provided detail on the bathymetry and seabed morphology of the area; the sidescan sonar provided details on the seabed morphology as well as indicating seabed sediment type; the sub-bottom profiler identified individual sub-seabed horizons.

Various seismic sources (boomer, pinger and chirp) were trialled throughout the project to ascertain the best one for assessing the geology in aggregate areas. On the basis of these trials, pinger and chirp sources were shown to achieve better resolution of fine-grained (silt and clay) deposits, specifically within the first five metres of the seabed, but did not achieve sufficient penetration in the coarse-grained (sand and gravel) deposits targeted for aggregate dredging. It was concluded that boomer systems produced the best compromise between penetration in the seabed geology and the resolution of geological horizons.

Once acquired, the sub-bottom profiler data were processed and interpreted using Coda Geosurvey software. The interpretations were then modelled into a series of surfaces which aided the understanding of the various phases of development within the survey areas and formed a basis for the palaeogeographic reconstruction of the areas.

Trials were conducted throughout the project to assess suitable line spacing for archaeological purposes. Based on the results of the trials, the surveys were conducted with a line spacing varying from 50m to 100m and therefore were conducted at a higher resolution survey plan than would normally be collected for marine aggregates surveys, enabling smaller features to be identified. It was concluded that surveys undertaken with a line spacing of no more than 100m with crosslines situated up to twice the principle line spacing provided a dataset of sufficient quality for interpretation. This spacing should ensure the determination of features greater than 100m, depending on their orientation.

The interpretation of the geophysical data provided the initial palaeogeographic evaluation of an area. Although palaeosurfaces were identified on the geophysical data, the geophysical horizons needed to be ground-truthed to establish their nature and character.

Based on the initial geophysical data interpretation a judgement-led vibrocoring sampling strategy was developed within the survey areas. On the basis of the sedimentary unit descriptions and the comparison of the core logs, major sedimentary units were ascribed principal phases which were then correlated with the sedimentary units described within the geophysical data interpretation. Profiles created by the phasing were integrated with the geophysics data enabling comments on their palaeoenvironmental and geoarchaeological significance to be made.

Geoarchaeological core log descriptions, sampling of the cores and analysis of pollen, diatoms, ostracods, foraminifera, molluscs and waterlogged plants within the sediment, as
well as dating appropriate samples, helped define prehistoric seabed deposits and identified any relationships between them. $^{14}$C (radiocarbon) and OSL (optically stimulated luminescence) samples were taken from relevant deposits in order to provide chronological information.

During the project the vibrocore survey data provided: calibration of the geophysical data; a relative chronology for the area identifying the relationship between palaeogeographic features; a measure of the absolute timescales involved in the depositional processes; evidence for the environmental reconstruction of the depositional environments; and evidence of marine transgression.

Through the combined use of high resolution geophysical and geotechnical surveys this project has identified and dated deposits and remnant landscapes from pre-Anglian to post-Devensian times, increasing our knowledge of the survival of archaeologically important deposits in the marine environment. Palaeoenvironmental data from these sites has allowed the reconstruction of the changing prehistoric landscapes, to provide a better understanding of when and if these sites would have been exploited by humans in the past.

Summaries of the site survey results can be found in Issue 1 of the North Sea Prehistory Newsletter (February 2007) and detailed results of the project are provided on the Wessex Archaeology website: http://www.wessexarch.co.uk/projects/marine/alsf/seabed_prehistory/index.html

Louise Tizzard. Louise Tizzard has worked as a marine geophysicist/geoarchaeologist for Wessex Archaeology since 2006.

New Reconstruction of the Late Pleistocene Woolly Rhino, *Coelodonta antiquitatis* (BLUMENBACH, 1799).

