

# MARYLAND ANNUAL DEER REPORT 2008-2009



*Wildlife & Heritage  
Service*

## Introduction

The Maryland Department of Natural Resources (DNR) Deer Project is responsible for managing native white-tailed deer and exotic sika deer. The Deer Project utilizes broad-based deer management techniques to meet their diverse goals, which are:

- to ensure the present and future well-being of deer and their habitat;
- maintain deer populations at levels necessary to ensure compatibility with human land uses and natural communities;
- encourage and promote the recreational use and enjoyment of the deer resource; and
- inform and educate Maryland citizens concerning deer biology, management options, and the impacts that deer have on landscapes and people.

During the last couple of decades, the primary focus of the Deer Project has been to slow 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 provinces as they relate to current deer management and biology.

## Maryland Public Attitudes Regarding Deer Management

The majority of the Maryland public recognize 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 deer 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 4,000 hunters annually pursue sika deer for over 20,000 hunter days per year.



Table 1  
Maryland Reported Antlered and Antlerless Deer Harvest for the  
Bow, Firearm, and Muzzleloader Hunting Seasons by County, 2008-2009

COUNTY	BOW			FIREARM			MUZZLELOADER			TOTAL		
	Antlered	Antlerless	Sub Total	Antlered	Antlerless	Sub Total	Antlered	Antlerless	Sub Total	Antlered	Antlerless	Grand Total
Allegany	687	406	1093	1389	1017	2406	506	636	1142	2582	2059	4641
Anne Arundel	453	789	1242	388	852	1240	173	450	623	1014	2091	3105
Baltimore	931	2223	3154	688	1711	2399	333	1130	1463	1952	5064	7016
Calvert	228	307	535	318	542	860	146	291	437	692	1140	1832
Caroline												
White-tailed	196	350	546	400	1063	1463	203	567	770	799	1980	2779
Sika	0	0	0	0	1	1	0	1	1	0	2	2
Carroll	533	783	1316	1054	2003	3057	327	790	1117	1914	3576	5490
Cecil	337	629	966	584	1403	1987	221	512	733	1142	2544	3686
Charles	476	827	1303	812	1459	2271	376	797	1173	1664	3083	4747
Dorchester												
White-tailed	180	289	469	558	1239	1797	196	426	622	934	1954	2888
Sika	177	222	399	442	524	966	377	251	628	996	997	1993
Frederick	731	1022	1753	1541	2951	4492	581	1412	1993	2853	5385	8238
Garrett	716	500	1216	1507	1262	2769	562	688	1250	2785	2450	5235
Harford	444	749	1193	499	1048	1547	204	640	844	1147	2437	3854
Aberdeen Proving Ground	56	171	227	77	81	158	11	53	64	144	305	449
Howard	361	765	1126	345	827	1172	151	396	547	857	1988	2845
Kent	279	444	723	610	1376	1986	248	594	842	1137	2414	3551
Montgomery	632	1331	1963	665	1537	2202	283	715	998	1580	3583	5163
Prince George's	355	611	966	433	842	1275	221	434	655	1009	1887	2896
Queen Anne's	332	491	823	617	1550	2167	292	726	1018	1241	2767	4008
St. Mary's	369	521	890	516	890	1406	226	532	758	1111	1943	3054
Somerset												
White-tailed	151	258	409	477	1263	1740	158	374	532	786	1895	2681
Sika	0	0	0	1	3	4	0	1	1	1	4	5
Talbot	219	425	644	476	1338	1814	167	545	712	862	2308	3170
Washington	805	1389	2194	1753	3254	5007	571	1455	2026	3129	6098	9227
Wicomico												
White-tailed	227	329	556	621	1585	2206	186	562	748	1034	2476	3510
Sika	8	8	16	11	12	23	19	8	27	38	28	66
Worcester												
White-tailed	222	375	597	858	2227	3085	201	580	781	1281	3182	4463
Sika	9	18	27	31	45	76	1	9	10	41	72	113
<b>TOTAL</b>	<b>10114</b>	<b>16232</b>	<b>26346</b>	<b>17671</b>	<b>33905</b>	<b>51576</b>	<b>6940</b>	<b>15575</b>	<b>22515</b>	<b>34725</b>	<b>65712</b>	<b>100437</b>

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 reproductive potential 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.

Sika deer in Maryland appear to be long-lived compared to 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. The Deer Project is currently cooperating with University of Delaware in Dorchester County to study dispersal and movements of juvenile sika stags in relation to survival and range expansion. To date, over 50 yearling stags have been radio-collared and their movements followed. Early results suggest that yearling stags may not disperse until their second year of life and that hunting mortality is relatively low. A companion study is using trail cameras to estimate sika

deer population densities in the area. A full report will be available at the conclusion of the study in 2010. Food habits, timing of reproduction and calf survival are several of the questions intended to be addressed in future studies.

## **2009-2010 Deer Hunting Regulation Changes**

DNR proposes hunting regulation changes biennially. The 2009-2010 season is an off season for changes. However, there was one modification made to current Sunday hunting laws during the 2009 legislative session. Frederick County has adopted Sunday hunting for the first time. Deer hunters hunting on private land in Frederick County will be permitted to hunt deer with a bow on five Sundays and with a firearm on one Sunday beginning with the 2009-2010 season. Additional information can be obtained in the 2009-2010 Guide to Hunting and Trapping that comes with the annual hunting license.

## **2008-2009 Deer Harvest**

Maryland deer hunters harvested a record 100,437 deer in 2008-2009; a 9% increase over the 92,208 deer taken in 2007-2008 (Table 1, Figure 1). The harvest was comprised of 34,725 antlered deer and 65,712 antlerless deer (Figure 2). The antlerless harvest included 55,019 does and 10,693 button bucks. Compared to 2007-2008, the harvest of antlered deer increased 8% while the antlerless harvest increased 10%.

Regulation changes for the 2008-2009 deer season permitted Sunday hunting for the first time on Harford County private lands and expanded Sunday hunting in Washington County. Harford County deer hunters reported taking 34 deer with archery equipment on the one Sunday it was legal, and Harford County firearm hunters reported taking 74 deer on the first Sunday of the two week firearm season (Table 2). In Washington County, bowhunters reported taking 89 deer on the five Sundays that archery hunting was permitted, a significant increase over the 22 deer reported on the previous year's one Sunday (Table 2).

In Region A, the antlerless bag limit is currently three deer, one with each weapon. To further promote the stabilization of the deer population on Region A public lands, a regulation change for the 2008-2009 season limited the total number of antlerless deer that could be taken from public land in Region A to two deer (any combination of the

Figure 1

Maryland Reported Deer Harvest for the Bow, Firearm, and Muzzleloader Seasons, 1999-2008

