# 2009 Connecticut Deer Program Summary


**Bureau of Natural Resources / Wildlife Division**
**Department of Environmental Protection**
**79 Elm Street, Hartford, CT 06106-5127**
**860-424-3011 www.ct.gov/dep**

**Department of Environmental Protection**
Amey Marrella, *Commissioner*
Susan Frechette, *Deputy Commissioner*
**Bureau of Natural Resources**
William Hyatt, *Bureau Chief*
**Wildlife Division**
Rick Jacobson, *Director*

**Prepared by**
Andrew M. LaBonte, *Deer Program Biologist*
Howard J. Kilpatrick, *Deer/Turkey Program Biologist*
Winnie Reid, *Administrative Professional*

**Photo by** Paul J. Fusco



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## Introduction

This booklet is the 29th in a series since the passage of the White-tailed Deer Management Act of 1974 reporting on the status of the white-tailed deer resource in Connecticut. It summarizes white-tailed deer information for 2009, including changes in deer management regulations and reporting requirements, harvest statistics, research activities, and population dynamics of Connecticut's deer population. Connecticut's Deer Management Program goals are: 1) to maintain the population at levels compatible with available habitat and land uses; and 2) to allow for a sustained yield of deer for use by Connecticut hunters. The program has focused on the stabilization of zonal deer populations at moderate densities for the best long-term interest of the deer resource, native plant and animal communities, and the public. Regulated deer hunting has proven to be an ecologically sound, socially beneficial, and fiscally responsible method of managing deer populations. Deer Program efforts have focused on increasing harvest of antlerless deer, coordinating controlled hunts for overabundant deer herds, assisting communities and large landowners with deer management issues, and research and management of urban deer populations.

Pursuant to the goal of reducing overabundant deer populations, aggressive management strategies have been implemented in areas with high deer densities. Strategies include the issuance of free replacement antlerless tags (1995), changes in state law to allow hunting over bait (2003), extending the archery season to include the month of January (2003), implementation of sharp-shooting programs (2003), development of an earn-a-buck program (2005), increased bag limits in specific deer management zones (2009), and allowing the use of crossbows during January (2010). The replacement antlerless tag program, which was initiated in 1995, allows hunters in deer management zones (zones) 11 and 12 to harvest additional antlerless deer, with the goal of increasing the harvest of does. In 2003, hunting over bait was permitted in zones 11 and 12 during all seasons on private land. Use of bait in areas where hunter access to private land is limited will increase hunter opportunity and success. Starting in 2005, hunters could earn a free either-sex tag for harvesting a buck after harvesting 3 antlerless deer during the same season. In 2009, hunters were given 1 additional antlerless tag in zones 7 and 2 additional antlerless tags in zones 11 and 12 with their shotgun/rifle and muzzleloader permits. In 2010, hunters were allowed to use crossbows in January. In developed areas where firearms hunting is not feasible, the DEP encourages the use of bowhunting as a management tool. Communities experiencing deer overpopulation problems may choose to initiate controlled hunts or, under special conditions, may be eligible to implement sharp-shooting programs.

In recent years, town governments have been taking a more active role in initiating local deer management programs. In 2004, representatives of 10 towns in Fairfield County formed a Regional Deer Management Working Group called the Fairfield County Municipal Deer Management Alliance (www.deeralliance.com). Currently, 18 of 23 Fairfield County towns have joined the Alliance. The Alliance assists towns in establishing deer committees, shares knowledge and experience about managing urban deer with other towns, provides input on urban deer problems so as to influence wildlife policy decision makers, increases public awareness, and provides input for developing long-term solutions to control deer overabundance in southwestern Connecticut.

Residents of the Town of Redding developed a Web site (http://besaferedding.org/) to facilitate a process whereby willing landowners are matched up with hunters that are committed to removing deer from private land at no cost to the landowner. The mission is to get Redding residents to work together for the purpose of reducing tick-related diseases and deer-vehicle accidents that result from deer overabundance, and reduce deer impacts to the forest understory to facilitate the return of native bird and wildlife species.

## Hunter Notes

The following new regulations were passed in 2009: 1) Elimination of the hunter orange requirement on state lands that are designated as archery only; 2) Allow the use of crossbows on private land in zones 11 and 12 during the January archery deer season; 3) Extend the private land muzzleloader deer season to the end of December; 4) Expand the number of deer junior hunter training days from 1 to 2; 5) Allow deer hunters on private land to use a bow during the shotgun/rifle season in all zones; 6) Change tagging requirements from Tyvek® tags to hunter generated paper tags; 7) Change check station requirements after the first 4 days of the shotgun/rifle season to the phone-in system (1-877-337-4868) or Internet reporting (www.ct.gov/dep/hunting); and 8) Increase number of antlerless tags during the private land shotgun/rifle and muzzleloader seasons by 1 in zone 7 and 2 in zones 11 and 12. In 2010, a revolver deer hunting season was established on private land (> 10 acres) during November and December. Other programmatic changes include streamlining of the state land deer lottery system. Be sure to check the DEP Web site for more details (www.ct.gov/dep/hunting).

Information on dates and locations of hunter education courses can be obtained by calling the DEP Wildlife Division's Franklin office (860-642-7239) or Sessions Woods office (860-675-8130), or on the DEP Web site at www.ct.gov/dep/hunting (click on "Hunting/Trapping Classes" on the left tab).

Regulations were enacted in October 2005 prohibiting hunters from transporting into Connecticut any deer or elk carcasses or part thereof from any state where chronic wasting disease (CWD) has been documented, unless they have been de-boned. Specific wording of the regulation (www.ct.gov/dep/lib/dep/regulations/26/26-55-4.pdf) and an updated list of states where CWD has been documented can be found on the DEP Web site (www.ct.gov/dep/cwp/view.asp?a=2700&q=323412&depNav_GID=1633).

Licenses and permits to fish, hunt, and trap in Connecticut can now be purchased online by going to Connecticut's new **Online Sportsmen Licensing System** (www.ct.gov/dep/sportsmenslicensing). Licenses and permits also may be purchased at select DEP facilities and vendors.

## Regulated Deer Harvest

Regulated hunting is an effective and cost-efficient method for maintaining deer populations at acceptable densities. With the change in the harvest reporting system and the ongoing modifications of the new system, caution should be used when comparing 2009 data to past harvest trends. During the 2009 hunting season, 11,774 deer were legally harvested and reported (Table 1). This represents a 7.2% decline from the 2008 harvest. Total deer harvest was similar to the previous 3-year average. In 2009, the reported archery and muzzleloader harvests were much greater than the previous year in zones 1-10, while reported harvest in zones 11 and 12 showed little change (Table 2). This increase likely is due to the increased convenience of reporting rather than a true increase in the harvest, as hunters now use the Internet and telecheck reporting systems rather than kill report cards. Hunters in zones 11 and 12 continue to use check stations for obtaining replacement tags and these replacement tags serve as an incentive to report harvest. Previous research has shown that harvest incentives increase hunter compliance for reporting harvest.

In 2009, 2,547 deer were checked at mandatory check stations (an additional 134 deer were incidentally reported using the new reporting system) during the first 4 days of the shotgun/rifle season, a 28% decrease from 2008 (3,556). A lower harvest was expected in 2009 due to the slight decline in permit issuance and the abundance of acorns. In 2009, the actual shotgun/rifle harvest was 5,082 deer, using data from check stations and the telephone and Internet reporting systems. This is a 30% decrease from 2008 when the harvest was 7,208 deer. Hunter success during the 2009 shotgun/rifle season likely was minimized by warm temperatures and an abundant acorn crop (Figure 8). In 2009, the actual landowner harvest was 1,065, which is similar to the 2008 season (1,176). Unlike the 3-week shotgun/rifle season, the landowner season runs from November to December and is less affected by periods of inclement weather.

Based on the hunter survey, about 26% of hunters who harvested a deer used the new phone reporting system, while 64% used the new on-line reporting system. Of hunters who just used the phone reporting system, 74% liked the new system. Of hunters who just used the on-line reporting system, 87% liked the on-line system. It appears that hunter satisfaction and compliance have improved with the new reporting system.

