

**First published in *Town and Country Planning*, volume 70, number 7/8, July/August 2001 ISSN 0040-9960. (Reproduced with permission from *Town and Country Planning*)**

## **Urban biosphere reserves: re-integrating people with the natural environment**

The concept of the 'biosphere reserve', promoted under the UNESCO Man and the Biosphere Programme, deserves to be more widely implemented, says **Pete Frost**, and in the UK its potential would be best realised if reserves included urban or urban fringe areas.

Do the words 'biosphere reserve' conjure up a vision of tropical rainforests like the Alto Orinoco in Venezuela, or of hot-spots of endangered species like the Galapagos Islands, or of wild landscapes like Uluru (Ayers Rock) in Australia? Or do they bring to mind a natural system here in the UK; an estuary, a river basin, or an entire watershed, teeming with both wildlife and people? How about a biosphere reserve that crosses municipal boundaries and incorporates local nature reserves, country parks, public open space, and even private gardens? Such reserves in and around urban centres could create significant long-term benefits by bringing people back together with a high-quality natural environment. Working properly, biosphere reserves could become less a designation, and more a way of life.

The concept of a biosphere reserve was first conceived in 1974 by UNESCO's Man and the Biosphere (MAB) Programme as a place that conserves biological diversity, promotes economic development, and maintains cultural values. However, most governments have applied the designation primarily to conserve wildlife habitats in rural areas. In the UK, for example, 13 biosphere reserves were designated in the mid-1970s, mostly in rural Scotland.

The ideal biosphere reserve is built around three (not necessarily concentric) zones:

- 1) *core areas*, legally protected and devoted to conservation;
- 2) *buffer zones*, next to the core areas where human activities compatible with conservation take place; and
- 3) *transition zones*, where sustainable resource management practices are promoted and developed.

In practice, most British biosphere reserves have a core area based on a national nature reserve or site of special scientific interest (SSSI) and a buffer zone in which farming goes on as usual; none has a transition zone dedicated to developing sustainable resource management practices. 'Cultural conservation' figures hardly at all in the UK suite of reserves, and none encompasses a human settlement of any size.

A review in 1995, the *Seville Strategy*<sup>1</sup>, proposed a much wider and more far reaching role for biosphere reserves in the 21st century, as 'sites for research, long-term monitoring, training, education and the promoting of public awareness while enabling local communities to become fully involved in the conservation and sustainable use of resources'.

'Biosphere reserve' is thus more than just a label for protected areas; it now identifies a very special kind of site, where high nature conservation value is integrated with the needs of the local population. To test the opportunities for active approaches to sustainable development and the biodiversity conservation opened up by the *Seville Strategy*, the Urban Forum of the UNESCO UK MAB Committee is urging that further UK biosphere reserves be created,

*bordering on or including significant urban areas.* Such reserves could create significant long-term benefits for wildlife throughout the UK, not because of any protection conferred by the designation, but because they can be used as testing grounds for the re-integration of people with the natural environment.

### **Size matters**

The size of biosphere reserves is an important consideration. Most of the world's biosphere reserves are large, encompassing tracts of rainforest or river corridors, for example. Most UK biosphere reserves are quite small, but new ones must be much larger if they are to meet the criteria set out in the *Seville Strategy*:

- 1) They should encompass a mosaic of ecological systems... including a gradation of human interventions (criterion 1).
- 2) They should explore and demonstrate approaches to sustainable development on a regional scale (criterion 3).
- 3) They should be of an appropriate size to serve their three functions (criterion 4).
- 4) They should involve a suitable range of public authorities, local communities, and private interests (criterion 6).

As the UK is so highly urbanised, large new UK biosphere reserves would inevitably start to impinge on towns and cities, which fits well with goal II, recommendation 3 of the *Seville Strategy*, namely: 'Establish... biosphere reserves to include areas... where there are critical interactions between people and their environment (for example peri-urban areas)'.

### **Making sense of other designations?**

Two UNESCO MAB papers<sup>2,3</sup> have examined biosphere reserves' relationship to cities, and both have concluded that the concept could be extended to urban areas. Douglas and Box's report<sup>3</sup> goes further in suggesting that the concept could act as a tool to integrate the current multiplicity of initiatives and designations.

For example, national parks may be covered by different local biodiversity action plans and different planning regulations from those applying to their close-lying urban hinterland – even though they exist in the same bio-geographic zone and often the same river catchment. In turn, the towns and cities adjacent to the national park may have different local authorities with different policies on open space, environmental education, nature conservation, and outdoor recreation. A biosphere reserve which encompassed both the national park and urban fringes of the adjacent urban areas would provide an integrating mechanism currently lacking in the UK.

Other models have been advanced which might cover urban areas either whole or in part, ranging from 'the city as biosphere reserve', which might be applicable in locations such as Telford; through 'the biosphere reserve permeating the city', which might integrate protected sites and country parks and so on along an estuary such as that of the Thames; to 'the biosphere reserve bordering the city', where a reserve might run along a coast from, say, Poole Harbour to Havant, taking in the New Forest and estuaries along the way.

