

Balancing rodent management and small mammal conservation in agricultural landscapes: challenges for the present and the future

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Abstract. Rodent conservation poses special challenges, especially where the separate imperatives of small mammal conservation and pest rodent management meet and potentially collide in an agricultural landscape. Rodent management or control actions can have potentially deleterious impacts on small mammals and other wildlife, especially where non-selective methods such as poisons are applied. However, without rodent pest management, native species may be at risk from aggressively invasive species such as the black rat, *Rattus rattus*, and from novel pathogens carried by the pest rodents. Our ability to identify and mitigate these potential impacts is currently limited by a lack of knowledge in a number of key areas. In some parts of the world, for example across much of South and Southeast Asia, we are presently unable to say which species are 'native' and which are recently 'introduced' or 'naturalised'. Additionally, there is often little hard evidence to say which rodent species cause significant damage to crops and which may bring ecological benefits that outweigh any crop losses. Finally, the nature of interactions between pest rodents and other small mammals (including non-pest rodents) are poorly understood, such that it is difficult to predict the outcomes of not acting to control pest rodents in areas of shared agricultural and natural heritage value. Where agriculture and conservation meet, rodent control strategies need to be developed in a broad systems framework.