When we look at the huge number of fossil remains of ice age mammals dredged up from the North Sea floor between the United Kingdom and the Netherlands, we can conclude that this area was an ideal habitat for those mammals in the late Pleistocene era. The majority of the remains date from the late Pleistocene, somewhere between 100,000 and 10,000 years ago, and we are speaking of TONS of bones, mammoth molars, tusks, hooves, teeth, etc. These are remains of large grazers, especially the mammoths. It appears that the area between the United Kingdom and the Netherlands was not the North Sea we know today but a vast, mostly treeless, dry steppe, where the Thames from the west and the Rhine, Meuse and Schelde from the east meandered into river deltas before entering the Atlantic Ocean way to the North. This was the typical landscape, the megafauna steppe, found stretching across the land masses of the Northern Hemisphere at that time, in which mammoths, rhinos, steppe bison and their concomitant large predators were thriving.

Using fossil remains of the woolly rhino, (*Coelodonta antiquitatis*) such as skeletal elements found on the North Sea floor and mummified remains of soft tissues from the permafrost soil of Siberia, Remie Bakker (www.manimalworks.com) has succeeded in building a very accurate replica of this pachyderm. It has been created for a display of the new nature museum of Enschede in the Netherlands which will open early next year. The replica will be in a specially designed room exhibiting the typical habitat of the last glacial stadial, next to a skeleton of the same species, compiled from several remains. Remie is also creating a model
of the extinct steppe bison, *Bison priscus*, for the same display area. This is a very impressive animal which used to stand six and a half feet (two meters) tall at the shoulder, carrying very large horns, several times larger than the modern bison and cows.

This steady haul of remains in the nets of the North Sea beam trawlers used to be a nuisance for the fishermen, but currently these are recognized as important palaeonotological evidence for the reconstruction of the climate and habitat of the past. As a result, the general interest in the environment of the past appears to be rising, which is why the museum is focusing their attention on these faunal elements.

Remie Bakker has created several other life-sized replicas of Pleistocene megafauna animals. Another woolly rhino is on display in EcoMare on the island of Texel in the Netherlands, as well as a scimitar cat (*Homotherium latidens*), an extinct European sabre toothed tiger cat. Furthermore, the Yukagir mammoth, a replica of a recently found mummy of a woolly mammoth (*Mammuthus primigenius*) in North Siberia, both the replica and the actual mummified remains were on display at the Japanese exhibit of the EXPO 2005 in Japan where over 6.6 million people visited this extinct elephant display. Pictures of all these replicas can be seen at Remie’s webpage [www.manimalworks.com](http://www.manimalworks.com). Also, seeing the exhibit where North Sea fauna appear to come to life once again is highly recommended when it opens next year!

![Figure 5. Reconstruction of woolly rhino.](image)

Dick Mol
dickmol@tiscali.nl
Meetings and conferences

North Sea Prehistory Research and Management Framework (NSPRMF) in the pipeline

On October 10th of last year, a meeting was held in Amersfoort bringing together a small group of people from England (Nic Flemming, Peter Murphy) and the Netherlands (Andrea Otte, Peter Stassen, Hans Peeters) concerned with North Sea research and heritage management issues. A second meeting was held the day after in Rotterdam with the English delegates and some active researchers from the Netherlands (Jan Glimmerveen, Dick Mol, Jelle Reumer). The aim of the Rotterdam meeting was mainly to explore some possibilities for cooperation at the level of research in the Dutch/English North Sea basin and information exchange. The main objective of the Amersfoort meeting was to explore the possibilities of developing a joint approach to the research and management of the submerged prehistoric archaeology and landscapes of the southern North Sea.

Of course, the research and management issue was not new on itself. An international workshop was held in London in 2003 and centred around some major problems related to this important heritage in the area. Despite the valuable contributions to both the workshop and the subsequent publication (Flemming 2004), it appeared difficult to bring this a step further in a more structural way in terms of setting the agenda and international cooperation. Certainly, this does not mean that nothing has been done. In fact, many new and exciting discoveries have been made (e.g. Gaffney et al. in press), and only recently the media (e.g. Time Team) paid much attention to the surprising dimensions of the North Sea floor. Perhaps more than ever, it has become clear that the North Sea basin deserves full attention. However, in order to push things beyond the scope of 'personal' and ad hoc initiatives, it is felt on both the English and Dutch side of the North Sea that a common framework could play an important role in structuring and steering a research and management agenda.

