



## Press release

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# England's green and pleasant land – huge citizen science project has inspired thousands of people to rediscover the outdoors, motivating them to record local wildlife and habitat data for the first time.

Over the past five years, more than half a million people from towns and cities up and down the country have been exploring their local green spaces as part of the Open Air Laboratories (OPAL) project, led by Imperial College London and supported by a £14million Big Lottery Fund grant.

Many participants were carrying out a nature survey for the very first time and have provided important data about biodiversity, including information about some places - particularly urban areas of deprivation - never sampled before by scientists.

Over 25,000 sites across England have been mapped and the interim findings are published today (22 January 2013) in a new Community Environment Report.

The report reveals some unexpected facts about England's less studied environment. For example, out of the many habitats investigated in one of OPAL's national surveys, the greatest number and diversity of earthworms were found in domestic gardens. This is just one example in the report of how the public have helped scientists to learn more about our environment. OPAL is one of the largest national citizen science projects of its kind.

OPAL has led to scientists and the public working together to gather a wealth of new data about wildlife, their distribution across England and the condition of their habitats. Through a network of community scientists, OPAL has helped people discover and value green areas on their doorsteps they had not noticed before; in some cases, communities have been inspired to take steps to improve their environment.

**Linda Davies**, Director of OPAL, Imperial College London, said: "OPAL is a new, boundary expanding experiment both in doing scientific research and reaching out to the public, at the same time. We hope that the work done so far has gone some way to help address the need for increased environmental awareness as well as provide important new information about the environment. However, scientists, government and, most importantly, the community must continue to work together in order for real progress to be made.

"OPAL gives communities the knowledge and the resources they need to learn about and keep an eye on their environment. Public participation of this kind is an invaluable helping hand in monitoring local places otherwise not included in most studies. OPAL produced free survey packs, field guides and organised training sessions, tours, events, talks and lectures, reaching out to the public across the country both in person and through the OPAL website."

OPAL's network of community scientists plays an essential role in spreading its message to all sectors of society. Based in universities and other institutions across England, the community scientists engage with schools, local groups and natural history societies, disadvantaged and hard to reach groups and organise local activities to inspire a more respectful and caring attitude towards the environment. OPAL's engaging programme gives a first-hand experience of how spaces, like parks and ponds just minutes from our homes, can be important habitats for wildlife.

Another key aim was to inspire a new generation of environmentalists, opening young people's eyes to the natural world and increasing their understanding of their local green spaces.

A young participant aged 7, from Sheffield, said: "I have learnt about the different creatures that live in the pond and that we should not throw garbage into the pond because the creatures won't survive and I don't want them getting stuck in the rubbish. I care about these little creatures because they are part of nature and there is a need to protect them." Just over half of the surveys were carried out by young people.

Environment Minister **Lord de Mauley** 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."

"We want more people to enjoy the benefits of nature by giving them the opportunities to connect with it. OPAL has done this and created a valuable legacy for the future."

While much of the data will be analysed and reported in due course, initial findings include:

- **Domestic gardens** – were found to be hotspots for earthworms; they had higher numbers of earthworms and a higher average number of species compared with other habitats investigated, such as woodlands.
- **Air pollution** – lichens more resistant to pollutants arising from sources such as car exhausts and those produced by intensive agriculture, were found to thrive on oak trees close to trafficked roads and cultivated fields. The OPAL Air Survey also recorded low levels of lichens known to be sensitive to pollutants, even in the countryside. These findings demonstrate that air pollution is having a direct impact on our environment.
- **Urban ponds** – on average, pond health scores (determined by the invertebrates present, like water shrimps, larvae and water bugs) were lower in urban areas than in rural areas. Algal blooms were less frequent in urban ponds (but rubbish was found more frequently). Pond sediment samples provided by the public allowed scientists to assess the concentrations of trace metals such as lead, mercury, copper, nickel and zinc. The results show that there are elevated concentrations of one or more metals that could have a detrimental effect on pond life.
- **Hedges** – urban hedges contain more beech, privet, laurel and yew, while rural hedges had more hawthorn, bramble, blackthorn and dog rose. The four most common kinds of invertebrates recorded in hedges were spiders, ants, snails and woodlice. Urban hedges contained 50% more ants than rural hedges. Hedges with better structure provided more animal food and sheltered a greater animal diversity both in urban and rural areas, confirming that hedges are essential habitats for wildlife.
- **Wind speeds** - findings on wind speed and thermal comfort in different environments will contribute to research that will help inform strategies for managing the impact of climate change.
- **Bugs** – over a million invertebrates have been recorded in the Bugs survey so far, showing just how numerous invertebrates are, even in heavily built-up areas. Soft surfaces such as bare soil, lawns and fallen leaves proved to be the most popular habitats for bugs demonstrating that gardens are important habitats. Species such as the Tree Bumblebee, were recorded just as frequently in towns as in the countryside but others like the Small Tortoiseshell Butterfly were more frequent in the countryside.

