

Maryland Annual Deer Report



2010-2011

This publication of the
Maryland Department of Natural Resources, Wildlife and Heritage Service
was written and compiled by the Deer Project Staff.

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Introduction

Thank you for your interest in deer hunting and deer management in Maryland. This state is fortunate to have fertile soils and excellent habitat for producing quality deer. There is no shortage of refuge areas and there are typically fewer deer hunters in Maryland than many other states. These factors enable the Department of Natural Resources (DNR) to ensure a quality deer hunting experience for hunters and permit very liberal seasons and bag limits.

Another Productive Season

The harsh winter conditions of 2009-2010 caused concern over its effects on Maryland's deer population. Cold temperatures and snow cover undoubtedly taxed all of Maryland's wildlife. However, the results from the 2010-2011 hunting season make it apparent that deer managed that winter reasonably well. Deer hunters reported 98,663 deer taken during the 2010-2011 season; the third highest harvest on record. Yearling antler beam measurements and the percent of yearlings in the harvest suggest that the 2009-2010 winter was harder than normal for younger deer but the population remains healthy. Also, 2010-2011 saw a record acorn crop throughout the state which will mean larger, healthier, more productive deer.

Chronic Wasting Disease Detected in Allegany County

DNR received laboratory confirmation on February 10, 2011 that a white-tailed deer harvested in Maryland tested positive for chronic wasting disease (CWD). This is the first confirmed case of CWD in Maryland. A hunter in Allegany County reported taking the yearling buck on November 27, 2010 in Green Ridge State Forest. Maryland joins 20 other states and Canadian provinces with CWD documented in deer, elk or moose.

CWD is a naturally occurring disease of the brain and nervous system that causes death in cervids. CWD is classified as a transmissible spongiform encephalopathy (TSE) and attacks the brain of cervids, producing small lesions that eventually result in death. CWD historically was a disease of the West, but since 2001 it has been detected east of the Mississippi River in Illinois, Maryland, New York, Virginia, West Virginia and Wisconsin.

DNR has tested over 7,000 Maryland hunter-harvested deer for CWD since 2002. Approximately 350 samples collected from Allegany and Washington counties were tested in 2010. The CWD positive deer detected in 2010 was near where CWD is present in West Virginia, and the disease most likely is spreading from West Virginia into surrounding states.

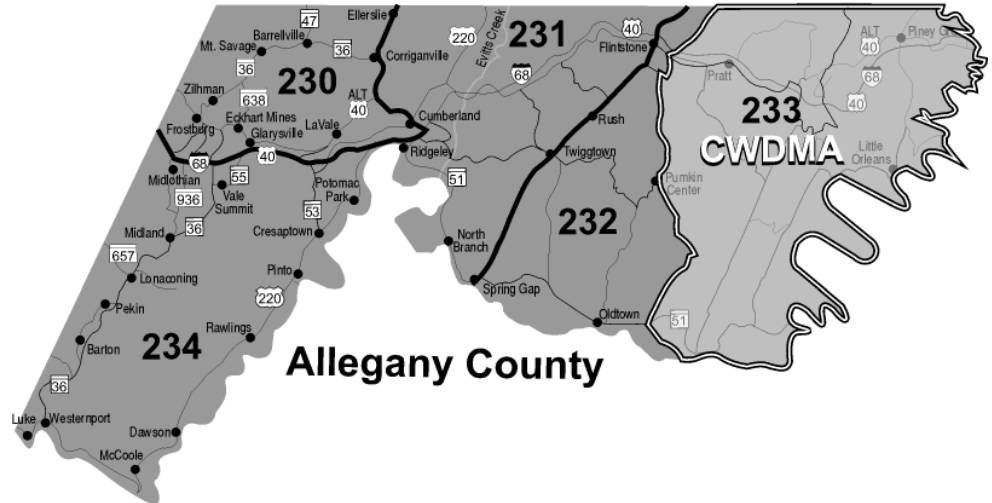
West Virginia detected CWD in free-ranging deer during 2005 in Hampshire County, approximately 9.5 miles south of the Maryland-West Virginia border of Allegany County. To date, West Virginia DNR has found 84 deer with the disease. In 2009, Virginia also detected CWD in a free-ranging deer in Frederick County, VA, approximately 14 miles south of the Maryland-Virginia border of Washington County. To date, Virginia has detected CWD in two white-tailed deer.

Concerns over CWD should not stop hunters from enjoying the hunting season or any venison they may acquire. CWD has not been shown to be transmissible to humans. However, it is recommended that hunters field-dressing or butchering deer should take the same precautions as they might to protect against other pathogens or diseases. Additional information on the proper handling of harvested deer and CWD management (including proposed new regulations) can be found on the following pages.



CWD Management

Due to the detection of CWD in Allegany County, DNR has implemented a number of measures expected to be in place by the beginning of the 2011-12 hunting season. The measures are intended to prevent the unintentional spread of CWD to other locations in Maryland. The changes outlined below apply only to the CWD Management Area (CWDMA), which is defined as Habitat Management Unit 233 in Allegany County.



(1) Whole deer carcasses or deer parts cannot be transported out of the CWDMA, except for:

- Meat with no part of the spinal column, backbone, or head attached.
- Cleaned hide with no head attached.
- Skull plate cleaned of all meat and brain tissue.
- Antlers with no meat or soft tissue attached.
- Finished taxidermy mounts or tanned hides.
- Whole deer carcasses or parts being transported directly to meat processors, taxidermists, or lined landfills within Allegany County.

Dumpsters will be available at select locations to dispose of carcass parts before leaving the CWDMA. Please consult the DNR website (www.dnr.maryland.gov) or contact the DNR office (301-842-2702) for a list of dumpster locations.

(2) Baiting and feeding of deer is prohibited in the CWDMA on both private and public land.

Bait and feed include, but are not limited to, corn, other grains, pelleted foods, mineral supplements, and salt blocks that act as attractants to deer. Hunting over food plots or areas where normal agricultural activities have occurred is not considered baiting or feeding.

(3) CWD surveillance stations will be available in the CWDMA on certain popular hunting days.

Hunters are strongly encouraged to bring their Allegany and western Washington County harvested deer to a station to provide a voluntary CWD sample. Hunters will be notified if their deer tests positive for CWD.

Please also check the Department's website (www.dnr.maryland.gov) for updates on CWD surveillance and management in Maryland. Hunter assistance and cooperation is essential to the Department's efforts to monitor and manage CWD in Maryland.

Carcass Importation Ban

The primary objective in the management of CWD is to prevent its spread into new areas. One possible mode of disease transmission is by the movement and disposal of infected carcasses. In an effort to minimize the risk for disease spread, Maryland, along with many other states, has adopted regulations that prohibit the importation of whole carcasses and certain carcass parts of deer, moose and elk harvested from states that have CWD.

A person may bring only the following parts of a dead deer, elk, or moose into Maryland from another state or province's designated CWD containment, surveillance, or management area:

- Meat with no part of the spinal column or head attached.
- Meat without backbone.

- Cleaned hide with no head attached.
- Skull plate cleaned of all meat and brain tissue.
- Antlers with no meat or soft tissue attached.
- Upper canine teeth, also known as buglers, whistlers, or ivories.
- Finished taxidermy mount or tanned hide.

The Department will maintain a list of CWD positive states/provinces and contact numbers to call to confirm the containment areas in those areas that are subject to these restrictions. The list is available on the DNR website (http://www.dnr.maryland.gov/wildlife/Hunt_Trap/deer/disease/cwdinformation.asp) or by calling 410-260-8540.

Any person who imports or possesses a cervid carcass or part of a cervid that was tested for chronic wasting disease in another state or province and is notified that the cervid tested positive, must report the test results to the Maryland Department of Natural Resources within 24 hours of receiving such notification- by telephone at 301-842-0332; or by FAX 301-842-1026; or by email to beyler@dnr.state.md.us. Travelers may pass through Maryland with cervid carcasses, provided that no parts are disposed of or remain in the state.

If you hunt deer, elk, moose or other cervids in other states and/or provinces, particularly those in which CWD has been detected, check with the respective fish and wildlife agencies regarding special regulations or specific advice for hunters. Also check with your home state fish and wildlife agency to ensure that animals lawfully killed elsewhere may be imported and possessed in your state. Additional information can be found at the CWD alliance website www.cwd-info.org/ and the Maryland DNR website www.dnr.maryland.gov.

Taking Deer Carcasses Out of Maryland

Now that Maryland is considered a CWD positive state, deer hunters must follow carcass importation regulations in other states when they transport a deer carcass out of Maryland (see <http://www.cwd-info.org/index.php/fuseaction/policy.regulationsMap>). The surrounding states of Delaware, Pennsylvania, Virginia, and West Virginia each have specific regulations as to whether they will allow whole deer carcasses or only parts of carcasses to enter from Maryland. Likewise, the regulations for each of these states vary as to whether they apply to deer from anywhere in Maryland, or just to deer taken within the CWDMA. Hunters are strongly encouraged to check state regulations before transporting deer carcasses.

The following common-sense precautionary measures are recommended for the safe handling, field-dressing and home processing of venison:

- Avoid shooting or handling a deer that appears sick.
- Wear latex or rubber gloves when field-dressing or butchering deer.
- Remove all internal organs.
- Remove the meat from the bones and spinal column if home processing a deer.
- Do not use household knives or utensils when field-dressing or home processing a deer.
- Avoid cutting through bones or the spinal column (backbone).
- Never eat a deer's brain, eyeballs, spinal cord, spleen, or lymph nodes.
- If you saw off antlers or through a bone, or if you sever the spinal column with a knife, be sure to disinfect these tools prior to using them for the butchering or removal of meat.
- Remove all fat, membranes and connective tissue from the meat. Note that normal field-dressing and trimming of fat from meat will remove most lymph nodes.
- Always wash hands and instruments thoroughly after dressing and processing game meat.
- Use a 50/50 solution of household chlorine bleach and water to disinfect tools and work surfaces. Wipe down counters and let them dry; soak knives for one hour.

