An overview of fertility control to mitigate human-wildlife conflicts in an overcrowded world

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Human-wildlife conflicts are escalating worldwide, mainly due to current trends in human and wildlife population growth and in landscape development. This is particularly important in areas where the density of the human population is high and wildlife species have increased in numbers and range. The debate about how to mitigate these conflicts is often polarised, with stakeholder groups holding irreconcilable views. Lethal control, traditionally used to manage wildlife populations, can be ineffective in the long term, unfeasible, illegal in some contexts or unacceptable for its impact on the environment and on animal welfare. Non-lethal options, such as fertility control, are increasingly advocated as humane, effective and socially acceptable alternatives to lethal control for managing wildlife. Most current field applications of fertility control for wild mammals use injectable immunocontraceptive vaccines that induce infertility for several years following a single or a few doses. In addition, orally delivered contraceptives registered for wildlife control have emerged. These include avian contraceptives, mainly targeting feral pigeons (Columba livia) and recently registered mammalian contraceptives developed to sterilise small rodents. Orally-delivered contraceptives have wider applications than injectable drugs, due to the fact that animals do not need to be captured to be injected. However, orally-delivered contraceptives often are not species-specific: specificity must be addressed through delivery. The first part of this presentation will review the factors associated with the increase of human-wildlife conflicts and illustrate recent advances in research and development on fertility control as a tool to manage wildlife and feral animals. The second part of the talk will summarise case studies, where fertility control has been used to mitigate human-wildlife conflicts. The third part of the study will evaluate advantages and limitations of fertility control to manage wildlife, emphasise research gaps and highlight contexts for fertility control to manage wildlife.