

Institution: Anglia Ruskin University (ARU)

Unit of Assessment: Geography, Environmental Studies and Archaeology

a. Context

The Animal and Environment Research Group (AERG) (with contributions from the Global Sustainability Institute (GSI)) achieves impact through its research in the two cross-cutting fields of (i) *ecology and the conservation of biodiversity* and (ii) *environmental monitoring, management and policy* both in the UK and overseas. Within the field of *ecology and conservation of biodiversity*, the theme of *global change ecology* has had particular impact through its research on alien invasive species and restoration ecology. Within the field of *environmental monitoring, management and policy*, impact has primarily been through research on the links between economic risk and management of natural resources.

The research has achieved significant impact through challenging the thinking and practice of conservation NGOs; influencing policy and practice of government agencies concerned with conservation of the environment and/or biodiversity; capacity building in biodiversity monitoring through training volunteers; capacity building in terms of training academics and wildlife managers from countries rich in biodiversity but poor in financial resources; raising awareness of issues that compromise or can enhance biodiversity and natural resource availability; influencing public and private sector decision making associated with management of natural resources both in the UK and overseas; increasing private and public sector understanding of risks associated with climate change.

During the period 2008-2013, the non-academic user groups who benefited from this research included national and international NGOs e.g. the National Trust, RSPB, Birdlife International, Wildlife Conservation Society (US), Friends of the Earth, Green Economy Coalition, Oxfam; national and international government agencies concerned with nature conservation or managing other aspects of the natural environment e.g. UK Environment Agency, Natural England, Tanzania National Parks (TANAPA), UK Department for Environment Food and Rural Affairs (DEFRA) non-native species secretariat; policy makers e.g. UK Department of Energy and Climate Change (DECC), UK Cabinet Office, US State Department, World Bank; the private sector e.g. Skanska, Standard and Poor's, Lafarge, Lloyd's of London, Anglian Water, Essex & Suffolk Water; city councils e.g. Cambridge City Council; zoos e.g. Colchester Zoo; Local Enterprise Partnerships (LEPs) e.g. New Anglia Local LEP; and members of the public.

b. Approach to impact

The AERG and GSI support impact through a series of strategies: (1) supporting staff to engage with beneficiaries of our research; (2) supporting staff to enhance and transfer their skills relevant to capacity building in biodiversity identification, mapping and monitoring for key users of our research; (3) supporting staff with financial and technical help to write reports, user manuals, policy briefings or practical guideline documents for beneficiaries of our research; (4) enabling staff to engage the public with their research; (5) seconding staff into and from beneficiary organisations.

1. Supporting staff to engage with beneficiaries of our research.

In many cases, initial contact with potential beneficiaries of our research takes place through personal contacts or previous professional involvement with the organisations in question or because the research is located in a protected area managed by one of our beneficiaries. In addition we invite practitioners and policy makers, as well as academic speakers, to contribute to our seminar series, the GSI runs an annual conference for practitioners, academics and members of the public and the Cambridge Conservation Forum provides numerous practitioner and policy contacts in conservation. Several staff members in the AERG and GSI have had careers within the policy or practitioner community and can interpret the needs of such stakeholders. They also help less experienced staff members to negotiate this relationship in their research. For example, staff members have previously been employed by the RSPB, Natural England and the Parliamentary Office for Science and Technology (POST) and some carry out independent consultancy work e.g. for DEFRA, the World Bank and in the waste water industry. Some have had long relationships with NGOs through membership of their advisory committees e.g. Hughes chaired the Wicken Fen Local Committee 2004-09; A. Jones chairs a working group on climate finance within the Capital Markets Climate Initiative on behalf of the Minister for Climate Change in the UK DECC and is a board member of Sustainability East and Managing Director of the P80 Group Foundation; Robison is a member of Cambridge Carbon Conversations. Staff members are supported in these

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activities through being given time to attend meetings and travel funding.