The Deer Project

The DNR Deer Project is responsible for managing native white-tailed deer and exotic sika deer. The Deer Project utilizes broad-based deer management techniques under the guidance of the current 10-year deer management plan. The current 2009-2018 plan has five major goals:

- Population Goal: Use diverse and progressive methods to ensure the long-term viability of Maryland's white-tailed deer population through comprehensive research, efficient monitoring, public outreach, trained staff and effective management.
- Education Goal: Educate Maryland citizens on all aspects of deer biology, including management tools, disease issues, economic aspects and recreational opportunities.
- Recreation Goal: Provide the opportunity for all citizens to safely, fairly and ethically enjoy diverse deer-related recreational experiences and traditions consistent with established deer population trend goals.
- Damage Goal: Identify and actively address the negative impacts the deer population has on human interests and the ecosystem in a manner consistent with the long term viability of the deer population in Maryland.
- Operational Resources Goal: Ensure that all necessary resources are available to support the proper management of white-tailed deer in Maryland.

The 2009-2018 deer plan is available for download at http://dnr.maryland.gov/wildlife/hunt_trap/pdfs/2009-2018marylandwtdeerplan.pdf

During the last couple of decades, the primary focus of the Deer Project has been to slow, and more recently, reduce a rapidly growing deer population. While hunting remains the most cost-effective and efficient population control mechanism available in most Maryland landscapes, continued urbanization has necessitated the development and use of non-lethal techniques where hunting is not practical or acceptable. Therefore, the Deer Project employs a blend of hunting-related deer management methods and proven non-lethal deer management techniques to manage deer.

To remain up-to-date on current deer management techniques and methods, Maryland Deer Project staff are members of the Northeast Deer Technical Committee and Southeast Deer Technical Committee. Staff routinely meet and share information with deer biologists and managers from other eastern states and Canadian provinces as they relate to current deer management and biology.

Maryland Public Attitudes Regarding Deer Management

The majority of the Maryland public recognizes the value of deer hunting as an effective management tool. A 2007 survey by Responsive Management found that 36% of the Maryland general public were strongly in favor of deer hunting, 25% were somewhat in favor, 19% were neutral or had no opinion, 10% were somewhat opposed to deer hunting, and 10% were strongly opposed. Similarly, 76% of the general public agreed or strongly agreed that deer should be hunted to maintain a healthy population. The survey found that 44% of the general public felt population control was the most important reason for deer hunting, 24% thought hunting for the meat was most important, 14% for sport/recreation, 10% no good reason, 5% don't know, and 1% thought to be with family/friends was most important.

Overall, when asked how they prefer the deer population to be managed in their area, the top three responses by the Maryland general public were: 45% for legal, recreational hunting, 33% for birth control/immunocontraception, and 16% indicated they preferred professional removal via sharpshooters.

Deer Hunting Economics

Along with the positive recreational benefits and population management that deer hunting provides, it also provides significant economic benefits to Maryland. A recent survey sponsored by the Association of Fish and Wildlife Agencies found that deer hunting in 2006 generated over \$113 million in retail sales with a total multiplier effect of over \$190 million contributed to Maryland's economy. Deer hunting in Maryland supports nearly 2,300 jobs and generates \$71 million in salaries, wages, and business owner's income, \$15 million in state and local tax revenue, and \$16 million in federal tax revenue.

White-tailed Deer History

Prior to the arrival of European immigrants, white-tailed deer inhabited all of Maryland and eastern North America. Native Americans hunted deer during all seasons. In Maryland, wolves and mountain lions preyed on all age classes and sexes of white-tailed deer.

The first European settlers in Maryland found ample white-tailed deer populations. Deer meat and hides provided them with food and clothing. Venison recipes from those early settlers have been passed down through generations.

As the colony prospered and human populations multiplied, unregulated market hunting and the destruction of habitat (deforestation) caused deer populations to decline drastically throughout the 1700s. Market hunters sold deer meat to colonists and shipped deer hides to England's booming leather industry. With settlements expanding across the state during the 1800s, deer populations continued to drop, and mountain lions and wolves were exterminated. By 1900, white-tailed deer only inhabited limited sections of far western Maryland.

Since the birth of modern wildlife management in the early 1900s, Maryland's deer population has expanded dramatically to fill all available habitats. State wildlife biologists, working hand-in-hand with private citizens, re-established white-tailed deer in all counties in the state. Some native deer were trapped in western Maryland and released into unoccupied habitat elsewhere. A few deer were obtained from other states and released across Maryland. The majority of deer relocated after World War II came from a large population inhabiting Aberdeen Proving Grounds in Harford County. Deer relocation efforts ended in the early 1960s when most areas of the state supported a self sustaining deer herd.

Early hunting seasons of the 1930s and 1940s prohibited the taking of antlerless deer in order to allow for the continued growth and expansion of relocated deer herds. As deer numbers climbed and all deer habitat became populated, deer seasons and bag limits became more liberal. Across Maryland, current deer seasons and bag limits encourage the harvest of antlerless deer in order to manage deer populations. At the same time these regulations encourage hunters to be more selective with antlered buck harvest.

Since white-tailed deer thrive in habitat that is composed of woods and openings, the expansion

of housing developments into forests or onto farms provides excellent whitetail habitat. Streets and home sites created in a wooded area produce habitat preferred by white-tailed deer. Open farm fields become better deer habitat as new homeowners plant trees and shrubs on their home site. Deer populations have escalated in these suburban landscapes where exceptional habitat is available and hunting becomes limited.

Sika Deer History

Maryland sika deer are originally from Yakushima Island in southern Japan and can be found in the marshes, swamps, wet woodlands, and agricultural fields in portions of the lower Eastern Shore. Populations exist mainly in Dorchester County and on Assateague Island in Worcester County. However, harvest data and reported sightings indicate that sika deer are slowly expanding into similar but more limited marshy habitat in portions of Wicomico, Caroline, and Somerset counties.

Sika deer became established on the lower Eastern Shore after being released by Clement Henry on James Island (Dorchester County) and by Dr. Charles Law on Assateague Island (Worcester County) during the early 1900s. Exactly how they initially made their way from Japan to the Eastern Shore is unknown. The small number of sika deer in the original stock (approximately six individuals) has resulted in relatively low genetic variability within the population today. However, Maryland sika deer display no ill effects from the small founder population and appear as healthy or healthier than native white-tailed deer. Currently, DNR's sika deer management goal is to maintain this exotic species at current levels so that hunting opportunities are balanced with agricultural depredation and whitetail competition issues across the lower Eastern Shore.

Sika deer hunting is very popular in Dorchester County and on Assateague Island. Nonresidents and hunters from other areas of Maryland now travel to the lower Eastern Shore with hopes of taking a trophy sika stag with six points. Professional guide services are available that cater exclusively to sika deer hunters. Recent survey figures indicate that approximately 5,000 hunters annually pursue sika deer for over 35,000 hunter days per year.



Past biological data collected by DNR staff indicate that the average field-dressed weight of a 1.5 year-old male sika deer averages 53 pounds, while 3.5+ year-old males top 80 pounds. Sika stags that were 3.5+ years of age averaged 5.5 antler points, while 2.5 year-old deer had 4.1 points. Field-dressed yearling (1.5 years old) females averaged 45 pounds with 3.5+ year-old females weighing about 60 pounds.

Sika deer tend to use different habitats than native white-tailed deer that share the same area. Although home range sizes are similar between the two species, sika deer use forested wetlands, marshes, and the interface between these two habitats much more than white-tailed deer. Sika deer do not appear to rely on agricultural lands to the extent that white-tailed deer do. It is unknown whether sika deer prefer the forested wetlands and marshes of Dorchester County, or if competing white-tailed deer relegate them there.

Previous research directed by DNR confirmed that sika deer have a lower annual reproductive output than white-tailed deer. Sika females tend to bear a single calf while whitetail females over 1.5 years old frequently bear two fawns. DNR's research found that about 25% of sika female fawns were pregnant while up to 50% of white-tailed female fawns had bred. However, sika deer tend to be longer-lived than white-tailed deer, and probably produce as many, or more, calves in their lifetime as do female white-tailed deer. Tagged individuals from previous research studies have been harvested or observed 10+ years after they were initially captured. Numerous sika deer aged by DNR staff often have teeth worn below the gum line indicating significant age. One sika female was aged at 20+ years using the cementum annuli aging technique. The longer life span of sika deer may result from their use of habitat that is more difficult to hunt, thus, not as many are harvested each year as compared to white-tailed deer.

As more information is collected on sika deer in Maryland, it becomes apparent that more research is needed to understand their life history traits and the role they play in the ecosystem. Graduate students with the University of Delaware recently completed studies on sika dispersal, movements, and population density. Over 50 yearling stags were radio-collared and their movements followed for two years. Results indicate that yearling stag dispersal could be local, migratory, or nomadic depending on the individual. Likewise, the radio-collared yearling stags had an 87% survival rate, suggesting that hunting mortality was low. Additional information can be found at <http://ag.udel.edu/enwc/faculty/bowman/David%20Kalb%20Thesis.pdf>.

A companion University of Delaware study evaluated how differences in the number of

trail cameras used and survey period length of time affected population estimates generated by common trail camera census models. Sika deer densities often exceeded 50 deer per square mile during the study. Additional information is available at <http://ag.udel.edu/enwc/faculty/bowman/Sean%20Dougherty%20Thesis.pdf>. Food habits, timing of reproduction, calf survival, and genetic evaluation are several of the questions to be addressed in future studies.

Results of the 2010-2011 Deer Hunting Regulation Changes

The 2010 spring regulatory and legislative cycles saw multiple changes regarding deer management in Maryland. Regulation and legislation changes that became effective for the 2010-2011 season included:

- Allowing crossbows to be used statewide during the entire archery season.
- Moving the Region A boundary east from the Allegany-Washington County line to Clear Spring in Washington County.
- Changing the sika deer bag limit from one antlered and one antlerless per weapon to two sika deer, no more than one antlered, per weapon.
- Permitting sika deer to be hunted during the antlerless-only portion of the early muzzleloader season and during the 2-day January firearm season.
- Expanding Sunday hunting in Allegany, Calvert, Charles, Garrett, St. Mary's, and Talbot counties.
- Reducing the safety zone from 150 yards to 50 yards for archery hunting only in Frederick County on private lands.