All these models are of the scale implied by the *Seville Strategy*, and would of necessity involve social as well as natural scientists in their management. Such radical proposals are the only real way to get to grips with the spirit of the *Seville Strategy* proposals.

## **Stakeholder participation**

It will be a huge challenge to make an urban or urban fringe biosphere reserve work. A DETR-commissioned report<sup>4</sup> has suggested that local communities and other stakeholders could be encouraged to nominate potential locations. This would be an essential starting point: without a clear understanding of the aims of the reserve, and support from major stakeholders, the designation will be seen as an imposition rather than an opportunity. The overall goal of any new reserve must be to conserve nature by re-connecting people to it and helping them to learn more about it, and so contribute to managing it in a sustainable way.

It is possible to foresee a day when local communities will campaign for their areas to be designated as a biosphere reserve in the same way that communities have campaigned for 'World Heritage' status.

An urban/urban fringe biosphere reserve as advocated here would:

- 1) be created at the request of and with support from local communities and key stakeholders;
- 2) have more than one core area which is at least of special area of conservation (SAC), special protection area (SPA), or national nature reserve standard;
- 3) use local nature reserves, country parks, and local sites of importance to nature (the so called 'third-tier' sites) as buffer zones;
- 4) draw in the other elements of the urban area's network of open space as transition zones; these might include informal open space, industrial landscaping schemes, transport corridors, elements of the urban forest, and private open space;
- 5) have a management plan and planning mechanism which integrates the various local plans, local environmental action plans, local biodiversity action plans, and community plans across administrative boundaries;
- 6) maintain stakeholder participation through the use of participatory techniques such as 'Planning for Real';
- 7) involve local education and research establishments in work to monitor and develop all aspects of the reserve, both human and environmental;
- 8) use the presence of the reserve to create an ethos of sustainability which informs decisions at all levels, from the use of Forest Stewardship Council timber in DIY to the use of sustainable urban drainage systems<sup>5</sup> in industrial developments; and most importantly
- 9) continue outreach work to bring all sections of the local community into contact with the reserve to enjoy nature and to encourage people to have consideration for nature within their daily life.

## **Making it happen**

Such a reserve probably lies a long way in the future. Discussions between the UK MAB Committee and other organisations have revealed low levels of awareness of biosphere reserves and a poor understanding of the underlying concept. Much more needs to be done to help local authorities, local communities, and statutory agencies realise the approach's great

potential, not least a government awareness campaign to address the issue and inspire people about what could be done.

The European SAC (special area of conservation) designation could help define the core areas. When boundary maps have been produced for the all UK candidate SACs, areas that might meet criteria for an urban/urban fringe reserve should start to become obvious. It may be that initially only one is established as an experiment, with all the qualifying areas invited to form partnerships and bid to become the UK's first urban biosphere reserve. Ultimately, selection of a site for nomination to UNESCO must be the responsibility of the UK government which, would be an innovative step.

At this stage, some central resources would be needed if the new reserve is to be successful. While most activities undertaken under the biosphere reserve banner would already be under way: planning, environmental education, outreach, advice on sustainable development, etc. resources would be required to co-ordinate these activities across organisations, and money would be needed to shore-up any areas of weakness, or to aid the transition to new systems.

Any locality participating in such a ground-breaking project would need some expert assistance, but it would be an easy task to attract expert members to an advisory group to help such a high-profile venture.

Biosphere reserves have great potential to help crowded islands like the UK get to grips with sustainable development. The concept is exciting because it is the antithesis of 'standard' designations and promotes action to reconcile people, nature, and the economy. The Government should seize the chance to raise awareness of the concept and work with local authorities to create a biosphere reserve, which incorporates elements of one or more urban areas with a view to fully realising the vision embodied in the *Seville Strategy*. Perhaps then we will see towns and cities at ease with themselves and their hinterlands; creating high-quality environments that contribute to a high quality of life and attract high-value businesses.

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#### Notes.

- 1 *Biosphere Reserves: The Seville Strategy and the Statutory Framework of the World Network*. UNESCO, Paris, 1996
- 2 *Application of the Biosphere Reserve Concept to Urban Areas and their Hinterlands*. Paper SC-97CONF. 502/4. UNESCO Advisory Committee for Biosphere Reserves, Fifth Meeting, Jul. 1998
- 3 I. Douglas and J. Box (Eds): *The Changing Relationship between Cities and Biosphere Reserves*. Report for Urban Forum of the UK MAB Committee, derived from a workshop held in Manchester in 1994. May 2000
- 4 M.F. Price, F. MacDonald, and I. Nuttall: *Review of UK Biosphere Reserves*. Report to Department of Environment, Transport and the Regions. Environmental Change Unit, University of Oxford, 1999
- 5 *Sustainable Urban Drainage Solutions: An Introduction*. Published jointly by Scottish Environment Protection Agency, Environment Agency, Environment and Heritage Service, 200. Available from Scottish Environment Protection Agency, Erskine Court, The Castle Business Park, Stirling FK9 4TR. Tel: 01786 457700. Fax: 01786 446885.