

<p><b>Institution: University of Aberdeen</b></p>
<p><b>Unit of Assessment: 17 (Geography, Environmental Studies and Archaeology)</b></p>
<p><b>a. Context</b></p> <p>The University of Aberdeen is distinctive for both its international “Northern” profile and for the global range of its research projects. The founding of a new Archaeology Department in 2007, and its interaction with existing strengths in palaeoecology, established an enhanced research theme on the <b>Archaeology of The North</b>. Subsequent investment in <b>Human Palaeoecology</b> and the growth of a third research strand in <b>Conflict Archaeology</b> (since late 2010) has set the context for this Unit’s principal impact trajectories. This plays out principally through a strong public engagement focus, influencing wider understanding and attitudes, as well as feeding into policy-shaping. We are also actively engaged with both the regional and local communities, centred in Scotland and particularly Aberdeenshire.</p> <p><b>1) Archaeology of the North:</b> From an original primary research focus on the palaeoecology of the North Atlantic, the Unit is now expanding its regional and international Northern agenda with investigations into the archaeology of indigenous and local communities in the North. Principal beneficiaries and stakeholders include the indigenous peoples amongst whom our field research is carried out. Two RCUK-funded flagship projects are delivering impact: 1) our community-oriented field school in Alaska, based at the coastal site of Quinhagak; and 2) a community-based project around the slopes of Bennachie in NE-Scotland. Impact is being delivered on a number of levels, but mainly involves how studying the past can impart knowledge to indigenous cultures/local communities and how co-production of research can result in novel research.</p> <p><b>2) Human Palaeoecology:</b> Enhancement of this well-established theme at Aberdeen, has seen investment in new staff in 2009 and 2011. Some key elements of our research in this field, namely animal domestication and human dispersal, have been the subject of significant public interest, being covered by a variety of local, national and international media, including the written press, television and radio. Principal beneficiaries are those involved in production of cultural materials (books, films and documentaries) and broadcasting (across all media) and wider society through enhanced cultural understanding and informing established public norms, attitudes and thinking.</p> <p><b>3) Conflict Archaeology:</b> Focused principally on the Pacific theatre of World War II, specifically contrasting island archipelagos in the North Atlantic and Pacific, projects in this research theme combine a concern for preservation and recording of fragile battlefields with an inclusive agenda of multicultural dialogue amongst all the stakeholders involved, including neglected social and ethnic groups and not least the indigenous peoples and current residents of the islands involved. The result is strongly marked by the co-production of knowledge and the writing of a new history for this troubled aspect of the past, with a clear eye to its impacts in the present and future.</p>
<p><b>b. Approach to impact</b></p> <p>During the census period, our Unit’s approach to impact has evolved in conjunction with our long-term commitment to multidisciplinary research and the strengthening of applied areas of external activity (e.g. indigenous archaeology, public archaeology, tourism and planning). Developing the capacity for non-academic impact is also consistent with our goal to both dovetail and diversify income streams for research. This can be best seen through the following examples which expand upon our three key research areas outlined above.</p> <p><b>1) Archaeology of the North:</b> The Unit’s research into indigenous peoples in the circumpolar north includes the Yup’ik Eskimos of the Bering Sea, Western Alaska (<b>Knecht, Britton, Hillerdal</b>), the Sámi of Scandinavia (<b>Hillerdal, Price, Edwards, Schofield</b>), the Khanty of Siberia (<b>Jordan</b>) and the Coast Salish of British Columbia (<b>Oliver</b>). Impact here bears specifically on informing how indigenous communities adapt to changing climate, resource availability and altered social landscapes; how rapidly disappearing cultural heritage can be recovered, conserved and interpreted; and how heritage can contribute to the revival and transmission of traditional knowledge. Focused on the study of over 25 miles of shoreline settlement along the Bering Sea, our field school at Quinhagak is run jointly with the local community of Yup’ik Eskimos, working closely with Native American elders, local hunters and fishermen, and village decision makers. Uniquely, the project was initiated by members of the community of Quinhagak, addressing priorities expressed in community meetings held throughout the Yup’ik region, that include concerns about the effects of climate change; the need to preserve cultural heritage; and to find new avenues for imparting traditional knowledge to younger people raised in an increasingly westernised cultural environment. The local and regional impact of the Unit’s research has already</p>