A number of staff members of the AERG and GSI carry out field research in protected areas (e.g. in Mikumi National Park, Tanzania), at ecological restoration projects (e.g. Wicken Fen National Nature Reserve in UK), or in urban green spaces (e.g. in Cambridge). Good relationships with the practitioners in these places have been fostered through frequent visits and engagement with site staff which have enabled both high quality research and subsequent impact. Generous funding for these activities has come from the AERG, GSI and Life Sciences Department (LS) (within which the AERG is based) to support staff time and travel. These good relationships have enabled the unit's research to impact through: Data collection for use by partners (e.g. on invasive species with countrywide public involvement through web sites); Training and dissemination workshops (e.g. with Wildlife Trust); Drafting of Biodiversity Action plans (e.g. Urban Biodiversity Action Plan, Cambridgeshire); Drafting of UK policy (e.g. on climate change finance); Evaluating and recommending role for EU policy (e.g. behaviour change programmes, Consumer 2020).

2. Supporting staff to enhance and transfer their skills base relevant to capacity building in biodiversity identification, mapping and monitoring for key users of our research

The AERG recognises that skills in both Geographical Information Systems (GIS) and in species identification are needed to bridge some of the gaps between research and practice in nature conservation. In response, the AERG appointed a new staff member in the GIS area to work with both AERG members and conservation partners (e.g. the AERG ran GIS training workshops in Udzungwa and Mikumi National Park in Tanzania 2010). Lack of teaching in species identification within the UK HEI sector was recognised by the Natural Environment Research Council (NERC, 2010) as a major skills vacuum for effective biodiversity conservation. The unit has not only built capacity in this vital area by teaching ARU students but has also held events for members of the public (e.g. ARU students contributed to the 2010 UK Countryside Survey and over 100 volunteers have been trained in species identification for the National Trust and Wildlife Trust).

3. Supporting staff, through funding and help in kind, to write reports, user manuals or practical guideline documents for beneficiaries of our research. Staff members regularly produce reports for research users. For example, during the assessment period staff have been seconded to the Tanzanian Government to co-ordinate the preparation of the Tanzanian Elephant Management Plan; produced a Wetland restoration monitoring manual; contributed to a UK ladybird Atlas; evaluated the preparedness of Croatia for EU accession with respect to the Common Agricultural Policy on behalf of the World Bank; co-authored a climate science communication report under the Living Within Environmental Change (LWEC) initiative and written government reports on behaviour change trials for the Green Deal for the UK Cabinet Office and DECC. The ARU marketing department provides high quality design and production facilities for these documents.

4. Enabling staff to engage the public with their research. The AERG and GSI have proved well able to connect with the public as much of their research has wide media appeal. During the assessment period staff members have engaged with print, film, TV, radio, and cyber media e.g. staff members featured in *BBC Gardeners' World Live* in 2011 and in a full length documentary for Channel 4 on invasive species in 2012. Members of the group have written over 80 newspaper or website news articles and participated in numerous radio and TV interviews including for BBC1 Look East, BBC Radio Scotland, BBC Radio Cambridgeshire, BBC World Service, BBC Radio Wales and The Guardian. Internationally, discovery of new species (e.g. Giant elephant shrew, Tanzania) received extensive media coverage (e.g. National Geographic, 2011). Other events to which AERG or GSI staff contributed include Cambridge BioBlitz, Moscow Science Festival 2010, Cambridge Science Week, Cambridge Festival of Ideas, Royal Society Summer Science Exhibition 2009, and the British Trust for Ornithology nest box challenge. The AERG and GSI supported these impact activities through funding travel to events/festivals or production of materials for volunteers, festivals and the public (e.g. the GSI's twice yearly 'So What?' magazine). AERG and GSI also have access to excellent website support and a university marketing team for press releases.

