

Environmental factors regulate occupancy of free-ranging dogs on a sub-Antarctic island, Chile

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Abstract

Domestic dogs (*Canis familiaris*) are the most common carnivore species in natural ecosystems worldwide. They are of considerable concern for wildlife conservation, particularly in the absence of predators. However, we are only beginning to understand the ecology of free-ranging dogs, and even less is known in sub-Antarctic environments. Here, we used camera-trap data to assess space use of free-ranging dogs on a sub-Antarctic island in the Cape Horn Biosphere Reserve, southern Chile, which lacks native terrestrial carnivores. We predicted free-ranging dogs to be associated with human settlements, trails, and roads and to prefer open habitats over forest for the ease of movement. We obtained 67 independent dog records of 62 individuals over 3909 camera-trap days from 200 sites. Single-species single-season occupancy models revealed that both rural/village dogs, as well as putative feral dogs chose peatbogs over forest, but their preference for settlements and roads was less pronounced and inconsistent among dog categories. Our findings revealed evidence for a reproducing feral dog population on Navarino Island that may be sustained by recruits from rural/village dogs, as identical sites were visited by both dog categories. However, due to a higher occupancy with proximity to human dwellings, the dependence of feral dogs on human resources remain uncontested. In light of the penetration of dogs into pristine sub-Antarctic habitats and their possible impacts on native vulnerable prey, we recommend the implementation of responsible pet-ownership regulations, as well as ethically-approved control actions for feral dogs to protect one of the planet's last wilderness areas.

Palabras clave

Palabras clave de autor: [Biological invasion](#); [Camera-trap](#); [Canis familiaris](#); [Invasive species](#); [Subsidized predator](#)

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