Photo H. Sjerps

Photo Charles Tyler

Engaging local communities with biodiversity enhancement at the University of Exeter

Professor Charles Tyler and Harriet Sjerps-Jones

The University of Exeter's Streatham campus is well known for its spaciously landscaped grounds. Part of the green lung of the city of Exeter, these grounds provide a wide range of habitats for local wildlife. Viewing historical records, however, has shown that some species more vulnerable to environmental change have disappeared from the campus grounds in recent years. Major investment at the University is enabling the campus to undergo re-development, expanding its capabilities, and providing new buildings and infrastructure for its future security, but this will inevitably place greater pressures on the campus wildlife. This concern, however, is on the radar of the planners and the University aims to help restore the natural habitats that will be impacted. It further intends to create wildlife corridors that will link its flora and fauna with other green spaces in the City of Exeter thus helping wildlife to permeate through the built environment. This endeavour offers a unique opportunity to engage our students, staff and wider community with building a more detailed picture on the biological diversity of the campus, raising awareness of the rich resource available for study, and creating a community of practice involving student, citizen and specialist (staff) volunteers. This will not only help to gather valuable data that will inform an enhancement plan, but will also tap into the enjoyment that can be derived from engagement with the natural environment – the 'green gym' at work. The Natural and Environmental Research Council is strongly promoting citizen science and community engagement of its funded researchers.

Dr Mark Ramsdale leads a fungi survey at the Bioblitz

To give this strategy focus and momentum, last October a biodiversity campaign was launched in partnership with Devon Wildlife Trust, Exeter Wild City and other community stakeholders. The start of the campaign was celebrated with a community facing Bioblitz event, led by broadcaster and naturalist Nick Baker. A group of over 150 volunteering students, academics, experts and members of the public joined Nick, a University of Exeter graduate, for a 'speed' census of species on the Streatham campus. The aim was to find as many species as possible and collate these data with existing records to build better knowledge of the biodiversity present. A further aim of the Bioblitz campaign was to educate participants in conservation and the science of wildlife. Volunteering students, academics and other experts helped members of the public with surveying and identification of species.

Voluntering tudents and staff

What are the opportunities and benefits?

There are many benefits of the scheme for the University's students, academics and the local community. For students, working with the public offers them the opportunity to translate specialist knowledge of biological diversity into easy to understand basic principles. They also get to learn practical leadership skills, develop surveying knowledge, and enjoy enriched co-curricular learning. It gives students opportunities too for the development of citizenship and enables them to help make a real difference for biodiversity on their 'home patch'. For the academics there are benefits too. Natural and Environmental Research Council is recommending that funded researchers get involved with such initiatives. This is echoed by the UK Research Council's statement "that public engagement should be a part of every skilled researcher's portfolio. Engaging with a non-specialist audience can enhance skills including improved communication and influencing skills." (RCUK, 2010). Further, it gives them opportunities to put into practice their knowledge, skill sets and enable them to really help make a difference in the protection and conservation of the natural environment. It is also possible to do 'real science' in such schemes to build knowledge that will help secure local biodiversity for the future. For the general public, it provides an opportunity to learn what biodiversity is about, how it all works and why it is important. For all concerned, academics, students and public alike, the scheme intends also to help provide a sense of place, ownership and an enhanced engagement with the environmental sustainability agenda.

What are the keys to its success?

Multiple Engagement Strategies

The scheme has started well, largely because of the energy and enthusiasm from a wide body of people who want to help make a difference. Importantly, the scheme first sought to secure support from lead academics, senior managers and campus staff (grounds staff, Health & Safety etc). Equally important, has

been the recruitment of passionate wildlife experts with local knowledge, including retired academics. Strategic recruitment of volunteers, exploiting the power of 'peer to peer' recruitment, involvement of the student Biosciences society and the setting up of a dedicated Facebook group have been key approaches for bringing in students into the scheme. Engagement of the local community has been through a local Sixth Form College, inviting in A level biology students, advertisement through the University's established local community newsletter and open invitation to University staff and their families.

Pond survey

Photo H. Sjerps

Photo Charles Tyler

Value for money

Getting started is not expensive (and this helps in the present climate!). For the Bioblitz event, a small pot of external seed funding covered basic costs of consumables and the University's conference and hospitality unit sponsored refreshments. Devon Wildlife Trust and the Biosciences faculty lent surveying equipment, literature, and microscopes.

The involvement of wildlife TV presenter Nick Baker, helped raised the profile of the Bioblitz event and biodiversity protection scheme at Exeter. His good looks, charm and all round infectious enthusiasm for wildlife will certainly have contributed to the attendance of more that 150 people at the event. Feedback, however, is telling us that it was equally attractive to participants to have the opportunity to talk with the University's academics and get an insight in the positive and practical contributions that science can make to society. After the event, we received several requests to hold more Bioblitz events.

Another contributing factor to the success of this 'citizen science' event was the competitive element of a Bioblitz that contrasts a traditional field studies approach. A Bioblitz restricts the time frame in which to find as many species as possible. Of course to get deep knowledge of the biodiversity on the campus requires time for study, but this initial event was more to create engagement and help build momentum for raising awareness. This race against the clock made the event more engaging and other elements were included in the hunt were to find the ugliest, prettiest and deadliest species on campus. Of course beauty and ugliness are in the eyes of the beholder, but a candidate for the prettiest was surely the kingfisher, and for the ugliest, one of a myriad of bugs with oversized eyes! The 'deadliest' was a rather passive hornet and no one was harmed in the event, although a few late season midges drew a little blood here and there (thanks to those 'volunteers' for putting in the 'extra'). On the Bioblitz day 49 species of birds, 2 species of amphibians (common frog and palmate newt), 1 species of fish, 73 species of invertebrates, and 99 species of fungi were recorded. Not bad for one afternoons work in October.

Naturalist and Exeter Alumnus Nick Baker instructs students on the use of mammal traps

What are the plans for the future?

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We were pleasantly surprised that the Bioblitz campaign attracted interest from such a wide audience. Students came from various disciplines, not exclusively from biosciences. Feedback analyses reveals that they enjoyed the combination of learning interesting facts about biodiversity on campus, meeting like-minded people and learning practical skills. The majority of students said that their interest in biodiversity had increased. It is suggesting that the event has given them an opportunity to take 'ownership' of their campus, which has led to a greater sense of responsibility for their immediate environment. A group of students promptly volunteered to get involved with further pond surveying and other environmental sustainability initiatives. Positive feedback has also been received from the public. At the event Nick Baker commented:

> 'When I was a student here, there was not the same kind of interest in the protection of the natural environment as nowadays. I am delighted to see that so many students have shown their support today.'

The Bioblitz event is only the start however, and we intend to build on its success and the momentum generated to engage as many as possible in trying to ensure that we build a better understanding of the local biodiversity. Through shared learning with the students and public alike we will try to ensure that wildlife on the University's Streatham campus and more widely in the local community has the opportunity not only to exist as developments proceed, but to thrive. Success of the Bioblitz events - there is another, bigger and better (24h) one planned at Exeter for this summer - will be measured by the legacy that they are intended to help support – the diversity of plants and animals that are found here in the future.

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RCUK, (2010) What's in it for me? - The benefits of public engagement for researchers, www.rcuk.ac.uk