

<b>Institution: University of Central Lancashire</b>
<b>Unit of Assessment: C16 Architecture, Built Environment and Planning</b>
<b>Title of case study: The Open-Air Laboratories Project</b>
<p><b>1. Summary of the impact</b> (indicative maximum 100 words)</p> <p>The Open-Air Laboratories (OPAL) project was funded by a £14.4 million grant from The Big Lottery Fund and represented one of the largest public participation initiatives in environmental research projects ever. The <b>Grenfell-Baines School of Architecture, Construction and Environment</b> (the unit of assessment, UoA) was one of nine academic partners to benefit from this funding (see REF 5a). OPAL was led at the UoA by <b>Toogood</b> (Principal Investigator) from 2007 to 2013. This project has positively impacted society's awareness of the natural environment and inspired over half a million people to explore their environment through active engagement. OPAL has also positively changed the way environmental teachers, scientists and other professionals, view and discharge their duties.</p>
<p><b>2. Underpinning research</b> (indicative maximum 500 words)</p> <p>Two particular antecedent research studies (<i>Amateurs as Experts</i>; and <i>SOBio</i>)<sup>1</sup> – for which <b>Toogood</b> was a project member – were formative in developing the theory that ultimately led to the UoA's award of the OPAL project. The UoA's specific role in this research evaluated participants' engagement; the work of which was part of 32 OPAL (regional) sub-projects delivered by nine universities and six other participating organisations in England (OPAL, 2013). This engagement embraced a wide range of communities, including socially marginalised groups who would not otherwise have been afforded such opportunity, to engage in natural and environmental science (<b>Toogood</b>, 2013). The project provided a unique platform for: achieving far-reaching community benefits; maximising societal involvement; and developing OPAL longevity.</p> <p>Unlike other regional OPAL projects, the UoA's contribution spanned both multi-regional and national <i>foci</i>. <b>Toogood</b> (also director of the OPAL hub in the North West), led a research team supported by a community scientist to promote OPAL outcomes through dedicated outreach mechanisms to maximise public participation in scientific research (<b>Toogood</b>, 2013).</p> <p>The UoA's research provided compelling evidence that has:</p> <ul style="list-style-type: none"> <li>• inspired lifestyle change by actively encouraging time spent outdoors, observing and recording the environment;</li> <li>• delivered an innovative educational programme that is now accessed and enjoyed by all ages and abilities;</li> <li>• encouraged a new generation of environmentalists, evidenced in part through increased active membership of amateur natural history societies;</li> <li>• enhanced public understanding of the natural environment and its condition; and</li> <li>• created stronger partnerships between the community, statutory and third sectors.</li> </ul> <p>The UoA was directly responsible for:</p> <ul style="list-style-type: none"> <li>• undertaking semi-structured interviews with participants;</li> <li>• engaging in ethnographic work based in the South West and West Midlands OPAL regions;</li> <li>• establishing six focus groups, drawn from a broad cross-section of society;</li> <li>• analysis of 593 OPAL participants, surveyed through an in-depth questionnaire;</li> <li>• development of 17,619 questionnaires that participants answered online through national surveys;</li> <li>• participation in 14 classes of primary-aged children, to study the use of OPAL resources in primary schools;</li> <li>• collation of 4,700 public comments from online 'comments boxes' on the OPAL website;</li> <li>• developing case studies, provided by OPAL academics in other projects;</li> <li>• evaluating data provided by OPAL on a monthly basis comprising, for example, survey</li> </ul>

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results and demographic data for 'deprivation' mapping. This covered approximately 70,000 records; and

- analysing 503 completed participants' post-activity questionnaires.

<sup>1</sup>URLs respectively:

<http://csec.lancs.ac.uk/docs/Amateurs%20as%20Experts%20Final%20Report.pdf>

<http://www.ecnc.org/uploads/2012/10/2006-sobio.pdf>

### 3. References to the research (indicative maximum of six references)

- 1) OPAL (2013). *OPAL Community Environment Report*. London: Imperial College. (Contributor, **Toogood**). Accessed at: <http://www.opalexplornature.org/CEreport> (September, 2013).
- 2) **Toogood**, M. (2013). Engaging Publics: Biodiversity Data Collection and the Geographies of Citizen Science. *Geography Compass*. Vol. 7, Iss. 9, pp. 611-621, DOI: <http://doi.org/10.1111/qec3.12067> (September, 2013).

### 4. Details of the impact (indicative maximum 750 words)

The research has positively impacted the way in which public, private and third sectors view and interact with their natural environment at the following levels:

**Impact level 1: Economic, commercial and organisational** – particularly in the organisational context.

**Impact level 2: Public policy** – for example, through confirmation by the Environment Minister of State [Lord de Mauley] (see Section 5).

**Impact level 3: Environment** - via a more positive disposition to the natural environment of the public, scientists and other stakeholders.

**Impact level 4: Practitioners and Professional services** – through resultant changes in practice of relevant groups such as teachers, lecturers and scientists.

#### 4.1 Evidence

The above four levels of impact are verified in the following six evidence descriptors. In order to aid clarity, each descriptor is cross-referenced with 'sources to corroborate each impact' (Section 5); along with their associated 'impact levels' as defined above. This correlation is presented in parentheses form at the end of each descriptor.

