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**Urban Biosphere Reserves in the context of the Statutory
Framework and the Seville Strategy for the World Network of
Biosphere Reserves**

MAB Urban Group

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1. The present document outlines the preliminary considerations by the MAB Urban Group concerning Urban Biosphere Reserves in the context of the Statutory Framework and the Seville Strategy for the World Network Biosphere Reserves.
2. Although a good number of existing Biosphere Reserves actually include cities and towns, and/or are adjacent to major urban areas, the Biosphere Reserve Advisory Committee and the MAB Bureau have likely yet to consider more clearly urban-oriented Biosphere Reserve nominations. Such nominations could actually be a question of time (cities known to consider nominations include Cape Town, New York, Rome and Stockholm).
3. The reflections on this topic are therefore intended to facilitate the deliberations of the Biosphere Reserve Advisory Committee and the MAB Bureau in the eventuality of such applications actually being submitted. The recommendations contained in the document are however not final as far as they represent ‘work in progress’. A more definitive text will be prepared following the meeting of the MAB Bureau 8-11 July 2003, and the “Urban Biosphere & Society: Partnership of Cities Conference”, 28-31 October 2003, in New York.¹
4. The document is divided into four parts: the first section seeks to define the notion of Urban Biosphere Reserves, the second part addressed the question if Urban Biosphere Reserves are compatible with the Statutory Framework for Biosphere Reserves, in the third section we try to answer the question if Urban Biosphere Reserves would be a welcome addition to the World Network, section four contains the conclusions and recommendations.

¹ Conference organized by the Columbia University-UNESCO Joint Program on Biosphere and Society (CUBES) in co-sponsorship with the New York Academy of Sciences, UN-Habitat and the MAB Urban Group. One of the key objectives of the Conference is to discuss research findings regarding the feasibility of the establishment of urban Biosphere Reserves for cities and to establish a set of definitions on what an urban Biosphere Reserve and its functions could be.

I. Defining ‘Urban Biosphere Reserves’

5. Before assessing the extent to which Urban Biosphere Reserves are compatible with the Statutory Framework, it would seem necessary to seek to establish a working definition of the notion of an Urban Biosphere Reserve. A standard definition of an urban area is: “a geographical area constituting a city or town”. A simplistic proposal would then be to say that an Urban Biosphere Reserve is a Biosphere Reserve constituting a city or town. However, in the discussions now going on in a number of cities around the world, the idea has never been to restrict an Urban Biosphere Reserve only to the urban areas (i.e. the cities or towns), but to take a regional perspective integrating urban areas and their hinterlands. Furthermore, the mere existence of a city or a town in a Biosphere Reserve is not sufficient to call it an Urban Biosphere Reserve (if it were, a large number of existing Biosphere Reserves could be classed as Urban Biosphere Reserves)². The issue is then that of defining the relative importance of the urban elements in the Biosphere Reserve.

6. The ‘relative importance’ could possibly be assessed as a function of several measurable factors in the Biosphere Reserve, e.g. percentage of urban land cover, rate of urbanization and urban sprawl, distance to major urban areas, percentage of people living in urban areas compared to the country side, impacts of urban areas and the urban population on the Biosphere Reserves etc).

7. The underlying key objectives for which the Biosphere Reserve was established, e.g. conservation of urban biodiversity, promoting sustainable urban development and reduced urban foot-prints, city networking etc., could also be defining characteristics of an Urban Biosphere Reserve. It is not, however, the purpose here to seek to establish any more rigid indicators for assessing Urban Biosphere Reserves (that could be the subject for a separate paper).

8. A possible working definition of an Urban Biosphere Reserve based on the above considerations could therefore be as follows:

- *Urban Biosphere Reserve: a Biosphere Reserve characterized by important urban areas within or adjacent to its boundaries where the natural, socio-economic and cultural environments are shaped by urban influences and pressures, and set-up and managed to mitigate these pressures for improved urban and regional sustainability.*

Possible categories of Urban Biosphere Reserves

9. Depending on their zonation pattern, different categories of Urban Biosphere Reserves could be envisioned, such as Urban Green Belt Biosphere Reserves, Urban Green Corridor Biosphere Reserves, Urban Green Area Cluster Biosphere Reserves and Urban Region Biosphere Reserves (see Fig 1).

