
Approaches to develop urban wastelands as elements of urban green infrastructures – potentials for ecosystem services and biodiversity

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Abstract

Sustainable urban development has to tackle manifold challenges, such as stopping the loss of biodiversity, ensuring ecosystem services (e. g. adaptation to climate change) as well as managing brownfield regeneration. Urban green infrastructure is assigned a crucial role in providing such benefits and therewith influencing the quality of life of urban population. Against the background of above mentioned challenges, for cities it becomes essential to have richly structured and multifunctional green systems, which benefit ecological needs and at the same time are attractive, useable and payable or even profitable. However it is questionable, if green infrastructure can be realized only by following the common green space development models. Facing changed demands, limited public finances, and limited urban space, new and unusual types of green spaces might supplement traditional elements of urban green infrastructure, as parks, playgrounds etc.

In densely built up cities, urban wastelands often are the only areas where new green spaces can be created. Besides, existing green urban wastelands can provide a number of ecosystem services to tackle current urban challenges, such as preventing the loss of biodiversity, adapting to climate change and fostering recreational and healthy urban environments. On many wastelands an undisturbed development of wilderness was possible over years. So these places are especially interesting for urban green systems, because with their various stages of vegetation they provide a brought habitat mosaic and therewith opportunities for increasing biodiversity. The conservation of these spontaneous biotopes on the one hand, and the active greening of urban wastelands, on the other hand opens up potentials to develop urban green systems, which provide the needed manifold ecological, social and aesthetic benefits.

The envisaged presentation will indicate potentials of urban wastelands to supplement the urban green infrastructure and planning approaches to implement new types of green spaces. Based on findings regarding micro-climatic regulation services, recreational potential and biodiversity benefits, various options (e. g urban agriculture, urban forestry, gardens, alternative sport and leisure facilities, sites for events, low maintained public parks, places for nature discovery and urban wilderness) will be evaluated according to their potentials to address the named challenges and how the respective types are perceived and accepted by residents.

Keywords: urban wastelands, urban green infrastructure, urban ecosystem services, landscape planning, urban planning

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