

Connectivity Conservation Management

Quick facts:

- The rapid loss of species that we are witnessing today is estimated by some experts to be between 100 and 1,000 times higher than the expected natural rate.
- Major threats to species survival include, amongst other things, habitat loss and fragmentation.
- Until well into historical times, a high level of natural connectivity existed among ecosystems. Through the extent and intensity of human intervention the pattern of human activities as islands in a sea of nature has reversed.
- Areas of connectivity conservation are large, regional connections that maintain animal movements and plant health and other essential natural connections between different parts of the landscape.
- Human induced extinctions can be stopped but it takes huge efforts at all levels. Retention and restoration of habitats and ecosystems, including establishment of protected areas, is an important part in this effort.
- An example of connectivity conservation at an international scale is the Meso-American Biological Corridor linking protected areas in Central America.

Connectivity Conservation?

Worldwide, habitat loss and habitat fragmentation have been a major cause of loss of biodiversity and extinctions.

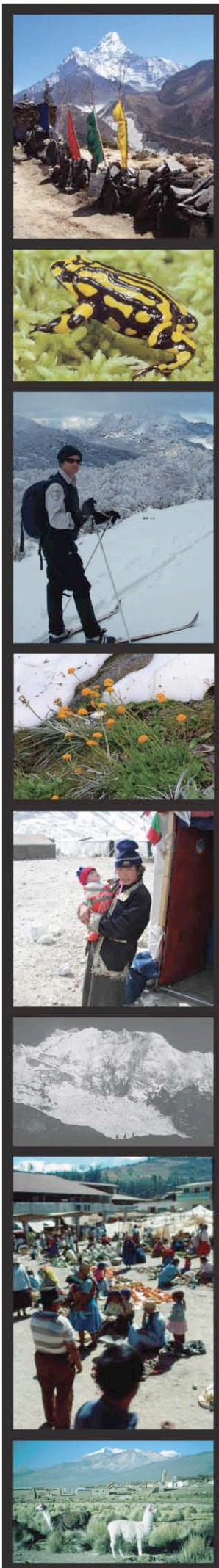
Until well into historical times, a high level of connectivity existed among ecosystems. Through the ever-increasing extent and intensity of human exploitation of natural resources, however, the pattern of human activities as islands in a sea of nature has become reversed in most of the world's regions.

In an ideal world it could be argued that people would confine their activities to islands of settlement and to the margins of ecosystems, leaving natural areas large enough to ensure their continued integrity.

But we do not live in such a place. In the real world the pressures of population growth and economic development severely disrupt natural systems and force us to find ways to reconcile human needs with the conservation of biodiversity.

As a result of this concern, awareness is growing of the need to find ways of maintaining the coherence of ecosystems in response to the fragmentation caused by human activities. An increasing number of

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conservation initiatives around the world are therefore aiming to create or restore functional linkages between protected areas and their surrounding regions. This includes building extensive linked systems at the landscape scale.

Connectivity conservation areas are large, regional connections (often called corridors) that are meant to facilitate animal movements and other essential flows between different sections of the landscape. Ideally, the reserve network should include different types of connectivity to address the needs of different species, and to provide alternative routes should one or more corridors be eliminated by disturbance. In addition, whenever possible, connectivity conservation areas should be located along places in the landscape where animals tend to travel.

Global initiatives of connectivity conservation development at a national, international and continental scale include the Central Apennines in Italy spreading out from the Abruzzo National Park; the Yellowstone to Yukon initiative linking the contiguous states of the USA through Canada to Alaska along the Rocky Mountains and the Paseo Pantera project and Meso-American Biological Corridor linking protected areas in Central America.

Advantages of connectivity

Ecologists agree that, as a rule, increasing ecological coherence enhances the essential structure, processes and functioning of ecosystems, improves the interaction between organisms and their environment and strengthens the resilience of ecosystems when responding to stress. Landscape connectivity conservation is a principal means of conservation and is an

essential element of protected area design in a fragmented landscape. Connectivity permits regular movements of species, ensuring that different subsets of larger populations have access to all the resources they require. They make it possible for all individuals in a population to interbreed, reducing inbreeding. They help to maintain landscape processes that species depend on, such as hydrology and disturbance regimes.

However, the advantages are not limited to the survival of species. Conservation connectivity provided for ecological purposes can strengthen ecosystem services, such as the provision of water supplies, increased resources for utilization and improved air quality. These same linkages can also provide protection for important cultural assets like La Gran Ruta Inca along the Andes in South America.

The work of IUCN – the World Conservation Union on Connectivity Conservation

The theme of connectivity conservation has been on the agenda of IUCN for many years. IUCN's World Commission on Protected Areas (WCPA) and the Commission on Ecosystem Management (CEM) are actively involved in these initiatives.

The IUCN WCPA (Mountains Biome) Mountain Connectivity Conservation Management Workshop – Papallacta, Ecuador November 14-17 2006 will develop practical guidelines for managing continental scale connectivity conservation areas. These will be published in a new book by IUCN.

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