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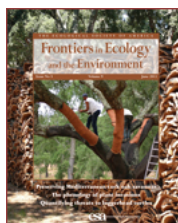
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Miguel N Bugalho, Maria C Caldeira, João S Pereira, James Aronson, and Juli G Pausas. 2011. Mediterranean cork oak savannas require human use to sustain biodiversity and ecosystem services. *Frontiers in Ecology and the Environment* 9: 278–286. <http://dx.doi.org/10.1890/100084>

Reviews

### Mediterranean cork oak savannas require human use to sustain biodiversity and ecosystem services

Miguel N Bugalho<sup>1,2,\*</sup>, Maria C Caldeira<sup>3</sup>, João S Pereira<sup>3</sup>, James Aronson<sup>4,5</sup>, and Juli G Pausas<sup>6</sup>

Mediterranean cork oak savannas, which are found only in southwestern Europe and northwestern Africa, are ecosystems of high socioeconomic and conservation value. Characterized by sparse tree cover and a diversity of understory vegetation – ranging from shrub formations to grasslands – that support high levels of biodiversity, these ecosystems require active management and use by humans to ensure their continued existence. The most important product of these savannas is cork, a non-timber forest product that is periodically harvested without requiring tree felling. Market devaluation of, and lower demand for, cork are causing a decline in management, or even abandonment, of southwestern Europe's cork oak savannas. Subsequent shrub encroachment into the savanna's grassland components reduces biodiversity and degrades the services provided by these ecosystems. In contrast, poverty-driven overuse is degrading cork oak savannas in northwestern Africa. "Payment for ecosystem services" schemes, such as Forest Stewardship Council (FSC) certification or Reducing Emissions from Deforestation and Degradation and enhancement of carbon stocks (REDD+) programs, could produce novel economic incentives to promote sustainable use and conservation of Mediterranean cork oak savanna ecosystems in both Europe and Africa.

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