² This being said, a number of existing Biosphere Reserves might eventually be classified as Urban Biosphere Reserves.

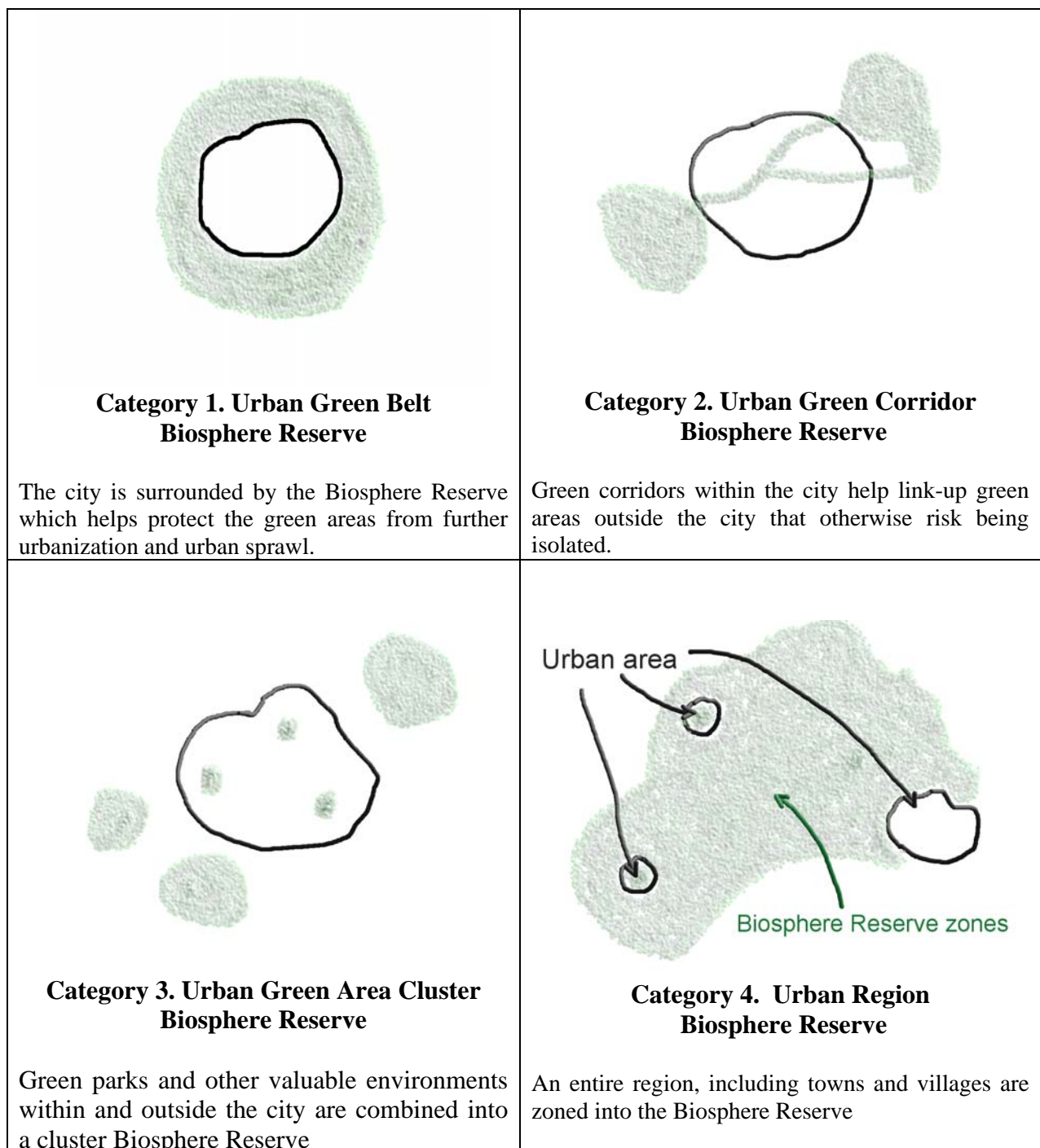


Fig 1. Examples of possible categories of Urban Biosphere Reserves

10. Combinations of these categories are of course possible, or even likely. The distribution of the three different Biosphere Reserve zones (i.e. core, buffer and transition areas) adds to the large number of possible combinations.

