

Institution: University of the Highlands and Islands

Unit of Assessment: 17 Geography, Environmental Studies and Archaeology

a. Context

Achieving impact is central to the mission of the University of the Highlands and Islands (UHI), as indicated by aim 4(a) of its Strategic Plan 2012-17: to “sustain and develop high impact research and knowledge exchange activities”. Aligned to this aim, achieving impact is a key driver in the research culture of the six members of the UHI partnership - Inverness College UHI; Lews Castle College UHI (Stornoway); Orkney College UHI (Kirkwall); Perth College UHI; Scottish Association for Marine Science UHI (SAMS) (Oban); West Highland College UHI (WHC) (Fort William) - that contribute to this submission. Since 2008, three main groups of non-academic beneficiaries or audiences have been targeted and impacted by research projects conducted within UoA 17:

1) Policy makers

Staff have a wide range of engagements with policy makers at international, national, and regional levels. At the **global** level, Laurence Mee’s research on the use of science in the US\$7bn GEF International Waters programme led to the influential report “*Science-Policy Bridges over troubled Waters: Making Science Deliver Greater Impacts in Shared Water Systems* (UN University and GEF, 2012), which concluded a major international study on global aquatic systems; Martin Price’s work on the periodic review of Biosphere Reserves since 1999 is recognised as best practice by UNESCO, having directly influenced the implementation of this quality-control process in Biosphere Reserves in many countries, including the UK and Israel; research by Jane Downes in the Heart of Neolithic Orkney and Easter Island World Heritage Sites (WHS), and by Keir Strickland in the Lumbini WHS (Nepal), is enhancing the management of these globally-important sites and their economic benefits (through improved interpretation and increased tourism). At **European** level, Mee coordinated the €5.74M, 32-partner, 15-country FP7 interdisciplinary project Knowledge-based Sustainable Management of Europe’s Seas (KnowSeas), which used systems thinking to underpin the EU’s Marine Strategy Framework Directive. It included the first European-scale survey of social values towards coastal and marine environments. At the invitation of the Irish Presidency, Mee presented the KnowSeas findings to a closed session of all 27 EU Environment Ministers and two EU Commissioners at the May 2013 European Council in Luxembourg. At **national** level (Scotland and UK), Downes’ ‘Orkney Barrows Project’ (since 1993) informs Historic Scotland (HS) policy on monument management, has led to better protection of the monuments through management agreements between landowners and HS, and has informed on-site interpretation. This research features in the Scottish Archaeological Research Framework (<http://www.scottishheritagehub.com/content/scarf-bronze-age-panel-report>) and, through this, has informed Forestry Commission Scotland approaches to conservation (Loch Arianas project 2012). Tavis Potts’ research report (2012) for the Scottish Government on managing marine litter in Scotland led to: a national task force; several policy workshops with government, civil and industry partners; and a central role in emerging policy to address marine debris, an important element of the Scottish and UK Government Marine Strategy Framework Development.

2) The Private Sector

Participation in schemes (Government, Funding Council, and other) aimed at enhancing Higher Education engagement with SMEs - such as the 2009-11 HI-Links project sponsored by Highlands and Islands Enterprise (HIE) and the European Regional Development Fund (ERDF), and the Scottish Funding Council’s Innovation Vouchers scheme - has enabled significant regional, national and international impact. For example, £5k Hi-Links-funded projects led by Peter Martin were precursors to: i) a £313k project on sweet gale with Boots; ii) establishing and managing a bere supply chain for Bruichladdich distillery (generating £76k from 2008 to 2012); iii) developing and running a supply chain for Highland Park distillery (£55k from 2009 to 2012). Such supply chains have resulted in income to growers (e.g. £29k to Highland Park growers from 2010 to 2012); commercial links have resulted in new food and drink products (beer, whiskies, wine). Other examples of impacts include: applied research by Annalisa Christie and Karen Alexander, which benefits the marine renewables industry through historic environmental impact assessments, marine spatial planning, and mitigation strategies for proposed wave and tidal developments, enabling companies in the industry to receive planning consent; research on sustainable seafood and eco-labelling by Potts, funded by ESRC, used to understand the perspectives of the Marine

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Stewardship Council, UK consumers and the fishing industry and to inform future policy and retailer marketing strategies. Peter Varley's research on adventure tourism, which informs product development by tourism operators, particularly in Scotland and the Nordic countries.