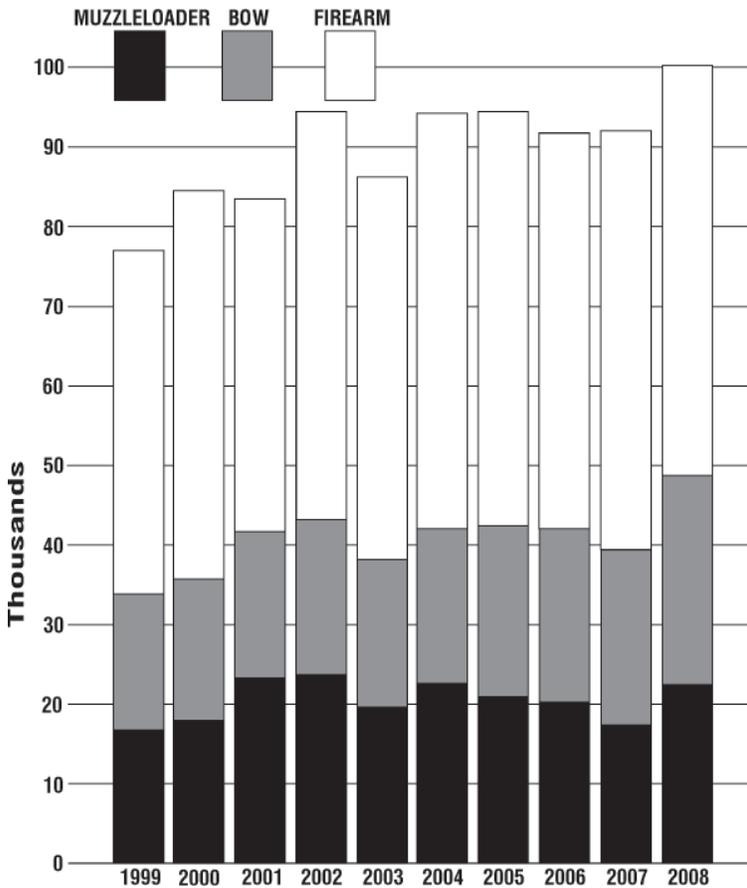


Figure 2

Maryland Reported Antlered and Antlerless Deer Harvest, 1999-2008

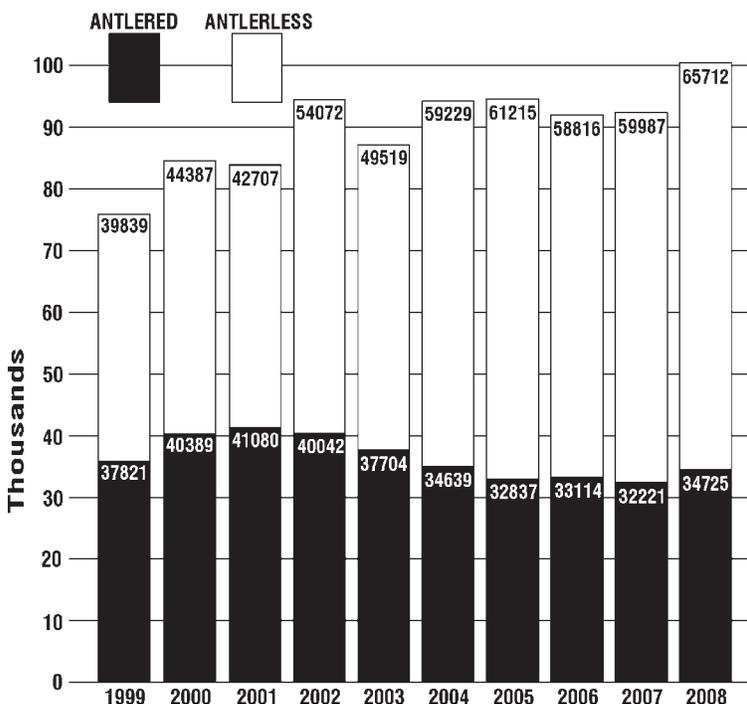


Table 2

Maryland Reported Sunday Hunting Deer Harvest by County, 2008-2009

COUNTY	Bow Season			Firearm Season		
	Antlered	Antlerless	Total	Antlered	Antlerless	Total
Allegany <sup>1</sup>	4	3	7	109	4	113
Anne Arundel <sup>1</sup>	8	13	21	20	35	55
Calvert <sup>1</sup>	8	5	13	15	32	47
Caroline <sup>1</sup>	6	11	17	17	54	71
Cecil <sup>1</sup>	8	8	16	45	85	130
Charles <sup>1</sup>	14	27	41	52	83	135
Dorchester <sup>2</sup>						
White-tailed	11	21	32	47	73	120
Sika	12	12	24	23	39	62
Garrett <sup>1</sup>	6	4	10	113	1	114
Harford <sup>1</sup>	16	18	34	30	44	74
Kent <sup>1</sup>	11	11	22	31	64	95
Montgomery <sup>1</sup>	12	27	39	29	69	98
Queen Anne's <sup>1</sup>	23	5	28	36	92	128
St. Mary's <sup>2</sup>	25	31	56	24	44	68
Somerset <sup>2</sup>	11	15	26	27	95	122
Talbot <sup>1</sup>	2	9	11	19	71	90
Washington <sup>2</sup>	30	59	89	77	163	240
Wicomico <sup>2</sup>						
White-tailed	11	21	32	41	102	143
Sika	1	0	1	0	0	0
Worcester <sup>2</sup>						
White-tailed	21	37	58	59	144	203
Sika	0	0	0	1	0	1
<b>TOTAL</b>	<b>240</b>	<b>337</b>	<b>577</b>	<b>815</b>	<b>1294</b>	<b>2109</b>

<sup>1</sup> Bow season was open on Sunday November 2, 2008. Firearm season was open on Sunday November 30, 2008.

<sup>2</sup> Bow season was open on Sundays October 12, October 19, October 26, November 2, and November 9, 2008. Firearm season was open on Sunday November 30, 2008.

archery, muzzleloader, or firearm bag limits of one antlerless deer per weapon). The antlerless harvest on Region A public land decreased 3% from 924 deer in 2007-2008 to 899 deer in 2008-2009. The antlerless harvest on private land in Region A increased 26% from 2,872 deer in 2007-2008 to 3,610 deer in 2008-2009. The large increase can be partly attributed to a regulation change that added an additional antlerless hunting day in the firearm season on private land (see Firearm Season, page 6).

### Bow Season

Bow season in Maryland typically opens September 15 and closes January 31. In 2008-2009, approximately 51,300 residents and 7,400 non-

residents purchased a bow stamp to archery hunt for deer, an increase of approximately 5% over the previous year. The average Maryland bowhunter typically hunts for about 13 days each season and approximately 35% of bowhunters take one deer or more each year.

Crossbows were permitted during the entire archery season in the suburban archery zone for the first time in 2008-2009. The total crossbow harvest in the suburban zone increased 84% from 1,196 deer in 2007-2008 to 2,203 deer in 2008-2009 (Table 3). In the remainder of the state, the total crossbow harvest increased 19% from 2,389 deer in 2007-2008 to 2,851 deer in 2008-2009.

Also in 2008-2009:

- Archers reported taking 26,346 deer compared to 22,064 in 2007-2008, an increase of 19% (Table 1).
- There were 10,114 antlered deer (38%) and 16,232 antlerless deer harvested with vertical and crossbows.
- The antlered harvest increased 21% and the antlerless harvest (14,169 does and 2,063 button bucks) increased 18% over the previous year.
- Crossbow hunters took 892 antlered deer and 1,835 antlerless deer during the crossbow season (Table 3).
- Eighty-five percent of the archery harvest came from private lands.
- Bowhunters took 577 deer (240 antlered, 337 antlerless) on Sundays open to bowhunting on private land across 18 counties (Table 2).

## 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 58,000 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 49% of firearm hunters bag at least one deer each year.

Changes to firearm season regulations in 2008-2009 afforded private landowners in Region A an additional day to hunt antlerless deer. The antlerless firearm harvest on private lands in Region A increased from 1,314 deer in 2007-2008 to 1,747 deer in 2008-2009; a 33% increase.

Also in 2008-2009:

- Firearm hunters statewide harvested 51,576 deer compared to 52,796 deer in 2007-2008, a decrease of 2% (Table 1).

Table 3  
Maryland Reported Crossbow Deer Harvest  
by County, 2008-2009

COUNTY	Crossbow Season <sup>1</sup>			All Other Times <sup>2</sup>			Grand Total
	Antlered	Antlerless	Total	Antlered	Antlerless	Total	
Allegany	25	32	57	86	60	146	203
Anne Arundel	106	183	289	5	31	36	325
Baltimore	203	465	668	17	78	95	763
Calvert	9	19	28	30	38	68	96
Caroline	4	15	19	11	25	36	55
Carroll	12	26	38	53	80	133	171
Cecil	8	22	30	44	79	123	153
Charles	12	61	73	51	109	160	233
Dorchester							
White-tailed	7	10	17	24	34	58	75
Sika	14	20	34	10	14	24	58
Frederick	22	60	82	84	96	180	262
Garrett	27	31	58	100	50	150	208
Harford	15	57	72	70	102	172	244
Aberdeen Proving Ground	1	6	7	8	15	23	30
Howard	83	174	257	6	28	34	291
Kent	9	17	26	22	41	63	89
Montgomery	155	307	462	25	71	96	558
Prince George's	86	159	245	4	17	21	266
Queen Anne's	5	17	22	28	47	75	97
St. Mary's	14	20	34	36	52	88	122
Somerset	5	10	15	22	38	60	75
Talbot	8	19	27	24	52	76	103
Washington	46	82	128	110	163	273	401
Wicomico							
White-tailed	5	6	11	30	45	75	86
Sika	1	0	1	1	0	1	2
Worcester							
White-tailed	9	15	24	23	34	57	81
Sika	1	2	3	1	3	4	7
<b>TOTAL</b>	<b>892</b>	<b>1835</b>	<b>2727</b>	<b>925</b>	<b>1402</b>	<b>2327</b>	<b>5054</b>

<sup>1</sup> Crossbow season was September 15, 2008 - January 31, 2009 in Anne Arundel, Baltimore, Howard, Montgomery, and Prince George's counties. Crossbow season was October 1-15, 2008 and January 15-31, 2009 in all other counties.

<sup>2</sup> All other times include deer taken by disabled hunters with crossbow permits, 65 or older hunters permitted to use a crossbow anytime, and deer taken with a crossbow during the muzzleloader and firearm seasons.

- There were 17,671 antlered deer (34%) and 33,905 antlerless deer harvested with firearms.
- The antlered harvest decreased 4% and the antlerless harvest (27,712 does and 6,193 button bucks) decreased 1% over the previous year.
- The majority (87%) of the firearm season harvest occurs during the 2-week season that begins the Saturday after Thanksgiving (Table 4).

Table 4  
Maryland Reported 2-Week Firearm Season Deer  
Harvest by County, 2008-2009

COUNTY	Antlered	Antlerless	Total
<b>Allegany</b>	<b>1322</b>	<b>950</b>	<b>2272</b>
<b>Anne Arundel</b>	<b>352</b>	<b>763</b>	<b>1115</b>
<b>Baltimore</b>	<b>601</b>	<b>1435</b>	<b>2036</b>
<b>Calvert</b>	<b>296</b>	<b>485</b>	<b>781</b>
<b>Caroline</b>			
<b>White-tailed</b>	<b>361</b>	<b>941</b>	<b>1302</b>
<b>Sika</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>Carroll</b>	<b>931</b>	<b>1719</b>	<b>2650</b>
<b>Cecil</b>	<b>516</b>	<b>1100</b>	<b>1616</b>
<b>Charles</b>	<b>714</b>	<b>1266</b>	<b>1980</b>
<b>Dorchester</b>			
<b>White-tailed</b>	<b>488</b>	<b>1105</b>	<b>1593</b>
<b>Sika</b>	<b>437</b>	<b>514</b>	<b>951</b>
<b>Frederick</b>	<b>1387</b>	<b>2588</b>	<b>3975</b>
<b>Garrett</b>	<b>1370</b>	<b>1175</b>	<b>2545</b>
<b>Harford</b>	<b>449</b>	<b>901</b>	<b>1350</b>
<b>Aberdeen Proving Ground</b>	<b>5</b>	<b>23</b>	<b>28</b>
<b>Howard</b>	<b>248</b>	<b>576</b>	<b>824</b>
<b>Kent</b>	<b>519</b>	<b>1165</b>	<b>1684</b>
<b>Montgomery</b>	<b>539</b>	<b>1062</b>	<b>1601</b>
<b>Prince George's</b>	<b>389</b>	<b>686</b>	<b>1075</b>
<b>Queen Anne's</b>	<b>551</b>	<b>1374</b>	<b>1925</b>
<b>St. Mary's</b>	<b>481</b>	<b>810</b>	<b>1291</b>
<b>Somerset</b>			
<b>White-tailed</b>	<b>386</b>	<b>1085</b>	<b>1471</b>
<b>Sika</b>	<b>1</b>	<b>3</b>	<b>4</b>
<b>Talbot</b>	<b>435</b>	<b>1194</b>	<b>1629</b>
<b>Washington</b>	<b>1609</b>	<b>2894</b>	<b>4503</b>
<b>Wicomico</b>			
<b>White-tailed</b>	<b>530</b>	<b>1359</b>	<b>1889</b>
<b>Sika</b>	<b>11</b>	<b>11</b>	<b>22</b>
<b>Worcester</b>			
<b>White-tailed</b>	<b>737</b>	<b>1923</b>	<b>2660</b>
<b>Sika</b>	<b>23</b>	<b>41</b>	<b>64</b>
<b>TOTAL</b>	<b>15688</b>	<b>29149</b>	<b>44837</b>

- Firearm hunters took 51% of all deer harvested in Maryland compared to 57% last season. (Figure 1).
- The majority (88%) of the firearm harvest was taken on private property.
- Firearm hunters bagged 2,109 deer (815 antlered and 1,294 antlerless) on Sunday, November 30, 2008 across private lands in 18 counties (Table 2). Poor weather contributed to the 43% decline when compared to the 2007-2008 Sunday harvest of 3,702 deer.
- Junior deer hunters bagged 1,527 deer (911 antlered and 616 antlerless) on the Junior Hunt day held November 15, 2008 (Table 5). Poor weather caused a 31% decline in the junior harvest compared to the 2,211 deer harvested in 2007-2008.
- The 2-day January firearm season in Region B was held on January 9 and 10, 2009. Hunters took 4,160 deer, and 80% of the harvest was antlerless deer (Table 6).

### Muzzleloader Season

The 2008-2009 statewide, either-sex muzzleloader season included three days in October (October 16 - 18) and two weeks during late December and early January (December 20 - January 3). Region B continued with a six day antlerless-only muzzleloader season (October 20 - 25) to provide for additional deer population management through antlerless deer harvest.

Resident and non-resident hunters purchased approximately 60,300 and 7,900 muzzleloader stamps, respectively, an increase of approximately 1% over the previous year. The stamps are required to hunt deer with a muzzleloader or to hunt deer with a bow during the muzzleloader season. Maryland muzzleloader hunters pursue deer for about 2.8 days per hunter during the October season and for about 3.5 days in the late two week season. Approximately 30% of blackpowder hunters are successful in harvesting at least one deer.

Also in 2008-2009:

- The muzzleloader harvest totaled 22,515 deer compared to 17,348 in 2007-2008, an increase of 30% (Table 1).
- There were 6,940 antlered deer (31%) and 15,575 antlerless deer harvested with muzzleloaders.
- The antlered harvest increased 27% and the antlerless harvest (13,138 does and 2,437 button bucks) increased 31% over the previous year.
- The October muzzleloader harvest totaled 13,435 deer (4,796 antlered and 8,639 antlerless), a 38% increase over the previous year's harvest of 9,734 deer (Table 7).

Table 5  
 Maryland Reported Junior Day Deer Harvest  
 by County, 2008-2009

COUNTY	Antlered	Antlerless	Total
<b>Allegany</b>	67	67	134
Anne Arundel	12	5	17
<b>Baltimore</b>	42	18	60
<b>Calvert</b>	6	5	11
<b>Caroline</b>	19	12	31
<b>Carroll</b>	69	31	100
<b>Cecil</b>	22	24	46
<b>Charles</b>	32	15	47
<b>Dorchester</b>			
White-tailed	31	33	64
<b>Sika</b>	4	10	14
<b>Frederick</b>	86	50	136
<b>Garrett</b>	137	87	224
<b>Harford</b>	13	8	21
Aberdeen Proving Ground	1	2	3
<b>Howard</b>	16	8	24
<b>Kent</b>	20	12	32
<b>Montgomery</b>	25	16	41
<b>Prince George's</b>	8	5	13
<b>Queen Anne's</b>	32	15	47
<b>St. Mary's</b>	6	10	16
<b>Somerset</b>	42	24	66
<b>Talbot</b>	16	16	32
<b>Washington</b>	97	50	147
<b>Wicomico</b>			
White-tailed	43	45	88
<b>Sika</b>	0	1	1
<b>Worcester</b>	65	47	112
<b>TOTAL</b>	<b>911</b>	<b>616</b>	<b>1527</b>

Table 6  
 Maryland Reported 2-Day January Firearm Season  
 Deer Harvest by County, 2008-2009

COUNTY	Antlered	Antlerless	Total
<b>Anne Arundel</b>	22	75	97
<b>Baltimore</b>	44	193	237
<b>Calvert</b>	16	52	68
<b>Caroline</b>	20	110	130
<b>Carroll</b>	54	253	307
<b>Cecil</b>	42	165	207
<b>Charles</b>	61	151	212
<b>Dorchester</b>	38	100	138
<b>Frederick</b>	68	313	381
<b>Harford</b>	36	115	151
Aberdeen Proving Ground	2	5	7
<b>Howard</b>	21	79	100
<b>Kent</b>	29	176	205
<b>Montgomery</b>	52	178	230
<b>Prince George's</b>	30	115	145
<b>Queen Anne's</b>	34	160	194
<b>St. Mary's</b>	26	70	96
<b>Somerset</b>	49	154	203
<b>Talbot</b>	25	128	153
<b>Washington</b>	47	310	357
<b>Wicomico</b>	48	181	229
<b>Worcester</b>	56	257	313
<b>TOTAL</b>	<b>820</b>	<b>3340</b>	<b>4160</b>

Table 7  
Maryland Reported Early Muzzleloader Season  
Deer Harvest by County, 2008-2009

COUNTY	Antlered	Antlerless	Total
<b>Allegany</b>	<b>398</b>	<b>217</b>	<b>615</b>
<b>Anne Arundel</b>	<b>92</b>	<b>236</b>	<b>328</b>
<b>Baltimore</b>	<b>202</b>	<b>618</b>	<b>820</b>
<b>Calvert</b>	<b>106</b>	<b>164</b>	<b>270</b>
<b>Caroline</b>			
<b>White-tailed</b>	<b>124</b>	<b>354</b>	<b>478</b>
<b>Sika</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>Carroll</b>	<b>246</b>	<b>412</b>	<b>658</b>
<b>Cecil</b>	<b>135</b>	<b>314</b>	<b>449</b>
<b>Charles</b>	<b>198</b>	<b>444</b>	<b>642</b>
<b>Dorchester</b>			
<b>White-tailed</b>	<b>157</b>	<b>281</b>	<b>438</b>
<b>Sika</b>	<b>300</b>	<b>140</b>	<b>440</b>
<b>Frederick</b>	<b>382</b>	<b>759</b>	<b>1141</b>
<b>Garrett</b>	<b>480</b>	<b>267</b>	<b>747</b>
<b>Harford</b>	<b>123</b>	<b>354</b>	<b>477</b>
<b>Aberdeen Proving Ground</b>	<b>8</b>	<b>39</b>	<b>47</b>
<b>Howard</b>	<b>91</b>	<b>209</b>	<b>300</b>
<b>Kent</b>	<b>177</b>	<b>335</b>	<b>512</b>
<b>Montgomery</b>	<b>148</b>	<b>354</b>	<b>502</b>
<b>Prince George's</b>	<b>124</b>	<b>236</b>	<b>360</b>
<b>Queen Anne's</b>	<b>198</b>	<b>409</b>	<b>607</b>
<b>St. Mary's</b>	<b>146</b>	<b>319</b>	<b>465</b>
<b>Somerset</b>			
<b>White-tailed</b>	<b>124</b>	<b>230</b>	<b>354</b>
<b>Sika</b>	<b>0</b>	<b>1</b>	<b>1</b>
<b>Talbot</b>	<b>117</b>	<b>285</b>	<b>402</b>
<b>Washington</b>	<b>442</b>	<b>913</b>	<b>1355</b>
<b>Wicomico</b>			
<b>White-tailed</b>	<b>118</b>	<b>354</b>	<b>472</b>
<b>Sika</b>	<b>14</b>	<b>5</b>	<b>19</b>
<b>Worcester</b>			
<b>White-tailed</b>	<b>145</b>	<b>380</b>	<b>525</b>
<b>Sika</b>	<b>1</b>	<b>9</b>	<b>10</b>
<b>TOTAL</b>	<b>4796</b>	<b>8639</b>	<b>13435</b>

Table 8  
Maryland Reported Late Muzzleloader Season  
Deer Harvest by County, 2008-2009

COUNTY	Antlered	Antlerless	Total
<b>Allegany</b>	<b>108</b>	<b>419</b>	<b>527</b>
<b>Anne Arundel</b>	<b>81</b>	<b>214</b>	<b>295</b>
<b>Baltimore</b>	<b>131</b>	<b>512</b>	<b>643</b>
<b>Calvert</b>	<b>40</b>	<b>127</b>	<b>167</b>
<b>Caroline</b>	<b>79</b>	<b>213</b>	<b>292</b>
<b>Carroll</b>	<b>81</b>	<b>378</b>	<b>459</b>
<b>Cecil</b>	<b>86</b>	<b>198</b>	<b>284</b>
<b>Charles</b>	<b>178</b>	<b>353</b>	<b>531</b>
<b>Dorchester</b>			
<b>White-tailed</b>	<b>39</b>	<b>145</b>	<b>184</b>
<b>Sika</b>	<b>77</b>	<b>111</b>	<b>188</b>
<b>Frederick</b>	<b>199</b>	<b>653</b>	<b>852</b>
<b>Garrett</b>	<b>82</b>	<b>421</b>	<b>503</b>
<b>Harford</b>	<b>81</b>	<b>286</b>	<b>367</b>
<b>Aberdeen Proving Ground</b>	<b>3</b>	<b>14</b>	<b>17</b>
<b>Howard</b>	<b>60</b>	<b>187</b>	<b>247</b>
<b>Kent</b>	<b>71</b>	<b>259</b>	<b>330</b>
<b>Montgomery</b>	<b>135</b>	<b>361</b>	<b>496</b>
<b>Prince George's</b>	<b>97</b>	<b>198</b>	<b>295</b>
<b>Queen Anne's</b>	<b>94</b>	<b>317</b>	<b>411</b>
<b>St. Mary's</b>	<b>80</b>	<b>213</b>	<b>293</b>
<b>Somerset</b>	<b>34</b>	<b>144</b>	<b>178</b>
<b>Talbot</b>	<b>50</b>	<b>260</b>	<b>310</b>
<b>Washington</b>	<b>129</b>	<b>542</b>	<b>671</b>
<b>Wicomico</b>			
<b>White-tailed</b>	<b>68</b>	<b>208</b>	<b>276</b>
<b>Sika</b>	<b>5</b>	<b>3</b>	<b>8</b>
<b>Worcester</b>	<b>56</b>	<b>200</b>	<b>256</b>
<b>TOTAL</b>	<b>2144</b>	<b>6936</b>	<b>9080</b>

- The December muzzleloader harvest totaled 9,080 deer (2,144 antlered and 6,936 antlerless), a 19% 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 90% 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 Deer Project began revising the 10-year plan in 2007 and will complete the process during the summer of 2009. Through April 2009, two stakeholder meetings and seven public meetings were held and public comments were solicited online. An extensive phone survey of 400 Maryland hunters, 400 Maryland general public, and 400 Maryland landowners was conducted by Responsive Management, Inc. to gauge public opinion about deer and deer management. The new plan has been written and reviewed by DNR staff, the Wildlife Advisory Commission (WAC), and outside reviewers. The plan will be provided to the stakeholder group for final review in May of 2009 after which it will be posted on the DNR website for public comment. The final plan will be adopted during the summer of 2009.

### Deer Research and Data Use

In 2008-2009, 4,757 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.

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 pro-

Table 9  
Maryland Yearling Buck (1 1/2 Year Old) Vital Statistics  
by County, 2008-2009

COUNTY	% Yearling Bucks	Average Points	Average Beam Diameter (mm)
<b>Allegany</b>	<b>78</b>	<b>4.7</b>	<b>20.2</b>
<b>Anne Arundel</b>	<b>56</b>	<b>4.0</b>	<b>19.0</b>
<b>Baltimore</b>	<b>53</b>	<b>3.4</b>	<b>18.7</b>
<b>Calvert</b>	<b>50</b>	<b>4.4</b>	<b>20.4</b>
<b>Caroline</b>	<b>72</b>	<b>4.0</b>	<b>20.1</b>
<b>Carroll</b>	<b>63</b>	<b>4.8</b>	<b>20.1</b>
<b>Cecil</b>	<b>56</b>	<b>4.8</b>	<b>20.2</b>
<b>Charles</b>	<b>58</b>	<b>4.1</b>	<b>17.8</b>
<b>Dorchester</b>	<b>59</b>	<b>4.8</b>	<b>20.3</b>
<b>Frederick</b>	<b>75</b>	<b>5.0</b>	<b>20.8</b>
<b>Garrett</b>	<b>77</b>	<b>4.8</b>	<b>20.3</b>
<b>Harford</b>	<b>65</b>	<b>4.8</b>	<b>20.8</b>
<b>Howard</b>	<b>63</b>	<b>3.8</b>	<b>18.9</b>
<b>Kent</b>	<b>47</b>	<b>4.6</b>	<b>19.7</b>
<b>Montgomery</b>	<b>63</b>	<b>5.0</b>	<b>20.2</b>
<b>Prince George's</b>	<b>57</b>	<b>4.0</b>	<b>18.1</b>
<b>Queen Anne's</b>	<b>56</b>	<b>5.2</b>	<b>21.3</b>
<b>St. Mary's</b>	<b>44</b>	<b>3.9</b>	<b>20.1</b>
<b>Somerset</b>	<b>54</b>	<b>4.4</b>	<b>18.7</b>
<b>Talbot</b>	<b>68</b>	<b>4.4</b>	<b>19.4</b>
<b>Washington</b>	<b>72</b>	<b>4.0</b>	<b>18.6</b>
<b>Wicomico</b>	<b>60</b>	<b>3.7</b>	<b>16.3</b>
<b>Worcester</b>	<b>50</b>	<b>3.8</b>	<b>17.6</b>

portions 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 over-population and habitat degradation. Overall, Maryland's long-term data for these

indicators show healthy, productive deer populations across the state (Table 9).

For the first time in 2008-2009, DNR staff collected outside antler spread measurements for yearling and adult white-tailed deer. Preliminary results reveal that 94% of yearling male deer in Maryland have maximum outside antler spreads of less than 14 inches. Conversely, 78% of adult (2.5+ years) male white-tailed deer in Maryland have outside antler spreads 14 inches or greater. Staff will continue to collect antler spread measurements in coming years to evaluate long term trends. These data will be useful in the future if the Department considers implementing antler restriction regulations for quality deer management purposes.

Deer at butcher shops are also examined for evidence of hemorrhagic disease (HD); a viral disease spread by biting midges. 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.

After experiencing a significant outbreak of HD in 2007-2008, very few cases of HD were reported in Maryland in 2008-2009. Likewise, final deer harvest numbers from the 2008-2009 season suggest the 2007-2008 outbreak had little effect on the overall deer population. DNR will continue to monitor for HD in the coming years.

## **CWD Research**

Chronic Wasting Disease (CWD) is a disease of the central nervous system that causes death in cervids (deer, moose, and elk). CWD has historically been a disease of the western United States, although it is now found east of the Mississippi River in Wisconsin, Illinois, New York and West Virginia. Since 2002, over 5,600 samples have been collected from Maryland deer and tested for CWD. Nearly 1,000 samples were collected for CWD in 2008. To date, CWD has not been detected in any of the samples collected in Maryland. Testing in Maryland is a precautionary measure and proactively monitoring for the disease will allow DNR to respond quickly should it be detected.

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 37 deer with the disease. In response to their discovery, Maryland's Deer Project increased CWD sampling rates in Allegany County and collected samples from hunter-killed deer, road kill deer, and deer taken under Deer Management Permits. A total of 132 samples were collected in Allegany County in 2008.

## **Bowhunter Survey**

The Deer Project, in cooperation with the Furbearer Project, continued the annual Bowhunter Survey in 2007-2008. Unfortunately, a mailing glitch with the vendor resulted in an abnormally low return rate of surveys. Based on the data available, observation rates for the common game species in Maryland followed similar trends to previous years. Statewide, deer observation rates were nearly identical to the 2006-2007 season. Bowhunters reported 15.1 bucks per 100 hours and 38.3 does per 100 hours in 2007-2008, compared to 15.0 bucks per 100 hours and 37.4 does per 100 hours the previous year. Bowhunters reported 2.54 adult does for every one adult buck and 0.69 fawns for every one adult doe in 2007-2008. Also, monthly observation rates and trends while using or not using lures and cover scents followed similar patterns to previous years.

The Bowhunter Survey provides observational data about furbearers, deer and other wildlife. Each year, a random sample of 10,000 to 20,000 bowhunters are sent the survey and asked to participate. 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 don't receive a survey but would like to participate, contact Brent Evans at 443-786-3656 or [bevans@dnr.state.md.us](mailto:bevans@dnr.state.md.us). Forms are also available on the DNR website at <http://www.dnr.maryland.gov>.

## **DNR and Maryland Counties Cooperative Deer Management**

Since 1994, Maryland DNR has promoted deer management cooperative relationships with Maryland counties. Montgomery County and Howard County both developed their own deer management programs that are staffed by professionals. Maryland DNR works closely with both counties regard-

ing the evolution of countywide deer management efforts. Both counties have implemented nonlethal and lethal deer management programs while maintaining public support and DNR cooperative advice and guidance. Maryland DNR staff participate in county deer management workshops, review and advise on county deer management plans and issue appropriate state permits for deer management activities.

The Deer Project is currently working with Baltimore County and City officials who are in the early stages of implementing a deer management plan. The two entities recently cooperated to permit limited public bow hunting on a section of the City-owned Loch Raven Watershed property. Under a cooperative agreement with Maryland DNR, Baltimore City permitted bowhunters to hunt deer on a 1,600 acre section of the watershed. Hunters removed 184 deer from the Loch Raven bowhunting area during the 2008-2009 hunting season. City and County officials also collaborated in an effort to remove deer from two sections of the watershed where hunting is prohibited. They enlisted a licensed Maryland Deer Cooperator to remove deer from the Loch Raven Golf Course and Trap & Skeet Range. This operation removed 212 deer from the Loch Raven Golf Course and Trap & Skeet Range using trained sharpshooters.

Maryland DNR encourages other counties to follow the lead of Montgomery, Howard, and Baltimore County and Baltimore City to develop a deer management cooperative relationship with the Deer Project. Interested county staff 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 with different opinions on deer management issues. This includes the large suburban corridor in the midsection of the state.

Maryland is developing rapidly with an increasing human population. Conversion of forested and agricultural lands into housing developments improves habitat conditions for deer. Developed areas experience improved deer survival and population increases. More deer lead to a greater number of negative interactions with suburban residents, decreasing their tolerance of deer.

Safety concerns and social considerations in urban areas often prevent the use of many lethal deer population control measures. Non-lethal control measures can help reduce deer problems but they do not eliminate them. They also do not address the impacts that result from high deer numbers. Increased deer-vehicle collisions, damage to ornamental plants and gardens, and damage to natural habitat are some problems that will often continue if the deer numbers in an area are not reduced.

Non-lethal methods can help reduce some of the damage that deer cause and serve to increase public tolerance of deer. When public tolerance levels have been surpassed, lethal methods are often considered. Certain lethal methods can be applied to decrease the numbers of deer in suburban areas and reduce deer problems.

Some deer management techniques are more effective than others at resolving deer-human conflicts. No single method can completely resolve all deer problems. Some are applicable only in certain situations. Often, a combination of non-lethal and lethal techniques is applied to help resolve deer problems, particularly in suburban areas. The Deer Project will continue to evaluate new techniques for their effectiveness and suggest proven methods to 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: [www.dnr.state.md.us/wildlife/ddmtintro.asp](http://www.dnr.state.md.us/wildlife/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 1 (pages 19 and 20) shows the total deer taken on Maryland public lands during the 2008-2009 hunting seasons.

### Deer Population

Maryland's deer population prior to the 2008-2009 hunting season was estimated at 229,000 deer, nearly identical to the 2007-2008 estimate of 228,000. 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.

### Deer-Vehicle Collisions

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, a major insurance company also estimates total deer vehicle collisions based on its share of the insurance business for each state and the number of accidents

Table 10  
Maryland Reported Deer Vehicular Mortality by County, 2008 <sup>1</sup>

COUNTY	Male	Female	Unknown	Total
<b>Allegany</b>	<b>200</b>	<b>313</b>	<b>85</b>	<b>598</b>
<b>Anne Arundel</b>	<b>61</b>	<b>48</b>	<b>231</b>	<b>340</b>
<b>Baltimore</b>	<b>205</b>	<b>244</b>	<b>1187</b>	<b>1636</b>
<b>Calvert</b>	<b>124</b>	<b>58</b>	<b>0</b>	<b>182</b>
<b>Caroline</b>	<b>44</b>	<b>66</b>	<b>12</b>	<b>122</b>
<b>Carroll</b>	<b>306</b>	<b>375</b>	<b>86</b>	<b>767</b>
<b>Cecil</b>	<b>48</b>	<b>75</b>	<b>0</b>	<b>123</b>
<b>Charles</b>	<b>10</b>	<b>2</b>	<b>332</b>	<b>344</b>
<b>Dorchester</b>	<b>49</b>	<b>45</b>	<b>12</b>	<b>106</b>
<b>Frederick</b>	<b>422</b>	<b>694</b>	<b>495</b>	<b>1611</b>
<b>Garrett</b>	<b>176</b>	<b>302</b>	<b>31</b>	<b>509</b>
<b>Harford</b>	<b>169</b>	<b>329</b>	<b>62</b>	<b>560</b>
<b>Howard</b>	<b>428</b>	<b>606</b>	<b>102</b>	<b>1136</b>
<b>Kent</b>	<b>23</b>	<b>30</b>	<b>9</b>	<b>62</b>
<b>Montgomery</b>	<b>2</b>	<b>12</b>	<b>1</b>	<b>15</b>
<b>Prince George's</b>	<b>112</b>	<b>18</b>	<b>822</b>	<b>952</b>
<b>Queen Anne's</b>	<b>43</b>	<b>17</b>	<b>19</b>	<b>79</b>
<b>St. Mary's</b>	<b>184</b>	<b>186</b>	<b>0</b>	<b>370</b>
<b>Somerset</b>	<b>26</b>	<b>18</b>	<b>1</b>	<b>45</b>
<b>Talbot</b>	<b>98</b>	<b>82</b>	<b>28</b>	<b>208</b>
<b>Washington</b>	<b>207</b>	<b>197</b>	<b>126</b>	<b>530</b>
<b>Wicomico</b>	<b>14</b>	<b>9</b>	<b>15</b>	<b>38</b>
<b>Worcester</b>	<b>0</b>	<b>2</b>	<b>26</b>	<b>28</b>
<b>TOTAL</b>	<b>2951</b>	<b>3728</b>	<b>3682</b>	<b>10361</b>

<sup>1</sup> 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, 2008

COUNTY	Male	Female	Total
<b>Allegany</b>	<b>28</b>	<b>268</b>	<b>296</b>
<b>Anne Arundel</b>	<b>25</b>	<b>99</b>	<b>124</b>
<b>Baltimore</b>	<b>76</b>	<b>415</b>	<b>491</b>
<b>Calvert</b>	<b>11</b>	<b>47</b>	<b>58</b>
<b>Caroline</b>	<b>13</b>	<b>94</b>	<b>107</b>
<b>Carroll</b>	<b>60</b>	<b>462</b>	<b>522</b>
<b>Cecil</b>	<b>76</b>	<b>111</b>	<b>187</b>
<b>Charles</b>	<b>31</b>	<b>197</b>	<b>228</b>
<b>Dorchester</b>	<b>32</b>	<b>157</b>	<b>189</b>
<b>Frederick</b>	<b>54</b>	<b>430</b>	<b>484</b>
<b>Garrett</b>	<b>101</b>	<b>586</b>	<b>687</b>
<b>Harford</b>	<b>20</b>	<b>119</b>	<b>139</b>
<b>Howard</b>	<b>14</b>	<b>206</b>	<b>220</b>
<b>Kent</b>	<b>31</b>	<b>64</b>	<b>95</b>
<b>Montgomery</b>	<b>45</b>	<b>231</b>	<b>276</b>
<b>Prince George's</b>	<b>58</b>	<b>235</b>	<b>293</b>
<b>Queen Anne's</b>	<b>22</b>	<b>63</b>	<b>85</b>
<b>Somerset</b>	<b>30</b>	<b>280</b>	<b>310</b>
<b>St. Mary's</b>	<b>51</b>	<b>277</b>	<b>328</b>
<b>Talbot</b>	<b>46</b>	<b>179</b>	<b>225</b>
<b>Washington</b>	<b>44</b>	<b>259</b>	<b>303</b>
<b>Wicomico</b>	<b>42</b>	<b>236</b>	<b>278</b>
<b>Worcester</b>	<b>67</b>	<b>438</b>	<b>505</b>
<b>Other</b>	<b>86</b>	<b>206</b>	<b>292</b>
<b>TOTAL</b>	<b>1063</b>	<b>5659</b>	<b>6722</b>

reported by their clients. They estimate there have been approximately 25,000 deer-vehicle collisions in Maryland during each of the last six years.

## Deer Management Permits

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 2008, 6,722 deer were taken with DMPs compared to 5,612 deer in 2006 (Table 11), an increase of about 20%. 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.

## Sharp Shooting

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 2008, 609 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.

## Predation

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 2008 Maryland Trophy Deer Contest for bucks taken in the 2006-2007 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 and both white-tailed and sika entries are accepted. The results of the 2008 contest are listed on the following pages.

The 2009 Maryland Trophy Deer Contest for deer taken during the 2007-2008 hunting seasons will be held at the same location, on August 15 and 16, 2009. All entries must be present at the contest.

## Maryland All Time Trophy Records

Maryland's best white-tailed deer with typical antlers came from Kent County. It measured 194 0/8 and was bagged during firearm season in November 2002 by Kevin C. Miller. The best non-typical antlered white-tailed deer totaled 268 1/8, which Billy Crutchfield, Jr bagged in Charles County during the firearm season in December 2007. The Crutchfield buck bested the previous Maryland record non-typical buck, taken in 1987, by nearly 40 Boone &

Crockett points. The record non-typical buck taken by Jack Poole reigned as the state record for twenty years. Jack Pool took this unique buck in Montgomery County during firearm season in November 1987.

The best typical white-tailed deer taken with archery equipment came from Talbot County and measured 183 3/8. Petey Councell bagged it on November 11, 1994. Yates Clagett took the best non-typical white-tailed deer with archery equipment in Prince George's County. It measured 220 2/8 and was harvested on November 5, 1995.

The best typical white-tailed deer taken with a muzzleloader measured 178 6/8. It was taken by John Gweazdowski in Baltimore County on January 2, 1994. Greg Glos bagged the best non-typical taken with a muzzleloader on October 19, 2006. Greg took the deer in Dorchester County and it totaled 200 4/8.

The best typical whitetail crossbow record was taken by Glen Brown on November 30, 2005. It scored 155 7/8. The best nontypical whitetail crossbow scored 170 1/8, which was taken by Carl J. Wehner on November 16, 2000.

All top sika deer were taken in Dorchester County. A sika firearm harvest taken by James Howdyshell on November 30, 1994 measured 75 7/8. The best sika deer taken with a bow totaled 69 6/8 and was bagged by Lenny Hyre on November 14, 2006. Henry Williams Jr. tagged the best muzzleloader sika harvest on December 19, 1992. This sika deer measured 74 6/8. The best sika taken using crossbow was taken on January 31, 2006 by Denis Witmer.



**Results from the  
2007 MARYLAND TROPHY DEER CONTEST  
FOR THE 2005-2006 DEER HUNTING SEASONS**

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

**White-tailed Deer Firearms Season, Typical Antlers**

<b>Score</b>	<b>County</b>	<b>Name</b>
166 2/8	Cecil	Joseph L. Stabinski
152 1/8*	Charles	Richard Inscoe
150 2/8*	Charles	Mike Myers
148 6/8	St. Mary's	Lawrence Copsey
147 0/8	Montgomery	Basit Sheikh
146 5/8	Charles	Ronald LaValley
143 7/8	Anne Arundel	David Baldwin
138 2/8	Dorchester	Richard Valenzia
133 5/8	Montgomery	Richard Conner
131 4/8*	St. Mary's	Nick Simonds
129 1/8	Anne Arundel	John Ambrose, Sr.
128 7/8	Dorchester	Denis Witmer
127 2/8	Garrett	Ricky Hebb
124 6/8*	Charles	Roland Zeigler
122 7/8*	St. Mary's	Nick Parker
122 4/8	Frederick	Jeffrey S. Brown, Sr.
120 1/8	Frederick	Robert Muir
106 1/8	Anne Arundel	John Ambrose, Sr.

\* Historical

**White-tailed Deer Firearm Season, Non-Typical Antlers**

<b>Score</b>	<b>County</b>	<b>Name</b>
268 1/8	Charles	Bill Crutchfield, Jr.
169 7/8	Worcester	Phillip Millison
163 1/8	Caroline	Joe Memmel, III
146 5/8*	Charles	Carl Smith
140 2/8	Kent	Randy Swain

\* Historical

## White-tailed Deer Bow Season, Typical Antlers

Score	County	Name
170 6/8	Baltimore	Andrew Hacke
162 6/8	Caroline	John Wissman
148 7/8	Charles	Jeff Perry
148 0/8	Cecil	David J. Wunder
146 1/8*	Queen Anne's	Anthony Mattera
145 1/8	St. Mary's	Lawrence Copsey
144 0/8	Montgomery	Donald Christenson
144 0/8	Queen Anne's	Edward Pierce
143 7/8	Anne Arundel	Terrence Beaulac
142 6/8	Montgomery	Shawn Cowart
140 6/8*	Anne Arundel	Ronald Shirk
138 1/8	Harford	Ed Koehnlein
136 6/8	Charles	Donald Burch
136 1/8	Frederick	Mark Cheeks
135 4/8*	Kent	Steve Keithley
133 0/8*	St. Mary's	Tony Loschiavo
132 7/8	Montgomery	Lon Santis
130 6/8	Baltimore	Terry Hale, Jr.
129 7/8	Prince George's	James Cecil
125 4/8**	Allegany	James Twentey
123 6/8	Charles	Nicholas Busco
123 4/8*	Kent	Steve Keithley
122 6/8*	Kent	Steve Keithley
121 0/8**	Baltimore	Robert Savage
120 2/8	Harford	Michael Brusak
118 0/8*	Calvert	Steve Keithley
117 2/8	Frederick	John Tusing
109 2/8	Anne Arundel	Kenny Potter, III
98 3/8	Allegany	Patricia Twentey
Historical * Crossbow**		

## White-tailed Deer Bow Season, Non-Typical Antlers

Score	County	Name
188 7/8*	Charles	Mike Cook
179 4/8	Calvert	Byrne Peake
170 1/8*,**	Harford	Carl J. Wehner
161 4/8	Anne Arundel	Joe Malecki
159 4/8*	Calvert	Steve Keithley
146 5/8	Baltimore	John Tissel
Historical * Crossbow**		

## White-tailed Deer Muzzleloader Season, Typical Antlers

Score	County	Name
154 7/8*	Charles	Billy Stewart
136 5/8*	Charles	Brendon Logalbo
136 3/8*	Calvert	Daniel Jones
136 0/8	Charles	Yancey Costas
134 1/8	Dorchester	Richard Lodgaard
122 1/8*	St. Mary's	Joe Tinsley
111 1/8	Anne Arundel	Wayne Bolander
56 2/8	Charles	Mitchell Costas
Historical*		

## White-tailed Deer Muzzleloader Season, Non-Typical Antlers

Score	County	Name
200 4/8	Dorchester	Greg Glos
180 5/8	Wicomico	George Pagels
161 2/8	Dorchester	Jeffrey Collier
154 2/8	Dorchester	Dennis Witmer

## Sika Deer Firearm Season

Score	County	Name
72 5/8*	Dorchester	David King, Jr.
59 0/8	Dorchester	Nicholas Fornaro
58 7/8	Dorchester	Norman Kamm
57 4/8	Dorchester	Steve McGlannon
53 6/8	Dorchester	Dennis Witmer
Historical*		

## Sika Deer Muzzleloader Season

Score	County	Name
52 6/8	Dorchester	Michael Rose

## Sika Deer Bow Season

Score	County	Name
69 6/8	Dorchester	Lenny Hyre
32 0/8	Dorchester	Richard Lodgaard

Appendix 1

Statewide Reported Antlered and Antlerless Deer Harvest by Public Hunting Area and County, 2008-2009