During the Amersfoort meeting it was agreed upon the development of such a framework (in this contribution further referred to as NSPRMF) for the southern North Sea basin and that for practical reasons, the initiative will be developed in the Netherlands and England. Once draft documents have been prepared, archaeologists and heritage management officers from other 'southern North Sea countries' will also be invited to join in. It was also agreed that the Netherlands would produce a draft document setting out a conceptual framework. In the course of the months following the Amersfoort/Rotterdam meetings, some more informal meetings and contacts have made clear that a NSPRMF would be most welcome and shared by many.

In view of these positive reactions, it is time now to take a step further. In order to come to the draft NSPRMF, the idea is to organise a one-day workshop which is meant to provide the input for this document. Significantly, a precondition should be that the framework is designed in such a fashion that research into prehistoric landscapes (this includes both issues of human landscape use as palaeolandscape evolution) and heritage management issues can be connected in a consistent and useful way. Thus it can provide an internationally supported

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1 Flemming, N.C. (ed.): *Submarine prehistoric archaeology of the North Sea: research priorities and collaboration with industry*. York (CBA Research Report 141).
basis which will be helpful in acquiring funding for broader scientific research programs or small scale (focussed) fieldwork. At the same time, it provides a framework for the development of a more structural and pro-active management agenda. Therefore, the NSPRMF does not only focus at researchers and management officers, but also wants to address (potential) stakeholders (e.g. industry, government) and particularly the public. For these groups, it will without doubt be necessary to develop an easily accessible version and communication strategy.

In order to organise the one-day workshop (to be held in the Netherlands) a preparatory group has been formed, consisting of Jan Glimmerveen (CERPOLEX/Mammuthus), Wil Roebroeks (Leiden University), Andrea Otte (RACM)\(^3\), Hans Peeters (RACM), Nic Flemming (Oceanography Centre) and Peter Murphy (English Heritage). Peter Murphy (peter.murphy@english-heritage.org.uk) and Hans Peeters (h.peeters@racm.nl) will act as contact persons for England and the Netherlands respectively.

The workshop (planning: November 2007) aims at the following results:
1. Resource assessment: a concise overview of current developments in the southern North Sea concerning research (e.g. archaeology, palaeontology, geology/palaeogeography), natural processes (e.g. erosion/sedimentation dynamics), industry (e.g. aggregate extraction, pipelines, windmill park construction etc.) and heritage management (e.g. legislation, funding).
2. Priorities: establishing a shortlist of research and management priorities for the next 5 years.
3. Agreements: composition of the NSPRMF drafting group, division of labour, planning.

For reasons of efficiency, the number of participants will be restricted (ca. 15). Invitations will go out in due time. However, the 'lucky winners' will have some homework to do, as they have to assemble an up-to-date, but concise overview of relevant issues in their domain of expertise. Those who are not invited, may, in turn, be contacted for this particular purpose. As the southern North Sea Prehistory heritage is our shared concern, we hope we can count on your cooperation. Furthermore, we will keep you informed through the North Sea Prehistory e-Newsletter, so make sure you are on the mailing list.

Hans Peeters.

I am working as senior archaeologists for the National Service for Archaeology, Cultural Landscape and Built Heritage (RACM) in the Netherlands. My work covers the Early Prehistory of the 'Holocene' and marine parts of the Netherlands. My interests go out to the dynamics of hunter-gatherer landscapes and how to deal with this heritage in terms of resource management. In this context, I have conducted a PhD research project in the Dutch Flevoland Polders.

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\(^3\) RACM: National Service for Archaeology, Cultural Landscape and Built Heritage in the Netherlands.
And to end with something beautiful…

Figure 6 is a painting of a *Homotherium* resting on the North Sea mammoth steppe around 28,000 years ago, by Remie Bakker.