All of the aforementioned changes proved positive for providing additional recreation for hunters and for managing Maryland's sika and white-tailed deer populations. Results of the changes include:

- The archery harvest for 2010-2011 (27,286) remained similar to 2009-2010 (27,373), but the percentage of the archery harvest contributed by crossbows increased from 19% in 2009-2010 to 28% in 2010-2011. Deer hunters continue to embrace crossbows as an additional recreational opportunity for hunting deer and their popularity most likely will increase in coming seasons.
- The Region A boundary change resulted in a decreased harvest in Allegany and Washington counties where depressed deer populations were causing concern for local hunters. The decrease in harvest on public lands in the area will ensure adequate recreational opportunities remain for deer hunters that use those lands.
- Sika deer regulation changes increased the

Table 1
Maryland Reported Antlered and Antlerless Deer Harvest for the
Bow, Firearm, and Muzzleloader Hunting Seasons by County, 2010-2011

COUNTY	BOW			FIREARM			MUZZLELOADER			TOTAL		
	Antlered	Antlerless	Sub Total	Antlered	Antlerless	Sub Total	Antlered	Antlerless	Sub Total	Antlered	Antlerless	Grand Total
Allegany	472	284	756	924	691	1615	454	332	786	1850	1307	3157
Anne Arundel	367	793	1160	315	908	1223	149	357	506	831	2058	2889
Baltimore	928	2313	3241	639	1727	2366	348	964	1312	1915	5004	6919
Calvert	221	339	560	243	572	815	144	292	436	608	1203	1811
Caroline												
White-tailed	204	365	569	445	1122	1567	232	656	888	881	2143	3024
Sika	0	0	0	0	1	1	1	0	1	1	1	2
Carroll	615	950	1565	1012	2110	3122	414	750	1164	2041	3810	5851
Cecil	349	668	1017	560	1308	1868	192	437	629	1101	2413	3514
Charles	537	929	1466	746	1541	2287	372	831	1203	1655	3301	4956
Dorchester												
White-tailed	185	331	516	549	1367	1916	213	467	680	947	2165	3112
Sika	230	330	560	564	657	1221	410	377	787	1204	1364	2568
Frederick	712	1153	1865	1436	2942	4378	553	1146	1699	2701	5241	7942
Garrett	651	520	1171	1425	1176	2601	633	493	1126	2709	2189	4898
Harford	475	900	1375	461	1156	1617	264	563	827	1200	2619	3819
Aberdeen Proving Ground	88	221	309	43	116	159	14	23	37	145	360	505
Howard	371	839	1210	329	940	1269	141	382	523	841	2161	3002
Kent	313	528	841	594	1459	2053	323	598	921	1230	2585	3815
Montgomery	709	1519	2228	652	2078	2730	288	723	1011	1649	4320	5969
Prince George's	336	660	996	393	893	1286	168	420	588	897	1973	2870
Queen Anne's	350	598	948	634	1629	2263	326	717	1043	1310	2944	4254
St. Mary's	379	721	1100	493	1105	1598	262	637	899	1134	2463	3597
Somerset												
White-tailed	174	282	456	436	1331	1767	164	447	611	774	2060	2834
Sika	0	0	0	0	0	0	0	1	1	0	1	1
Talbot	243	399	642	406	1367	1773	177	516	693	826	2282	3108
Washington	673	874	1547	1397	1888	3285	543	660	1203	2613	3422	6035
Wicomico												
White-tailed	208	404	612	555	1522	2077	229	613	842	992	2539	3531
Sika	8	8	16	14	21	35	8	5	13	30	34	64
Worcester												
White-tailed	195	358	553	798	2273	3071	219	628	847	1212	3259	4471
Sika	3	4	7	40	97	137	1	0	1	44	101	145
TOTAL	9996	17290	27286	16103	33997	50100	7242	14035	21277	33341	65322	98663

annual harvest of the species by approximately 20%. The increased harvest will help slow the expansion of sika deer out of their current range.

- Increased Sunday hunting opportunities resulted in more recreational time for hunters and additional deer added to the harvest, aiding in deer population control.

For the coming 2011-2012 season, two legislative changes concerning deer hunting were adopted during the 2011 session in Annapolis. Carroll County has been added to the counties that allow Sunday hunting, and the Junior Deer Hunt Day has been expanded to Saturday and Sunday. Additional information can be obtained in the annual 2011-2012 Guide to Hunting and Trapping that comes with the hunting license.

2010-2011 Deer Harvest

Maryland deer hunters harvested 98,663 deer in 2010-2011; a slight 2% decline from the record 100,663 harvested the year before (Table 1, Figure 1). The harvest was comprised of 33,341 antlered deer and 65,322 antlerless deer (Figure 2). Compared to 2009-2010, the harvest of antlered deer decreased 1% while the antlerless harvest decreased 2%. The antlerless harvest included 54,526 does and 10,796 button bucks (Figure 3).

A regulation change enacted for the 2010-2011 season moved the western half of Washington County into Deer Management Region A, which includes Allegany and Garrett counties. The regulation change was instituted to reduce the deer harvest in that portion of Washington County. As a result of the boundary change, deer harvest numbers for the region are not directly comparable to previous years. A total of 9,324 deer (5,412 antlered, 3,912 antlerless) were harvested in Region A during the 2010-2011 season. The Garrett County harvest remained stable while the harvest in Allegany and Washington counties dropped approximately 30 percent. The decline in Washington County was an expected outcome of the change in the Region A boundary. While the decline in Allegany County was partly due to a decrease in the overall deer herd, the boundary change further reduced harvest by putting several popular public hunting areas in the same Management Region, removing the option to take deer under two separate bag limits.

The reported deer harvest in the remainder of the state (Deer Management Region B) was similar to the previous year. Hunters in Region B reported taking 89,339 deer for the year; down 2 percent from last year. The antlered harvest of 27,929 deer was 3 percent lower than last year, while the antlerless total decreased 2 percent to 61,410 deer. Frederick County led the state this year with 7,942

deer, followed by Baltimore County with 6,919 and Washington County with 6,035 deer.

The deer harvest in Maryland's suburban counties (Anne Arundel, Baltimore, Howard, Montgomery, and Prince George's counties) continues to be strong. Hunters in these counties reported 21,649 deer for 2010-2011, up slightly over the 21,231 deer reported in 2009-2010. DNR has liberalized antlerless harvest regulations in these counties in an effort to address the impacts that high deer populations have on Maryland's suburban landscape and residents.

Regulation changes for the 2010-2011 deer season expanded Sunday hunting in Allegany, Calvert, Charles, Garrett, St. Mary's, and Talbot counties. Deer hunters in those counties reported taking a total of 1,496 deer on legal Sunday hunting days (Table 2).

Bow Season

Bow season in Maryland opens September 15 and closes January 31. Resident and non-resident hunters purchased approximately 53,000 and 8,000 bow stamps, respectively in 2010-2011. The stamps are required to hunt deer with a bow during the bow season. The average Maryland vertical bowhunter typically hunts for about 13 days each season and 35 - 40% of bowhunters take one deer or more each year. Approximately 8,000 hunters currently hunt deer with a crossbow. The average crossbow hunter uses a crossbow for 10 days each year and approximately 35% are successful in taking one or more deer per year.

In 2010-2011:

- Archers (vertical and crossbow) reported taking 27,286 deer compared to 27,373 deer in 2009-2010, a decrease of < 1% (Table 1).
- There were 9,996 antlered deer (37%) and 17,290 antlerless deer harvested with vertical bows and crossbows.
- The antlered bow harvest decreased 0.5% and the antlerless harvest (15,036 does and 2,254 button bucks) decreased 0.2% over the previous year.
- Crossbow hunters took 2,928 antlered deer and 4,654 antlerless deer during the bow season (Table 3).
- The crossbow harvest was 27.8% of the total bow season harvest, up from 18.9% in 2009-2010 (Figure 4).
- Approximately 4,500 different hunters harvested a deer with a crossbow during bow season (compared to 3,000 in 2009-2010).
- Eighty-seven percent of the archery harvest came from private lands.
- Bowhunters took 976 deer (443 antlered, 533 antlerless) on Sundays open to bowhunting on private land across 19 counties (Table 2).

Figure 1

Maryland Reported Deer Harvest for the Bow, Firearm, and Muzzleloader Seasons, 2001-2002 through 2010-2011

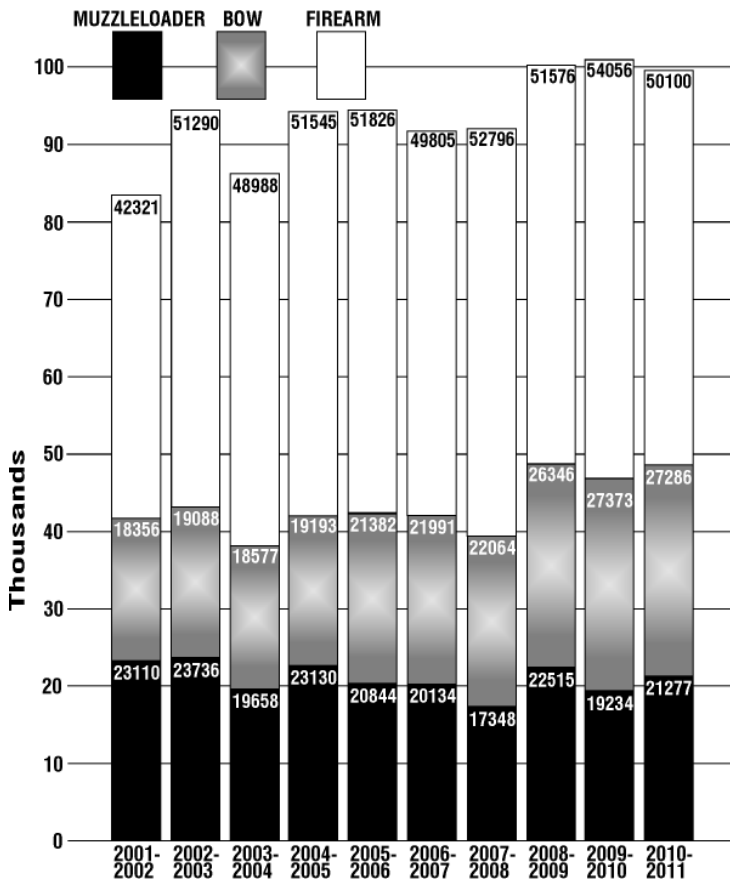


Figure 2

Maryland Reported Antlered and Antlerless Deer Harvest, 2001-2002 through 2010-2011