- 1) Economic, commercial and organisational: over half a million people have actively participated in the OPAL programme, including 100,000 people in hard to reach communities. The project engaged over 1,000 organisations from the voluntary (53%), community (38%) and statutory (9%) sectors in designing and delivering natural environment activities. (**Impact levels 1, 3 and 4; Corroborative sources 1, 2, 6 and 8**).
- 2) Public policy: has been positively impacted by the project and as a result, so has society at large. This was evidenced for instance, by Lord de Mauley's presentation at the OPAL report event, which took place at the House of Lords on 22<sup>nd</sup> January 2013. (**Impact level 2; Corroborative sources 1, 2 and 7**).
- 3) Societal impact: evidenced in that almost half of OPAL's participants when questioned, said that taking part had changed the way they thought about the environment. Over one third of participants said that they would improve their behaviour towards the environment –

confirming more positive environmental attitudes among society as a direct result of this project's impact. (**Impact levels 2 and 3; Corroborative sources 3, 4, 6, 7 and 8**).

- 4) Engagement and outreach: it was found that: i) being able to contribute to a national research programme was a key motivating factor for many participants; ii) for half of participants this was the first time they had engaged in a scientific initiative; and iii) OPAL was broadening peoples' natural environment knowledge and skills (90% of participants said they had learnt something new). (**Impact levels 1, 2 and 4; Corroborative sources 1, 3, 4, 5, 6, 7 and 8**).
- 5) Environment: findings identified that individuals' appreciation of (and care for) the environment was essential for environmental sustainability. OPAL has extended the ways people can achieve this in the following ways: i) more than 25,000 sites across England have been studied by local people; ii) 230,000 field packs were distributed to schools and community groups; iii) over 1,000 training courses were delivered; iv) the public surveyed over 25,000 sites across England and entered the information into the OPAL national database; v) communities contributed data to local research studies; vi) scientists developed strong links with local communities, helping the public gain greater understanding of what scientists do and the relevance of science to their everyday lives; vii) scientists found that working with the public was rewarding and can bring real benefits to their research; viii) public involvement created a greater sense of connection and ownership of local spaces; and ix) the majority of scientists involved wanted to continue to engage the public in their research. (**Impact levels 2 and 3; Corroborative sources 1, 3, 4, 5, 6, and 7**).
- 6) Practitioners and professional services: have benefited in a variety of different ways. For example: i) OPAL's high quality science programme has given confidence to both teachers and students to carry out more fieldwork; ii) OPAL resources are stimulating, straightforward and informative – over 800 primary and more than 1,000 secondary schools have registered for OPAL materials; iii) over 2,000 people have taken part in OPAL training sessions; iv) by involving people in their research, scientists have made their work more relevant to everyday life; and v) OPAL has developed new ways of bringing societies and communities together to raise awareness of their work. Nearly half of OPAL grant-funded societies have increased their membership by more than 10% (**Impact levels 1 and 4; Corroborative sources 1, 3, 4, 5, 7 and 9**).

##### 5. Sources to corroborate the impact (indicative maximum of 10 references)

1. OPAL (2013). OPAL Community Environment Report. *As per reference (1), in section three above.*
2. Environment Minister of State Lord de Mauley, speaking at the OPAL report event at the House of Lords on the 22<sup>nd</sup> January 2013, said, *"I warmly welcome the report, which, over the past five years, has motivated local people to discover more about our fantastic wildlife, inspiring people to get outdoors and record nature. This is a great example of voluntary, community, scientific and statutory organisations coming together to provide us with a greater understanding of the state of our natural environment and its importance to our everyday life."* Accessed at: <http://www.opalexplornature.org/sites/default/files/7/file/CER-release-FINAL.pdf> (October, 2013).
3. Findings from OPAL-NW interviews and focus groups in **Toogood**, M. and Everett G. (2012). *As per reference (3) in section three above.*
4. University College London (2013). Citizen science project inspires thousands to rediscover the outdoors. Accessed at: [http://www3.imperial.ac.uk/newsandeventspggrp/imperialcollege/newssummary/news\\_18-1-2013-12-44-57](http://www3.imperial.ac.uk/newsandeventspggrp/imperialcollege/newssummary/news_18-1-2013-12-44-57) (October, 2013).
5. Natural History Museum (2013). Thousands inspired by nature through OPAL citizen science. Accessed at: <http://www.nhm.ac.uk/about-us/news/2013/january/thousands-inspired-by-nature-through->

## Impact case study (REF3b)

- [opal-citizen-science118444.html](#) (October, 2013).
6. Big Lottery Fund (2013). Creating a generation of citizen scientists Accessed at: [bigblog.org.uk/2013/01/22/creating-a-generation-of-citizen-scientists/](#) (September, 2013).
7. BBC (2013). Opal Report Marks Landmark in UK Citizen Science. BBC News. Accessed at: <http://www.bbc.co.uk/news/science-environment-21062303> (September, 2013).
8. Davies, L., Bell, J.N.B., J. Bone, J., Head, M., Hill, L., Howard, C., Hobbs, S.J. Jones, D.T., Power, S.A., Rose, N., Ryder, C., Seed, L. Stevens, G., Toumi, R., Voulvoulis, N. and White, P.C.L. (2011). Open Air Laboratories (OPAL): A Community-driven Research Programme. *Environmental Pollution*. Vol.159, Nos. 8/9, pp. 2203-2210.
9. Riesch, H. and Potter, C. (2013). Citizen Science as seen by Scientists: Methodological, Epistemological and Ethical dimensions. *Public Understanding of Science*. DOI: <http://dx.doi.org/10.1177/0963662513497324>