



BOTSTIBER INSTITUTE
FOR WILDLIFE FERTILITY CONTROL

Fertility Control to Mitigate Human-Wildlife Conflicts

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The current status and future of fertility control technologies to manage peri-urban kangaroo populations in eastern Australia

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Management of wildlife in peri-urban landscapes is essential for ecosystem function and to reduce human-wildlife conflict. Fertility control has high appeal for peri-urban sites where other methods such as annual shooting may be problematic. Several viable fertility control options, such as implants of GnRH agonists or progesterone, or immunocontraceptive vaccines, are currently available for Eastern Grey Kangaroos, *Macropus giganteus*. To apply these agents, individuals must be captured, a labour-intensive activity which limits their application to small numbers of animals and those in contained populations. Significant benefits would accrue if an efficient system for remote delivery of a long-lasting fertility control agent was developed. Our initial trials demonstrated that hand injection of the GnRH immunocontraceptive vaccine, GonaCon, induced high levels of infertility in >70% female Eastern Grey Kangaroos (n=16) for up to 10 years. Currently we are comparing efficacy of hand injection and dart delivery of GonaCon vaccine to adult female Eastern Grey Kangaroos. We are observing responses over time in individuals (n=142) and are comparing population growth and fecundity between treated (n=3) and untreated (n=7) sites. In the 3 years following GonaCon treatment, 14%, 0% and 6% of hand-injected kangaroos produced a young, while 21%, 8% and 9% of dart-delivered kangaroos produced a young. In the three years following placebo treatment, 90%, 89% and 86% of females produced a young. Fecundity has decreased to between 0% and 22% in treated populations whereas fecundity in untreated populations ranged from 53% to 88%. Results so far indicate that if long-term efficacy is achieved, dart delivery of GonaCon will be at least 50% more efficient than capture and injection by hand. This approach therefore could provide an efficient and more cost-effective option compared to currently available fertility control methods which require kangaroos to be captured for treatment. Use of fertility control to manage urban prairie dog populations