
Fertility control

Insights from a 20 years' research on free-roaming cats

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Domestic cats have been widely distributed around the world as pets. Over time, non-domiciliary populations known as free-roaming cats have formed. These cats often suffer from impaired welfare and were shown to cause adverse environmental effects, such as ecological damage, nuisances, and public health hazards. The most commonly used method for managing these populations is trap-neuter-return (TNR), which is considered a humane control method. However, there is ongoing debate among researchers, regulators, and animal organizations about the effectiveness of TNR in reducing free-roaming cat numbers, improving their welfare, and reducing the negative environmental effects they may cause. In our research, we examined various aspects of TNR effectiveness using a unique controlled field experiment over a 12-year period in a 20-km² urban area. We found a positive correlation between neutering and cat health and survival. High-intensity TNR was able to reverse population growth, achieving an annual reduction of approximately 7%, only when it was applied in a contiguous geographic area. However, this population reduction was limited by a rebound increase in cat reproduction and longevity. We concluded that TNR should be implemented with high intensity, continuously, and in a contiguous geographic area to achieve population reduction. To improve management effectiveness and prevent compensatory effects, we recommend further evaluating an integrated strategy that combines TNR with complementary methods, such as regulating vital resources, euthanasia for sick cats, and adoption.