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been significant. The Association of Village Council Presidents (AVCP) voted to establish an archaeological repository in the hub city of Bethel that will service village-based exhibits and cultural preservation programmes. A full-time museum/repository project director has already been hired by AVCP. Our research is an important catalyst for further enhancing local support for this project.

In the second instance, our Aberdeenshire-based '*Bennachie Landscapes Project*' (**Oliver, Noble, Milek, Knecht, Schofield**) is aiding community groups with an interest in managing and developing opportunities in the historic environment; engaging local people in the creation of a long-term sustainable strategy for community involvement, educational outreach and heritage management/development. This is a collaborative venture between the Bailies of Bennachie (a voluntary conservation society), the Forestry Commission Scotland, the Scottish Sculpture Workshop, and the University of Aberdeen, focusing on past community relationships with land, resources and society. The project has been successful in sharing skills, knowledge, resources and techniques between university researchers and members of the community. In term of its initial aims, this recent project is facilitating hands-on experience of investigating the landscape from which sustained and longer-term research projects can emerge. The project has already produced a number of important community outputs, including public lectures and, most significantly, a publication featuring research articles written by the Bailies of Bennachie and co-authored by Aberdeen academics.

**2) Human Palaeoecology:** Significant research highlights in this theme include new ways of exploring changing environments (**Edwards, Mighall, Maucquoy and Schofield**); past human health and diet, ancient hunting strategies and past living conditions (**Britton, Dobney, Milek, Knecht**). Wholly new insights into the biology and process of domestication, commensalism and the spread of early farmers are also major research highlights of this Unit. A number of significant research outcomes relate to understanding the origins and spread of early stock-keeping in SW Asia and Europe, revealing new evidence for the timing and processes of pig domestication across Eurasia, and re-evaluating Austronesian migration history (**Dobney, Cucchi**). This research has recovered and analysed some of the largest ever datasets of aDNA and metrics and uniquely combines them. This has provided the most tangible impact in terms of the public understanding of archaeology and broader science. A series of high profile academic papers related to animal domestication in the context of historical human migration and settlement patterns have first been featured as news items in the international print media, and were followed up by *Nature* (for example). These have then been taken up by broadcast media - including BBC radio and television in the UK - as well as television stations in France, Germany and the USA. Participation by **Dobney** in the 'Lapita Expedition', a historic sailing expedition combining experimental archaeology and sample collection, resulted in a full-length German television documentary and follow-up popular book, featuring our research into Pacific colonisation history (Case Study 2).

**3) Conflict Archaeology:** The principal locations for this research are the island archipelagos of Palau (Micronesia) and Orkney. The battle for Peleliu (Micronesia) in late 1944, between the USA and Japan, has predominantly been portrayed through American historical narratives. Our archaeological research (led by **Knecht & Price**) is a partnership with the indigenous Palauans whose home this remains (Case Study 1). Peleliu has deep spiritual significance within traditional Palauan religion, and is also critical to their future as an eco-tourist destination. As a result our research receives wide publicity in Palau and across the Pacific, with real economic effects in the islands. It is changing heritage management practice on Palau and in the USA, both at a government level and through the US National Park Service, bringing a fundamentally new understanding of the war to tourists and other interested visitors. Beyond Palau, the work is having a major impact in the American management of battlefield heritage, and our publications have been employed in Congressional briefings for US lawmakers. The National Park Service and the American Battlefield Protection Programme have cited our work as exemplary and a trailblazer for the future direction of this often contentious field.

