Valuing the natural environment in everyday decisions

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In Sheffield our aspiration is to grow and develop ensuring that we can attain economic prosperity, health and happiness. The local government machine tries to keep us on this path day to day, dealing with the challenges of austerity, social inequality, the need for more affordable housing, and to provide jobs, to research and innovate, to mitigate for a changing climate that brings with it the possibility of increased temperatures and more frequent flooding. Looking from outside the impression is that the natural environment is not high on this list of priorities (and this is a global problem that is in no way unique to Sheffield). In fact the way that many of these challenges are dealt with, seems to pose more threats to the natural environment rather than reduce existing threats. For example, the need for more housing puts increasing pressure on the greenbelt and greenspaces in the city; lack of funds increases pressure to reduce the costs of maintaining urban greenspaces; and hard engineering is the go-to solution to deal with environmental change such as increased flooding. Here, I argue that dealing with these challenges in this manner is only going to increase many of the problems we face. Our aspirations in Sheffield are admirable, but the way we go about attaining them are no longer viable. If we recognise the value of the natural environment, and by this I mean all the values we hold about nature (including its monetary value), and make it central to our approach to reaching our goal, we may come closer to achieving them.

Sheffield's natural environment can be managed for people and for wildlife. If we put the environment at the centre of efforts to manage for people, it will give wildlife a better chance not just of hanging in there, but of flourishing. A first step to ensuring this happens in Sheffield is understanding what our natural environment does for us. The State of Nature Report for Sheffield is one key aspect of this. It shows us how fortunate we are as a city to be flanked by fantastic countryside, and to look after an urban environment that is interspersed by many trees and greenspaces that are a home to diverse wildlife. It also shows us that we need to do better, and that our more traditional arguments for conservation may be working only in a few select places. A second step is to understand the benefits (now termed ecosystem services) that the natural environment in Sheffield delivers people. A study1 completed at the University of Sheffield showed that the greenspaces in the city (woodlands, parks, cemeteries, allotments), and the rural component of the metropolitan borough (moorland, woodland, farmland), were fundamental to providing habitat for wildlife, for soaking up carbon dioxide and taking up harmful air pollutants, for alleviating the severity of flood events, for cooling the city in very hot temperatures, and for providing greenspaces in which people can walk, run, cycle, and appreciate natural vistas. Thirty-four percent of the metropolitan borough provides a high level of one or several of these benefits (although only 0.02% of the area provides all 6 of these benefits). Revealing the benefits that the natural environment provides to us (not just through the direct use of its natural resources), is an approach we can use to highlight all the values of nature. The values we hold where we consider the natural environment is priceless, that it should be respected and conserved, that it has spiritual value, through to actually showing the job that it does has monetary value (note here that it is not valuing nature itself but the benefits that it provides for us).

There is a rapidly increasing body of evidence to illustrate the benefits that the natural environment gives us, and the money that can be saved by managing for them. For example, ensuring access to greenspace and promoting exercise within them can increase physical and mental health, and can reduce the costs to the NHS. A recent study of the natural capital benefits of public green spaces in London2 showed avoided costs of £580 million per year for being in better physical health, and £370 million per year from improved mental health. Trees in urban environments can, if in the right place and the right mix of species and age structures, provide multiple benefits like pollution regulation, carbon sequestration, climate regulation, flood regulation, and noise abatement, which improves human health and minimises the health and environmental effects of climate change (hence reducing costs to NHS and local authorities). A study by the Forestry Commission in Glasgow3 showed that urban trees saved the local economy an estimated £4.5 million in services per year. There is growing evidence that working with natural processes can effectively reduce flood risk, whilst enhancing biodiversity and other ecosystem benefits, saving money through avoiding costs of flood damage, and may be cheaper than hard engineering4. In general the evidence base illustrating how an approach focussed on understanding and valuing the benefits from nature can work on the ground is also increasing5,6.

Once we recognise the job the natural environment does for us and wildlife, and the consequences our decisions have for how it functions, the better policies and regulations we can enforce, and the better decisions we can make. Hopefully then we can anticipate the consequences and impacts of our decisions and change them for better outcomes. This approach isn't a panacea, and it won't work in all situations in every context. However, it is our best chance, using all our tools, to ensure a more prosperous, happier and healthier future for us and for wildlife.

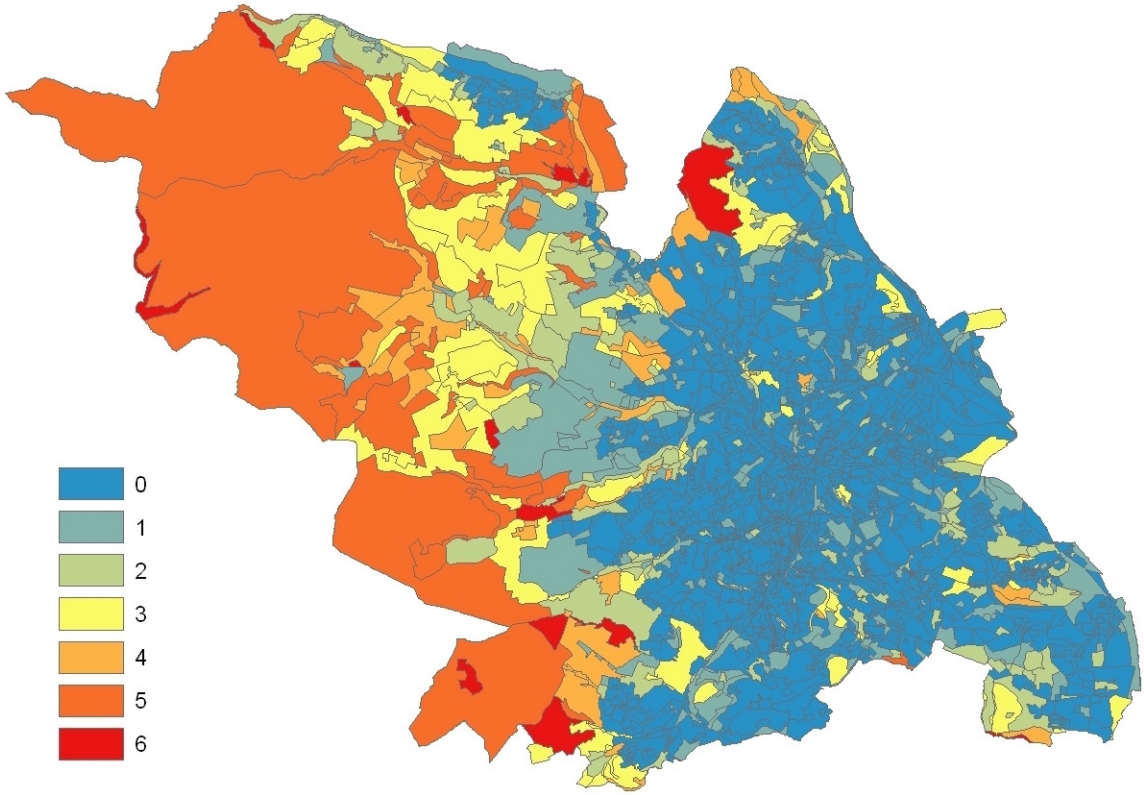

Figure 1 shows the number of benefits (reduction of air pollution, heat island mitigation, storm water runoff reduction, carbon storage, opportunities for recreation in greenspaces and provision of habitat for biodiversity) for which each Historic Environment Character (HEC) area is a hotspot. Hotspots are HEC polygons in the top 10% of values for each benefit. Hotspots are those areas that provide the highest level of benefit, therefore 0 doesn't mean no provision of benefits, just a low provision.

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