

# Green grids and design codes

**John Box** and **George Barker** suggest measures that can be taken to enhance biodiversity in our towns and cities



Photos: John Box

*Mature trees screening Telford railway station and forming a green corridor*

**ENHANCING** the biodiversity of urban areas is a necessity for human beings living and working in them. People derive considerable benefits from contact with nature in terms of physical and mental health and well-being. And there are real economic benefits, albeit usually indirect, to the presence of biodiverse ecosystems and habitats in urban areas – for example, in flood protection, noise reduction, and air quality improvements.

Such advantages are more often felt at community level and do not easily translate into direct financial benefits to individual urban residents or businesses. If they did, they would undoubtedly provide a powerful incentive for support for action to increase

biodiversity in urban areas. But as they don't, neither environmental taxation (such as on carbon emissions, or on waste going to landfill) nor financial savings (through energy efficiency, or reduced water consumption) provide a model for financial incentives for enhancing the biodiversity in our towns and cities.

So, to stimulate debate on effective levers for change, we set out below an agenda of ten issues as a challenge to all those involved with biodiversity in urban areas:

- The UK has a worldwide reputation for creating urban green space, for ecological research, and for biodiversity conservation; but it must not ignore the vast amount of

research and its application to urban design and management carried out elsewhere. The ecology of urban areas and the study of the effects of the local environment on human well-being are relatively new fields of scientific enquiry, and our state of knowledge is consequently incomplete. The questions are complicated and the answers will not be easy or simple. But we need a vibrant, innovative government programme on urban biodiversity, with the health, enjoyment and well-being of all the urban population at its core – and in designing this programme we should draw on international knowledge and practical experience of biodiversity and urban green spaces.



*Wildflowers planted next to housing*

■ We need to find a way of quantifying and costing both the contribution that biodiversity can make to physical and mental health and well-being and the environmental functions of ecosystems and habitats in urban areas (such as the flood protection, noise reduction, and air quality improvement functions mentioned above). Realistic cost-benefit analyses of the beneficial or adverse effects on urban biodiversity should inform the introduction of new planning policies and fiscal regimes.

■ The regulatory framework for urban development needs to move away from *mitigating* biodiversity losses. Instead, it should demand demonstrable biodiversity *gains* (over and above requirements for mitigation or compensation), formally agreed by an informed regulator whose standards are based on real evidence and good science rather than political expediency.

■ Fiscal incentives are required for the inclusion and, crucially, the maintenance of features such as accessible natural green space, biodiversity-friendly sustainable urban drainage systems, green roofs and new habitats in new housing and development projects – and also for their retro-fitting into existing developments. The Final Report of Kate Barker's Review of Housing Supply included two proposals that could see more measures to enhance biodiversity being included in urban development.<sup>1</sup>

■ The first of Kate Barker's proposals is for a 'Planning-Gain Supplement' (PGS), imposed on development gains accruing to a landowner who receives planning permission. Such a tax would extract some of the windfall gains and recycle them back to local communities – a concept consistent with the transference between economic, social and environmental assets required by sustainable development. English Nature and the Royal

Society for the Protection of Birds have recently examined ways in which the PGS might benefit nature conservation, including discounted rates for developments incorporating biodiversity measures.<sup>2</sup>

■ The second Barker proposal is that greater reliance should be placed on urban design codes in improving the quality and acceptability of developments. Codes have been used in other parts of Europe, Australia and the USA to establish key features of the design of new developments. Developers then have to abide by the code. The Commission for Architecture and the Built Environment (CABE) should promote the incorporation of biodiversity into such codes.

■ The Countryside Council for Wales and English Nature (now Natural England) currently promote standards for accessible natural green space – such as no person should live more than 300 metres from a natural green space of at least 2 hectares in size, and there should be at least 1 hectare of statutory local nature reserve for every 1,000 residents (in a local authority area). These standards need to be extended to the whole of the UK and formalised through the planning system.

■ Local authorities should prepare strategies for open space, natural green space and green networks. The new local development frameworks are the place for such strategies. Such strategies would become key building blocks for integrating landscape with development at a regional or sub-regional scale – as, for example, with the 'Green Grid' network proposed for East London and Thames Gateway.<sup>3</sup> The recent Barker Review of Land Use Planning sets a challenge of maximising the benefits of the green belts around major towns and cities in terms of public access, providing attractive landscapes and protecting biodiversity.<sup>4</sup>

■ The construction of 'green bridges' across roads and railway lines at key locations would help to reduce habitat fragmentation and make it easier for species to move in response to climate change. The Stern Review on the economics of climate change recognised the need for flexible policies aimed at reducing fragmentation and encouraging species movement and migration through wildlife corridors.<sup>5</sup> And Article 10 of the EC Habitats Directive encourages the management of features of major importance for wildlife, such as those with a linear and continuous structure or those that function as essential stepping stones for migration, dispersal and genetic exchange. PPS9: *Biodiversity and Geological Conservation* echoes this in para. 12. Green bridges could be developed for any network of sites, from the Natura 2000 network of European sites (SACs and SPAs) down to local green networks in urban areas.

■ It is reasonable for businesses, local government and central government agencies to pay for research and review which helps to tackle particular practical issues, but pure research is needed as well. Without the development of understanding which this will bring, we may be – and probably often are – addressing the wrong issues in programmes of applied research. A focus on problem-solving research risks continually narrowing the field of view, while pure research broadens the perspective and sheds fresh light. Universities and research institutes should reassess the balance of their programmes of research into urban ecology (and related disciplines such as health, sociology and psychology) to give more weight to pure research which may well bring benefits to all of us in the longer term. ■

*John Box and George Barker have both chaired the influential Urban Forum of the UK Man and the Biosphere Committee (W: [www.ukmaburbanforum.org.uk](http://www.ukmaburbanforum.org.uk); E: [john.box@btopenworld.com](mailto:john.box@btopenworld.com)). An earlier version of this article was published by English Nature in *Urbio* Issue 12 (2006).*

#### Notes

1 *Delivering Stability: Securing our Future Housing Needs. Barker Review of Housing Supply – Final Report – Recommendations.* HM Treasury, 2004.

W: [www.hm-treasury.gov.uk/consultations\\_and\\_legislation/barker/consult\\_barker\\_index.cfm](http://www.hm-treasury.gov.uk/consultations_and_legislation/barker/consult_barker_index.cfm)

2 *Using a Planning Gain Supplement for Nature Conservation Purposes.* English Nature Research Report 672. English Nature/RSPB, 2006.

W: [www.english-nature.org.uk/pubs/publication/PDF/672.pdf](http://www.english-nature.org.uk/pubs/publication/PDF/672.pdf)

3 *Green Grid.* Thames Gateway London Partnership. W: [www.thames-gateway.org.uk/projects-content.asp?id=160](http://www.thames-gateway.org.uk/projects-content.asp?id=160)

4 *Barker Review of Land Use Planning. Final Report – Recommendations.* HM Treasury, Dec. 2006.

W: [www.hm-treasury.gov.uk/independent\\_reviews/barker\\_review\\_land\\_use\\_planning/barkerreview\\_land\\_use\\_planning\\_index.cfm](http://www.hm-treasury.gov.uk/independent_reviews/barker_review_land_use_planning/barkerreview_land_use_planning_index.cfm)

5 *The Economics of Climate Change. The Stern Review.* HM Treasury/Cabinet Office, Oct. 2006.

W: [www.hm-treasury.gov.uk/independent\\_reviews/stern\\_review\\_economics\\_climate\\_change/sternreview\\_index.cfm](http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm)