# Overview of Fairfax County Deer Management Program
# Fairfax County Board of Supervisors' Legislative Committee
# November 27, 2018

## Deer Management in Virginia

- The Virginia Department of Game and Inland Fisheries (DGIF) is responsible for managing wildlife in Virginia.
- DGIF provides the general framework for deer management programs, but does not require localities to have such programs. Localities that opt to establish deer management programs must follow state guidelines, laws and regulations.
- Archery, publicly managed shotgun hunts, and police sharpshooting are currently approved methods for managing the deer population in Virginia. Virginia Code § 29.1-508.1 prohibits the use of non-lethal methods, including surgical sterilization and immunocontraception, without prior approval from DGIF.

## Fairfax County Deer Management Program

- The Fairfax County Board of Supervisors established the County's Deer Management Program in 1998, in response to concerns from County residents about conflicts created by overabundant deer. The program seeks to lower the number of deer in order to protect human health and safety, reduce environmental damage, conserve biodiversity, and maintain healthy deer herds.
- The program is operated primarily on County-owned properties, by the Fairfax County Police Department (FCPD) in collaboration with the Fairfax County Park Authority (FCPA) and Northern Virginia Regional Park Authority. The program uses the three approved population control methods (archery, publicly managed shotgun hunts, and police sharpshooting).
- Letters are sent out annually to Fairfax County residents who live in the immediate vicinity of parks where the Deer Management Program is active to notify them of deer management activities. Signage is also posted in parking areas and on park trails to ensure visitors are aware of the program. Public information meetings are held annually to provide a program overview and address questions and concerns.
- The 2018-2019 archery program takes place from September 8, 2018, through February 23, 2019. Archery hunting is allowed Monday through Saturday, from 30 minutes before sunrise until 30 minutes after sunset (safety precautions are taken to protect people using the parks for recreational purposes).
- Publicly managed shotgun hunts are scheduled on November 28, 2018, January 9, 2019, and February 6, 2019, in the Sully Woodlands area.
- Additionally, police sharpshooting is scheduled to take place on four or five evenings in four County parks, between November 2018 and March 2019 (sharpshooting activities are conducted at least 30 minutes after sunset, when the parks are generally closed to the public).
- In FY 2018, the Deer Management Program removed 1,091 deer, including 860 on FCPA properties.
- Archery is the most cost-effective and successful method of herd management, representing 95 percent of the total deer removed in FY 2018 (the 2017-2018 Deer Management Program season). Approximately 100 parks and other County-owned

properties and 600 volunteer archers participated in the 2017-2018 Deer Management Program. Volunteer archers are screened through FCPD and are insured under the County's general liability policy.

- Excluding lethal population control methods, deer-vehicle collisions are generally the main source of deer mortality in suburban areas. In Fairfax County, approximately 100 deer-vehicle collisions are reported to police annually; however, the majority of such collisions are not reported to the police. Reported collisions generally include those that result in injury, fatality, or extensive property damage.
- Based on Virginia Department of Transportation (VDOT) work order requests for roadside animal carcass pickups, County staff estimate that approximately 1,100 – 1,600 dead deer are reported on state-maintained roads in Fairfax County annually. These do not represent all deer-vehicle collisions, because only about 25 percent of deer that are hit by cars die at the roadway.

**Non-Lethal Deer Management – Fertility Control Methods**

- Surgical sterilization and immunocontraceptives are the two primary methods of non-lethal fertility control for deer, though neither has proven to be successful in large areas where deer roam freely.
- Two immunocontraceptives, GonaCon and porcine zona pellucida (PZP), have been studied as possible non-lethal methods of deer management. While not approved for use in Virginia, GonaCon was registered by the Environmental Protection Agency (EPA) in September 2009 as a restricted use product for contraception of adult, female white-tailed deer via hand injection, and the PZP vaccine, named Zonastat-D, was registered with the EPA in July 2017, for contraception of adult, female white-tailed deer via remote dart delivery. The EPA approves registration of drugs based on their assessment of environmental safety and effects on non-target organisms (e.g., humans, wildlife, plants, surface/ground water), not on their effectiveness as a population control drug. EPA approval and registration does not constitute endorsement of a product.
- In order to successfully achieve population reduction, research suggests that over 90 percent of female deer should be targeted by fertility control methods (due to high survival rates and reproductive potential of deer in suburban landscapes). Achieving such a target level is extremely unlikely in large geographic areas, like Fairfax County, which have overabundant, free-ranging deer herds and limited natural barriers to restrict deer movement.
- Fertility control treatments are cost prohibitive for large scale and long-term use; initial cost estimates range from $500 per deer for PZP to $1,000 per deer for surgical sterilization. Costs vary depending on the amount of professional wildlife staff, veterinary services, volunteers, and police overtime required.
- Additionally, fertility control methods alone do not immediately reduce the deer population, so the effects of non-lethal deer management may not be apparent for at least five to ten years.
- Both administering contraceptive vaccines and conducting surgical sterilizations require researchers to access deer at close range, in order to anesthetize them with chemical immobilization drugs, track them via radio-telemetry, mark them for individual identification, and administer the fertility control treatment.

- Further, immunized deer must receive periodic boosters, requiring deer to be relocated and either captured for hand-injection (GonaCon) or re-darted (PZP), which can cause stress or injury to the animals, sometimes leading to death. Not surprisingly, deer returning to the wild after treatment are generally more difficult to approach or capture on subsequent occasions, making these efforts labor intensive. Efforts would also be dependent on access to suitable capture sites and permission of property owners.
- The long-term health impacts and behavioral changes of female deer who were sterilized or received contraceptives are unclear and still being evaluated in research studies.

**Current Research in Virginia on Non-Lethal Deer Management**

- The City of Fairfax and White Buffalo, Inc., recently completed a five-year research study on the use of surgical sterilization to manage deer. The final report was submitted to the DGIF in February 2018.
- During the proposal process, the principal investigator noted that the deer population within the City of Fairfax was at a low population density, and the research would be unique in proactively addressing the deer population before it expands to problem levels in the future.
- In the five years of the study, White Buffalo, Inc. surgically sterilized 52 female deer in the City of Fairfax. Estimated recruitment rates declined from 1.29 fawns per female (year 1) to 0.19 fawns per female (year 5).
- Based on population estimation, researchers concluded that the deer population in the City of Fairfax declined by approximately 39% since the start of the project (66 deer in year 2 to 40 deer in year 5). This represented a change in estimated deer density from 10.5 deer per square mile (year 2) to 6.3 deer per square mile (year 5). This decline is consistent with the recruitment, immigration/emigration, and mortality rates recorded.
- During the study period, half of the female deer died or dispersed out of the City of Fairfax. Sixteen of the female deer died (ten in deer-vehicle collisions, four killed by hunters in Fairfax County, one died of unknown causes, and one died from a capture-related injury), while ten female deer could not be located at the end of the study and were believed to have dispersed (or were dead and not locatable).

**Conclusion**

- Deer management in Fairfax County is important for a variety of reasons, including protecting human health and safety by reducing motor vehicle accidents, and ensuring a healthy habitat and sustainable urban forest.
- Existing non-lethal deer management methods have so far proven ineffective, labor intensive, and cost prohibitive. As a result, they are not approved by DGIF for use in local deer management programs in Virginia.