Institution: University of Southampton

Unit of Assessment: 17A Archaeology

Title of case study: 17A-03 Protecting Maritime and Coastal Heritage at home and overseas

1. Summary of the impact

A programme of research conducted by The Centre for Maritime Archaeology (CMA) at the University of Southampton has influenced, at a national and international scale, the management and protection of underwater and coastal heritage. The research has directly influenced public policy, nationally through the English Heritage Maritime and Marine Historic Environment Research Agenda, and internationally by underpinning primary legislation and current practice in Uruguay. Capacity building has resulted in new educational infrastructure, the Centre for Maritime Archaeology and Underwater Cultural Heritage (CMAUCH) in Alexandria, Egypt, which has changed attitudes towards maritime heritage throughout the region.

2. Underpinning research

Prompted by recognised global failings in the protection and management of maritime cultural heritage, research programmes undertaken at the CMA have sought to address these issues and establish new systems of education, training and knowledge-sharing.

Research programmes, initiated in 2005, comprised linked projects that targeted a broad spectrum of stakeholders and involved academic, curatorial and industry partners. The researchers from Southampton were: Dr Lucy Blue, Senior Lecturer (at Southampton since 2000); Jon Adams, Professor (at Southampton since 1995); Dr Fraser Sturt, Senior Lecturer (at Southampton since 2005); Dr Justin Dix, Senior Lecturer (at Southampton since 1999); Dr Jesse Ransley, BA post doc (at Southampton since 2005); Dr Emad Khalil (PhD 2002-2005, Leverhulme post doc 2007-2009); Dr Jorge Herrera, PhD (2003-2008).

Between 2009-2012 the CMA was commissioned by English Heritage to develop the Maritime and Marine Historic Environment Research Agenda, the first and only document of its kind. Titled *People and the Sea*, it forms the basis of England's strategic policy for maritime archaeological research for the next decade [3.1]. The consultation and research involved representation from every constituency of UK maritime archaeological research and practice [3.1], comprising more than 100 academics and practitioners. Feeding directly into the formulation of the Agenda was the principle of sustainable development, reaching government policy, industry, third sector organisations and local communities alike.

The CMA's consultancy work (2006-2012) with industry and government bodies into Submerged Landscapes [3.2] has been flagged as an example of best practice by English Heritage and Crown Estates. Sturt and Dix produced The Outer Thames Estuary Regional Environmental Characterisation, the first in-depth study of the geology, ecology and archaeology of an extensive area (3,800 km^2) of the seafloor off the English coast. Their particular analysis and interpretation of large volumes of data collected by offshore developers contributed significantly towards minimising the geological and archaeological impact by setting procedural precedents for major offshore development.

Education and capacity building within management and protection frameworks set out by UNESCO form the core of CMA research activities. The Uruguayan Maritime Archaeology Programme undertaken in 2005-6 [3.3] was a British Academy-funded project that undertook coastal mapping, marine geophysics, an underwater survey and the construction of a Geographic Information Systems (GIS)-based Historic Environment Record (HER). HERs provide essential information to help manage and interpret the historic environment of a specific area, and are used by local authorities for planning and developmental control, as well as for public benefit and educational use. The research supported the Uruguayan Heritage Commission in its bid to replace existing exploration and treasure-hunting practices with a research-based approach in accordance with the UNESCO 2001 Convention on the Protection of the Underwater Cultural Heritage.

The Lake Mareotis Research Project, Egypt (2004-2009) [3.4], Leverhulme Trust and British

Academy-funded research, revealed the history of the important Greco-Roman port of Alexandria through a survey of around 70 lakeside settlements and was pivotal in raising the profile of, and establishing the threats faced by, coastal archaeology in the region. Capacity was increased by training University of Alexandria students in the practice of archaeological survey and excavation, ultimately leading to the establishment of the Centre for Maritime Archaeology and Underwater Cultural Heritage (CMAUCH) within the University of Alexandria.

3. References to the research

A. National

English Heritage Research Framework

3.1 Ransley, J., Sturt, F., Dix, J. Adams, J. & Blue, L. (eds) (2013). *People and the Sea.* Council for British Archaeology; York.