5. Seconding staff into and from beneficiary organisations. The GSI works closely with UK Government and private sector bodies to enable strong knowledge transfer and to underpin impact. This includes seconding staff into those organisations. For example, GSI staff have been seconded to the World Bank in Croatia, UK Cabinet Office and UK Department for Energy and Climate Change. The GSI hosts a number of professional visiting fellows from organisations such

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as Cambridgeshire County Council. The GSI and AERG support the University of Cambridge Centre for Science and Policy in hosting policy fellows during their visiting fellowships. ARU runs the Low Carbon KEEP (knowledge transfer partnership) scheme, two of which, each worth £35k, are being undertaken within the GSI. These fund ARU employees to work with and in the associated SMEs, Sustainability East and Aran Services.

c. Strategy and plans

Both the AERG and GSI have achieved significant impact through the approaches described above and these approaches will continue to receive support into the future. Drawing on the aims of ARU's new research impact strategy, emerging and new initiatives are being jointly developed:

1. Formalisation of the AERG/GSI working group that considers best practice and new mechanisms for increasing further beneficiary and public engagement and to help advise researchers on improving the impact of their research at the research proposal stage.
2. Continued active engagement with potential beneficiaries of our research through our seminar series, visiting fellowships, the GSI annual conference which attracts around 100 participants, and active participation in activities organised through the Cambridge Conservation Forum (of which ARU was a founding member) and Cambridge Conservation Initiative. This will enable greater use of the highly advantageous situation offered by our location in the City of Cambridge which is a globally significant centre for co-location of national and international conservation organisations e.g. World Conservation Monitoring Centre of the UN Environment Programme and Birdlife International.
3. ARU has recently signed up to the National Co-ordinating Centre for Public Engagement (NCCPE)'s Manifesto on Public Engagement. This will provide a conduit to more information and advice on increasing our capacity for public engagement and should lead to greater embedding of impact in our research proposals and practices. The GSI is also continuing to build on the Living With Environmental Change (LWEC) communication of climate science report to better develop public engagement by climate scientists.
4. Recent approval of a Professional Doctorate in Science and Technology with specialisations possible in Conservation and/or Sustainability. It is expected that this will attract staff in both national and international conservation NGOs and government agencies, including those based in Cambridge. This and the new MSc in Sustainability run in partnership with the Eden Centre in Cornwall will strengthen links between AERG and GSI staff and the practitioner and policy community engaged in biodiversity conservation and resource management.

d. Relationship to case studies

1. **Resources & environmental loading: assessing risks and opportunities for the finance sector.** This project builds on numerous partnerships with government and the private sector such as Standard and Poor's. As well as grants from UK Department for Energy and Climate Change, the Dawe Charitable Trust, Lloyd's of London and the Institute and Faculty of Actuaries. The GSI currently receives £150k from our university in core funding and ARU also underwrites Robison's post. The GSI has also won university funding worth £5k to support impact through travel to events and conferences.
2. **Restoration of wetlands: best practice guidelines and practical toolkits for policy makers and practitioners.** This case study has involved partnership working with UK and international conservation NGOs and agencies. Activities described in REF3b were supported through design and production in the ARU marketing department of a wetland monitoring guideline document and by the AERG which funded a nine month bridging salary (£33,673) to the project officer (Stroh) between two grants. This project officer delivered training to over 100 volunteers on species identification. The AERG gave financial support for production of the TESSA ecosystem services measuring toolkit at conservation and restoration sites (£9,000).
3. **The use of citizen science in recording wildlife: ladybirds and invasive alien species.** This project relies on collaborative effort (notably between CEH, AERG and in earlier years, University of Cambridge). Activities described in REF3b were enabled by grants from AERG to fund: post-doctoral research staff time (14.5 months FTE 2010-2011); attendance at science festivals, conferences and public talks; printing leaflets and provision of other materials for public displays. Ongoing collation and verification of ladybird data (collected primarily through websites) has been streamlined by advanced online recording (developed by CEH) and supported through allocated AERG staff time (1.0 FTE 2005-2007; 4.3 FTE 2010 - July 2013).