II. Urban Biosphere Reserves in the context of the Statutory Framework of the World Network of Biosphere Reserves

11. The Statutory Framework of the World Network of Biosphere Reserves (the 'Framework') includes an Introduction and 10 Articles. It is the document that guides the Advisory Committee on Biosphere Reserves and the MAB Council and its Bureau when considering Biosphere Reserve nominations. We will here address the question if Urban Biosphere Reserves as defined and categorized above are compatible with the relevant paragraphs of the Framework.

12. It is stated in the Framework's **introduction** that "*Within UNESCO's Man and the Biosphere (MAB) programme, biosphere reserves are established to promote and demonstrate a balanced relationship between humans and the biosphere*". Urban areas and regions will more than often not exemplify such a relationship. On the other hand, Urban Biosphere Reserves could be important to promote them. Also, Urban Biosphere Reserves could demonstrate examples of balanced relationship between humans and the biosphere reserves in certain sectors, although it may not contribute to the full range of human-biosphere interactions.

13. The Introduction ends with the proposal that "*States are encouraged to elaborate and implement national criteria for biosphere reserves which take into account the special conditions of the State concerned*". States interested in elaborating criteria for Urban Biosphere Reserves would therefore seem to be encouraged to do so.

14. **Article 1** defines Biosphere Reserves as "*areas of terrestrial and coastal/marine ecosystems or a combination thereof, which are internationally recognized within the framework of UNESCO's programme on Man and the Biosphere (MAB), in accordance with the present Statutory Framework*". The notion of urban ecosystems was pioneered by MAB and Urban Biosphere Reserves will typically consist of a rich mosaic of terrestrial and coastal ecosystems. The definition, however, is a very general one more aiming at ensuring that sites labelled as Biosphere Reserves are those that are recognized by MAB as such rather than to define their features in detail.

15. **Article 3** in the Framework sets out the three major **functions** of Biosphere Reserves: "*In combining the three functions below, biosphere reserves should strive to be sites of excellence to explore and demonstrate approaches to conservation and sustainable development on a regional scale:*

- (i) *conservation - contribute to the conservation of landscapes, ecosystems, species and genetic variation;*
- (ii) *development - foster economic and human development which is socio-culturally and ecologically sustainable;*
- (iii) *logistic support - support for demonstration projects, environmental education and training, research and monitoring related to local, regional, national and global issues of conservation and sustainable development.*

16. The first general remark that could be made here is that it actually would be quite difficult to perceive how Biosphere Reserves that do not include urban areas possibly could demonstrate approaches to conservation and sustainable development on a regional scale. Regions without urban areas, or perhaps without people, would not be good examples of a ‘balanced relationship between humans and the biosphere’ (Introduction). If it is agreed that sustainable development cannot be achieved without sustainable urban development, again, it will be difficult to rule out Urban Biosphere Reserves.

17. Urban Biosphere Reserves could certainly contribute to the **conservation** of landscapes and biodiversity of high importance for a large number of people. Both locally, regionally and globally (through reduced urban foot prints). They would also form important platforms for fostering **development** along more sustainable lines. Urban areas are typically cast in the light of their negative impacts, however, it should of course not be forgotten that cities and towns are critical in terms of also providing a number of benefits, such as income and job opportunities, markets, health and educational facilities without which several Biosphere Reserves, and society at large, actually would not be fully functional or sustainable. Finally, Urban Biosphere Reserves could provide **logistic** support for education, public awareness and research on critical issues linked to conservation and sustainable urban development.

18. It is useful to recognize here that an Urban Biosphere Reserve (or any Biosphere Reserve for that matter) never is synonymous to the city, town or region where it is situated - it is merely one additional institutional structure among a myriad of human institutions (albeit an important one!). Therefore, an Urban Biosphere Reserve cannot and should not be held ‘accountable’ for all facets of man-environment interactions within its boundaries. Being associated with an unsustainable urban area should therefore not automatically be seen to imply that the Biosphere Reserve does not, or could not fulfil its functions.

19. The Framework’s **Article 4** sets out the general **criteria** for an area to be qualified for designation as a Biosphere Reserve. We will look at the seven criteria one by one:

1. *It should encompass a mosaic of ecological systems representative of major biogeographic regions, including a gradation of human interventions.*

Needless to say, perhaps more than any other reserves, Urban Biosphere Reserves will contain a broad gradient of human interventions and a rich mosaic of ecological systems.