Submerged Landscapes

3.2 Sturt, F. & Dix, J. K., & EMU Ltd. (2009) *The Outer Thames Estuary Regional Environmental Characterisation*. London, United Kingdom, ALSF/MEPF (DEFRA) [Peer reviewed report for the ALSF]

B. International

Uruguayan Maritime Archaeology Programme

3.3 Herrera, J. Buffa, V., Cordera, A., Francia, G & J. Adams. 2010. Maritime Archaeology in Uruguay: Towards a Manifesto. *Journal of Maritime Archaeology* 5.1: 57-69

Lake Mareotis Research Project

3.4 Blue, L. & Khalil, E. (eds). 2011. *A multidisciplinary approach to Alexandria's economic past: The Lake Mareotis Research Project*. Southampton Monograph Series No. 5. BAR International Series 2285. Archeopress: Oxford.

Protecting underwater and coastal heritage has attracted around £1 million in research income from a range of government bodies and research councils including the European Union Tempus Culture and Education scheme (245,850 Euros) [3.4], English Heritage and US National Parks, the British Academy, AHRC and the Leverhulme Trust.

4. Details of the impact

The impact of the research is both national and international, informing the maritime research strategy of English Heritage; enabling offshore industries to make more informed decisions; shaping heritage protection legislation in Uruguay; and establishing a unique new centre for training and education in Egypt.

English Heritage Research Agenda

Commissioned by English Heritage, *People and the Sea: A Maritime Archaeological Research Agenda for England* articulates the definitive position on the maritime environment in England and underpins the next decade of archaeological research. The first document of its kind, it has taken English Heritage from a reactive position to a proactive one, allowing them to establish gaps in knowledge to determine future research themes. For Barney Sloane, Head of Strategic Planning and Management Division at English Heritage, it "... is guiding our curatorial decision-making and informing our advice on casework and research..." [5.1].

Submerged Landscapes

Sturt and Dix's work on the English Heritage-funded Regional Environmental Characterisation project (2009) has contributed to new methodologies for quantifying the offshore heritage resource. Dr Ian Oxley, Head of Marine Archaeology at English Heritage, said: "Over the last two decades the University of Southampton group has led the way in the use of high resolution geophysics for the imaging and interpretation of a range of archaeological sites... English Heritage has called on this expertise frequently over this period..." [5.2].

This work included preparing the first user-orientated, online dataset to aid marine planning and development, which has been accessed by offshore companies including environmental and engineering consultancy firms AMEC Ltd (FTSE 100 company, offices in 40 countries) and Ramboll Ltd (190 offices, 21 countries).

This approach was adopted in development projects off the southern and eastern UK coastline and on the Humber River, promoting significantly streamlined data acquisition and evaluation practices for the marine renewables and aggregate industries with regard to heritage and the environment. Besides the obvious reduced cost implications for government and industry, underwater cultural heritage is significantly less threatened by its implementation.

These principles have been applied to environmental impact assessments for major UK infrastructure projects via subsequent consultancy work by Sturt and Dix with AMEC (for client EDF), leading to the redevelopment of nuclear power stations (Hinkley Point 2010-2013 and Sizewell 2010-ongoing) [5.3] and with Ramboll on the construction of the largest UK offshore windfarm (the London Array, comprising energy companies Dong Energy, EoN and UAE-based Masdar, 2008-present) [5.4]. Dix and Sturt also provided marine archaeological support to the GLO-1 telecommunication cable system which runs between Nigeria and the UK. According to Associate Director AMEC Sean Steadman “The success has been such that we are spinning out the approach to projects not just in the UK but across our global company” [5.5], while Ramboll said: “The... approach to archaeological analysis of geophysical, geotechnical and material cultural data... has proven to be innovative and highly effective.” [5.6]

Uruguay Maritime Archaeology Programme (UMAP)

The UMAP project led the Uruguayan Heritage Commission (UHC) to reshape its legislative framework, which directly informs current Uruguayan government policy. The Historic Environment Record is now run by the UHC; a new law was passed in 2006 [5.7] effectively banning treasure hunting and stipulating that further shipwreck investigations must be carried out in accordance with archaeological principles. The impact is still felt today, according to Dr Alberto Quintela, Director of Cultural Heritage Commission, Ministry of Education and Culture in Uruguay. “It has had a long-lasting effect on the ways in which Uruguay now approaches the management of the subject matter … It is our hope that what started in 2005 with UMAP continues to move Uruguay towards being a foremost example of international cooperation and best practice in cultural heritage management.” [5.8]

Lake Mareotis Research Project (LMRP)

The collaboration established through the LMRP generated an innovative educational and capacity-building project funded largely by an EU Tempus Culture and Education fund secured by Blue (2007). The *Tempus Project* led to the establishment of the Centre for Maritime Archaeology and Underwater Cultural Heritage (CMAUCH) within the University of Alexandria, Egypt in 2009. CMAUCH is the first centre of its kind in the African-Arab world, enabling the training and education of 50 students to date in maritime archaeology and coastal heritage management.

