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**Highlight:**

**Reflections: what are the mutualistic benefits of university – nature reserve collaborations?**

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## **Reflections: what are the mutualistic benefits of university – nature reserve collaborations?**

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The outcomes of a six year collaboration between Keele University and Silverdale Country Park was reported in the Chartered Institute of Ecology and Environmental Management special issue on “Nature conservation on a shoestring” (Taylor et al. 2017). The article, authored by Sarah Taylor (Keele University lecturer), Andrew Hunt (Groundwork West Midlands ranger) and Khaled de Jesus (Keele graduate), examined the pros and cons of collaborations from the perspectives of the respective institutions and the student. This short reflective piece highlights the key findings and expounds what it all means for me as a lecturer.

At just three miles from the Keele campus, the Land Trust owned former colliery was opened in 2011 and awarded a Site of Biological Importance in 2015 for its mosaic of early successional habitats and associated species. Local schools, universities and community groups (e.g., scouts, youth offenders) utilise the park for educational activities and engage in conservation work parties. The first Keele University project was carried out on the park in 2012, and since then 1-2 projects have been run most years. In 2013 a guest lecture by the ranger was embedded into a third year conservation biology module, and in 2015 a field excursion was introduced as part of a first year ecology module to promote the final year projects and conservation volunteering opportunities on the park. In 2017, I contributed a sustainable development case study on the £13.6 million regeneration project in a first year undergraduate text (Campbell et al., 2017), providing course materials for the ecology module course materials as well as raising the profile of the park.

An audit in 2017 valued the educational services at £700,000 a year (Land Trust 2017), but this figure does not take into account the worth of the undergraduate research projects. Since 2011, 20 students from across four academic institutions have completed final year, independent research projects at the park. Eight of these students failed to supply reports and data to the ranger, so while the student benefitted from the collaboration, the ranger did not. One way to put an economic value on student projects is to compare them to the cost of an equivalent ecological survey. For the twelve projects in which reports/data were supplied to the ranger, a combined value of nearly £30,000 was estimated, of which Keele University accounted for 76%.

Running projects with an outside organisation adds an extra layer of bureaucracy and pressure. There is a raft of paperwork and logistics (health and safety, insurance, etc) and months of preparation may come to nothing if the student decides to change their project. The first project in 2012 took place during one of the driest summers on record causing the drainage ditches under investigation to dry up. After a quick on site visit with the student and ranger, the focus was switched to how butterflies were using the banks of vegetation either side of the ditch. This highlighted the need for flexibility, on site consultation and a three way dialogue to ensure all partners benefitted from the collaboration. I see myself as a mediator, ensuring a balance between science and management is achieved, and where possible facilitating linkages to management practices and data needs. The key project output is viable data sets that can be used to write up a scientific report that meets the university module intended learning outcomes, while also providing an evidence base for the park's management plans. For example, the case study in the *In Practice* article by Khaled de Jesus (2017) provided evidence that manmade nesting structures enabled the once scarce moorhen to flourish in the park.

It is not just about generating data though. The collaborative approach gives students experience of field work in a real world scenario, producing data that is equivalent to that from ecological consultancies and developing life skills along the way. Many of the students have gone on to pursue careers in areas relating to their projects. A project designed and carried out by the student gives them so much more than a rote "project from a box" that is rolled out year after year, and enables

students to foster key graduate attributes, such as “active citizenship” (Keele University 2017) and help to bridge the graduate ecological skills gap (IEEM 2011).

### **Acknowledgements**

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