LANDSCAPE ECOLOGY

The sound of fear

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Large predators can affect entire landscapes in multiple ways, including by inspiring fear in other animals. Potentially, attendant behavioural changes can cascade to affect herbivores, whose activities affect vegetation and soil. As humans have replaced large carnivores as top predators, the possibility of fear-inspired landscape effects is shifting accordingly.

Justin P. Suraci, of the University of California, Santa Cruz, and colleagues investigated this relationship with a landscape-scale audio-playback experiment to mimic human presence. Working in central California's Santa Cruz Mountains, they broadcast over 1 km^2 recordings of people talking as well as neutral control sounds (calls from Pacific tree frog, *Pseudacris regilla*, present there but presumably not threatening). Medium-sized carnivores, including bobcats and skunks, reduced their activity levels, and large ones (mountain lions) moved more cautiously. Small mammals, whose impacts on plant communities and, in turn, various ecosystem attributes are well known, increased foraging and habitat use. These findings add to the evidence that our impacts extend far beyond, for example, land conversion. To sustain ecosystem structure and function and associated landscapes, we must recognize that our voices carry.

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