CMAUCH organised an international maritime archaeology and underwater cultural heritage training workshop and conference in Alexandria in 2010, which Southampton’s CMA led. Participants from 15 countries contributed to the conference and 15 participants from six countries attended the workshop. Many of these students now work in antiquities ministries in the region, adding significantly to the reach of maritime archaeological awareness within government. Dr Khalil, Director of CMAUCH: “The workshop helped them [the students] a lot in their workplace and to secure jobs in heritage”[5.9]. The research has prompted further collaboration between CMAUCH and the University of Southampton including an international UNESCO initiative designed to foster underwater archaeology, research and capacity building. Dr Khalil: “The CMAUCH is the only one of its kind in the region... Since its inception we have had excellent collaboration with your institution. The centre is currently running successfully with 33 students being taught at different levels (Master/Diploma). We are also very optimistic about our new initiative, the UNESCO UniTwin Network in Underwater Archaeology...” [5.10].

5. Sources to corroborate the impact

5.1 Barney Sloane, Head of Strategic Planning and Management Division, English Heritage

5.2 Dr Ian Oxley (Head of Marine Archaeology, English Heritage): "Over the last two decades the University of Southampton group have led the way in the use of high resolution geophysics for the imaging and interpretation of a range of archaeological sites (both wreck and landscape). English Heritage have called on this expertise frequently over this period, most recently in the development of their Marine Geophysical Guidance documents and the past inclusion of Blue and Adams on the Wreck Advisory Panel."

5.3 Glazier, D., Sturt, F. and Dix, J. 2011. Sizewell offshore archaeological assessment. Report for EDF [Peer reviewed by English Heritage] [5]

5.4 Sturt, F., Dix, J. and Moore, H. 2010. *London Array inter-tidal cable impact report*. Report for London Array Limited [Peer reviewed by EH – another 270 reports have been issued for the offshore section of this project]

5.5 Sean Steadman (Associate Director AMEC): "The approach to environmental impact assessment for the marine archaeological record developed by the University of Southampton and used in collaboration with AMEC on the Hinkley Nuclear Power Station has been ***very well received*** by both the client (EDF) and the regulator (EH). The success has been such that we are spinning out the approach to projects not just in the UK but across our global company."

5.6 Helen Moore (Senior Archaeologist) Ramboll UK Limited (www.ramboll.co.uk): "The Centre for Maritime Archaeology's approach to archaeological analysis of geophysical, geotechnical and material cultural data for large scale offshore infrastructure projects has proven to be innovative and highly effective. Ramboll have gained excellent feedback from both the regulator (EH) and major international clients (London Array Limited and DONG Energy) in relation to work on one of Europe's largest marine projects the London Array, currently the world's largest operational offshore wind farm. As such, we have actively sought the involvement of the University of Southampton in additional projects on sites across the globe."

5.7 Decreto Reglamentario del Poder Ejecutivo 306, de Setiembre de 2006 (Statutory Decree of the Executive Power 306, of September 2006), to support impact of work carried out in Uruguay. [Government decree to support impact of UMAP project]

5.8 Dr Alberto Quintela, Director of Cultural Heritage Commission, Ministry of Education and Culture in Uruguay

5.9 Dr Emad Khalil (Director, CMAUCH, University of Alexandria, Egypt): 'The participants were very pleased with the workshop. It helped them a lot in their workplace and to secure jobs in heritage. Even those who already worked for other sections in Antiquities such as Fatma Hammad who worked in the Islamic Antiques in Cairo, she moved to Alexandria and changed her job to work for the Underwater Archaeology Department. Meriam Masturi from Tunisia, she came to Egypt to study at the centre and now she is back in Tunisia as the second person in the Underwater Department there'.

5.10 Dr Emad Khalil: 'Since 2007 the University of Southampton has been our partner in creating the Alexandria Centre for Maritime Archaeology and Underwater Cultural Heritage. Southampton was the grant holder for the project Tempus CD_JEP-34009-2006 through which the centre was created. The CMAUCH is the only one of its kind in the region dedicated to graduate education in Maritime and Underwater Cultural Heritage. Since its inception we have had excellent collaboration with your institution. The centre is currently running successfully with 33 students being taught at different levels (Master/Diploma). We are also very optimistic about our new initiative, the UNESCO UniTwin Network in Underwater Archaeology, which both the Universities of Alexandria and Southampton are collaborating under the patronage of the UNESCO'.