2. *It should be of significance for biological diversity conservation.*

Urban areas include important, sometimes unique biodiversity. In addition, biodiversity in urban areas tend to be essential for the welfare of its inhabitants (food, climate regulation, water catchments, recreation etc).

3. *It should provide an opportunity to explore and demonstrate approaches to sustainable development on a regional scale.*

More than perhaps any other types of reserves, Urban Biosphere Reserves would be important tools to address sustainable development on a regional scale by integrating urban areas which often are at the centre of the sustainability debate.

4. *It should have an appropriate size to serve the three functions of biosphere reserves, as set out in Article 3.*

There are no restrictions as such as to how big an Urban Biosphere Reserve could be. An appropriate size could therefore usually be envisaged involving urban areas and their hinterlands.

5. *It should include these functions, through appropriate zonation, recognizing:*

(a) *a legally constituted core area or areas devoted to long-term protection, according to the conservation objectives of the biosphere reserve, and of sufficient size to meet these objectives;*

As already discussed, an Urban Biosphere Reserve could be set-up in a number of ways. An Urban Green Corridor Biosphere Reserve (category 2), for example, could include core areas within the urban area (e.g. park areas, rivers and lakes). These areas can be the subject to legal protection and of a sufficient size to ensure that the conservation objectives are met.

(b) *a buffer zone or zones clearly identified and surrounding or contiguous to the core area or areas, where only activities compatible with the conservation objectives can take place;*

Buffer zones may require some innovative thinking in the urban context. For example, residential areas could provide buffer zone protection for rivers and lakes within the city provided they are equipped with sound waste water facilities etc. Furthermore, polluting industrial activities not compatible with the conservation objectives could be avoided in such areas (perhaps to the benefit of human health as well).

(c) *an outer transition area where sustainable resource management practices are promoted and developed.*

There are no limitations to the possibilities an Urban Biosphere Reserve could provide in terms of promoting and developing sustainable resources management practices in sectors such as agriculture, forestry, recreation, water, energy, transport, housing and waste management. Of minor importance here is perhaps the fact that the transition areas may not always be the outer areas in an Urban Biosphere Reserve, rather they could find themselves surrounded by buffer zones and core areas.

6. *Organizational arrangements should be provided for the involvement and participation of a suitable range of inter alia public authorities, local communities and private interests in the design and carrying out the functions of a biosphere reserve.*

Key public and private stake holders are concentrated to the urban areas which will facilitate their involvement and participation in the design and operations of an Urban Biosphere Reserve. Although the politics of establishing and managing an Urban Biosphere Reserve could be expected to be complex, the benefits of such a process could be enormous in terms of bringing stakeholders aboard on a cooperation platform for regional sustainability that typically will not have existed before.

7. *In addition, provisions should be made for:*

(a) *mechanisms to manage human use and activities in the buffer zone or zones;*

Urban areas have often already established mechanisms in place to oversee and manage economic and other human activities.

(b) *a management policy or plan for the area as a biosphere reserve;*

An increasing number of cities around the world have developed local Agenda 21 initiatives and have well established (more or less well implemented) plans and policies covering most facets of urban life. These can in many instances form an effective basis for an Urban Biosphere Reserve policy which in addition, however, also would have to extend to the hinterlands. The fact that an Urban Biosphere Reserve would seek to bridge the often conflicting interests between cities and their hinterlands is what makes it so attractive and potentially powerful.

(c) *a designated authority or mechanism to implement this policy or plan;*

This is of course a key point for any successful Biosphere Reserve. It will however in many instances be a tough challenge for an Urban Biosphere Reserve to muster the power and authority to ensure the implementation of a comprehensive and ambitious policy or plan that would touch on fundamental urban management issues. There are no fix prescriptions for how a Biosphere as an institution can or should be setup to ensure implementation. Legislation, political, public and financial support are all important ingredients for success. Increasingly, the true strength of Biosphere Reserves might lie in their ability to produce sustainable economic benefits spurred by a shared vision among key stakeholders of the region as a space for sustainable development cooperation.

(d) *programmes for research, monitoring, education and training.*

Easy access to universities, research facilities, schools and education centres will help ensure that Urban Biosphere Reserves can establish strong programmes for research, monitoring, education and training. Urban Biosphere Reserves could also help promote the establishment of new and innovative training centres for education for sustainable development at different levels.