3) Communities

UHI has a commitment to contribute to communities in its region and beyond. Downes led research underpinning the Scapa Flow Wrecks website, which has been popular with divers and naval enthusiasts (e.g. 27/6/13 – 31/7/13 saw 3,899 visitors and pages viewed 19,485 times). This has increased remote and sustainable access to the vulnerable resource of the wrecks, with long-lasting effects on tourism. The website has spurred students, dive boat operators, marine biologists, and commercial divers to take the Nautical Archaeology Society (NAS) courses first delivered by research staff at Orkney College UHI in January 2013. Historic Scotland's document 'The Marine Historic Environment: Strategy for the protection, management and promotion of marine heritage 2012-15' specifically references UHI's contributions to its Strategic Aims in developing awareness and capacity amongst professional organisations and amateur groups through targeted training and outreach. In the Highlands, research on sustainable estates by Jayne Glass and Robert McMorran, both at early stages of their career, led to an ESRC Knowledge Exchange Small Grant, with match funding from Scottish Government and Scottish Land and Estates (SLE). Three workshops resulted in a booklet on how communities and estates can work more productively together; its recommendations are increasingly used to inform their interactions, and SLE used them to formulate its response to the Land Reform Review Group and as the basis for its Community Engagement programme.

b. Approach to impact

Each member of the UHI partnership contributing to this UoA has close ties with communities, businesses and the public sector which enhance research impact. International impact is supported through UHI's European Office, which facilitates funding and direct links to European institutions. The specific geography of the Highlands and Islands region, the distributed nature of UHI, the academic expertise of staff, and excellent research facilities put researchers in a strong position to attract commissioned and policy-relevant research. For example, Potts' work at the SAMS Centre for Sustainable Coasts (CSC) emphasises the use of science in policy engagement and knowledge transfer with national government. Recommendations in the CSC report (2010), setting social and economic objectives for Scotland's National Marine Plan (NMP), have been used in the draft NMP, including Scottish-level indicators to measure social and economic progress against UK High Level Marine Objectives. Marine Scotland identified this work as 'incredibly useful' in its deliberations on progressing the NMP. Downes' membership of the Heart of Neolithic Orkney (HONO) World Heritage Steering Group - a partnership between Historic Scotland, Orkney Isles Council (OIC), the RSPB and Scottish Natural Heritage - has fed into OIC's planning guidance, informing both Historic Scotland's Management Plan (2008) for the WHS and the HONO WHS Supplementary Planning Guidance (2010), and to Downes' contributions to the research agendas and management plans at WHS internationally.

During the 2014 REF period, members sought actively to engage with potential beneficiaries through a variety of actions, including:

1. Support to staff to engage with potential users of research outputs, including time and access to travel budgets to attend key meetings, develop key relationships and thus achieve impact, e.g.: Potts' role on the steering committee of the Scottish Coastal Forum (a collaborative body of the Scottish Government), which has led to ongoing science-policy interaction with the transmission of scientific outputs into policy initiatives, research projects and reviews; Varley's membership of the board of the Outdoor Capital of the UK (destination marketing organisation) and the development steering group for the Wilderness Guides Training Programme;
2. Establishment, or membership, of organisations and advisory groups/bodies comprising or including potential end users: such as Mee's chairmanship of the Advisory Committee for the Protection of the Sea (the UK's oldest marine NGO); Christie's management of the Marine Archaeology Forum, established in 2011 with funding from the HLF-funded Scapa Flow Landscape Project, bringing together Historic Scotland, county archaeologists, local businesses (dive boat operators, Sula diving) and other universities (Aberdeen, Heriot-Watt) to promote research and commercial activities in the historic marine environment.
3. A partnership approach to research projects, ensuring direct relevance of the research undertaken and effective knowledge exchange, e.g.: Price's involvement (vice-president since

