

LETTERS

Edited by Jennifer Sills

Carnivore coexistence: Value the wilderness

IN THEIR REPORT "Recovery of large carnivores in Europe's modern human-dominated landscapes" (19 December 2014, p. 1517), G. Chapron *et al.* recount encouraging news that brown bear, wolf, European lynx, and wolverine populations are stable or increasing in Europe. Still more encouraging, these carnivores now persist in human-dominated landscapes, a change they attribute to "land-sharing" practices.

Europe is undoubtedly becoming more hospitable for large carnivores, owing to effective law enforcement, shifting social values, and favorable habitat change (1). However, it is unclear whether land-sharing will routinely support self-sustaining large carnivore populations in isolation. Chapron *et al.* show that carnivores are permanently present in areas of high human density, but this does not imply intrinsic population growth. Rather, their presence might hinge on immigration from remaining wilderness areas.

The benefits of land-sharing can be contingent on connectivity between landscapes shared with humans and intact wilderness (2), particularly for long-lived, slow-reproducing, and strongly dispersive species like large carnivores (3), whose populations can be interconnected over huge distances (4). The recovery of the

brown bear in Norway, for example, depends on females traveling from wilderness areas in Sweden, where human densities are extremely low (5). Similarly, the European lynx remains critically dependent on protected areas in Central Europe (6). Without detailed analyses linking land use and socioeconomic change to carnivore demography, it is premature to conclude that land-sharing offers an effective general model for carnivore conservation.

Protected areas are under increasing pressure worldwide (7); it is therefore essential that policy-makers continue to recognize the value of wilderness for biodiversity. Successful land-sharing should be applauded, but it does not represent a green light to roll back protected-area designation. Without the ongoing sparing of European wilderness zones, it is unlikely that favorable trends will continue for large carnivores.

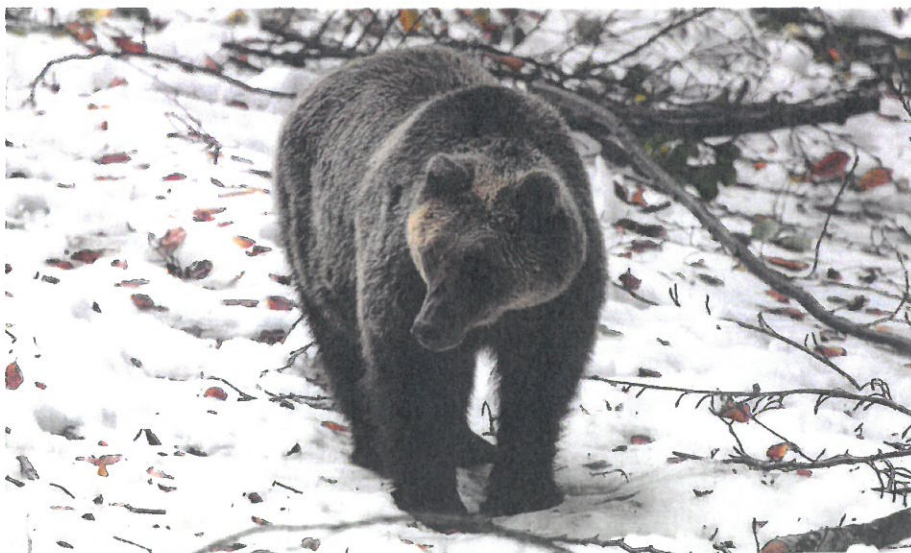
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The stability of brown bear populations in populated areas may depend on the preservation of nearby wilderness.