

Natura2000: a policy framework for wilderness protection in Europe?

Steve Carver¹

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Natura2000 originates from the EU Birds Directive (1979) and the Habitats Directive (1991) and aims to ensure the long-term survival of Europe's most valuable and threatened species and habitats. The network comprises of over 26,000 protected areas covering all EU member states with a total area of around 850,000km² (EU 2009). As such, Natura2000 is the largest protected area network of its kind in the world and forms the centrepiece of EU nature and biodiversity policy. Wilderness areas, by comparison, are those landscapes that are ecologically intact and have been largely untouched by human activity. They tend by definition, to be large and relatively remote. In Europe, most wilderness areas can be found in high altitude and/or high latitude areas and as such are dominated, though not exclusively, by montane and arctic/tundra/boreal forest landscapes. Smaller wilderness areas can be found elsewhere scattered across the continent where local conditions dictate. Marine wilderness areas are also the subject of much recent interest. Strict definitions of wilderness vary, but the concept of wilderness does not focus on ecological condition alone, but also on a range of landscape attributes more allied to human values such as scale, lack of human influence and remoteness from settlement and access.

While there is no explicit mention of wilderness within the Natura2000 legislation, it seems logical that the network's objective of halting biodiversity loss and habitat protection may well be complementary to wilderness protection. This is a point developed by the European Parliament resolution of February 2009 on "Wilderness in Europe". This resolution recognises that wilderness is important in helping halt the loss of biodiversity and maintains that the Natura2000 network is an appropriate vehicle for achieving this and should be developed into "a significantly strengthened and ambitious new policy framework for biodiversity after 2010" (EP 2009). The protection and conservation status of wilderness areas varies widely between countries according to their location, fauna, flora, cultural meaning and history. In some countries wilderness is a valued landscape and as such wild areas are subject to conservation measures and legislative status and definition. The resolution on wilderness calls for action in protecting Europe's remaining wilderness areas, while according to the Natura2000 web pages "a preliminary survey (shows that) 99% of these areas in the EU are covered by the Natura2000 network" (EU 2009).

Recent work by the author has concentrated on developing GIS approaches to defining and mapping the wilderness continuum based on a range of spatial attributes including remoteness from settlement and mechanised access, perceived naturalness of land cover, absence of modern human artefacts and land uses, rugged and challenging nature of the terrain (Carver et al. 2002, Carver 2009). This landscape continuum or environmental modification spectrum defines a range of wilderness conditions between "the paved to the primeval" (Nash 1982). By combining maps of these attributes, it is possible to define the wilderness continuum for any area at a range of spatial scales and resolutions. By close examination of the wilder end of the continuum it is possible to identify the wildest parts (i.e. wilderness) of any region, country or local area. These can be used to inform decision-making about land use planning, development control, protected area management, recreation and tourism as well as policy development on protected areas and ecological restoration.

This paper evaluates the utility of the existing Natura2000 network of protected areas as a policy framework for the promotion and protection of wilderness in Europe. While broad conclusions from the recent conference in Prague on "Wilderness and Large Natural Habitat Areas in Europe" held during May 2009 suggest that the Natura2000 network "offers an excellent framework for wilderness protection", it is suggested here that the spatial correspondence might not be as

¹ Wildland Research Institute, School of Geography, University of Leeds, LS2 9JT, UK, s.j.carver@leeds.ac.uk

optimistic as indicated and that Europe's remaining wilderness areas might have more to offer Natura2000 if the network were expanded to include more wilderness areas. The spatial distribution and correlation exhibited between the Natura2000 network and wilderness areas are examined using GIS both across Europe as a whole and at the scale of individual member states. Conclusions are drawn as to the actual utility of the Natura2000 network in protecting wilderness and suggestions made as to how the network could be further developed to meet the call for better wilderness protection as laid out in the resolution of wilderness in Europe.

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