County/Public Area	Antlered	Antlerless
<b>Allegany</b>		
Belle Grove WMA	4	5
Billmeyer WMA	22	13
Dan's Mountain WMA	134	74
Green Ridge State Forest	464	308
Rocky Gap State Park	19	22
Sideling Hill WMA	33	4
Warrior Mountain WMA	76	77
<b>Anne Arundel</b>		
Davidsonville Receiver Station	1	2
Fort Meade	31	104
Smithsonian	26	129
<b>Baltimore</b>		
Gunpowder State Park	20	115
Gwynnbrook WMA	2	5
Liberty Watershed	26	78
Lock Raven Watershed	46	138
Patapsco State Park	10	56
Pretty Boy Watershed	78	209
Soldiers Delight NEA	4	65
<b>Calvert</b>		
Calvert Cliffs State Park	3	9
Flag Pond Coop.	0	1
Hall Creek	1	2
Huntington Coop. (Kings Landing NRMA)	9	26
<b>Caroline</b>		
Chesapeake Forest Lands	3	1
Idylwild WMA	29	69
Tuckahoe State Park	7	14

County/Public Area	Antlered	Antlerless
<b>Carroll</b>		
Avondale WMA	6	14
Farver CWMA	0	1
Hanover Watershed	14	23
Liberty Watershed	36	93
Maring CWMA	2	4
Morgan Run State Park	6	33
Patapsco State Park	12	45
Raincliffe CWMA	1	6
Sawmill-Speigel Coop.	16	38
Slacks Coop.	2	4
Woodbrook CWMA	6	20
<b>Cecil</b>		
Bainbridge CWMA	8	111
C & D Canal	4	15
Earlville WMA	4	11
Elk Neck State Forest	9	24
Elk Neck State Park	24	50
Fair Hill NRMA	10	146
<b>Charles</b>		
Blossom Point Field Test Facility	9	13
Cedarville State Forest	4	7
Chapel Point State Park	7	13
Chapman Residual	10	21
Chapman State Park	0	13
Chicamuxen WMA	5	11
Doncaster State Forest (Tayloes Neck)	12	18
Indian Creek NRMA	7	3
Indianhead Naval Ordinance Area	8	89
Mattawoman NEA	1	11
Myrtle Grove WMA	18	47
Nanjemoy NRMA	6	12

County/Public Area	Antlered	Antlerless
<b>Dorchester</b>		
Blackwater NWR		
White-tailed	31	25
Sika	129	113
Chesapeake Forest Lands		
White-tailed	33	67
Sika	28	11
Fishing Bay WMA		
White-tailed	5	12
Sika	53	55
LeCompte WMA		
White-tailed	4	5
Sika	1	0
Linkwood WMA		
White-tailed	5	13
Sika	1	0
Taylors Island WMA		
White-tailed	1	0
Sika	7	9
<b>Frederick</b>		
Cunningham Falls SP/Thurmont Watershed	49	90
Emmitsburg Watershed	9	37
Fort Detrick	2	11
Frederick City Watershed	86	221
Heaters Island WMA	5	5
Monocacy NRMA	38	71
South Mountain State Park	11	39

Appendix 1 -continued-

Statewide Reported Antlered and Antlerless Deer Harvest by Public Hunting Area and County, 2008-2009

County/Public Area	Antlered	Antlerless
<b>Garrett</b>		
4-H Center	5	3
Deep Creek Lake State Park	13	11
Frostburg Watershed	12	12
Garrett State Forest	105	96
Mt. Nebo WMA	42	21
Potomac State Forest	39	37
Savage River State Forest	231	169
Youghiogheny Reservoir	8	6
<b>Harford</b>		
Aberdeen Proving Ground	144	305
Gunpowder State Park	1	31
Rock State Park	3	18
Stoney Forest	4	4
Susquehanna State Park	9	54
<b>Howard</b>		
Howard County Parks & Recreation Hunts	39	149
Hugg-Thomas WMA	4	11
Patapsco State Park	32	96
Patuxent River State Park	56	99
Tridelphia/Rocky Gorge (WSSC)	47	107
<b>Kent</b>		
Eastern Neck NWR	42	36
Millington WMA	32	87
Sassafras NRWA	7	19
<b>Montgomery</b>		
Cherrington Coop.	6	31
McKee-Beshers WMA	48	95
Montgomery Co. M-NCPPC Lands	30	364
Patuxent River State Park	38	86
Seneca Schaeffer Farm	9	42
Seneca Creek State Park	62	210
Strider WMA	12	20
Tridelphia/Rocky Gorge (WSSC)	37	80

County/Public Area	Antlered	Antlerless
<b>Prince George's</b>		
Aquasco Farms Coop.	3	8
Beltville	72	131
Billingsly Tract (Patuxent River Park)	2	5
Brandywine Receiver Station	19	19
Mill Town Landing NRMA	1	6
Nottingham	0	5
Patuxent WRC (Central Tract)	20	83
Rosaryville State Park	2	6
Spice Creek (Patuxent River) NRMA	8	8
Tridelphia/Rocky Gorge (WSSC)	4	30
<b>Queen Anne's</b>		
Tuckahoe State Park	6	16
Wye Island NRMA	22	53
<b>St. Mary's</b>		
Elm's Coop.	6	10
Greenwell State Park	4	9
Patuxent Naval Air Station	26	43
Point Lookout State Park (Jacobs Prop.)	11	13
St. Mary's State Park	23	36
<b>Somerset</b>		
Chesapeake Forest Lands	40	95
Deal Island WMA		
White-tailed	11	30
Sika	1	0
Fairmount WMA	7	7
Maryland Marine Properties WMA	1	3
Pocomoke Sound WMA	1	7
Wellington WMA	5	6
<b>Talbot</b>		
Seth State Forest	3	7

County/Public Area	Antlered	Antlerless
<b>Washington</b>		
Fort Frederick State Park	0	21
Greenbrier State Park	15	50
Hagerstown Watershed	9	23
Indian Springs WMA	182	352
MD Correctional Training Center	10	38
Prather's Neck WMA	5	37
Sideling Hill WMA	279	407
South Mountain State Park	40	64
W. Maryland Ag Research Station (B)	2	18
Woodmont	109	250
<b>Wicomico</b>		
Chesapeake Forest Lands		
White-tailed	59	120
Sika	2	1
Ellis Bay WMA		
White-tailed	2	6
Sika	2	0
Johnson WMA	0	1
Nanticoke WMA		
White-tailed	14	40
Sika	7	3
Wicomico State Forest	23	47
<b>Worcester</b>		
Assateague National Seashore		
White-tailed	3	1
Sika	34	67
Assateague State Park		
White-tailed	1	5
Sika	1	4
Chesapeake Forest Lands	39	108
E.A. Vaughn WMA	11	53
Hickory Point WMA	0	5
Isle of Wight WMA	0	2
Pocomoke River WMA	6	11
Pocomoke State Forest	55	70

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was written and compiled by the Deer Project Staff.

Brian Eyler, Deer Project Leader

George Timko, Assistant Deer Project Leader

Publication composition and illustration by Wade Henry, Outreach and Education Program.



State of Maryland  
Martin O'Malley, Governor  
Anthony G. Brown, Lieutenant Governor



John R. Griffin, Secretary  
Department of Natural Resources  
Eric Schwaab, Deputy Secretary  
Department of Natural Resources  
Paul A. Peditto, Director  
Wildlife & Heritage Service

Wildlife & Heritage Service  
Tawes State Office Building, E-1  
580 Taylor Avenue  
Annapolis, MD 21401  
410-260-8540  
FAX 410-260-8596  
<http://dnr.maryland.gov>

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