More than a large-scale scientific study, OPAL and its network of Community Scientists across England have helped tens of thousands of people to reconnect with local environments. One fifth of participants (over 100,000 people) in the project were from disadvantaged or hard-to-reach communities, including young people not in education or training, minority ethnic communities and people with mental health issues.

OPAL is changing people's behaviour towards the natural environment. An online survey of almost 600 (593) participants, carried out by OPAL's social science team revealed that:

- almost 75% said that they will try to do more surveys like OPAL's in the future
- 43% said that OPAL had changed their thinking about the environment; and
- 37% reported that they will change their behaviour towards the environment.
- Of participants who indicated that they were not a member of an environmental organisation, over one third (36%) said that they were more likely to join one after participating in an OPAL activity.

Preliminary results from the five-year project are presented in the OPAL Community Environment Report, launched at a reception at the House of Lords last night and published today (22 January 2013).

**Peter Ainsworth**, Big Lottery Fund UK Chair, said: "It is wonderful to see how this groundbreaking citizen science project, backed by a multi-million-pound investment from the Big Lottery Fund, has inspired communities up and down the country to learn more about the natural environment on their doorstep. Not only has it provided a significant insight into the biodiversity of the UK, tens of thousands of people from all backgrounds have been given the opportunity to come together and gain a greater understanding of their local environment, improving their skills and well-being through connecting with the world and people around them."

Further analyses will be made available next year through the OPAL website, scientific publications and a supplementary report. Sign up for alerts for the next round of findings at [www.opalexplornature.org/user/register](http://www.opalexplornature.org/user/register).

## Ends

### For further information and interview requests, please contact:

Amy MacLaren, Scarlett Yianni or Sam Hawkins at Four Colman Getty on

Tel: 020 3023 9031 / 020 3023 9034 (out of hours: 07980 843 088)

Email: [amy.maclaren@fourcolmangetty.com](mailto:amy.maclaren@fourcolmangetty.com) / [scarlett.yianni@fourcolmangetty.com](mailto:scarlett.yianni@fourcolmangetty.com) / [sam.hawkins@fourcommunications.com](mailto:sam.hawkins@fourcommunications.com)

## Notes to editors

- **Open Air Laboratories** (OPAL), led by Imperial College London, [www.imperial.ac.uk/opal](http://www.imperial.ac.uk/opal) is a nationwide partnership initiative that inspires communities to discover, enjoy and protect their local environment. It aims to create a new generation of nature-lovers by stimulating interest through local and national projects which are accessible, fun and relevant to anyone who wants to take part. Launched in 2007, OPAL provides the skills and materials needed for the first national community-led study of the world around us. For more information, please visit [www.OPALexplornature.org](http://www.OPALexplornature.org).
- **OPAL is accredited by LWEC.** [www.lwec.org.uk](http://www.lwec.org.uk)
- **For a full list of partner institutions** visit: [www.OPALexplornature.org/PartnersandProjects](http://www.OPALexplornature.org/PartnersandProjects)
- **The Big Lottery Fund's support** for OPAL comes from its Changing Spaces programme, which was launched in November 2005 to help communities enjoy and improve their local environment. The programme funds a range of activities from local food schemes and farmers markets, to education projects teaching people about the environment.
- **The Big Lottery Fund**, the largest of the National Lottery good cause distributors, has been providing grants to health, education, environment and charitable causes across the UK since its inception in June 2004. It was established by Parliament on 1 December 2006. Full details of the work of the Big Lottery Fund, its programmes and awards are available on the website: [www.biglotteryfund.org.uk](http://www.biglotteryfund.org.uk)