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2008) with Euromontana, the European multi-sectoral association for cooperation and development of mountain areas, resulting in involvement in collaborative projects with partners from across Europe - including on the topic of mountain foods, which led to a new European Commission Regulation in 2013; 'Project Adair' (completed 2012) - a partnership between UHI, Historic Scotland, the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS), and Orkney Isles and Highland Councils - to enhance and promote information in the marine historic environment, which has been widely disseminated by Historic Scotland, RCAHMS and via the Orkney College UHI website, and referenced in the Historic Environment Guidance for Wave and Tidal Energy for the UK.

4. Public engagement in various aspects of the research process and extensive use of media to disseminate research findings. For example, research by Downes and Ingrid Mainland into coastal archaeology and coastal erosion, including new methods for monitoring and recording erosion on coastal sites - e.g. high definition laser scanning in the Rousay Gateway to the Atlantic (North Atlantic Biocultural Organisation project) - is being disseminated in various ways, including working with community groups, magazines (Science Magazine 2011), and the BBC's The One Show (July 2011). This has widened knowledge of coastal archaeology and the effects of climate change, and contributed to community engagement in recording the resource before it is destroyed (Shorewatch Group).

c. Strategy and plans

Building on activities within UHI's Sustainability Studies network, to which all researchers in this UoA belong, UHI has defined Geography, Environmental Studies and Archaeology as priority areas for development. A consultation on enhancing support and development will begin in November 2013, reporting to the highest level of management by April 2014. This will include a detailed developmental roadmap. A key element will be MERIKA, a new 4-year European Commission-funded project, which will support three new social science posts to increase UHI's capacity and international linkages in research underpinning the renewable energy sector.

Key elements of the strategy to enhance research impacts include:

- active encouragement and support of staff to engage with potential users of research outputs, including membership of key organisations and advisory groups, and attending key meetings and public engagement activities (including the Edinburgh Beltane initiative);
- recruitment of knowledge exchange professionals to work with academic colleagues to help foster better links with private and public sector users of research, combined with training, and internal knowledge exchange within the UoA, and more widely in UHI, in the use of media, knowledge exchange and public engagement methodologies;
- alerting staff to research funding opportunities, particularly those specifically aimed at enhancing Higher Education engagement with SMEs and decision-makers;
- creation of new operational units (such as the Institute of Archaeology) explicitly oriented to maximising the impact of our interdisciplinary research;
- inviting current and potential users of our expertise to CPD courses and visits, to familiarise themselves with our research and suggest new avenues for research to meet their needs.

d. Relationship to case studies

Wild land Mapping: Through McMorran's role as coordinator of the Scottish Wild Land Group (SWLG - a charity owned and run by volunteers: www.swlg.org.uk/) research findings were disseminated through SWLG publications and a 2010 conference on wild land in conjunction with Scottish Natural Heritage, the John Muir Trust and others. Use of the outputs of wild land mapping is facilitated by Price's membership of the Board of the Cairngorms National Park Authority and his ongoing role as advisor to the European Environment Agency.

The Heart of Neolithic Orkney World Heritage Site exemplifies the manner in which UHI archaeological research fieldwork achieves high impact in social and environmental sustainability, and contributes to economic growth, attracting additional tourists to Orkney: a survey of the Orkney WHS (Scotinform, July 2013) evidences 46% of visitors citing an interest in archaeology as their reason for visiting; the proportion in 2002 was 25%. Excavations in remote communities have significant multiplier effects (the income brought in by accommodating, transport and provisions for excavation teams) and a sustainable legacy: new tourist attractions (e.g. Ness of Brodgar, Mine Howe, Knowes of Troty) and excavation staff relocating to Orkney.