20. The above discussion is but a short, partly theoretical analysis of the extent to which Urban Biosphere Reserves are or would be compatible with the Framework. The conclusion

at this point in time, however is that Urban Biosphere Reserves are compatible with the Framework.

III. Urban Biosphere Reserves - a welcome addition to the World Network?

21. It is one thing to suggest that Urban Biosphere Reserve would be compatible with the Statutory Framework, but are they a welcome contribution to the World Network? One authority on the issue of Biosphere Reserves for the 21st Century is of course the Seville Strategy (the 'Strategy'). Drawn up by 400 experts from 102 countries and 15 international and regional organizations in Seville in March 1995, the Strategy seeks to identify "the specific role of biosphere reserves in developing a new vision of the relationship between conservation and development" together with a series of recommendations for developing effective Biosphere Reserves and for setting out the conditions for the appropriate functioning of the World Network of Biosphere Reserves. At its 13th session (12-16 June 1995), the MAB-ICC gave its strong support to the Seville Strategy.

22. Well, does the Strategy talk about Urban Biosphere Reserves? Not really, but it gets fairly close. Ten key directions were identified by the Seville Conference that formed the foundations for the Strategy. The second key direction is that Biosphere Reserves should be developed "that include a wide variety of environmental, biological, economic and cultural situations, going from largely undisturbed regions and spreading towards cities." Exactly where this spread should be interrupted on its way towards the urban areas, if at all, is not specified leaving the question somewhat open.

23. In relation to the coverage of the World Network, it is however recommended (under Goal I) to "...establish, strengthen or extend biosphere reserves as necessary, giving special attention to fragmented habitats, threatened ecosystems, and fragile and vulnerable environments, both natural and cultural". For many, this would seem to be an implicit call for Urban Biosphere Reserves.

24. Concerning the transition areas, the Strategy documents explains that it "may contain a variety of agricultural activities, settlements and other uses and in which local communities, management agencies, scientists, non-governmental organizations, cultural groups, economic interests and other stakeholders work together to manage and sustainably develop the area's resources". This could also be interpreted as a support for Urban Biosphere Reserves (as far as the transition areas are concerned).

25. It is recommended under the Strategy's Goal II (utilize Biosphere Reserves as models of land management and of approaches to sustainable development) to "establish, strengthen or extend biosphere reserves to include areas ... where there are critical interactions between people and their environment (e.g. peri-urban areas, degraded rural areas, coastal areas, freshwater environments and wetlands)". Peri-urban areas are mentioned as examples here, but the text again stops short of mentioning cities.

26. Although the Strategy includes a large number of recommendations, it modestly acknowledges that it is deliberately focused on a "few priorities". This is one possible

explanation to why the document is not more explicit on urban issues. Also, the focus on urban areas, urbanization and urban sprawl has become sharper since 1995. The Strategy might therefore have been more sensitive to the urban agenda had it been drafted today.

27. Another possible explanation is of course that Urban Biosphere Reserves were not seen as such a good idea, perhaps based on the concern that they somehow would stretch the Biosphere Reserve concept beyond recognition. If so, comfort could be drawn from the Strategy document that underscores that *“In fact, one of the greatest strengths of the biosphere reserve concept has been the flexibility and creativity with which it has been realized in various situations.”*

28. A parallel could possibly be drawn here to the World Heritage Convention, which successfully manages to cover such different entities as cultural and natural properties, recently extended to also cover cultural landscapes. This without eroding either the rationale for, or the usefulness of the Convention to its Member States. For the Convention, the connecting theme is that of conserving universal cultural values. For Biosphere Reserves, the connecting theme is contained in their three functions, i.e. conservation, development and logistics with sustainable development as a possible over-arching theme. It would seem only timely that if Member States proposed Urban Biosphere Reserves, they would be a welcome addition to the World Network.

IV. Conclusions and recommendations

29. Urban Biosphere Reserves as defined in this document would seem to be compatible with the Statutory Framework, and if not called for, at least not ruled out in the Seville Strategy. In view of the fact that urban areas are key players in the quest for sustainability, refusing Biosphere Reserve proposals simply because they include urban areas would seem counterproductive.