A critical review of habitat use by feral cats and key directions for future research and management

Tim S. Doherty [A C], Andrew J. Bengsen [B] and Robert A. Davis [A]

+ Author Affiliations

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Abstract

Feral cats (*Felis catus*) have a wide global distribution and cause significant damage to native fauna. Reducing their impacts requires an understanding of how they use habitat and which parts of the landscape should be the focus of management. We reviewed 27 experimental and observational studies conducted around the world over the last 35 years that aimed to examine habitat use by feral and unowned cats. Our aims were to: (1) summarise the current body of literature on habitat use by feral and unowned cats in the context of applicable ecological theory (i.e. habitat selection, foraging theory); (2) develop testable hypotheses to help fill important knowledge gaps in the current body of knowledge on this topic; and (3) build a conceptual framework that will guide the activities of researchers and managers in reducing feral cat impacts. We found that feral cats exploit a diverse range of habitats including arid deserts, shrublands and grasslands, fragmented agricultural landscapes, urban areas, glacial valleys, equatorial to sub-Antarctic islands and a range of forest and woodland types. Factors invoked to explain habitat use by cats included prey availability, predation/competition, shelter availability and human resource subsidies, but the strength of evidence used to support these assertions was low, with most studies being observational or correlative. We therefore provide a list of key directions that will assist conservation managers and researchers in better understanding and ameliorating the impact of feral cats at a scale appropriate for useful management and research. Future studies will benefit from employing an experimental approach and collecting data on the relative abundance and activity of prey and other predators. This might include landscape-scale experiments where the densities of predators, prey or competitors are manipulated and then the response in cat habitat use is measured. Effective management of feral cat populations could target high-use areas, such as linear features and

structurally complex habitat. Since our review shows often-divergent outcomes in the use of the same habitat components and vegetation types worldwide, local knowledge and active monitoring of management actions is essential when deciding on control programs.

Additional keywords: *Felis catus*, habitat selection, home range, introduced predator, invasive predator, predator control.

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