



BOTSTIBER INSTITUTE
FOR WILDLIFE FERTILITY CONTROL

Fertility Control to Mitigate Human-Wildlife Conflicts

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Deer population demographic impacts of intensive surgical sterilization treatments

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Overabundant suburban deer (*Odocoileus* spp.) are a source of human-wildlife conflict in many communities throughout the United States. Deer-vehicle collisions, tick-borne pathogens, impacts on local vegetation, and other negative interactions are the typical reasons cited for initiating a deer management program. Social attitudes, legal constraints and perceived safety concerns lead many communities to examine nonlethal management options. Surgical sterilization is currently the only nonlethal method available to permanently sterilize females with a single treatment. There are limited data demonstrating methods and outcomes in high percentage (>90%) surgical sterilization programs; particularly impacts of immigration on non-isolated populations. We present data from six surgical sterilization sites with open populations (not fenced or island environments) in California, Maryland, Michigan, Ohio, Virginia, and New York, USA. From 2012 to 2020, we sterilized 493 deer via tubal ligation and ovariectomy. Annual or periodic population estimates were conducted using camera surveys, road-based distance sampling, and intensive field observations to assess population trends. We noted an average reduction in deer abundance of 25% from Year 1 to Year 2. Initial populations ranged from approximately 6 – 63 deer/km² (14 – 169 deer/mi²). At research sites with 4 years of sterilization treatment (4 sites), we noted an average total reduction of 45%, resulting in an estimated 2 – 32 deer/km² (6 – 86 deer/mi²) at each location. These projects clearly demonstrate that significant reductions in local deer densities using high percentage surgical sterilization programs can be achieved. Finally, we provide details on long-term program maintenance strategies using local volunteers.