**c. Strategy and plans**

As a relatively new Unit, we will continue to expand our existing approach across the full spectrum of our activities, to build on the successes we have already achieved. A major element of our Unit's profile is the relationship with public end-users. Both our flagship **Northern Archaeology** projects have new AHRC funding (Alaska - £1.12M and Bennachie £120K through the Connected Communities programme) to combine and expand both research and public engagement activities

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until 2015/16. The events planned directly emphasise engagement with archaeology, as well as building cultural heritage awareness, for example: public participation in fieldwork; production and distribution of community handbooks for threatened archaeological sites; local outreach events and community workshops; participation in formal education programmes; generation/distribution of education packages for schools; and fieldwork project blogs (e.g. <http://www.nunalleg.wordpress.com>). Plans involve a wide participation and ownership of the research, both in terms of what questions are asked and how it is to be carried out. This type of partnership gradually creates a sense of identity, ownership and purpose in communities, linking them to their past, that will also feed directly into strategic decision-making processes at local and even national levels.

New research projects within the Unit will provide further opportunities to develop impact. In animal domestication studies, for example, new research applying our model of combined genetic and morphometric studies to the earliest domesticate - the dog (funded through a recent £981k NERC project grant) - will ensure our engagement with emotive issues around end-user groups such as kennel clubs, breeders and animal welfare groups in a way not previously undertaken, placing archaeological data central to (perhaps controversial) debates about broader societal attitudes.

The Unit's ongoing palaeoenvironmental research (including the RELiC project; the European Modern Pollen Database [EMPD]; and the LANDCLIM project) will serve to guide future land management and aid conservation of fragile high-latitude ecosystems; inform the application to UNESCO for World Heritage Status for iconic Norse sites in Greenland; aid future carbon management and even benefit forensic science.

Staff members regularly participate in public outreach events and lectures. For example, **Edwards** became the 133<sup>rd</sup> Rhind Lecturer of the Society of Antiquaries of Scotland, presenting the prestigious series at the Royal Society of Edinburgh in 2012. All six lectures on 'Vikings in the N-Atlantic world' are available to download:

<http://www.screencast.com/users/simongilmour/folders/Rhind%20Lectures%202012>. In 2012, **Price** delivered the prestigious Messenger Lecture series at Cornell University, with all talks open to the public, recorded and posted on YouTube where they have together received nearly 7000 views (e.g. <http://www.youtube.com/watch?v=nJZBqmGLHQ8> for the first lecture). **Dobney** was President of the Anthropology & Archaeology Section at the 2012 British Science Festival and **Wickham-Jones** was part of the submerged landscape team represented at the 2012 Royal Society Summer Science exhibition. Other staff members in the Unit have also participated in school visits, Outward Bound, National Science Week, Scottish Archaeology Month, local and national society fixtures, the Darwin 200 programme, and University public engagement events throughout the REF period. These latter activities are led by the institution's Public Engagement with Research Unit, with which we have developed a close working relationship. We will continue to embed approaches to maximising impact in Principal Investigator training, alongside staff development initiatives in public and policy engagement training through the University's Researcher Development Unit for both academic and post-doctoral research staff.

**d. Relationship to case studies**

Impact is embedded in all three of the Unit's key research themes and newly developing research strands. Our two case studies exemplify both ongoing and developing impact (linked to a long-term interdisciplinary **Human Palaeoecology** research team working on animal domestication and human dispersal) and a newly established impact agenda linked to **Conflict Archaeology**. Case Study 1, grounded in traditional fieldwork, is set against the backdrop of one of the most costly (yet largely forgotten) battles of the Pacific Theatre of WWII. This research, begun in 2010, has rapidly developed to both serve and influence policy makers at the highest level (e.g. US Senate), practitioners and services in an international context, as well as delivering consequential societal benefits to local communities through heritage management, education, and tourism. Case study 2 (animal domestication) involves a longer progression from novel research findings that has fundamentally changed academic views. It has culminated in the popularisation and dissemination of those research findings, through the full range of international print and broadcast media, resulting in the broadening of public awareness and understanding of both science and the past.