Threats to mediterranean habitats: many and increasing

Emma C. Underwood, Joshua H. Viers, Kirk R. Klausmeyer, Robin L. Cox and M. Rebecca Shaw. 2009. ***Threats and biodiversity in the mediterranean biome.*** *Diversity and Distributions 15(2):188-197. Contact: Robin Cox, rcox@tnc.org*

The mediterranean *biome* is one of the rarest terrestrial ecosystem types on Earth, restricted to only 2% of the world's land surface. Encompassing portions of southern Australia, central Chile, South Africa's Cape Region, the Mediterranean Basin, and California and Baja California, the biome is renowned for the diversity of its endemic plants: 20% of the world's vascular plant species are found there. Throughout human history, the mild conditions that characterize mediterranean-climate regions have fostered growth of major urban centers and vast agricultural zones. The imprint of these influences on the biome is as conspicuous as the richness of its biodiversity: human land uses now dominate a third of the mediterranean biome. In contrast, less than 5% has been set aside in protected areas.

Given the disparity between land conversion and conservation, scientists, conservation organizations, and many of the countries in which these unique habitats are found seek to accelerate the pace and scale of conservation efforts. But to develop effective strategies for abating threats to biodiversity, one must first understand how key threats and their impacts are distributed across the biome.

To this end, the authors of a study published in the journal *Diversity and Distributions* analyzed spatial data on key threat factors—land use and population density—in the world's five mediterranean regions and evaluated how the expanding footprint of human activity correlates with impacts on mediterranean species of concern. While degradation of mediterranean biodiversity is clearly a result of centuries of human modification of the land, the contribution of present day stresses is pronounced. Between 1990 and 2000, urban areas and population size grew by 13 percent, with an additional 34 million people—or twice the population of Chile—living in this, the smallest of the Earth's terrestrial biomes. These findings underscore the need to sequence conservation investments effectively, taking into account the pace and distribution of threats to mediterranean ecosystems.

Key points

- This study represents the first systematic spatial analysis of threats to biodiversity of the mediterranean biome.
- Threats to mediterranean habitats have increased significantly between 1990 and 2000 as have the numbers of threatened species.
- To safeguard the unique biological resources of this biome, conservation efforts must increase in pace, scale, and effectiveness.
- This characterization of the global "threat landscape" can inform conservation strategy, so that scarce resources are optimally allocated.