



Summary of the RUBICODE Review on: “Habitat Management Strategies for Conservation in a Changing World”

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Nature conservation began with human concerns for the disappearance of particular, usually charismatic species of animals and plants, and the destruction of beautiful scenery. Even now, whether to protect species or the habitats in which they live is still a dilemma in the use of limited financial and human resources. Present European legislation recognises that habitat protection is prerequisite for species survival and provides a broad range of valid species and/or habitat conservation strategies.

However, in addition to our aesthetic concerns about species and habitats, socio-economic values have become a new and major driving force in how we make decisions about managing and protecting biodiversity. We need to acknowledge and protect all that biodiversity does for human well-being – so-called ecosystem services. This may lead us to place economic values on different aspects of nature. We may thus promote the sustainable use of nature and at the same time offer a *value-added strategy* to supplement (but not replace) existing biodiversity conservation efforts. These ideas are not yet explicitly included in European biodiversity conservation Strategy and Policy.

Establishing and managing Protected Areas (PAs) is central to modern European Strategies for biodiversity conservation. IUCN, the World Conservation Union, defines six categories of Protected Area, with a gradient of management intervention to meet different needs in different situations. However, even within this organised framework, IUCN stated in 2002 that we are failing to protect biological and landscape diversity in Europe. Also, much of Europe’s biodiversity is to be found outside the borders of designated PAs. Thus we need ecological corridors and other linkages between PAs to form an integrated network across Europe, and biodiversity conservation must be integrated with sectoral policies, such as transport, tourism, agriculture, forestry, water resources, etc. All these issues are being addressed through present instruments such as the European Landscape Convention, the Pan-European Biodiversity and Landscape Diversity Strategy (PEBLDS), the Pan-European Ecological Network (PEEN) within PEBLDS, and the Water Framework Directive (WFD) of the EU.

Even so, present European conservation Strategies remain rather limited in their effectiveness. The nature we wish to protect is inherently dynamic – it is constantly changing over space and time – and human influences are of overriding concern, through changes in land use, climate change, invasive alien species and other drivers. Unfortunately, most present conservation instruments assume a rather unchanging, static situation. Thus a new flexibility is required to allow organisms to adapt to change or to move. This means that we will need to acquire new abilities, for example to enable redefinition of Protected Area boundaries, to forecast efficient placement of future PAs and networking links relevant to future landscapes, or to re-designate the status of existing Protected Areas.

A further limitation is failure to view landscapes over the relevant spectrum of many spatial scales. Heterogeneous habitat mosaics must be understood from the organism point of view and scale, not just from the human perspective, and should be managed accordingly. An eagle’s eye view of a woodland, a meadow or a lake is very different to the habitat mosaic relevant to a beetle that spends its life within a few square metres, but which experiences equally heterogeneous patches of terrain at that scale. There is indeed at present a major deficit in the extent to which small invertebrate animals and their associated functions are included in habitat management decisions, even though these organisms make up the major part of biodiversity.

In short, future successful habitat management for nature conservation in Europe requires some major changes in emphasis – perhaps even a paradigm shift, to take account of our own needs and the changing needs of the biodiversity that provides the services upon which we so heavily depend.