

Science for Environment Policy

Urban wasteland areas can be re-developed as rich ecological sites

Researchers in Berlin have demonstrated that urban wasteland areas can be used as suitable habitats for a range of grassland species. Using simple and cost-effective measures to sow grassland seed mixtures, they found that such areas flourished despite poor soil conditions and high levels of impact from people.

Restoration is a technique often used to counteract the loss of plant species caused by intensive [agriculture](#) and abandoned sites. Whilst this approach is frequently applied in rural areas, this new study investigates its potential to be used in urban wastelands. Deindustrialisation and population changes are causing wasteland areas to increase in many cities, especially in Europe, and so restoration could provide a useful way of conserving native species in an unlikely setting.

The researchers tested the potential for [urban](#) wastelands to become species-rich grasslands in eleven different areas of the Hellersdorf district of Berlin, Germany. The sites were sown with three different seed mixtures in autumn 2008 and then monitored regularly over the following three years.

A full list of grassland species found on the site was compiled three times per year in spring and in early and late summer. Different areas were sown with different seed mixtures. The three mixtures used were: a.) a grassland seed mix of 27 different regional varieties, b.) an identical seed mix with added mycorrhizal fungi to assist germination, c.) a threshed hay seed mixture from a nearby Nature Protection Area containing 16 different varieties.

All areas sown with grassland seed mixtures were found to have a higher number of different species present after the three years than untreated areas at the end of the three year period. The two grassland seed mixtures produced a slightly greater species-richness than the hay seed mix, with 81% of the grassland species becoming established after three years, compared to 75% for the hayseed mix. In the second year, the areas sown with the mycorrhizal seed mix displayed greater species diversity than the plain grassland seed mix, but by the third year, this gap was reduced.

The investigators were also interested to see whether two groups of factors affected how the grasslands grew; soil features (stoniness, pH, soil compaction) and human impacts (people and dogs walking in the area). They found that whilst less advantageous soil features, such as large amounts of broken bricks and high soil pH (i.e. very alkaline), did affect how many different meadow species became established, many species would still grow. The level of human impact did not appear to make any significant difference to how well the seeds grew.

The results suggest that the potential of urban wasteland in towns and cities across Europe to preserve biodiversity should not be overlooked. Since the treated areas were successful with only small amounts of preparation and maintenance, the cost-effectiveness of such approaches should also be noted. Whilst the study was only conducted in Germany, it is likely to be highly applicable throughout Europe.



7 March 2013
Issue 320

**Subscribe to free
weekly News Alert**

Source: Fischer, L. K., von der Lippe, M., Rillig, M. C. and Kowarik, I. (2013) Creating novel urban grasslands by reintroducing native species in wasteland vegetation. *Biological Conservation*. 159: 119-126. DOI: 10.1016/j.biocon.2012.11.028.

Contact:
Leonie.Fischer@tu-berlin.de

Read more about:
[Biodiversity](#), [Land use](#), [Urban environment](#)

The contents and views included in Science for Environment Policy are based on independent, peer-reviewed research and do not necessarily reflect the position of the European Commission.

To cite this article/service: "[Science for Environment Policy](#)": European Commission DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol.