

**FAIRFAX COUNTY**

**INTEGRATED**

**DEER MANAGEMENT**

**PLAN**

**FINAL REPORT**

**NOVEMBER 1998**



# FAIRFAX COUNTY

DEPARTMENT OF ANIMAL CONTROL  
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V I R G I N I A

August 6, 1998

Katherine K. Hanley, Chairman  
Board of Supervisors  
12000 Government Center Parkway  
Suite 530  
Fairfax, Virginia 22035-0071

Dear Ms. Hanley:

Something happened in Fairfax County about ten years ago which set the stage for a situation which would polarize its citizens. This was not the typical issue of a new road bisecting a neighborhood nor was it the "not in my backyard" rally against some proposed building. This was something new. Something that would not be resolved quickly. This would be a protracted debate.

Simultaneously, the same issue was erupting across the eastern United States. Each township, county, city and hamlet was faced by the same agonizing problem. White-tailed deer had invaded suburbia. They had tasted the azaleas, day lilies, hostas and fertilized lawns and liked what they had found. They were, in fact, the proverbial guest who came to dinner and never left. Deer had adapted to urbanization.

This adaptation coincided with a wave of construction which provided more and more landscaped yards. Much of the construction simultaneously destroyed sections of forest which had always been the home of the deer. The forest had always been good habitat for deer. Deer actually prefer what is commonly referred to as edge habitat. This is the interface zone of two different habitats such as where a forest meets a field. That is exactly what is produced when a house is built in a forest. Unintentionally, good deer habitat had been transformed, on a massive scale, into ideal deer habitat. This new superior habitat came with a bonus. Hunting would be restricted due to the density of this urbanization. Now the deer population was free to expand practically unchecked.

This is an issue often debated between groups who have had personal negative encounters with deer and those who either have not had these experiences or are more tolerant. In dealing with this issue over the years, I have seen numerous examples of people who started out on one side of the debate and ended up on the other. Perhaps the best example of this was mentioned in a magazine article some years ago. A group of nuns had a subsistence garden within a fenced compound outside of Baltimore, Maryland. A single white-tailed buck had somehow managed to get inside the fence. The deer began to feed

on the garden. The nuns were split on what should be done. At first the majority felt that this was a beautiful creature and that there was enough food to provide a share to the deer. As time went on and the deer consumed everyone's share, the mood changed from that of accommodation to that of a lynch mob. An archer was summoned to dispatch the deer.


The location and the characters change but the same scenario is played out time and time again. The conclusion most often reached is that the number of deer needs to be reduced. The techniques utilized vary and the time and effort invested also vary but ultimately the process leads to the same conclusion.

Fairfax County has now completed the Deer Management Committee phase. This committee, like many others, sifted through all the available information on deer management and then made a report to the County. Natural Resource Consultants was then hired to review the report and make additional recommendations.

The Fairfax County Integrated Deer Management Plan (The Plan) is intended to be a toolbox of techniques available to stakeholders. The problems caused by deer are nearly site specific. Therefore, no single technique will be applicable throughout the County. It is suggested that the Deer Management Committee be reestablished to advise landholders with unique situations. The Committee would also review The Plan on an annual basis so that future technological developments can be included as they become available.

Questions or comments about the Plan should be directed to my attention at the above address.

Sincerely,



Earl L. Hodnett  
Wildlife Biologist

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- III    Comprehensive Management Plan for White-tailed Deer in  
Montgomery County, Maryland**

## White-tailed Deer A Brief History

The white-tailed deer, *Odocoileus virginianus*, played an integral part in the early history of North America. Deer were an important resource to early Indians as both a food staple and a source of clothing and tools.

The earliest European explorers were met by Indians dressed in deer hide garments and adorned with jewelry made of bones and antlers. One of the first paintings produced in the new world was done by John White in 1585. This watercolor depicted Southern Algonquian Indians dressed in buckskins and hunting white-tailed deer.

In the earliest records of North America, most of the eastern continent was covered in mature virgin forest. A forest of this type has little or no understory. Sunlight is prevented from reaching the forest floor by the high, dense canopy of the huge trees.

As the country was settled by Europeans, these forests were cut for building materials, export and to open land for agriculture. This "opening" of the forest canopy stimulated the growth of understory and edge plants. Since deer are primarily browsers (animals which feed on woody vegetation), this practice helped provide more potential food for them. A more abundant and dependable food source led to an increasing deer population.

From 1500 until around 1800, the Indian population as well as the growing numbers of European colonists kept the deer population in check. In fact, the deer population steadily decreased during this period. Practically the entire human population of North America used the white-tailed deer as a source of food. Agriculture had not yet reached the level of production to adequately supply meat for the human population.

During the period between 1800 and 1900, the resources of the eastern United States were greatly exploited. As the forest and other habitats utilized by deer were destroyed, the deer population plummeted. Deer were not only killed for food by individuals but also by professional hunters to supply wild game markets in all the major cities. Deer were also being killed for their hides.

The deer population fell from an estimated 23 to 34 million in 1500 to perhaps 6 million by 1900. The period from 1800 to the early 1900's saw the development of laws regulating or prohibiting the hunting of deer. A harvest season was established by law in Virginia in 1699 (one of the earliest game laws recorded). Personnel were hired to enforce game laws in Virginia beginning in 1916.

As the deer experienced some protection, their numbers again began to grow. This was

coupled with the recovery of much of the habitat which had been destroyed earlier. Other factors aided the recovery of the deer. Even though the human population continued to grow rapidly, agricultural productivity increased dramatically. During the same period, the human population became more urban and more and more people grew up without ever tasting venison.

A smaller percentage of the human population were hunting an ever increasing deer population. The suburban sprawl was removing tremendous tracts of land from areas which previously could have been hunted. Deer populations in these areas experienced population explosions. Their only mortality occurred by dog attacks or by being hit by automobiles.

This brings us to our present position on the time line. We are faced with a white-tailed deer population that is setting new records while the list of control options grows shorter.

## **BACKGROUND**

Northern Virginia has experienced a rapidly growing population of White-tailed deer, *Odocoileus virginianus* since the late 1980's. This is due to a number of reasons. Development of former habitat has pushed deer into ever diminishing tracts within the county. Developed areas typically provide more edge effect, more ornamental plants, more fertilized lawns and more safety from hunting mortality. In short, what was once good deer habitat has been transformed into ideal deer habitat.

As the deer density grew, so did the associated problems. It became more difficult and expensive to maintain a vegetable garden. Driving a vehicle within the county became more dangerous. It became more difficult and expensive for homeowners to maintain shrubs and flowers on their property. The incidence of Lyme disease increased. The quality and diversity of remaining natural habitats diminished.

Bryon P. Shissler of Natural Resource Consultants, Inc. was retained by the county to produce a report entitled *Deer Management Recommendations for Fairfax County, Virginia*. The report was submitted December 1, 1997 and was adopted by the Board of Supervisors (BOS) on December 8, 1997. At the same meeting, the BOS voted to initiate controlled hunts on public lands in the Dranesville District (Riverbend Park and Upper Potomac Regional Park) subject to the approval of the Fairfax County Park Authority and the Northern Virginia Regional Park Authority.

The managed hunts were safely conducted and resulted in the harvest of 60 deer. Whether these hunts should be deemed successful depends greatly upon one's viewpoint. The hunts were very labor intensive due to the perceived threat of disruptive demonstrations. Since these were the first managed hunts conducted by the County, there were a number of unknown factors for which contingency plans had to be at the ready.

The most important accomplishments of these managed hunts was the recognition of the problem of a burgeoning deer herd and a good faith effort to begin to address the problem. This is not a problem that will go away soon nor will it be resolved easily. Studies have indicated that the county's deer herd is continuing to grow. Presently there are few factors which act upon the herd to limit growth. If all known mortality is added up, it is not sufficient to even stabilize the herd at its present size. The fetal rate for the adult does taken in the managed hunts was 1.70. In 1997 the Director of the Department of Animal Control calculated a figure of 25,000 as the estimated size of the County's deer herd. This calculation was based upon sample counts conducted in the County and the number of acres of available deer habitat. This figure can be disputed as too low or too high. However, for the sake of example, if we utilize this estimate for the herd size and



assume that only half of those deer are does, then production could be as high as 21,250. This would give a new 1998 estimated herd total of 46,250. To look at the growth potential in another way, as recently as 1950, the Department of Game & Inland Fisheries (DG&IF) listed Fairfax County as a county in which deer were "absent or rare".

### *Is There A Problem?*

Does Fairfax County even have a problem with its deer herd? This point is argued primarily by two opposing sides: those who have personally experienced a problem and those who either have not had this experience or choose to tolerate it. Each side of the issue is passionate and vocal about its beliefs.

A number of factors can influence one's opinion on the issue. One major influence is the location of an individual's residence. Someone who experiences little or no damage to landscape plantings or rarely sees a deer in the neighborhood is less likely to categorize the issue as a "problem". In contrast, a person living in an area where plants only survive behind tall fences, deer/automobile accidents are commonplace and herds of deer are seen daily in the yard will have difficulty in understanding how anyone could fail to recognize the problem. Even though problems with deer are county-wide, they do not occur uniformly. Habitat quality is only one of a number of factors which come into play to produce this disparity.

How many deer should be in Fairfax County? Literally, as many as the BOS or the citizenry want. Deer are like money. You can save them to a point but eventually some have to be spent. Nature ultimately will control the deer herd. Saving all the deer is not within our control. Wildlife populations can build to a point and then natural forces will intervene. Cruelty and suffering are human concepts which are not recognized in nature. When natural forces control a population, it is done through disease, predation, starvation or a combination of these. Therefore, doing nothing *IS* an option. The questions would be: Are we willing to live with the associated problems until natural forces intervene? Would we be comfortable with the level of suffering inherent with natural control?

Abomasal Parasite Counts (APC) are conducted routinely throughout the state to assess deer herd health. In this procedure, parasites are washed from the lining of the abomasum (one of the stomach chambers in ruminants). The parasite count is inversely proportional to the over-all health of the deer. Deer die with heavy parasite loads when the population is at high density. The suggestion that deer should not be allowed to die from such causes is not a biological argument but an aesthetic one. As the physical condition of a deer

diminishes, it becomes more susceptible to disease. Of 86 studies, protein undernutrition was found to increase the effects of disease in 72% of the cases.

People commonly ask how many deer live in Fairfax County. It is not as simple as saying we have "x" number of deer, and we need to remove "y" in order to manage the herd at "x-y" (the ideal herd size). There is no way to determine exactly how many deer live in Fairfax County. Many areas of the County contain fragmented deer habitat. One area may be home to an extremely high density of deer and just across the interstate there may be a herd in complete harmony with its habitat. These two areas should not be managed in the same way. If an estimate of the County's deer herd were made, it would be based upon counts made across the County. This would produce a total number projected from an average density. This would mean that, by definition, half of the sub-units would have population densities below this average and half would be above. We can spend years and millions of dollars chasing that number.

Let us assume, for the sake of this example, that we have somehow determined that number. Would everyone agree that the number is correct? Would everyone agree that the number is too high? Would that number help us in any definitive way? If history is an indicator, the answer is likely - "No". The quest for that number can be used as a delaying tactic by those who would seek to obstruct a reduction of the herd. The number would be the target of much debate. The methodology used to obtain the number would come under attack. If we had the number, the next expectation would be the determination of a number representing the ideal herd size. This number is as nebulous and as subjective as the first.

There can be as many ideal herd size numbers as there are management goals. If the management goal is high hunter success, it would be desirable to have a large herd. Managing for traffic safety would require a lower density. Managing for adequate forest regeneration would dictate yet another number. If habitat diversity was the management objective, only a very low density of deer could be supported.

Who is to blame? Countless letters to the editor and articles have been written attempting to assign blame for this situation. Is it the fault of the hunters who have not harvested enough does? Is it the animal rights activists who have over protected the deer? Is it the fault of the parks for providing a refuge for the deer? Is it the fault of unchecked development? Is it the fault of citizens who buy a house built in deer habitat and have no tolerance for deer? Is it the fault of drivers not exercising enough caution on the roadways? The answers are yes to all and no to all. There is no single reason which led to this complex problem nor is there a single solution. However, it is apparent that there is a problem.

## *Problem Indicators*

All of the following indicators show that there may be too many deer. Although most of these indicators, when taken individually, may or may not indicate a problem, when examined collectively, they all lead to the same conclusion. Several areas of Fairfax County are experiencing extreme damage to natural and ornamental plant communities. Other problems associated a deer herd exceeding its cultural carrying capacity are now evident over most of the County. Unless one chooses to ignore these indicators, many areas of Fairfax County have more deer than the communities desire.

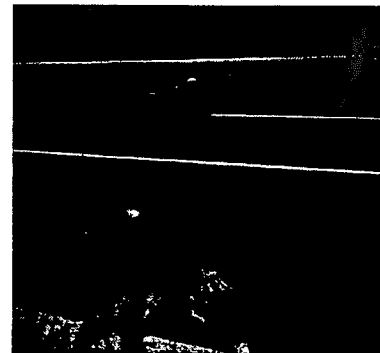
### ◆ **VEHICULAR ACCIDENTS**

This is one experience which can instantaneously convert an overpopulation sceptic. There has been difficulty in the past compiling data on automobile/deer collisions. Insurance companies were reluctant to release proprietary data. Minor accidents may go unreported. Records of accidents were also spread among several agencies. Today there is better coordination in the collection and compilation of data.

This data has helped identify areas of high accident incidence. It has also illustrated the magnitude of automobile/deer collisions. Areas which have implemented deer herd management programs within the county show some of the lowest rates of this type of accident.

Deer/automobile collision data indicates an upward trend. For the period of 1/93 - 12/95, there were 2480 road-killed deer picked up by Virginia Department of Transportation (VDOT) within Fairfax County. This represents an average of 827 per year. During 1996 the number increased to 1080 (December data missing). It is unfortunate that December data is not included because this can be a period of high activity by deer. In December of 1997 there were 124 deer picked up by VDOT. If we substitute this value for the missing 1996 data, it would give an annualized figure of 1204.

Other problems related to automobile/deer collisions exist. These are even more difficult to quantify. Included in this category are such things as a car swerving to avoid a deer only to collide with another vehicle or a stationary object. Other wildlife are often drawn to the carcasses of these road-killed deer. This creates a new set of problems. These animals are at greater risk of becoming road-kills themselves.



Scavengers can also cause additional automobile accidents. One such incident occurred along Wolf Run Shoals Road in Clifton. Driver "A" had noticed a freshly hit deer on the way to work one morning. As this driver was passing the carcass, he noticed two turkey vultures feeding on the deer. They jumped off the carcass and flew in front of his windshield. He had noticed them soon enough and had anticipated their response and thus avoided a collision.

The problem occurred on his way home that afternoon. Remembering that the carcass was there and noticing that the vultures were there as well, driver "A" reduced the speed of his vehicle. However, a car traveling in the opposite direction (driver "B") did not notice the vultures. When the birds flew up in front of his windshield, driver B swerved into driver A's lane. It was a deep cut road and driver A had nowhere to go. They narrowly avoided a head-on collision.

The media reported yet another type of deer related accident on May 26, 1998. A police officer near Leesburg was attempting to remove a road-killed deer from the highway when a motorist hit the officer pinning his legs between her car and his cruiser.

A Fairfax County police officer was southbound on route 123 near I-495 recently when a deer ran in front of his cruiser. The resulting collision resulted in approximately \$2,000 in damage to the front of the cruiser. The officer was transported to Fairfax Hospital where he was treated for neck pain and released on injury leave.

In volume 23 of the Wildlife Society Bulletin, Conover et al. found that the average figure for vehicular damage sustained in such an accident to be \$1,500. The Occoquan Watershed Coalition mailed a questionnaire about deer management to its members. Of those responding (N = 153), 48% had hit a deer. Of those accidents which resulted in repair bills, the average repair amounted to \$1,133.63. One vehicle was totaled but its value was not reported and therefore was not included in the calculation. It is not known how many of these reported accidents resulted in a road-killed deer.

This survey showed that 67% of the respondents reported that they had had to swerve to avoid a collision with a deer. One person reported that when they had to stop short to avoid a deer, they had been rear-ended by a following car.

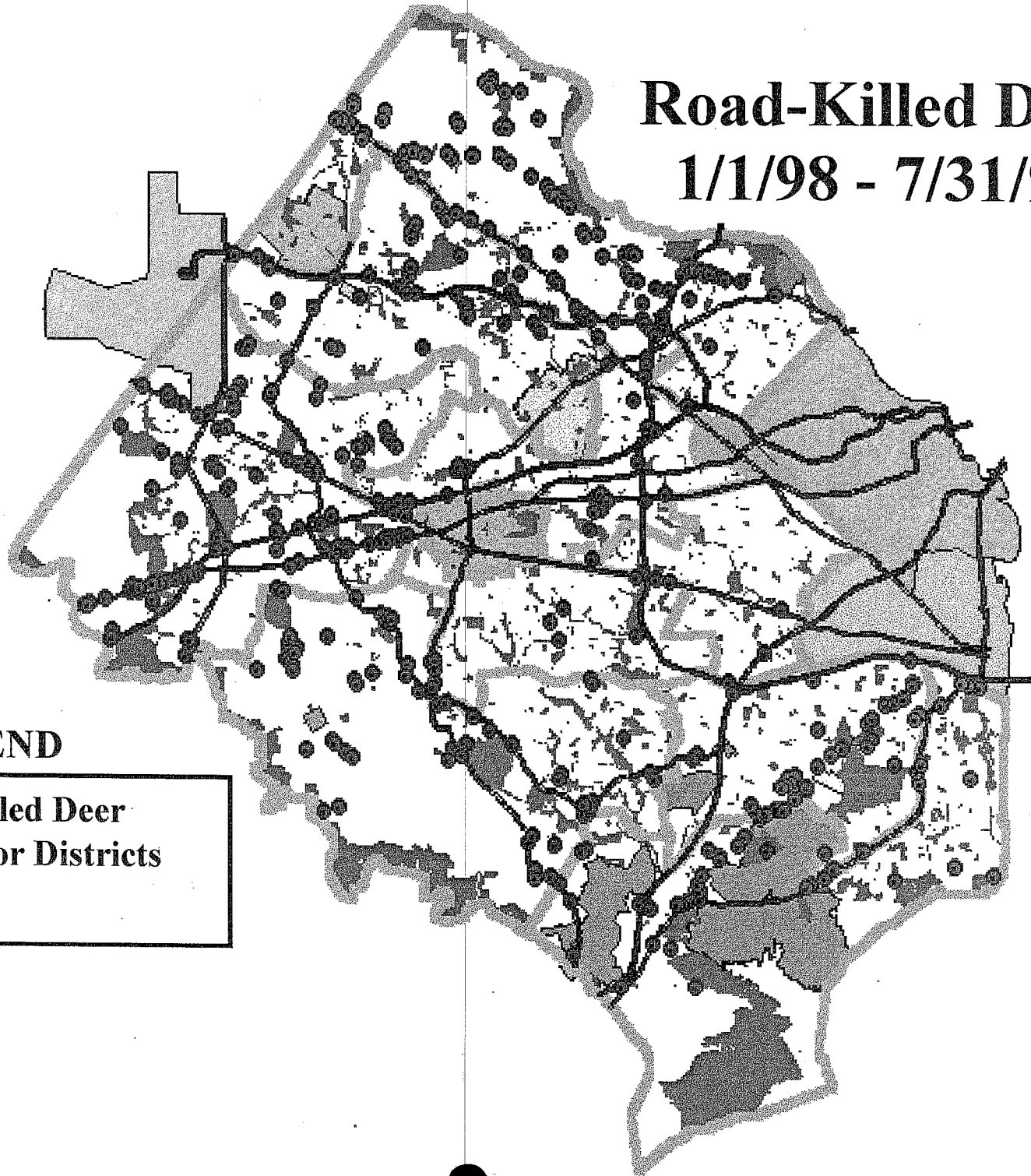
## ROAD-KILLED DEER 1998

As of 9/10/98

District	Supervisor	Road-Killed Deer	Percent of Total	High Incidence Sites
Dranesville	Mendelson	131	21.28%	I-495 & DTR Rt. 193 E. Of I-495 Rt. 193 & Old Dominion Rt. 7 & Dranesville Rd. Old Dominion Dr. (All) Rt. 193 (All)
Hunter Mill	Dix	46	7.42%	Wiehle Ave. From DTR to Baron Cameron Ave. Rt. 7 & Baron Cameron Ave.
Sully	Frey	164	26.89%	Rt. 29 from I-66 to Pleasant Valley Rd. Rt. 29 from Shirley Gate Rd. To West Ox Road Rt. 50 & Fx. Co. Pkwy.
Providence	Connolly	43	7.09%	Arlington Blvd. & Prosperity Ave. Jermantown Road & Rt. 123
Mason	Gross	12	1.65%	None
Braddock	Bulova	20	3.3%	None
Springfield	McConnell	96	15.34%	Fx. Co. Pkwy. & Hoose Rd. Clifton Road & Popes Head Road Fx. Co. Pkwy. & Popes Head Road Rt. 123 & Burke Lake Rd.
Lee	Kauffman	53	8.58%	Upper Telegraph Road Beulah Street & Telegraph Road Village Pkwy. & Hayfield Rd.
Mount Vernon	Hyland	52	8.41%	Beulah Street & Telegraph Road Fx. Co. Pkwy. & Hoose Road
<b>Total</b>		<b>617</b>		



# Road-Killed Deer 1/1/98 - 7/31/98



## LEGEND

- Road-Killed Deer
- Supervisor Districts
- Parks

An historical update of reportable crashes involving deer was developed by Michael A. Uram, MPO. Mr. Uram is a Crime Analyst with the FCPD Operations Support Bureau. He has compiled data on deer/automobile collisions which have occurred within the County since 1992. That data is presented in the following table.

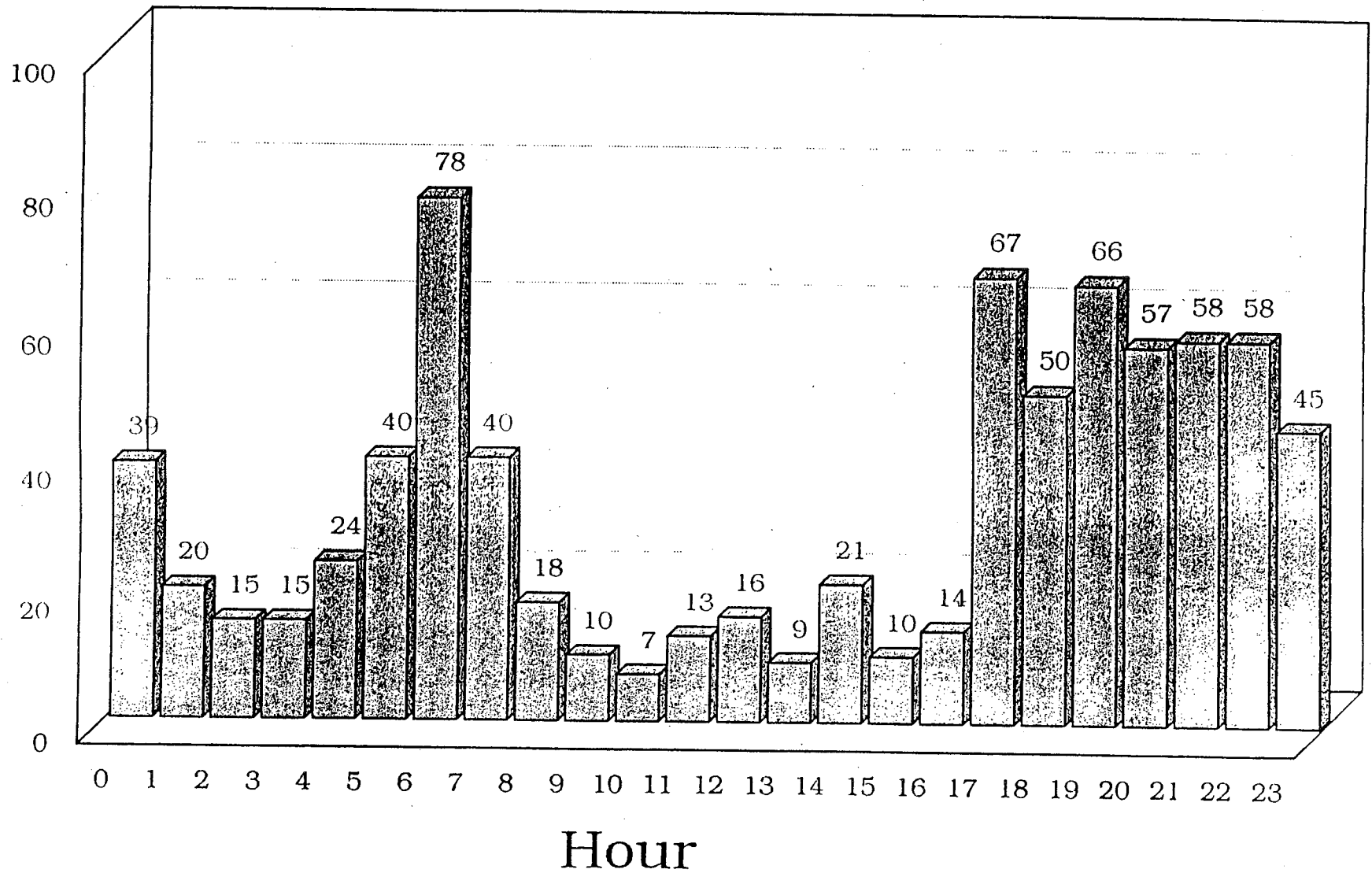
**REPORTABLE DEER/AUTOMOBILE  
ACCIDENTS IN FAIRFAX COUNTY**

	1992	1993	1994	1995	1996	1997	1998	TOTAL	%
<b>January</b>	2	10	8	11	6	15	6	58	5.6%
<b>February</b>	0	13	5	4	4	12	4	42	4.1%
<b>March</b>	0	8	7	7	7	8	9	46	4.5%
<b>April</b>	0	11	8	6	14	8	9	56	5.4%
<b>May</b>	9	8	8	5	11	10	8	59	5.7%
<b>June</b>	6	6	13	4	6	5	13	53	5.1%
<b>July</b>	4	3	5	7	8	15	5	47	4.6%
<b>August</b>	5	6	1	7	6	18		43	4.2%
<b>September</b>	10	4	10	4	14	10		52	5.0%
<b>October</b>	34	32	33	19	29	40		187	18.2%
<b>November</b>	62	46	51	34	49	34		276	26.8%
<b>December</b>	29	13	10	25	23	11		111	10.8%
<b>Totals</b>	161	160	159	133	177	186	54	1030	100%

Mr. Uram has also compiled data on the damage costs. The average cost of repairs for vehicles involved in accidents with deer in the County is \$2,111.00.

# Crashes Involving Deer

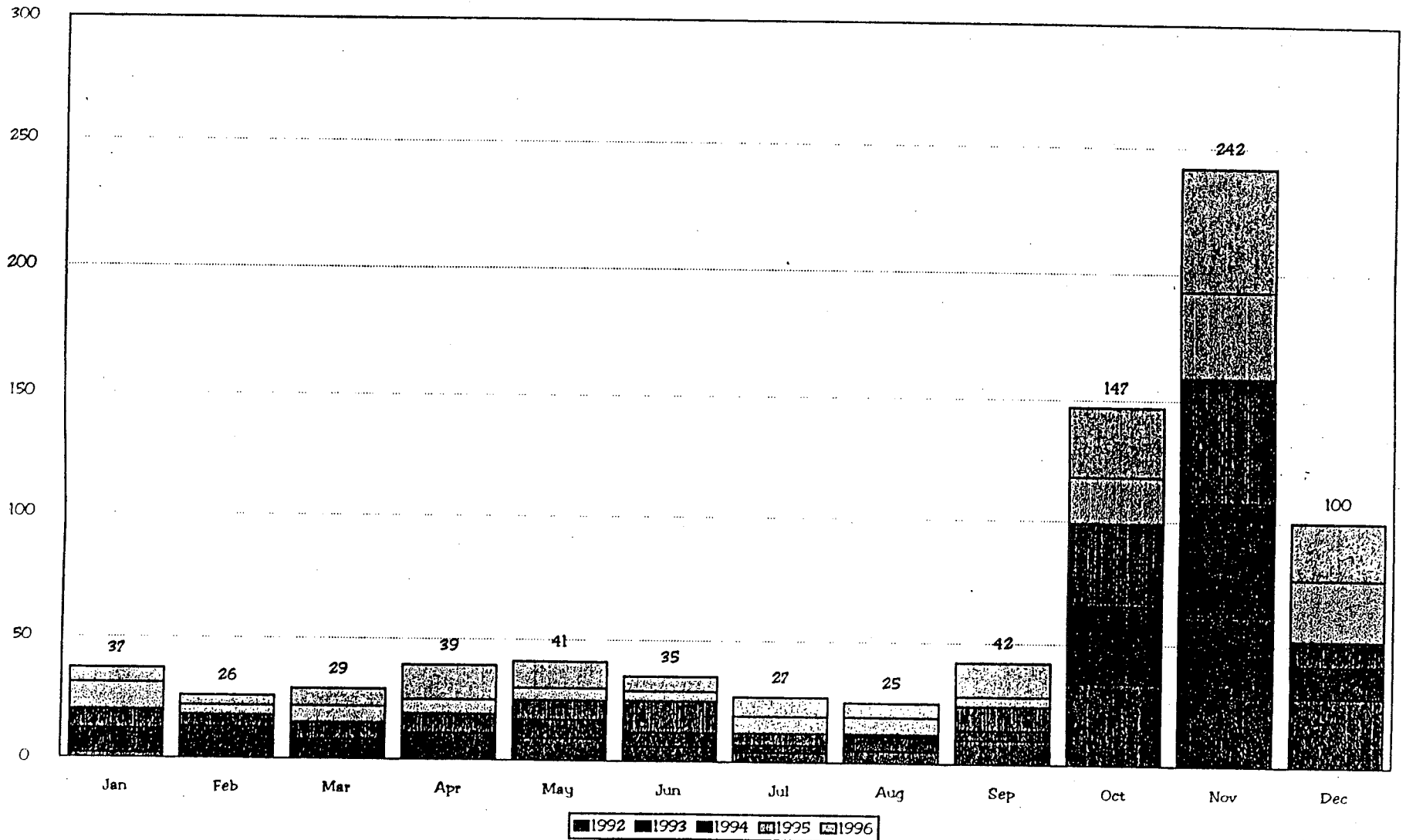
January 92 - December 1996





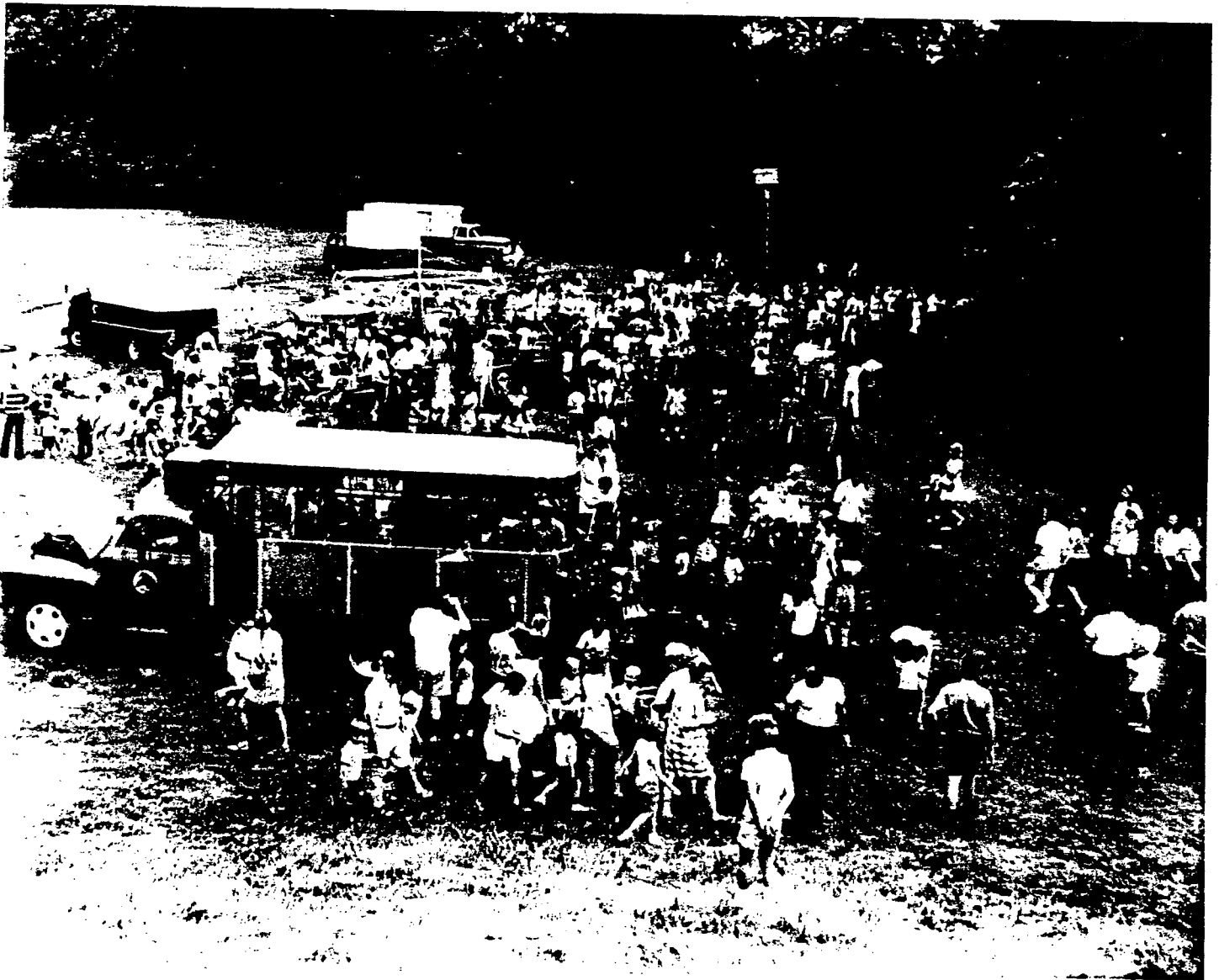
# Crashes Involving Deer Fairfax County

Cy 92 - 96



## What Have We Lost ?

It has been difficult to illustrate to the Board of Supervisors and to the citizens the extent of the degradation to some habitats within Fairfax County. The primary reason for this difficulty is that very little data exists to show the quality of the habitats prior to the emergence of the deer problem. These photos show the browseline which is becoming a common sight in some areas of the County. A browseline results when too many cattle, horses or, in this case, deer are crowded onto too small an area.



*This photo of an event at Bull Run Regional Park in Centreville (circa early 1970's) shows a healthy forest edge. Note how thick the understory appears and how the vegetation meets the mowed lawn.*



*This photo of the same location was taken in April, 1998. Note the distinct horizontal line along the forest edge (browseline). It is also noticeable that the understory is now quite sparse.*

◆ **HABITAT DAMAGE**

Damage to natural habitats is perhaps the most troubling of all the problems deer have caused. Ironically this is also the problem which has received little mention. This problem has a very large ripple effect and has the potential of remaining long after the deer herd size has been reduced. The forest may not show signs of recovery since it only takes a few deer to *maintain* the debilitated state of the forest even though it took many deer considerable time to destroy the understory.

As the deer in some areas have eaten everything within reach, they not only make it more difficult for themselves to acquire food, but deprive other species of the opportunity as well. Ground nesting birds and those which nest in the understory trees are unable to find suitable nest sites. These birds along with small mammals are at much higher risk of being seen by predators.

In the spring of 1998, a wild turkey nested under a small tree located between an access road and I-66. These birds typically seek secluded sites in which to nest. Why had this bird chosen such a bustling spot? The answer was just across the road.

Deer had removed the understory on the other side of the access road. This was the condition as far as the eye could see. The turkey had chosen the noisy busy site because it was the only cover remaining.



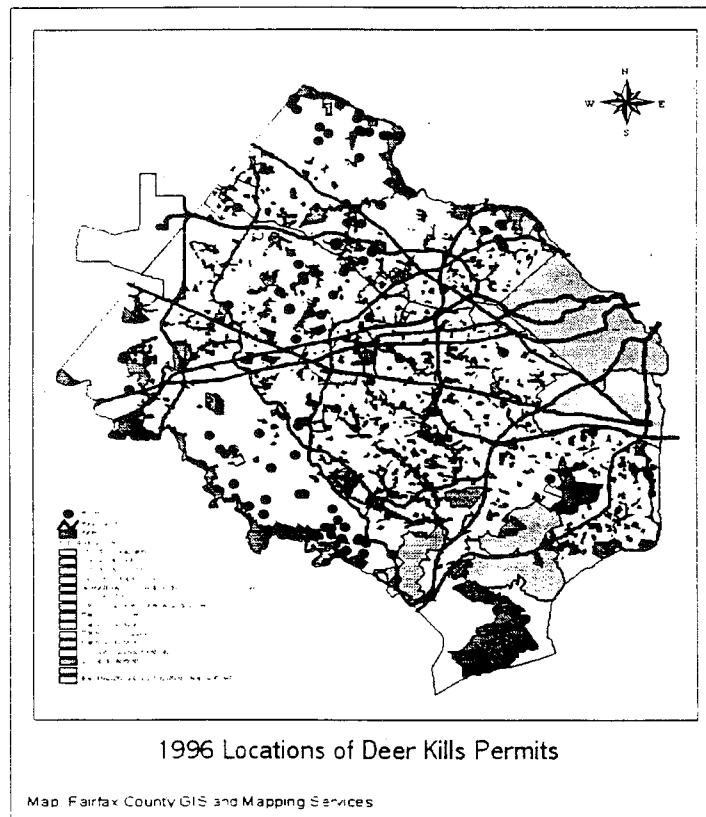
**A wild turkey had nested near the base of the utility pole shown in the middle of this photo. The site is sandwiched between I-66 and a service road.**

## ◆ Property Damage

There has been a marked increase in the number of damage permits issued by the Virginia Department of Game & Inland Fisheries in recent years. These permits, also known as kill permits are issued to property owners when they can show proof of damage or monetary loss. The permit allows deer to be killed on the property outside of the normal hunting seasons. The number of permits issued can be correlated with the growth of the deer herd in the County. The following table lists the number of permits issued in Fairfax County from 1994 through 1997.

### DG&IF Damage Permits Issued in Fairfax County

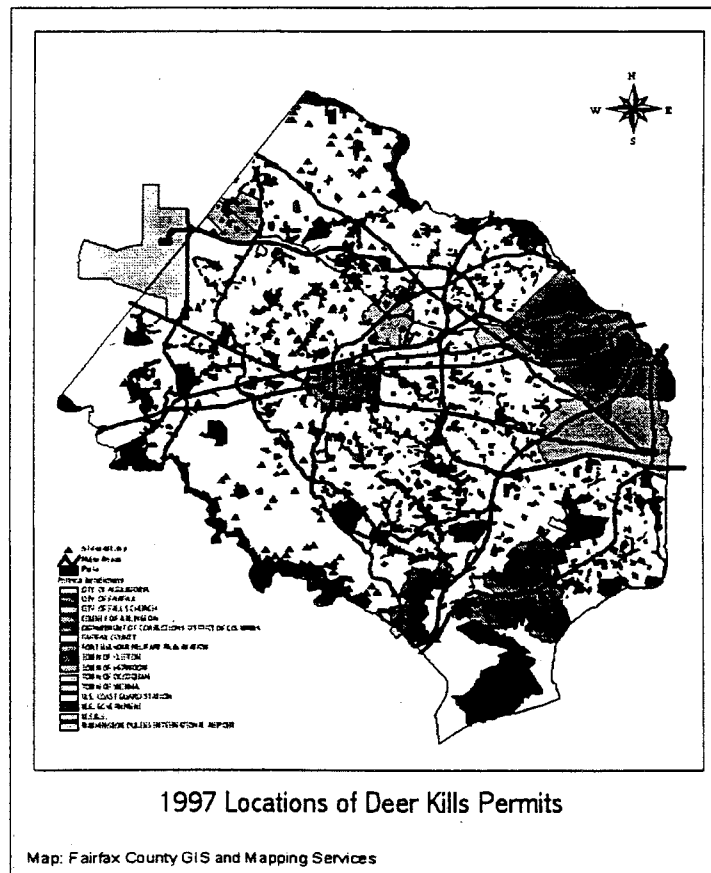
1994	31
1995	65
1996	164
1997	147



Data plotted into the County GIS system indicates that the majority of kill permits are issued on properties located west of an arc scribed roughly by route 123. While this area shows a clustering of locations, there are others that fall east of this line. Most of these easterly locations adjoin parklands. These parkland locations should be examined carefully to determine if control measures are warranted in these parks.

While kill permit data and deer/automobile collision data depict areas of high incidence, it should not be assumed that severe problems do not exist in other locations. Some parks such as Huntley Meadows Park, Bull Run Regional Park and Meadowlark Gardens Regional Park would warrant control measures on their own merits.

Much is said in defense of deer. Do we value deer more than chipmunks because they are larger? Are deer better than ground nesting birds because they are mammals? Do we give preference to the deer because they have large eyes while every other species is left to extirpation? We are presently managing for deer. We find ourselves, perhaps by accident, favoring this one species over all other plants and animals.



◆ **PUBLIC HEALTH CONCERNS**

Lyme Disease is frequently mentioned as the principal human health concern from a growing deer herd. Lyme Disease is caused by a spirochete transmitted by the northern deer tick, *Ixodes daminni*. This tick can be carried by many other mammals and birds as well.

Experts debate the role of deer in the spread of Lyme Disease. However, there does seem to be a correlation between deer herd density and the number of ticks found in an area. While the number of reported cases of Lyme Disease has increased in recent years throughout the northeastern United States, some of the increase is attributed to better diagnosis of the disease. While the number of cases in our area is not yet high, there is concern that the incidence rate is increase with the growth of the deer herd. The following tables show the incidence of Lyme Disease in Fairfax County:

**FAIRFAX COUNTY LYME DISEASE STATS\***  
**JULY 1995 - JUNE 1996**

<b>EXPOSURE AREA</b>	<b>NUMBER</b>
Unknown	9
Fairfax	5
Prince William	2
Maryland	2
Wisconsin	1
USA	1
<b>TOTAL CONFIRMED CASES</b>	<b>20</b>

Note: Awaiting information on 2 cases not completed by MD.

**FAIRFAX COUNTY LYME DISEASE STATS\***  
**JULY 1996 - JUNE 1997**

EXPOSURE AREA	NUMBER
Unknown	15
Fairfax	9
Virginia (other than Fairfax County)	2
Maine	1
New Jersey	1
New York	2
<b>TOTAL CONFIRMED CASES</b>	<b>30</b>

Note: Awaiting information on 3 cases not completed by MD.

**FAIRFAX COUNTY LYME DISEASE STATS\***  
**JULY 1997 - JUNE 1998**

EXPOSURE AREA	NUMBER
Unknown	2
Fairfax	7
Prince William	1
Virginia (other than Fairfax County)	3
Pennsylvania	1
<b>TOTAL CONFIRMED CASES</b>	<b>15</b>

Note: Awaiting information on 2 cases not completed by MD.

\* Lyme Disease Statistics reprint from Fairfax County Health Department



## EXISTING PROGRAMS

A review of programs, regulations and other factors which have some bearing on the deer issue is in order. There are several state programs which are available to private landholders in Fairfax County. These programs are administered by the Virginia Department of Game & Inland Fisheries. They allow property owners to handle their own deer problems.

The Deer Management Assistance Program (DMAP) was implemented in 1988. This is a site-specific deer management program designed to help landowners meet a management goal. These management goals are generally directed toward producing a healthier herd or a herd with more mature bucks. DMAP tags are issued to allow a more liberal harvest of antlerless deer during the hunting season. Generally, this program is intended to be used on very large acreage properties and would not be applicable to most sites in Fairfax County. Moreover, improving the quality or health of the County's deer herd is not necessarily an intended goal of Fairfax County. Improved herd health is normally achieved as herd density is reduced. The Virginia Department of Game & Inland Fisheries has indicated that over the past ten year period, few deer have been rated in excellent condition in any of their Fairfax County deer herd health evaluations. Most of the deer sampled have rated poor and several have been rated as emaciated.

The Deer Control Assistance Program (DCAP) was also started in 1988. This program provides additional tags for antlerless deer which can be used during the regular deer hunting seasons. There must be evidence of crop or property depredation by deer. The DCAP program is aimed at controlling deer damage by direct reduction of local offending deer. This program is available to every property owner in the County but only during the regularly scheduled deer seasons.

The third program allows for the issuance of a Kill Permit under state statute. This allows a landowner/lessee to report deer damage to a game warden. If the warden's investigation determines that deer are responsible for the reported damage, tags are issued and deer may be taken when found upon the property where the damage occurred. This program allows deer to be taken outside of the normal deer hunting seasons. During 1997, 147 Kill Permits were issued in the County. This program is available to every property owner in the County but only outside of regularly scheduled deer seasons.

Many County residents are not aware that it is legal to hunt with shotguns using multiple ball shot on parcels of land or unbroken combination of parcels of 20 acres or more with an approved registration in specified regions of Fairfax County. While this may sound confusing, it is explained in greater detail in the brochure entitled *Hunting & Shooting in Fairfax County*. This brochure is available through the Department of Animal Control.

Another control technique available to all landowners in the County is archery. Archery or bowhunting is legal throughout the County. There is no minimum acreage requirement. In order to hunt deer, an archer needs only the proper hunting licenses and verbal permission from the landowner. If the property is posted with "No Hunting" or "No Trespassing" signs, the archer would then need written permission from the landowner in addition to the proper licenses.

Fairfax County has large areas of land which are under control and ownership of other governmental agencies such as: Department of Defense, U.S. Fish & Wildlife Service, Central Intelligence Agency, National Park Service, Northern Virginia Regional Park Authority, Virginia State Parks, Town of Vienna, City of Fairfax, Town of Herndon, Town of Clifton. Additionally, there are large private holdings which presently have the option of conducting their own control measures under existing law and may or may not choose to participate in any new county-wide initiatives. Owners or administrators of such large holdings should be contacted and encouraged to participate in the County's Deer Management Plan.

## The Solutions

When the Board of Supervisors last visited the issue of deer overpopulation, a question was asked regarding what actions other jurisdictions within the state had taken. The answer given was incomplete. The table which follows lists many of the locations in Virginia with their respective responses to deer overpopulation. Locations outside the state have been included to give a better understanding of responses throughout the east.

Location	Response	Cost	Comments
Lynchburg, VA	Hired a retired police officer to shoot deer at night with a shotgun under a DG&IF permit. Program has been under way for 5 years and "hundreds of deer have been taken"	Not Given	
Bedford County, VA	Began studying the problem 3 years ago - no action yet taken.	NA	
York County, VA	Issue has been under study for 1 ½ years.	NA	
Hampton, VA	Plan is under development but Council has voted 5 to 2 to reduce the deer population. They decided to skip the "study" step since most other jurisdictions had all reached the same conclusion. City will issue kill permits for citizens to use firearms to shoot deer on their own property.	NA	

Location	Response	Cost	Comments
Williamsburg, VA	City of Williamsburg and Colonial Williamsburg used own staff for liability purposes. Deer drives using shotguns with buckshot. Pre hunt plan is filed with Chief of Police who signs off. 400+ deer have been taken in 7 years.		
Danville, VA	City government wanted the state legislature to allow unlimited bonus tags to be issued - failed	NA	
Chincoteague, VA	Managed hunts. Qualified shooters themselves. Residents only. Had to sign in and out at Police Station. Shotguns only.	NA	No safety problems.  When Chincoteague incorporated the whole island into the city, it stopped discharge of firearms. Now they have a deer problem.
Richmond, VA	Plan under development.	NA	
Harrisonburg, VA	Allows landowners who own agricultural land within the city limits to use shotguns with a kill permit.	None	
Chesterfield, VA	Plan under development.	NA	

Location	Response	Cost	Comments
Charlottesville, VA	HOAs are letting archery clubs come in and remove deer under the DCAP program. The clubs do not charge but ask that the HOA make a donation to Hunters for the Hungry	None	Second only to Fairfax County in the number of kill permits issued by DG&IF.
Mason Neck NWR, VA	Lottery system for public managed hunt. Program has been in place since 1989.	\$19,531 (1997) includes est. value of volunteer time and cost to other agencies	No safety problems. 113 deer taken (1997)
Eastern Shore of Virginia NWR, VA	Since 1992 has had managed first come first served archery and lottery managed gun hunts.	NA	No safety problems.
Chincoteague NWR (Assateague Island), VA	Have had managed archery and gun hunts since 1964. Originally used to control exotic sika deer but now includes white-tailed deer.	NA	No safety problems.
Fairy Stone State Park, VA	Offers open hunting areas each fall.	NA	No safety problems.
Oconeechee State Park, VA	Offers open hunting areas each fall.	NA	No safety problems.
Hungry Mother State Park, VA	Offers open hunting areas each fall.	NA	No safety problems.
Grayson Highlands State Park, VA	Offers open hunting areas each fall.	NA	No safety problems.

Location	Response	Cost	Comments
Sailor's Creek Battlefield State Park, VA	Offers open hunting areas each fall.	NA	No safety problems.
Mason Neck State Park, VA	Lottery system for public managed hunt to coincide with the National Wildlife Refuge hunt. Program has been in place for 6 years.	\$3100 for 4 day hunt (1997)	No safety problems.
Caledon Natural Area, VA	Special lottery hunts yearly	NA	No safety problems.
Chippokes Plantation State Park, VA	Special lottery hunts yearly	NA	No safety problems.
Douthat State Park, VA	Special lottery hunts yearly	NA	No safety problems.
False Cape State Park, VA	Special lottery hunts yearly	NA	No safety problems.
Smith Mt. Lake State Park, VA	Special lottery hunts yearly	NA	No safety problems.
York River State Park, VA	Special lottery hunts yearly	NA	No safety problems.
Xerox Training Facility, Leesburg, VA	Traditionally resisted any hunting. Is now considering managed hunts.	NA	
Brookside Gardens (Wheaton Reg. Park), MD	Fenced 40 acres with a 10' high fence at a cost of \$76k.	Estimated total cost of deer abatement to date is \$350k.	Deer have adapted by learning to enter gates when opened for pedestrians or automobiles.

Location	Response	Cost	Comments
Gaithersburg, MD (former Nat. Geo. Soc. property)	The Humane Society of the United States (HSUS) convinced Gaithersburg not to control this herd (about 150 deer) prior to development of the property.	None	The HSUS is video taping this site for use as a success story of nonlethal management. It is not known where these deer will go or how they will fare as they are displaced.
Montgomery Co. MD	Managed hunts on parklands.		One reported incident in two years.
Columbus & Franklin Co. Park District, OH	Sharpshooters used from 1994 - 1997 taking 1021 deer.  Managed hunts were used in 1995 & 1996 taking 464 deer.  PZP birth control vaccine was used from 1995-1997 taking 33-60 person hours/deer.	At a cost of \$207/deer.  At a cost of \$45/deer.  Average cost of \$1100/deer.	
Genesee Co. (Flint), MI	Unknown	NA	County picked up 2200 road-killed deer in 1996.
Bloomington, MN	Had sharpshooting program from 1991 -1994	NA	

Location	Response	Cost	Comments
Gettysburg National Battlefield Park, PA	NPS used both active drives (Driving deer toward shooters in tree stands; 3.4 person-hours per deer) and sharpshooters at night (2.4 person-hours per deer)	1996 cost was \$44k with 503 deer killed (\$88/deer) 1997 cost increased to \$128/deer with 355 deer taken	No accidents, incidents or emergencies either year.
Bluff Point Coastal Reserve, CT	Managed hunt in 1996.	Hunt took 233 deer over 8.5 days at a cost of \$110/deer.	
Long Point Park, NY	Used sharpshooters over two years.	NA	
Town of Irondequoit & Durand Eastman Park, NY	Bait stations with sharpshooters on public land. Archers on private property. HSUS and other groups obtained an injunction which temporarily delayed process but was unanimously overturned by State's Appellate Court.	Costs was \$37k or \$470 /deer Most of this cost was to ensure public safety.	NY state is providing \$110k /yr for a immunocontraction study.
DuPage Co., IL	Sharpshooters using "bolt guns"	Cost = \$300/deer	
Cook Co., IL	Sharpshooters	NA	
Cedar Rapids, Iowa	Bowhunters are used in the city and sharpshooters are being considered.	NA	



## EDUCATION

Education is the most cost effective way to address the problem of human-wildlife conflicts. This effort should include: brochures, video tapes, and recorded telephone informational tips and advice to homeowners on mediation techniques. Included in all of these formats would be the phone numbers of help sources for the reporting of damage, deer/ auto accidents, as well as how to reach the Deer Management Committee. Video tapes should be made available to libraries and schools illustrating the problem and management alternatives. The county cable channel should be utilized to provide information to citizens about this and other wildlife issues.

Education needs to be a major component of the County Deer Management Plan. Problems caused by deer are exacerbated by the lack of understanding by citizens. Citizens living in areas of low to moderate deer herd density can alleviate many problems through proper use of fencing and other exclusion techniques. Defensive driving techniques suggested for use in areas of high deer density need to be conveyed to motorists.

All County libraries should have an adequate selection of publications on white-tailed deer and their management. These titles should include, but not be limited to:

Halls, L. K. (ed.) 1984. White-tailed Deer: Ecology and Management. Stackpole Books. 870 pp.

Hodge, G. R. (ed.) 1990. The Humane Control of Wildlife in Cities and Towns. The Humane Society of the United States. 112 pp.

Jones, Edwin J. (ed.) 1997. Wildlife Society Bulletin, Volume 25, Number 2, Summer "Deer Overabundance". 388 pp.

McShea, William J., Underwood, H. Brian and Rappole, John H. (ed.) 1997. The Science of Overabundance - Deer Ecology and Population Management. Smithsonian Institution Press. 402 pp.

**Recommendation:** Establish a standing committee to acquire, develop and disseminate information about deer exclusion techniques, driver safety, deer damage and the Fairfax County Deer Management Plan. This committee should include representatives from the following groups:

Fairfax County Office of Public Affairs  
Fairfax County Department of Animal Control  
Fairfax County Park Authority  
Fairfax County Schools  
Fairfax County Public Library  
Fairfax County Department of Consumer Affairs  
(Cable Programming)  
Humane Society of the United States  
Northern Virginia Regional Park Authority  
Virginia Department of Game & Inland Fisheries  
Virginia Department of Transportation  
U.S. Fish & Wildlife Service  
Virginia Forestry Department

## **SHARPSHOOTING**

The staff of both the Fairfax County Park Authority and the Northern Virginia Regional Park Authority prefer sharpshooting as a control option. Much of the parkland within the County is either of small acreage or is of narrow configuration. Each of these traits would make a park less appropriate for consideration as a site for a managed hunt. The smaller the park, the higher the administrative portion of the costs would be for such hunts.

As a control method, sharpshooting is generally conducted at night. This is a period when the majority of parks are closed. Therefore, the disruption to park programming or public usage is minimal or absent. Sound suppressed rifles are used which reduce the auditory disturbance to neighbors or to other deer. Before each shot is taken, the safety of the shot is assured by verbal communication between the sharpshooter and park management.

Only lethal head shots are made and death is as near instantaneous as is achievable with current technology. Studies have shown that chemicals released into a deer's system when the animal is stressed are at very low levels in deer taken by this method. The public concerns for both a humane method and a safe method are met with sharpshooting.

The Occoquan Watershed Coalition survey showed that 56% of those responding favored sharpshooting as a management option, while 28% indicated that they would be opposed to the use of sharpshooters. Hunting was favored by 56% and opposed by 35%.

**Recommendation:** A team of highly qualified and proficient marksman be established as sharpshooters. This team will be utilized on County or Regional properties identified by the Deer Management Committee working in cooperation with the appropriate land administrators. The team should be composed of vocational shooters. With the concurrence of the Chief of Police, qualified snipers from the TAC Team of the FCPD could be utilized. If the team consists of County employees, liability coverage becomes more straightforward. The team would receive additional training in the use of the described technique. This method should be field tested initially at Bull Run Regional Park, Riverbend Park and Huntley Meadows Park to demonstrate its effectiveness and to calculate a cost per deer rate applicable to Fairfax County. All deer taken by this method would be supplied to organizations feeding the needy.

## IMMUNOCONTRACEPTION

Immunocontraception is one method that receives strong support from the general public. Unfortunately, the facts surrounding this topic have often been misrepresented to citizens. If you ask the public if they would support contraception as the primary control method for a deer herd, the suggestion receives strong support. If you then present the facts, the limitations and the costs of this technique, support diminishes rapidly. This was illustrated at a meeting held by the Occoquan Watershed Coalition. Following a presentation on the topic, the group was asked if they felt it was a viable option. They indicated that it was not. When asked how many of them had selected contraception as the preferred method of control on an earlier survey conducted by OWC, many indicated that they had. Currently, it appears that the relatively high cost and labor intensity of contraception may limit its use to small and geographically isolated areas.

The use of contraception in wildlife populations inevitably leads to an array of new questions. Gonadotropin Releasing Hormone antagonist (GnRH) is one substance used to prevent conception in deer. It is unknown if an animal consuming part of a treated deer would be affected. An animal's digestive tract should break down these proteins as it does other similar proteins. Current research will prove if this assumption is correct.

Long term effects of these drugs on individual deer or deer populations is unknown. The National Institute of Standards and Technology is using deer contraception on its 575 acre facility in Gaithersburg, Maryland. It is interesting to note that three of these treated deer, complete with ear tags stating "Unfit for Human Consumption," turned up in Fairfax County. Two were killed by hunters and one was killed by a car. This raises a new group of questions.

Contraception will not immediately reduce deer numbers in areas considered overpopulated. This method only affects recruitment. If you have too many deer today, and there is no recruitment into the herd, the condition will only improve as these deer die of old age, disease, automobile mortality or other causes.

Darts are difficult to deliver and lost darts may pose a threat as an environmental hazard. Biobullets have been used successfully. An air gun fires a .25 caliber biodegradable bullet filled with vaccine. The bullet is accurate for up to 25 meters and lost bullets degrade quickly in the environment. Microspheres are being evaluated as a means of delivering a time-released dosage.

Porcine Zona Pellucida (PZP) is a protein from pig eggs. PZP must be administered 4-6 weeks before estrus. Currently two doses must be administered during the first breeding season with an annual booster after that. One side effect is that the treated doe will continue to cycle every 28 days for up to five months, which results in a failure rate of as much as 28%. There is concern over what would happen to a herd in which does are in extended estrous. Bucks typically reduce their food intake, have significant weight loss and are unusually mobile which results in an increase in auto accidents during this time of year. Expanding the rut duration is ill-advised from the standpoint of highway safety.

Cost per deer would range between \$359 and \$533 based upon a computer model. Total cost would increase each year because there would still be more adult does to treat since fawns would continue to be born even if there were some way to ensure that all adult does were treated. If treatment was assumed to be complete and totally effective, then the annual cost would decrease each year as annual mortality diminishes the herd.

If we assume a deer population of 25,000 in Fairfax County and we assume that half are does (actually more than half would be does since males have a higher mortality rate), then we are dealing with 12,500 does. We will also assume that there will be no immigration or emigration during this example. We will also assume that all the does within the County can be located, approached within darting range (20 - 25 yards) and successfully darted. This would mean that an average of more than 34 does would have to be darted each and every day in order to dose all the does in the first year. Some days would have to be much more productive than the average of 34 to offset days of inclement weather when the actual number might be 0. If we further consider that the recommended time for dosage is 4 to 6 weeks before the onset of estrous, all the does should be darted within a two week period. This means an average of 893 deer would have to be darted each day.

- Assumptions:
1. No deer moved into or out of the herd.
  2. All does are easily approachable.
  3. There were no problems in dosing every doe (no missed shots, no malfunctioning darts, no poor hits which don't deliver a full

dose).

4. Deer were infertile after one dose (currently not possible)
5. No deer were darted twice.
6. All treatments are made before estrus begins. Likely to be mathematically impossible even if the entire county staff is assigned to the project.

One might also consider that if the 1997 population was actually 25,000 and that there were 12,500 does, then those does have each had an average of two fawns. This would bring the 1998 population to 50,000 before adjusting for annual mortality, immigration and emigration.

Before contraception can be used on free-ranging deer (other than experimentally), federal approvals (FDA) and licensing must be obtained, and state policy and regulations must be developed. This method is under study at a number of sites and may become part of an integrated plan in the future. Unfortunately, we cannot use tomorrow's technologies to combat today's problems. At present, no one knows when or if contraception will be proven a practical and cost effective deer population control method.

**Recommendation:** The County work in cooperation with the VDG&IF, HSUS or any other organizations endeavoring to develop practical applications of contraception for free ranging deer herds.

## HUNTING

The least expensive way to reduce the deer population within the county is by way of hunting. Each deer taken by a hunter is done so at the hunter's expense and without cost to the County. Safety is always presented as a reason to limit hunting in suburban situations. However, in 1997 there was only one fatality (personal correspondence VDG&IF) involving deer hunts reported in the entire state of Virginia. VDG&IF indicates that there are approximately 232,000 resident and 14,000 nonresident deer hunters in the state. Figures for the 1995-96 deer season indicate that deer hunters spent nearly 3.8 million days afield in pursuit of deer. Hunting is not a new untested activity for Fairfax County. During the 1997-1998 deer season, 877 deer were taken by hunters in Fairfax County. There were an additional 310 deer taken under state issued kill permits within the County.

The safety of hunting always leads to an expression of concern particularly by those who have no direct experience with hunting. These people typically rely upon the media as their source of information. However, all statistics of hunting show an excellent safety

record. This is particularly true of archery hunting. Other activities allowed in our parks such as softball, baseball, soccer, golf, bicycling, and driving an automobile have poorer safety records than hunting yet people are more accustomed to these activities and the associated risks. Any hunting accident or fatality receives thorough media coverage because it is newsworthy. Automobile fatalities receive only local coverage because they are more common.

Hunting is much safer than most other outdoor activities. The margin of safety could be increased by requiring the use of tree stands within the county. Teresa Duffy of Virginia Department of Conservation and Recreation, Division of State Parks has stated that there have never been any accidents or problems with any of their managed hunts other than the demonstrations at Mason Neck.