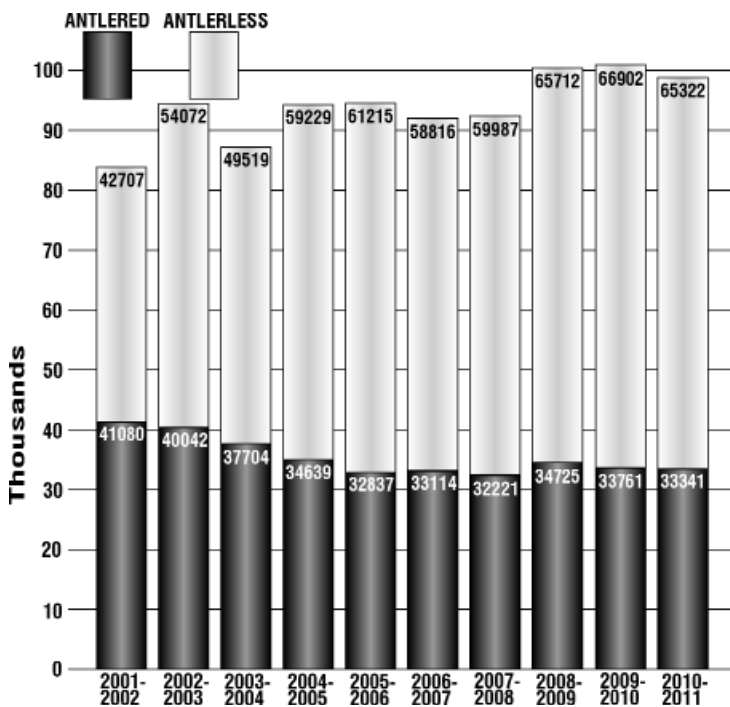


Figure 3

Maryland Reported Buttonbuck and Doe Harvest, 2001-2002 through 2010-2011

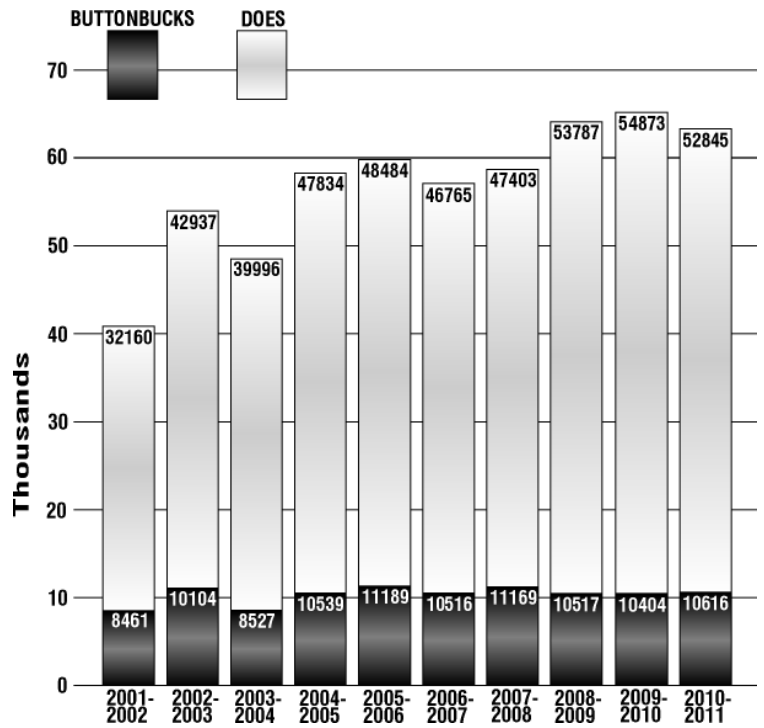


Figure 4

Maryland Reported Crossbow and Vertical Bow Deer Harvest during the Designated Archery Season, 2003-2004 through 2010-2011

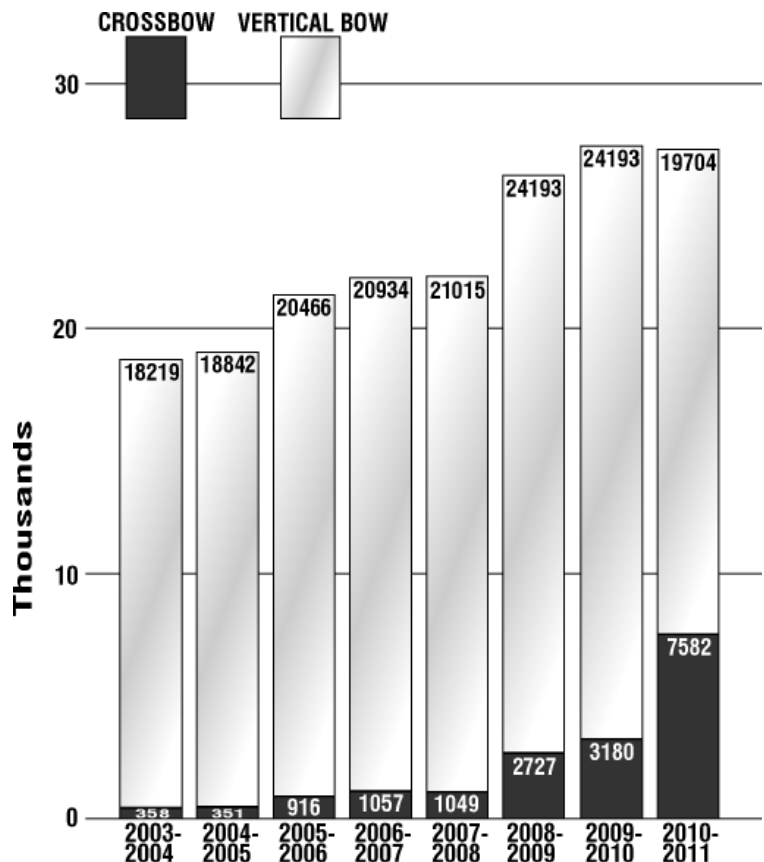


Table 2
Maryland Reported Sunday Hunting Deer Harvest
by County, 2010-2011

COUNTY	Bow Season			Firearm Season		
	Antlered	Antlerless	Total	Antlered	Antlerless	Total
Allegany ²	21	7	28	90	0	90
Anne Arundel ¹	13	20	33	31	53	84
Calvert ³	28	31	59	41	93	134
Caroline ¹	5	11	16	49	140	189
Cecil ¹	4	3	7	64	112	176
Charles ³	60	58	118	113	231	344
Dorchester ²						
White-tailed	10	25	35	59	156	215
Sika	13	17	30	57	52	109
Frederick ²	65	71	136	110	221	331
Garrett ²	32	16	48	137	0	137
Harford ¹	10	7	17	46	104	150
Kent ¹	15	14	29	82	132	214
Montgomery ¹	20	23	43	49	110	159
Queen Anne's ¹	11	10	21	88	190	278
St. Mary's ³	30	60	90	57	145	202
Somerset ²	13	14	27	43	117	160
Talbot ²	25	42	67	52	127	179
Washington ²	35	41	76	133	132	265
Wicomico ²						
White-tailed	17	30	47	68	120	188
Sika	0	1	1	2	2	4
Worcester ²						
White-tailed	16	32	48	96	221	317
Sika	0	0	0	0	1	1
TOTAL	443	533	976	1467	2459	3926

¹ Bow season was open on Sunday November 7, 2010. Firearm season was open on Sunday November 28, 2010.

² Bow season was open on Sundays October 17, October 24, October 31, November 7, and November 14, 2010. Firearm season was open on Sunday November 28, 2010.

³ Bow season was open on Sundays October 17, October 24, October 31, November 7, and November 14, 2010. Firearm season was open on Sunday November 28, 2010 and December 5, 2010.

Table 3
Maryland Reported Crossbow Deer Harvest
by County, 2010-2011

COUNTY	Deer Bow Season			Muzzleloader/Firearms Seasons			Grand Total
	Antlered	Antlerless	Total	Antlered	Antlerless	Total	
Allegany	142	98	240	2	3	5	245
Anne Arundel	129	268	397	17	29	46	443
Baltimore	277	601	878	28	91	119	997
Calvert	72	94	166	6	8	14	180
Caroline	45	74	119	2	9	11	130
Carroll	120	209	329	9	24	33	362
Cecil	87	146	233	3	8	11	244
Charles	165	261	426	2	22	24	450
Dorchester							
White-tailed	58	95	153	2	7	9	162
Sika	71	91	162	2	3	5	167
Frederick	192	276	468	8	18	26	494
Garrett	257	191	448	4	4	8	456
Harford	147	274	421	10	19	29	450
Aberdeen Proving Ground	23	36	59	2	13	15	74
Howard	129	259	388	14	47	61	449
Kent	75	90	165	1	8	9	174
Montgomery	216	449	665	28	74	102	767
Prince George's	108	194	302	8	26	34	336
Queen Anne's	74	117	191	3	8	11	202
St. Mary's	113	222	335	14	23	37	372
Somerset	67	93	160	2	6	8	168
Talbot	74	99	173	5	9	14	187
Washington	190	236	426	4	10	14	440
Wicomico							
White-tailed	45	92	137	1	5	6	143
Sika	2	3	5	0	0	0	5
Worcester							
White-tailed	50	85	135	4	6	10	145
Sika	0	1	1	0	1	1	2
TOTAL	2928	4654	7582	181	481	662	8244

Firearm Season

The statewide firearm season begins the Saturday after Thanksgiving and runs for the following two weeks. In Region B, hunters have an additional two days of firearm hunting in early January. Deer taken during managed hunts outside the normal deer seasons are also counted as firearm kills. Approximately 55,000 hunters pursue deer with a firearm each year in Maryland. The average deer hunter spends about five days each year pursuing deer with a firearm and approximately 48% of firearm hunters bag at least one deer each year.

In 2010-2011:

- Firearm hunters statewide harvested 50,100 deer compared to 54,056 deer in 2009-2010, a decrease of 7% (Table 1).
- There were 16,103 antlered deer (33%) and 33,997 antlerless deer harvested with firearms.
- The antlered harvest decreased 10% and the antlerless harvest (27,713 does and 6,284 button bucks) decreased 6% over the previous year.
- The majority (82% in 2010-2011) of the firearm season harvest occurs during the 2-week season that begins the Saturday after Thanksgiving (Table 4).
- Firearm hunters took 51% of all deer harvested in Maryland compared to 54% last season. (Figure 1).
- The majority (87%) of the firearm harvest was taken on private property.
- Firearm hunters bagged 3,926 deer (1,467 antlered and 2,459 antlerless) where firearm deer season was open for Sunday hunting (Table 2).
- Junior deer hunters bagged 2,053 deer (1,247 antlered and 806 antlerless) on the Junior Hunt day held November 13, 2010 (Table 5).
- The 2-day January firearm season in Region B was held on January 7 and 8, 2011. Hunters took 4,445 deer, and 82% of the harvest was antlerless deer (Table 6).

Muzzleloader Season

The 2010-2011 statewide, either-sex muzzleloader season included three days in October (October 21 - 23) and two weeks during late December and early January (December 18 - January 1). Region B continued with a six day antlerless-only muzzleloader season (October 25 - 30) to provide for additional deer population management through antlerless deer harvest. The October muzzleloader season is set annually to begin the first Thursday after the 15th of the month.

Resident and non-resident hunters purchased approximately 59,400 and 7,900 muzzleloader stamps, respectively in 2010-2011. The stamps are required to hunt deer with a muzzleloader or to hunt deer with a bow during the muzzleloader

Table 4
Maryland Reported 2-Week Firearm Season Deer Harvest by County, 2010-2011

COUNTY	Antlered	Antlerless	Total
Allegany	855	645	1500
Anne Arundel	234	583	817
Baltimore	557	1343	1900
Calvert	202	502	704
Caroline	394	990	1384
Carroll	854	1759	2613
Cecil	485	990	1475
Charles	611	1267	1878
Dorchester			
White-tailed	466	1189	1655
Sika	500	527	1027
Frederick	1231	2447	3678
Garrett	1272	1088	2360
Harford	409	973	1382
Howard	243	558	801
Kent	463	1219	1682
Montgomery	467	1071	1538
Prince George's	291	613	904
Queen Anne's	558	1437	1995
St. Mary's	394	910	1304
Somerset	362	1135	1497
Talbot	361	1198	1559
Washington	1239	1645	2884
Wicomico			
White-tailed	462	1288	1750
Sika	12	16	28
Worcester			
White-tailed	668	1942	2610
Sika	11	31	42
TOTAL	13601	27366	40967

Table 5
Maryland Reported Junior Day Deer Harvest
by County, 2010-2011

COUNTY	Antlered	Antlerless	Total
Allegany	69	46	115
Anne Arundel	8	11	19
Baltimore	36	32	68
Calvert	21	9	30
Caroline	32	25	57
Carroll	106	41	147
Cecil	42	31	73
Charles	48	31	79
Dorchester			
White-tailed	49	40	89
Sika	10	5	15
Frederick	121	63	184
Garrett	153	88	241
Harford	28	18	46
Aberdeen Proving Ground	13	11	24
Howard	14	13	27
Kent	55	37	92
Montgomery	50	31	81
Prince George's	18	11	29
Queen Anne's	40	23	63
St. Mary's	21	21	42
Somerset	45	32	77
Talbot	16	26	42
Washington	120	53	173
Wicomico	56	54	110
Worcester	76	54	130
TOTAL	1247	806	2053

Table 6
Maryland Reported 2-Day January Firearm Season
Deer Harvest by County, 2010-2011

COUNTY	Antlered	Antlerless	Total
Anne Arundel	19	73	92
Baltimore	40	232	272
Calvert	20	61	81
Caroline			
White-tailed	19	107	126
Sika	0	1	1
Carroll	50	293	343
Cecil	31	177	208
Charles	48	137	185
Dorchester			
White-tailed	32	137	169
Sika	53	125	178
Frederick	84	432	516
Harford	24	128	152
Howard	17	79	96
Kent	43	175	218
Montgomery	45	172	217
Prince George's	28	105	133
Queen Anne's	36	169	205
St. Mary's	26	88	114
Somerset	29	164	193
Talbot	29	142	171
Washington	38	190	228
Wicomico			
White-tailed	37	180	217
Sika	2	4	6
Worcester	52	272	324
TOTAL	802	3643	4445

Table 7
Maryland Reported Early Muzzleloader Season
Deer Harvest by County, 2010-2011

COUNTY	Antlered	Antlerless	Total
Alleghany	380	178	558
Anne Arundel	83	187	270
Baltimore	219	484	703
Calvert	90	153	243
Caroline	152	335	487
Carroll	321	440	761
Cecil	152	275	427
Charles	210	425	635
Dorchester			
White-tailed	151	298	449
Sika	308	196	504
Frederick	379	618	997
Garrett	505	209	714
Harford	187	334	521
Aberdeen Proving Ground	14	23	37
Howard	87	212	299
Kent	248	323	571
Montgomery	171	371	542
Prince George's	98	222	320
Queen Anne's	225	412	637
St. Mary's	148	349	497
Somerset			
White-tailed	107	283	390
Sika	0	1	1
Talbot	113	296	409
Washington	429	376	805
Wicomico			
White-tailed	136	355	491
Sika	7	3	10
Worcester			
White-tailed	159	373	532
Sika	1	0	1
TOTAL	5080	7731	12811

season. Maryland muzzleloader hunters pursue deer for about 3 days per hunter during the October season and for about 3.5 days in the late two-week season. Approximately 35% of black-powder hunters were successful in harvesting at least one deer last year.

In 2010-2011:

- The muzzleloader harvest totaled 21,277 deer compared to 19,234 deer in 2009-2010, an increase of 11% (Table 1).
- There were 7,242 antlered deer and 14,035 antlerless deer harvested with muzzleloaders. Antlerless deer represented 66% of the total muzzleloader harvest.
- The antlered harvest increased 24% and the antlerless harvest (11,777 does and 2,258 button bucks) increased 5% over the previous year.
- The October muzzleloader harvest totaled 12,811 deer (5,080 antlered and 7,731 antlerless), a 14% increase over the previous year's harvest of 11,231 deer (Table 7).
- The December muzzleloader harvest totaled 8,466 deer (2,162 antlered and 6,304 antlerless), a 6% increase over the previous year (Table 8).
- The October muzzleloader season accounted for 60% of the total muzzleloader harvest for the year.
- Muzzleloader hunters took 91% of their total harvest on private lands.

Maryland DNR Deer Plan

Maryland's first statewide 10-Year White-tailed Deer Management Plan was created in 1998 and has guided all phases of deer management in Maryland since that time. The plan was revised in 2009 and provides information on deer biology and management in Maryland and outlines the responsibilities and goals of the Deer Project team. The plan and supporting documents are available on the DNR website at http://dnr.maryland.gov/wildlife/Hunt_Trap/deer/deer_management/index.asp.

Deer Research and Data Use

In 2010-2011, 4,548 deer were examined at butcher shops across the state during the muzzleloader and firearm seasons. At the butcher shops, sex and age of the deer were determined and antler measurements were recorded for bucks. Deer were also checked for evidence of illness or disease. The yearly sample of harvested deer provides valuable information that is used to estimate deer population numbers and to detect any changes in deer herd reproductive potential. It is also used to monitor the overall health of deer and the effects of changes to seasons and bag limits made to better manage deer populations.

Table 8
Maryland Reported Late Muzzleloader Season
Deer Harvest by County, 2010-2011

COUNTY	Antlered	Antlerless	Total
Allegany	74	154	228
Anne Arundel	66	170	236
Baltimore	129	480	609
Calvert	54	139	193
Caroline			
White-tailed	80	321	401
Sika	1	0	1
Carroll	93	310	403
Cecil	40	162	202
Charles	162	406	568
Dorchester			
White-tailed	62	169	231
Sika	102	181	283
Frederick	174	528	702
Garrett	128	284	412
Harford	77	229	306
Howard	54	170	224
Kent	75	275	350
Montgomery	117	352	469
Prince George's	70	198	268
Queen Anne's	101	305	406
St. Mary's	114	288	402
Somerset	57	164	221
Talbot	64	220	284
Washington	114	284	398
Wicomico			
White-tailed	93	258	351
Sika	1	2	3
Worcester	60	255	315
TOTAL	2162	6304	8466

Table 9
Maryland Yearling Buck (1 1/2 Year Old) Vital Statistics
by County, 2010-2011

COUNTY	% Yearling Bucks	Average Points	Average Beam Diameter (mm)
Allegany	75	3.3	16.7
Anne Arundel	55	4.0	18.4
Baltimore	49	3.9	18.1
Calvert	56	4.1	18.6
Caroline	46	4.5	18.7
Carroll	63	4.8	20.5
Cecil	39	3.9	18.7
Charles	36	3.0	15.6
Dorchester	54	4.2	19.4
Frederick	65	4.4	19.0
Garrett	67	4.5	19.0
Harford	62	4.5	18.4
Howard	56	3.5	19.1
Kent	48	4.1	18.5
Montgomery	53	3.8	20.0
Prince George's	40	3.8	17.4
Queen Anne's	47	4.4	19.2
St. Mary's	46	3.5	17.2
Somerset	52	3.0	17.2
Talbot	37	3.7	18.0
Washington	66	3.7	18.5
Wicomico	36	4.4	18.5
Worcester	49	3.2	16.7

Staff and volunteers determine the age of each deer by the wear and replacement of its teeth. As young deer get older their milk teeth are replaced with permanent teeth. As adult deer age, their permanent teeth begin to wear down. This enables biologists to reliably categorize deer as fawns (less than one year old), yearlings (approximately 1.5 years old) or adults (two years and older). The proportions of deer in each age class and their gender are then used in reconstruction models to develop and follow trends in the state's deer population.

The antler beam circumference measurements of yearling male deer that are brought to butcher shops are used as indicators of the reproductive potential and health of the deer herd. Yearling males in good habitat with moderate deer numbers will have larger antler beam diameters than those

in higher populations or poorer habitat. Abundant food and modest competition translates into more energy available for antler growth. This is most evident in the yearling age class. Trends in these measurements can indicate deer herd overpopulation and habitat degradation. Overall, Maryland's long-term data for these indicators show healthy, productive deer populations across the state (Table 9).

In 2010-2011, DNR staff once again collected outside antler spread measurements for yearling and adult white-tailed deer. Similar to the previous years, 93% of yearling male deer in Maryland had maximum outside antler spreads of less than 14 inches while 83% of adult (2.5+ age) whitetail bucks had spreads 14 inches or greater. These data will be useful in the future if the Department considers implementing antler restriction regulations for quality deer management purposes.

Deer examined at the butcher shops are also examined for evidence of hemorrhagic disease; a viral disease spread by biting midges. Hemorrhagic disease (HD), or "Blue-tongue", commonly appears in late summer and early fall. Deer that have survived HD and are harvested will exhibit hooves with sloughing or peeling tissue. These deer are still suitable for human consumption. HD occurs yearly in Maryland, although it varies in intensity. The results of this yearly, statewide examination are reported to the Southeastern Cooperative Wildlife Disease Study (SCWDS) in Athens, Georgia as part of a nationwide survey. The HD study with SCWDS is one of the oldest and most complete nationwide wildlife disease investigations in the country.

Significant HD outbreaks typically occur every 3 – 5 years. The last significant outbreak in Maryland occurred during the 2007-2008 season. While numerous dead deer were reported during this outbreak, it had little effect on the white-tailed deer population. DNR will continue to monitor for HD in the coming years.

Research by the State Chapter of the Quality Deer Management Association (QDMA)

The Maryland State Chapter of QDMA continued two research projects during the 2010-2011 season studying the reproductive timing of white-tailed deer in Maryland and population trends of white-tailed deer on several urban environmental areas in central Maryland.

QDMA staff and volunteers examined the reproductive tracts of 336 female deer harvested during the 2010-2011 hunting season to identify time of breeding and number of fetuses carried. Approximately 66% of the female deer examined during the study were pregnant, of which 43%

were carrying one fetus, 55% were carrying two fetuses, and 2% were carrying 3 fetuses. Using fetus measuring scales to backdate to the time of conception, it was determined that peak breeding in Maryland occurred during the first three weeks of November. Approximately 90% of the deer examined were bred between November 1 and November 21. During this period, and just prior to it, is when bucks will be most active looking for receptive females to breed.

QDMA staff also continued camera census surveys in conjunction with students on several central Maryland environmental areas to estimate white-tailed deer population numbers. Trail cameras have been used at Piney Run Park, Hashawha Environmental Center, and Harford Glen Environmental Education Center to study deer populations. Deer populations exceeding 200 deer/square mile were again documented in 2011 on some of these areas. Over 3,000 trail camera photographs were collected and summarized in 2011.

Information concerning white-tailed deer reproductive rates and population densities in urban areas are important components for effective management of deer in Maryland. For further information on these studies, visit the Maryland QDMA website at <http://www.marylandqdma.com>.

Bowhunter Survey

The Deer Project, in cooperation with the Furbearer Project, continued the annual Bowhunter Survey in 2010-2011 (survey data from the 2010-2011 season are currently being analyzed). For the 2009-2010 survey year, bowhunters reported 20.0 bucks per 100 hours and 50.0 does per 100 hours. Likewise, they observed 2.50 adult does for every one adult buck and 0.68 fawns for every one adult doe in 2009-2010. For more results, visit the DNR website at http://dnr.maryland.gov/wildlife/hunt_trap/bhsurvey.asp.

The Bowhunter Survey provides observational data about furbearers, deer and other wildlife. Bowhunters record the number of animals observed during each hunt, number of hours they hunt, county of hunt, and other specific details about each hunt. If you are a bowhunter and would like to participate, contact Brent Evans at 443-786-3656 or bevans@dnr.state.md.us. Forms are also available on the DNR website at the web address listed above.

DNR and Maryland Counties Cooperative Deer Management

Since 1994, Maryland DNR has promoted cooperative deer management relationships with Maryland counties. Montgomery County and Howard County both developed their own

deer management units manned by professional staff. Maryland DNR works closely with both counties regarding their deer management efforts. Both counties have implemented nonlethal and lethal deer management programs while maintaining majority public support. Maryland DNR staff participates in county deer management workshops, reviews and advises on county deer management plans, and issues appropriate state permits for deer management activities at the county level. Anne Arundel, Baltimore, and Prince George's Counties are working towards developing similar deer management programs within their jurisdictions, with DNR assistance.

Watersheds are areas of largely undeveloped land that protect Maryland water supplies. These areas are often managed by municipal staff. Unregulated deer numbers are known to affect watershed habitat and water quality and can also affect neighboring residents. The Deer Project works with Baltimore City as well as the Washington Suburban Sanitary Commission to manage the deer on their respective watershed lands. These entities permit public hunting on suitable areas of their watershed properties in order to regulate deer numbers. Through these cooperative relationships with Maryland DNR, hunters fill a valuable role in helping to manage deer numbers. Annually, hunters remove hundreds of deer from watershed properties during the regulated deer hunting seasons.

Maryland DNR continues to work with various county and municipal government agencies on deer management issues and encourages others to follow the lead of the aforementioned entities to develop deer management programs in cooperation with the DNR. Interested entities should contact George Timko, Maryland DNR Assistant Deer Project Leader at 301-432-4307.

Suburban Deer Management

Deer management in suburban areas ranks as one of the most difficult challenges facing wildlife agencies throughout the country. Maryland's Deer Project is charged with managing deer across the state's varied landscape for a diverse public that has different opinions on how deer should be managed. This includes the large urban/suburban corridor in the midsection of the state.

As development continues in Maryland, the conversion of forested and agricultural lands into housing developments can actually improve habitat conditions for deer. Developed areas provide more than adequate food resources and they often offer refuge from hunting. As a result, deer numbers can increase rapidly in these areas. High deer numbers lead to a greater number of negative interactions with suburban residents, decreasing the residents'

tolerance of deer, and increasing the demand on DNR to somehow regulate the population.

Safety concerns and social considerations in urban areas often prevent the use of common lethal deer population control measures (i.e., hunting). Non-lethal control measures such as fencing and repellants can help reduce deer problems but they do not eliminate them. They also do not address the deer overpopulation itself.

Increasing deer-vehicle collisions, damage to ornamental plants and gardens, and damage to natural habitats are some of the problems that continue to persist when deer numbers are not directly reduced. Often times, when public tolerance levels have been surpassed, lethal control methods are considered as a last resort. At this point, the Department must provide its professional opinion as to what, if any, lethal method (i.e., managed hunt, professional sharp-shooting, etc.) is feasible for a particular scenario. Often, a combination of non-lethal and lethal techniques is recommended to help resolve the problem. The Deer Project will continue to evaluate any new deer management techniques as they are created, and promote effective methods that help reduce deer-human conflicts.

Deer Management Information

A section of the DNR website is devoted to public education on deer and deer management options. Information on nonlethal and lethal methods is provided at: http://www.dnr.state.md.us/wildlife/Hunt_Trap/deer/deer_damage/ddmtintro.asp

Further information and assistance can be obtained from George Timko, Maryland DNR Assistant Deer Project Leader at 301-432-4307.

Public Property Deer Management

DNR provides assistance to local governments, communities, and publicly owned properties that choose to address deer population issues. Public entities that desire to conduct hunts outside of the regional deer hunting season framework may do so with prior approval of DNR. Managed hunts are used to help control deer populations under special conditions on properties where stricter control of hunters is required. This allows each facility to manage deer hunting to complement their mission. Military bases and agricultural research facilities, as well as state, county, and municipal parks have developed deer hunting programs in conjunction with DNR.

To improve opportunities for the public to qualify for managed hunts, the Assistant Deer Project Leader guides the statewide Shooter Qualification Card program. This program provides public access to shooting ranges where

hunters can become certified at the standards required to apply for managed hunts held across the state. Appendix I provides a summary of the total deer taken on Maryland public lands during the 2010-2011 hunting seasons.

Deer Population

Maryland's deer population prior to the 2010-2011 hunting season was estimated at 235,000 deer, similar to the 2009-2010 estimate of 231,000. Trends in deer abundance are commonly monitored using harvest estimates and age structure of the deer herd. These methods work well in areas where hunters have access to most of the land but are much less reliable for urban/suburban deer populations, where hunting occurs sporadically.

Liberal antlerless regulations have slowed or halted deer population growth in many areas outside the Washington D.C. to Baltimore suburban corridor. In some rural counties, the deer population has begun to decline. DNR is currently investigating additional ways to control deer in the suburban corridor where hunting is inhibited by lack of access to land.

Non-Hunting Mortality

Factors that cause mortality in deer, other than hunting, include disease, fawn predation (from bears, coyotes, bobcats, fishers, feral dogs, etc.), collisions with vehicles, harvest using Deer Management Permits, and harvest via sharp-shooting. Data concerning deer killed by vehicles (Table 10) is reported to the DNR by a broad spectrum of agencies (county police, state police, sheriff deputies, city police, park rangers, county roads and state roads staff, etc). Because of its many and varied sources, deer-vehicle collision data tend to vary from year to year depending on the effort put forth by the various agencies who report them. Therefore, these data should be used with caution when looking at trends over time and should be considered minimum estimates for a given year.

Besides deer-vehicle collision data obtained from the various state agencies of Maryland, State Farm Insurance Company also estimates total deer vehicle collisions based on its share of the insurance business for each state and the number of accidents reported by their clients. They project there have been an average of 29,500 deer-vehicle collisions in Maryland during each of the last five years.

Farmers and landowners can obtain a Deer Management Permit (DMP) from DNR when deer are causing damage to commercial crops. DMPs allow farmers to harvest antlerless deer on their property outside of the regular state hunting seasons and bag limits. In 2010, 8,245 deer were

Table 10
Maryland Reported Deer Vehicular Mortality by County, 2010 ¹

COUNTY	Male	Female	Unknown	Total
Allegany	134	244	55	433
Anne Arundel	76	50	15	141
Baltimore	223	292	56	571
Calvert	149	110	0	259
Caroline	60	76	88	224
Carroll	228	283	92	603
Cecil	32	62	0	94
Charles	108	270	94	472
Dorchester	33	21	7	61
Frederick	104	372	4	480
Garrett	138	276	40	454
Harford	248	418	61	727
Howard	477	684	117	1278
Kent	34	80	6	120
Montgomery	280	323	300	903
Prince George's	102	17	216	335
Queen Anne's	39	32	23	94
St. Mary's	75	113	0	188
Somerset	11	9	5	25
Talbot	72	67	4	143
Washington	185	279	30	494
Wicomico	32	23	40	95
Worcester	54	30	18	102
TOTAL	2894	4131	1271	8296

¹ Estimates vary from year to year depending on effort put forth by various agencies who collect the data. Total numbers should be considered minimum estimates for a given year.

Table 11
Maryland Reported Crop Damage Mortality
by County, 2010

COUNTY	Male	Female	Total
Allegany	23	164	187
Anne Arundel	11	117	128
Baltimore	80	377	457
Calvert	14	61	75
Caroline	18	131	149
Carroll	79	460	539
Cecil	73	179	252
Charles	58	344	402
Dorchester			
White-tailed	16	132	148
Sika	13	107	120
Frederick	54	410	464
Garrett	96	680	776
Harford	41	234	275
Howard	31	282	313
Kent	23	105	128
Montgomery	39	283	322
Prince George's	32	217	249
Queen Anne's	28	111	139
St. Mary's	52	345	397
Somerset			
White-tailed	65	313	378
Sika	0	2	2
Talbot	40	204	244
Washington	30	316	346
Wicomico			
White-tailed	70	373	443
Sika	1	5	6
Worcester			
White-tailed	83	805	888
Sika	0	2	2
Other	117	299	416
TOTAL	1187	7058	8245

taken with DMPs compared to 7,858 deer in 2009 (Table 11), an increase of about 5%. Elevated market prices for crops and significantly higher planting costs are requiring farmers to control deer more intensely than they have in the past. While regulated hunting remains the most effective way to control deer statewide, DMPs are a valuable tool for farmers protecting their livelihood.

In areas where lethal control of deer via regulated hunting is not feasible due to urbanization or security issues (i.e., military bases), sharp-shooting deer is a viable lethal alternative for controlling deer numbers. During 2010, 1,142 deer were harvested via sharp-shooting in Maryland. Sharp-shooting is performed by deer cooperators licensed by DNR. County and/or federal officials and a few private groups remove deer using this method.

In recent years hunters have become increasingly concerned about coyote and bear predation on deer in western Maryland. Coyotes have increased in number in Washington, Allegany, and Garrett counties over the last five years. Very young fawns in the spring can be a food source for predators. Likewise, the black bear population is expanding and population numbers are at record highs for recent times. Studies in other states indicate that bears have been shown to be equally effective or more effective at predating fawns than coyotes.

Currently, reproductive data that the Deer Project collects does not indicate coyotes or bears are having a significant impact on the western Maryland deer population. The recent decline in western Maryland's deer population can be largely attributed to the relatively high percentage of antlerless deer being taken during hunting season. While there's no doubt that coyotes and bears are predating fawns, Maryland's long-term deer data along with research and experience from nearby states indicate that their effect is minimal. The vast majority of white-tailed deer give birth to fawns within a two to four week period in May and June, which overwhelms predators like coyotes and bears. During that time, there are far more fawns on the ground than can be consumed by predators, thus ensuring that an adequate number will survive to reproduce in coming years.

The Deer Project will continue to monitor the coyote and bear situation in Maryland and develop alternative management strategies if the need arises.

Trophy Deer Contest

Each year the Maryland Bowhunters Society and DNR cosponsor the Maryland Trophy Deer Contest. This contest recognizes hunters who have harvested trophy bucks and promotes quality Maryland deer through wise management. The goal of quality deer management is to produce deer numbers that are in balance with the available habitat and have deer that reach maximum size and are in good health.

DNR's deer management alterations continue to improve the quality of Maryland's deer herd. By encouraging antlerless deer harvest and restraining antlered buck harvest, populations will reach appropriate levels while the potential for mature antlered buck survival improves.

The 2010 Maryland Trophy Deer Contest for bucks taken in the 2008-2009 hunting season was held during the Southern Maryland Hunting and Outdoor Expo at the Charles County Fairgrounds. The Boone and Crockett system is used to score antlers of white-tailed, sika, and fallow deer. The results of the 2010 contest are listed on the following pages.

The 2011 Maryland Trophy Deer Contest for deer taken during the 2009-2010 hunting seasons will be held at the same location, on August 27 and 28, 2011. All entries must be present at the contest.

Maryland Trophy Deer

Maryland's quality habitat has produced some impressive trophy deer, with record deer coming from across the state. The following table indicates the scores of the top three bucks per hunting arm, which county it was taken in, and the name of the hunter who took it. This list is compiled from information collected by Walter "Tinker" Johnson, chairman and record-keeper for the Maryland Trophy Deer Contest.



Maryland All Time Trophy Deer Records

Score	County	Name
White-tailed Deer, Firearms, Typical Antlers		
194 0/8	Kent	Kevin Miller
185 7/8	Queen Anne's	Walter Lachewitz
184 0/8	St. Mary's	Larry Day
White-tailed Deer, Firearms, Non-Typical Antlers		
268 1/8	Charles	William Crutchfield, Jr.
248 7/8	Charles	Donza Watson
228 4/8	Montgomery	Jack Poole
White-tailed Deer, Bow, Typical Antlers		
183 3/8	Talbot	Petey Council
178 1/8	Harford	Mark Rogowski
177 0/8	Baltimore	Richard Traband
White-tailed Deer, Bow, Non-Typical Antlers		
220 2/8	Prince George's	Yates Claggett
207 5/8	Talbot	Richard E. Stacey, Sr.
204 6/8	Calvert	Rodney Gray
White-tailed Deer, Muzzleloader, Typical Antlers		
178 6/8	Baltimore	John Gweazdowski
171 3/8	Dorchester	Mark Bronder
170 1/8	Talbot	Kara Gowe
White-tailed Deer, Muzzleloader, Non-Typical Antlers		
200 4/8	Dorchester	Greg Glos
199 3/8	Talbot	William Shields
186 3/8	St. Mary's	Pat Lyons
White-tailed Deer, Crossbow, Typical Antlers		
162 7/8	St. Mary's	Lawrence Copsey
156 0/8	Somerset	Chris Miller
155 7/8	Prince George's	Glen Brown
White-tailed Deer, Crossbow, Non-Typical Antlers		
179 0/8	Somerset	Ernest Hughes
171 1/8	Harford	Carl J. Wehner
160 3/8	Anne Arundel	Kevin Davis
Sika Deer, Firearms		
75 7/8	Dorchester	James Howdyshell
72 5/8	Dorchester	David King, Jr.
71 2/8	Dorchester	Steve Brownley
Sika Deer, Bow		
69 6/8	Dorchester	Lenny Hyre
69 4/8	Dorchester	Larry Owen
68 1/8	Dorchester	Theresa Henriksen
Sika Deer, Muzzleloader		
74 6/8	Dorchester	Henry Williams, Jr.
73 4/8	Dorchester	John Eger
72 7/8	Dorchester	Milton Kern
Sika Deer, Crossbow		
52 4/8	Dorchester	Dennis Witmer
Fallow Deer, Firearms		
176 7/8	Prince George's	Patrick A. Akins

Results from the
**2010 MARYLAND TROPHY DEER CONTEST
FOR THE 2008-2009 DEER HUNTING SEASONS**

Sponsored by the
Maryland Bowhunters Society and the Maryland Wildlife & Heritage Service

White-tailed Deer Firearms Season, Typical Antlers

Score	County	Name
170 5/8	Calvert	Griff Hance
157 1/8	Prince George's	Michael Schilling
155 1/8*	Charles	Jim Matthews
152 2/8	Carroll	Michael Puckett
146 0/8*	Charles	Glen Hoffman
143 4/8	Frederick	Patrick Williams
142 5/8	Frederick	Davis Crouse
137 7/8	Charles	Emory Grimes
131 7/8	Montgomery	Don Frizzell
131 4/8	Charles	Leonard Rickett
131 4/8	St Mary's	John Fenwick
130 6/8*	Charles	Robert Jones
127 0/8*	Calvert	Robert Burch
123 2/8	St. Mary's	Robert Burch
122 3/8*	Cecil	Jordan Kane
110 0/8	Charles	Clay Starner
61 1/8	Montgomery	Richard Conner
46 1/8*	Dorchester	Richard Conner

*** Historical**

White-tailed Deer Firearm Season, Non-Typical Antlers

Score	County	Name
182 4/8	Queen Anne's	Richard Keller
177 4/8*	Charles	David Anderson
153 6/8*	Carroll	Roger Collison

*** Historical**

White-tailed Deer Bow Season, Typical Antlers

Score	County	Name
158 5/8	Charles	Kurt Wright
157 7/8	Montgomery	Arlen Janet
152 4/8	Queen Anne's	Paul Burrows
150 1/8*,**	Prince George's	Ernie Wood
147 3/8*	Charles	Walter Grimes
141 2/8*,**	Anne Arundel	Ernie Wood
138 2/8	Montgomery	Robert Cordosi
137 0/8*,**	Charles	Robert Jones
136 4/8**	Montgomery	Bill Brown
135 4/8	Montgomery	Leonard Simmons
134 4/8	Montgomery	Walt Allensworth
126 4/8	Kent	Paul Burrows
124 5/8*	Charles	Giovanni Rodriguez
122 4/8**	Prince George's	Kevin Joyner
121 4/8	St Mary's	Walter Denny
119 7/8**	Montgomery	Bill Brown
117 0/8	Anne Arundel	Wayne Bolander
116 7/8	Montgomery	Paul Churchey
116 5/8	Queen Anne's	Ken Potter
115 2/8*	Howard	Preston Hood, Jr.
107 7/8	St Mary's	John Fenwick
89 5/8	Cecil	Jordan Kane
Historical*	Crossbow**	

White-tailed Deer Bow Season, Non-Typical Antlers

Score	County	Name
180 3/8	St. Mary's	Don Hatcher
171 6/8	Prince George's	Carl Trilli
152 4/8**	Prince George's	Joseph Byers
140 7/8	Charles	Steven White
123 0/8**	Howard	Scott Spillers
Crossbow**		

White-tailed Deer Muzzleloader Season, Typical Antlers

Score	County	Name
170 2/8	Talbot	Kara Gowe
148 5/8	Prince George's	Mark Wooten
143 3/8	Charles	Del Nusbaum
131 3/8	Montgomery	Raymond Saah
127 0/8	Charles	Alex Casey
126 0/8*	Charles	Robert Jones
125 2/8	Charles	Scott Posey
123 7/8	Anne Arundel	Dave Grimes, Jr.
122 0/8	Harford	Austin Blair
120 0/8*	St Mary's	Nick Simonds
119 6/8	Allegany	Jared Hendrix
Historical*		

White-tailed Deer Muzzleloader Season, Non-Typical Antlers

Score	County	Name
174 2/8	Caroline	Billy Joyner
166 3/8	Queen Anne's	Kenny Gray

Sika Deer, Firearm Season

Score	County	Name
58 2/8	Dorchester	Evan Fishpaw
56 1/8	Dorchester	Tinker Johnson

Sika Deer, Muzzleloader Season

Score	County	Name
60 0/8	Dorchester	John Dunlap

Sika Deer, Bow Season

Score	County	Name
69 4/8	Dorchester	Larry Owen
53 3/8	Dorchester	Ricky Shirkey
42 3/8	Dorchester	Giovanni Rodriguez
31 4/8	Dorchester	Richard Lodgaard

Fallow Deer, Firearm Season

Score	County	Name
176 7/8	Prince George's	Patrick Akins

Appendix I

Statewide Reported Antlered and Antlerless Deer Harvest by Public Hunting Area and County, 2010-2011

County/Public Area	Antlered	Antlerless
Allegany		
Belle Grove WMA	8	4
Billmeyer WMA	18	6
Dan's Mountain WMA	85	49
Green Ridge State Forest	320	122
Rocky Gap State Park	19	14
Sideling Hill WMA	14	5
Warrior Mountain WMA	59	41
Anne Arundel		
Anne Arundel County Managed Hunts	2	40
Davidsonville Receiver Station	1	3
Fort Meade	34	147
Smithsonian	17	77
Baltimore		
Gunpowder State Park	20	152
Gwynnbrook WMA	6	9
Liberty Watershed	22	89
Lock Raven Watershed	58	188
Patapsco State Park	16	66
Pretty Boy Watershed	93	212
Soldiers Delight NEA	8	63
Calvert		
Calvert Cliffs State Park	5	5
Flag Pond	1	1
Hall Creek	3	3
Huntingtown Area	20	30
Caroline		
Chesapeake Forest Lands	5	14
Idylwild WMA	13	67
Tuckahoe State Park	15	21

County/Public Area	Antlered	Antlerless
Carroll		
Avondale WMA	8	12
Farver CWMA	0	1
Hahn CWMA	0	1
Hanover Watershed	9	32
Liberty Watershed	62	125
Maring CWMA	3	7
Morgan Run NEA	8	34
Patapsco State Park	13	55
Raincliffe CWMA	0	9
Sawmill-Spiegel Coop.	13	48
Slacks Coop.	1	7
Woodbrook CWMA	9	25
Cecil		
C & D Canal	8	14
Earlville WMA	3	20
Elk Neck State Forest	12	25
Elk Neck State Park	20	54
Fair Hill NRMA	14	201
Grove Farm WMA	6	21
Old Bohemia WMA	6	8
Charles		
Blossom Point Field Test Facility	18	28
Cedar Point WMA	13	33
Cedarville State Forest	13	21
Chapel Point State Park	2	14
Chapman Residual	7	15
Chapman State Park	5	29
Chicamuxen WMA	6	8
Doncaster State Forest (Tayloes Neck)	9	24
Indian Creek NRMA	4	0
Indianhead Naval Ordnance Area	23	96
Mattawoman NEA	3	12
Myrtle Grove WMA	19	53
Nanjemoy NRMA	5	11

County/Public Area	Antlered	Antlerless
Dorchester		
Blackwater NWR		
White-tailed	22	33
Sika	122	128
Chesapeake Forest Lands		
White-tailed	40	105
Sika	38	35
Fishing Bay WMA		
White-tailed	8	9
Sika	58	82
LeCompte WMA		
White-tailed	6	13
Sika	4	0
Linkwood WMA		
White-tailed	1	16
Sika	1	0
Taylors Island WMA		
White-tailed	0	2
Sika	5	10
Frederick		
Cunningham Falls SP/Thurmont Watershed	40	64
Emmitsburg Watershed	2	20
Fort Detrick	1	6
Frederick City Watershed	92	212
Heaters Island WMA	2	6
Monocacy NRMA	54	75
South Mountain State Park	15	28

Appendix I -continued-

Statewide Reported Antlered and Antlerless Deer Harvest by Public Hunting Area and County, 2010-2011

County/Public Area	Antlered	Antlerless
Garrett		
4-H Center	5	2
Deep Creek Lake State Park	18	10
Frostburg Watershed	14	7
Garrett State Forest	112	82
Mt. Nebo WMA	39	28
Potomac State Forest	48	42
Savage River State Forest	273	185
Youghiogheny Reservoir	6	4
Harford		
Aberdeen Proving Ground	155	356
Gunpowder State Park	0	40
Rock State Park	6	13
Stoney Forest	3	4
Susquehanna State Park	12	64
Howard		
Howard County Parks & Recreation Hunts	27	162
Hugg-Thomas WMA	11	20
Patapsco State Park	29	116
Patuxent River State Park	74	183
Tridelphia/Rocky Gorge (WSSC)	30	126
Kent		
Eastern Neck NWR	37	40
Millington WMA	35	77
Sassafras NRWA	11	19
Montgomery		
Cherrington Coop.	11	36
McKee-Beshers WMA	42	85
Montgomery Co. M-NCPPC Lands	52	673
Patuxent River State Park	79	139
Seneca Schaeffer Farm	18	40
Seneca Creek State Park	63	207
Strider WMA	8	25
Tridelphia/Rocky Gorge (WSSC)	24	86

County/Public Area	Antlered	Antlerless
Prince George's		
Aquasco Farms Coop.	4	16
Beltsville	32	151
Billingsly Tract (Patuxent River Park)	1	8
Brandywine Receiver Station	15	35
Mill Town Landing NRMA	6	9
Nottingham	4	2
Patuxent WRC (Central & South Tracts)	23	68
Rosaryville State Park	3	9
Spice Creek (Patuxent River) NRMA	6	12
Tridelphia/Rocky Gorge (WSSC)	6	33
Queen Anne's		
Tuckahoe State Park	5	7
Wye Island NRMA	16	36
St. Mary's		
Elm's Coop.	3	10
Greenwell State Park	8	7
Newtowne Neck SP	2	20
Patuxent Naval Air Station	62	110
Point Lookout State Park (Jacobs Prop.)	11	15
St. Inigoes State Forest	7	13
St. Mary's State Park	33	71
Somerset		
Chesapeake Forest Lands	50	105
Deal Island WMA	11	29
Fairmount WMA	2	4
Maryland Marine Properties WMA	3	3
Pocomoke Sound WMA	6	5
South Marsh Island WMA	0	0
Wellington WMA	7	8
Talbot		
Seth State Forest	5	5

County/Public Area	Antlered	Antlerless
Washington		
Fort Frederick State Park	0	18
Greenbrier State Park	32	41
Hagerstown Watershed	15	30
Indian Springs WMA	104	40
MD Correctional Training Center	9	32
Prather's Neck WMA	4	2
Sideling Hill WMA	34	11
South Mountain State Park	40	60
W. Maryland Ag Research Station (B)	4	26
Woodmont	23	3
Wicomico		
Chesapeake Forest Lands		
White-tailed	65	151
Sika	1	1
Ellis Bay WMA		
White-tailed	3	6
Sika	0	1
Johnson WMA	2	2
Nanticoke WMA		
White-tailed	6	23
Sika	1	2
Wetipquin WMA	1	3
Wicomico State Forest	23	36
Worcester		
Assateague National Seashore		
White-tailed	4	10
Sika	36	86
Assateague State Park		
White-tailed	1	0
Sika	6	12
Chesapeake Forest Lands	60	106
E.A. Vaughn WMA	17	51
Hickory Point WMA	0	2
Isle of Wight WMA	2	0
Pocomoke River WMA	5	17
Pocomoke State Forest		
White-tailed	56	110
Sika	0	1



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