The following table illustrates the annual rates of outdoor recreation-related injuries requiring hospital emergency room treatment in the U.S. (National Safety Council)

<b>Recreation</b>	<b>#of injuries per 100,000 participants</b>
Football	2,171.1
Baseball	2,089.6
Soccer	910.2
Bicycle riding	904.6
Skateboarding	869.2
Horseback riding	464.6
Ice skating	334.9
Fishing	141.2
Tennis	119.7
Golf	104.4
Swimming	93.3
Hunting	8.0

This table illustrates the annual rates of accidental deaths in the U.S. (National Safety Council)

<b>Accident Type</b>	<b>Mortality rate per 100,000 people</b>
Automobiles	18.6
Home accidents	8.6
Falls	5.0
Poisoning	2.6
Fires	1.7
Suffocation	1.3
Hunting (among participants)	0.85
Lightning	0.04
Insect stings	0.02
Hunting (among non-participants)	0.001

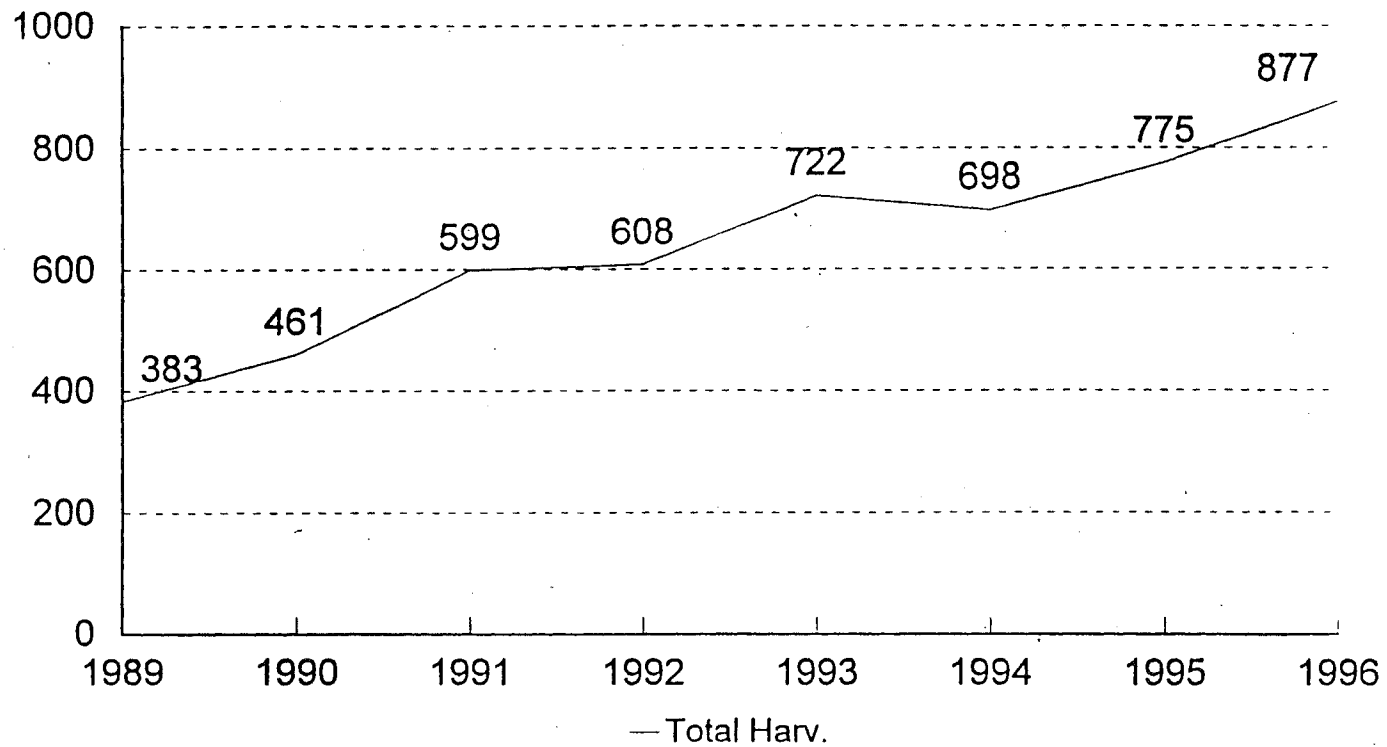
Hunting fatalities have decreased significantly in the last two decades. One reason for this trend is that Virginia, like most states, has a mandatory hunter education program. Safety is the predominant theme of this training. Approximately three quarters of the hunters who have accidents have not taken a hunter education course. One requirement made of applicants who applied for the County's managed hunts early in 1998 was that they had to provide proof of hunter safety education. Complaints were received from some of those who did not meet this requirement. It is strongly suggested that this requirement be retained for any future managed hunts.

Efforts should be made to facilitate safe hunting opportunities in Fairfax County. Each deer taken by a hunter represents one less deer that would have to be removed at taxpayer expense. Hunting has always been and continues to be the most economical way to reduce the deer population.

**Recommendation:** That the Deer Management Committee work in cooperation with private land owners and administrators of public lands to identify areas suitable for open hunter access or managed hunts. That the County work with the Virginia Department of Game & Inland Fisheries to establish regulations or policies to facilitate the safe harvest of deer by private land owners.

# Fairfax Deer Harvest

1989 - 1996





## RESTORATION OF LARGE PREDATORS

Restoration of large predators such as wolves or mountain lions is occasionally suggested as a "natural means" of deer herd control. These large predators require large expanses of natural habitat. This is one commodity no longer found in Northern Virginia. Even if public support existed for such a plan, it is very unlikely that a large predator would survive urban hazards or choose to remain in Fairfax County.

Large predators often create their own set of problems and would become less welcome than white-tailed deer. Other predators such as coyotes, bobcats and bears are known to prey upon deer but they appear to be more opportunists that take advantage of deer when they are most vulnerable. Bears wander into Fairfax County each year and bobcats still exist in some areas. Coyotes are believed to be present in the County as well and will likely become more common in the future. In the majority of areas where both deer and coyotes exist, coyotes do not demonstrate an ability to limit the growth of the deer herd.

Restoration of large predators is not a viable option for deer herd control in an area with the level of urbanization found in Fairfax County.

## Costs of Various Methods

Method	Cost
Darting from a vehicle	\$196 / deer*
Darting from blind over bait	\$183 / deer*
Rocket netting	\$172 / deer*
Hunting	No cost to the public
Managed hunts	\$83 - \$237 / deer**
Sharpshooting	\$72 - \$260 / deer***
Capture and relocate	Not permitted in Virginia****
Immunocontraception	\$359 - \$533 / deer (from computer model)

\*These figures come from live captured study at Seneca Army Depot, NY conducted by Cornell U. And State University of New York (1996) Labor and materials comprised most of the total costs of all methods. See fact sheet provided by John Hauber

\*\*Cost of conducting controlled hunts are primarily administrative (Kilpatrick, et al Wildlife Society Bulletin 25:451-456.)

\*\*\*Sharpshooting can range from \$72 - 260 per deer (Butfiloski et al Wildlife Society Bulletin 25: 491- 495, Frost et al Wildlife society Bulletin 25:462- 469)

\*\*\*\*Capture and relocation figures are not included since this is not an option permitted by the state but generally the cost runs about twice that of other methods.

## PLAN GOALS & STRATEGIES

### GOALS

- ◆ **Develop a comprehensive educational program to better inform the public about deer related issues.**

#### Strategies:

1. **Conduct workshops to demonstrate techniques available to homeowners to exclude or otherwise deal with wildlife problems. This would teach damage avoidance strategies of garden and landscape design.**
2. **Develop methods to better facilitate contact between citizens with deer problems and licensed hunters or other service providers. This might be accomplished with the establishment of a web page with links to service providers.**
3. **Utilize the services of the news media to visually illustrate the various types and degree of deer problems within the County.**
4. **Develop a flyer or brochure which addresses liability concerns of private landowners who want to utilize hunting as a control technique.**
5. **Discourage the feeding of deer.**
6. **Develop means of surveying public opinion as a measure of educational efforts. This could be done by contracting with George Mason University or other Virginia college / university to conduct a telephone survey of the citizenry for the purpose of determining public opinion on deer problems and management alternatives. Follow-up surveys could be conducted to measure changes in opinion following educational efforts. The Neighborhood Watch Program could be utilized to administer surveys.**
7. **Provide an expanded selection of reference materials on deer and deer management to public libraries.**

- ◆ **Reduce the incidence of deer-vehicle collisions on a county-wide basis.**

#### **Strategies**

1. **Continue the entry of deer-related data into the GIS system. Currently this system is being utilized to plot locations of road-killed deer and DG&IF issued kill permits. This will also aid in the early identification of future sites of concern. The system will also be utilized to plot locations of deer-related complaint calls.**
2. **The Deer Management Committee (DMC) should be reactivated to assist the Fairfax County Park Authority, the Northern Virginia Regional Park Authority as well as other holders of public lands in the identification of public lands within priority areas for herd reduction.**
3. **The DMC would advise public agencies and private landowners in the selection of the most appropriate means of herd reduction with safety and efficacy being the primary considerations.**
4. **Conduct deer census surveys at selected sites slated for herd reduction to assess herd size and to aid in measuring success.**
5. **Develop a team of sharpshooters for use in the control of deer on County and Regional properties deemed unsuitable for other management options.**
6. **The DMC would work with park authorities to identify properties suitable to permit hunting or managed hunts.**
7. **Continue to develop and expand a list of recipient charitable organizations for donation of venison.**
8. **Continue to work with VDOT to identify significant deer crossings to assure they are properly identified to motorists.**
9. **Incorporate known wildlife crossings and habitat access considerations into the Comprehensive Planning review process.**

10. **Develop public educational programs on safe driving techniques to better avoid collisions with deer.**

◆ **Reduce damage to natural communities in order to preserve biodiversity.**

**Strategies**

1. **Continue with the collection of data from established sample plots to monitor habitat response to management efforts.**
2. **Continue and expand the effort to collect data on and inventory of deer habitat. Fairfax presently has 37% of total land available as deer habitat.**
3. **Identify areas of special concern on public lands.**
4. **Include data on highly affected parklands into County GIS system to aid in identification of herd reduction priority areas.**
5. **Construct deer exclosures in areas easily viewed by the public.**
6. **Install interpretive signage in damaged park areas to help educate the public about the effects of deer overpopulation on biodiversity.**
7. **Areas should be monitored to identify potential sites for reintroduction of plant species which have been eliminated by deer. This would likely be a volunteer project by wildflower societies or other botanical organizations.**

- ◆ **Reduce agricultural and ornamental plant damage to levels acceptable to the community.**

**Strategies**

1. **Plot locations of complaint calls into the County GIS system.**
2. **Make information on living and gardening with wildlife more readily available at libraries, County Government Centers, on the County's web page and through the media.**
3. **Conduct workshops to demonstrate techniques available to homeowners to exclude or otherwise deal with wildlife problems. This would teach damage avoidance strategies of garden and landscape design.**

- ◆ **Develop a county-wide educational program to provide citizens with information on how to coexist with the wildlife commonly found throughout the county.**

**Strategies**

1. **Update the County brochure entitled *Can We Share Our Space?* and distribute to households in areas with a high incidence of wildlife complaints. Additionally, a new brochure should be developed to describe the typical deer problems encountered by homeowners and the available solutions.**
2. **Conduct workshops to demonstrate techniques available to homeowners to exclude or otherwise deal with wildlife problems.**
3. **Develop a collection of resource materials covering urban wildlife problems to be available at all public libraries.**
4. **Utilize the County's cable television system to better inform the citizens of the problem and of the resources available.**

5. **Produce a video tape to aid homeowners with the identification of deer damage and various techniques available for damage control. This video should be made available to all HOAs and County libraries.**
6. **Information about the deer issue should be available on the County web page. This would include either links to other resources and/or phone numbers for all resource organizations.**

- ◆ **Actively cooperate with research efforts to study and develop new non-lethal methods to deal with suburban wildlife problems, i.e. *Strieter-Lites* and immunocontraception.**

#### **Strategies**

1. **Universities, State and Federal agencies, as well as the private sector are all working toward the development of safe, practical and cost-effective non-lethal techniques for the control of wildlife populations. Fairfax County should actively cooperate in these efforts by identifying and providing sites for such research and development studies.**
2. **Animal Control should act as liaison for the identification of unique privately held properties that might be better suited to a particular research project than existing public properties.**

- ◆ **Incorporate known wildlife movements and habitat considerations into the planning and review process.**

#### **Strategies**

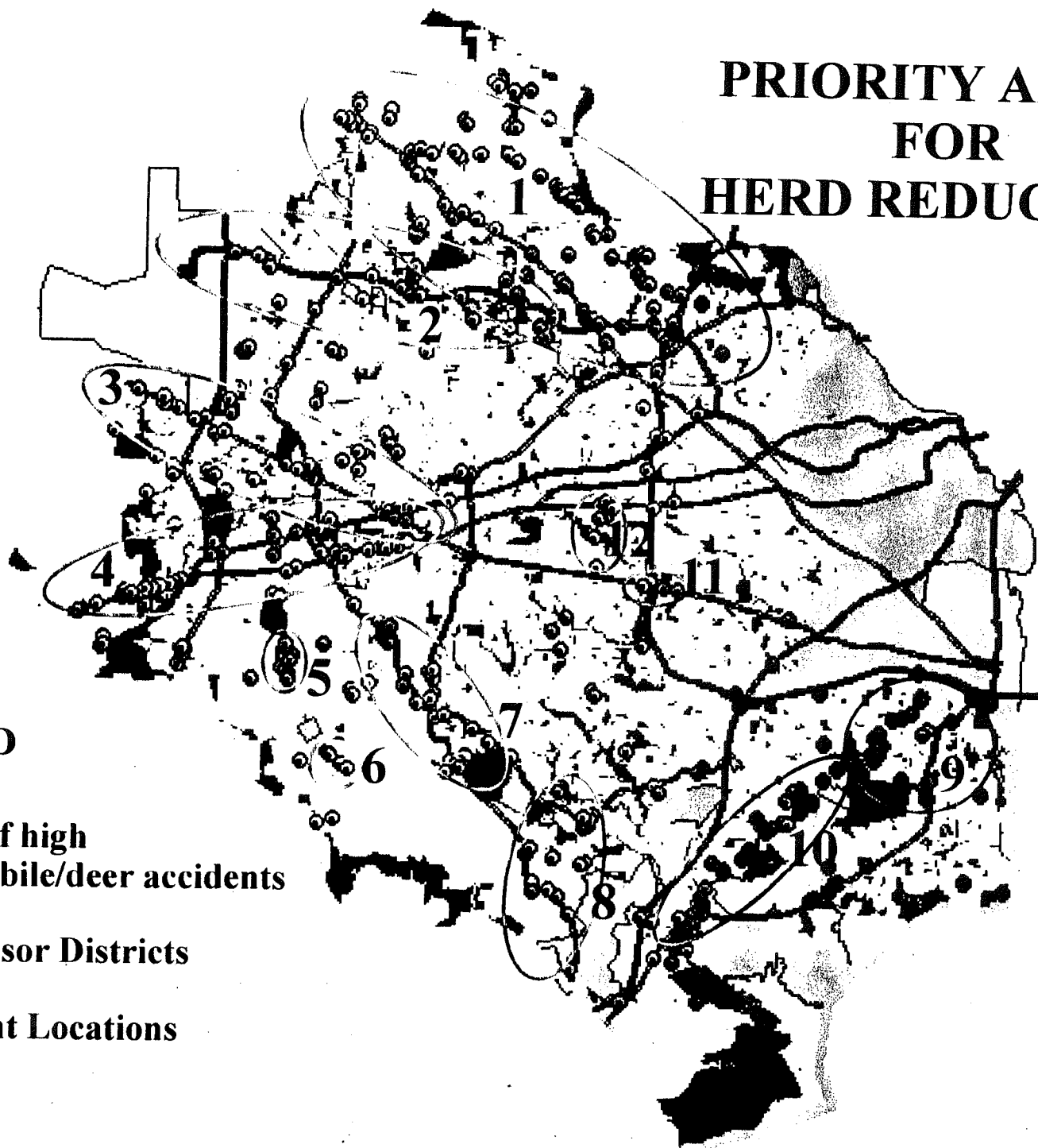
1. **A map showing areas of high deer/vehicle collision incidence, kill permit issuance, high density deer herds and areas of special concern should be developed and provided to the Office of Comprehensive Planning.**

2. **As new data is obtained on the deer herd and its distribution or trends, the information should be made available to the County Board of Supervisors, Office of the County Executive, Department of Public Works and Environmental Services, Department of Health, Fairfax County Park Authority, Planning Commission, Department of Planning and Zoning, Project Engineering Division, Office of Road Program Management, Department of Transportation, Northern Virginia Regional Park Authority, Virginia Department of Game & Inland Fisheries and Virginia Department of Transportation.**








# PRIORITY AREAS FOR HERD REDUCTION



## LEGEND

-  Areas of high automobile/deer accidents
-  Supervisor Districts
-  Accident Locations

# Priority Areas For Herd Reduction

The map illustrates twelve areas which should be considered priority areas for deer herd reduction. These areas are numbered one (1) through twelve (12) for descriptive purposes only and do not represent any particular priority within the list. Many of the road-kills result as deer try to move from bedding areas to feeding areas or vice versa. When analyzing each priority area, an effort will be made to identify these habitats. An estimate of herd density for the area will be calculated to determine the level of reduction necessary.

Publicly held properties and large tracts of privately held properties will be identified and the appropriate agency or owner notified. Notification to private land owners will include information on the deer problem and the road-killed deer that have been picked up near their location. Information would be provided about reduction techniques and a list of telephone numbers that could be used to obtain additional information.

It should be noted that these areas are determined only by road-kill data. Other priority areas exist outside the twelve areas described. These additional areas qualify based upon other criteria such as damage to natural habitats or damage to ornamental or agricultural plants.

## Area Descriptions

<b>Area</b>	<b>District</b>	<b>Major Roads</b>
<b>1</b>	Dranesville	I-495, Georgetown Pike, Old Dominion Drive, Route 7
<b>2</b>	Dranesville, Hunter Mill	Dulles Toll Road
<b>3</b>	Sully	Route 50
<b>4</b>	Sully	I-66, Route 29
<b>5</b>	Springfield	Clifton Road
<b>6*</b>	Springfield	Clifton Road

7	Springfield, Providence	Fairfax County Parkway, Route 123 Burke Lake Road
8	Springfield, Mount Vernon	Fairfax County Parkway, Hoose Road, Silverbrook Road, Route 123
9	Lee, Mount Vernon	Telegraph Road, South Kings Highway, Route 1
10	Lee, Mount Vernon	Telegraph Road, Beulah Street Hayfield Road
11*	Braddock, Mason	Route 236, I-495
12	Providence	Route 50, Prosperity Avenue

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\* Areas 6 and 11 are included because of the clustered nature of the accidents in those areas. They do not show the level of accident frequency shown in the other areas. These areas should be examined more closely before a decision is made to include or exclude them from the list.

## Budget Considerations

If the proposed Integrated Deer Management Plan for Fairfax County is adopted by the County Board of Supervisors, a budget will be developed based upon the final format of the Plan. Future costs are heavily dependent upon factors which cannot be predicted at this time. These factors are such things as the influence the educational effort will have on citizens successfully dealing with their own deer problems. Another factor would be the impact of increased hunting pressure on the deer herd. If either of the Park Authorities or the Board of Supervisors elect to have managed hunts in some of the parks, the number and size of these hunts will have a significant influence on budgetary considerations.

**Recommendation:** It is recommended that the Board of Supervisors allocate \$50,000 to implement the initial stages of the Integrated Deer Management Plan. Given the time of year, it is also recommended that plans proceed to begin herd reduction in priority areas. Priority areas will include parklands exhibiting severe brouselines and/or areas of high deer/automobile collisions.

## The Plan in Motion

Areas for potential herd reduction may be recommended by the Fairfax County Park Authority, the Northern Virginia Regional Park Authority, the Fairfax County Wildlife Biologist, the Deer Management Committee, Animal Control or any landowner. Once an area is recommended, the Deer Management Committee, the Fairfax County Wildlife Biologist and the appropriate landowner would review the recommendation and decide upon the most appropriate solution. Decisions will be based upon safety, efficiency and effectiveness.

Animal Control and/or Virginia Department of Game & Inland Fisheries will be notified if a permit is required from either agency. The Fairfax County Police Department will be provided a list of sites for proposed control operations two weeks prior to initiation of such operations.

If sharpshooting is the method of choice at a particular site, the FCPD Special Operations Division Tactical Section would be involved in the planning and implementation of such operations.

**Recommendation:** In an effort to control costs and foster cooperation, it is recommended that an interagency team of volunteers be developed to assist with deer herd census studies and with support operations during herd reductions. These should be individuals who bring professional expertise or experience to the operation.