The antlerless and either-sex replacement tag harvest decreased from 789 deer in 2008 to 446 in 2009. This decline may have been due, in part, to the additional tags added to permits in those zones where replacement tags were available. Deer harvested under the replacement antlerless and either-sex tag programs (446) attributed to 15% of the total deer harvest on private land in zones 11 and 12. Shotgun/rifle and archery hunters accounted for 43.2% and 40.1% respectively of all deer taken in 2009. Landowners and muzzleloader hunters accounted for 9.0%, and 7.7% respectively of all deer taken in 2009. Harvest varied considerably by season and town (Appendix 1). A Junior Hunter Training Day was established in 2003 for youth hunters and was increased to 2 days in 2009. Youth hunters continue to take advantage of the Junior Hunter Training Days for deer, which occur the 2 Saturdays prior to opening day. The 3-year average harvest for the Junior Hunter Training Day is 43 deer.

## Permit Allocation

To reduce Connecticut's deer population growth rate, the Wildlife Division provides opportunities for hunters to purchase multiple deer permits. Permit issuance increased consistently from 1975 to 1992 and has remained relatively stable since 1992 (Figure 1). Overall, permit issuance in 2009 (60,387) declined 5.7% from 2008 (64,060), and declined 2.4% from the 3-year average (61,859) (Table 3). Issuance for muzzleloader permits had the greatest 1-year decline (14.2%), followed by shotgun/rifle permits (7.3%). Due to the increased cost of permits effective October 1, 2009, it was expected that permit issuance would decline. The archery season showed no decline in permit sales mainly because permits were purchased prior to the cost increase. As expected, there was no change in permit issuance for landowner permits because they are offered at no cost. Of all permits purchased, 75% were purchased prior to the cost increase. Based on the hunter survey, the majority of hunters (72%) are expected to purchase the same permits in 2010 as they purchased in 2009, while 28% expect not to purchase the same number of permits. Those hunters who plan to purchase fewer permits indicated it was due to the increased cost of permits. Overall, shotgun/rifle hunters purchased the largest percentage of permits (45.2%), followed by archery hunters (23.3%), muzzleloader (22.0%), and landowners (9.6%). Seventy five percent of firearms deer permits were issued for use on private land and the remaining 25% were issued for state-managed lands.

**Table 1. Deer harvested during Connecticut's regulated hunting seasons, 2008-2009.**

| Season | Harvest 2008 | Harvest 2009 | 3-year Average Harvest (2006-2008) | % of Total 2009 | % Change from 2008 to 2009 | % Change 3-year Average to 2009 |
|---|---|---|---|---|---|---|
| **Archery** | | | | | | |
| State Land | 467 | 762 | 473 | 6.5% | 63.2% | 61.1% |
| Private Land | 3,141 | 3,956 | 2,756 | 33.6% | 25.9% | 43.5% |
| Replacement Antlerless[A, B] | 491 | 281 | 426 | 2.4% | -42.8% | -34.0% |
| Either-sex Tag[A, B] | 44 | 94 | 39 | 0.8% | 113.6% | 141.0% |
| January[B] | 272 | 192 | 211 | 1.6% | -29.4% | -9.0% |
| Replacement Antlerless[A, B] | 76 | 22 | 47 | 0.2% | -71.1% | -53.2% |
| Either-sex Tag[A, B] | 2 | 1 | 3 | <.01% | -50.0% | -66.7% |
| Subtotal | 3,608 | 4,718 | 3,230 | 40.1% | 30.8% | 46.1% |
| **Muzzleloader** | | | | | | |
| State Land | 145 | 160 | 158 | 1.4% | 10.3% | 1.3% |
| Private Land | 545 | 749 | 546 | 6.4% | 37.4% | 37.2% |
| Replacement Antlerless[A] | 29 | 5[F] | 24 | <0.01% | -82.8% | -79.2% |
| Either-sex Tag[A] | 0 | 1 | 0 | <0.01% | 100.0% | 100.0% |
| Subtotal | 690 | 909 | 704 | 7.7% | 31.7% | 29.1% |
| **Shotgun/Rifle** | | | | | | |
| State Land A[C] | 897 | 556 | 932 | 4.7% | -38.0% | -40.3% |
| State Land B[C] | 226 | 147 | 202 | 1.2% | -35.0% | -27.2% |
| Private Land | 6,043 | 4,337 | 5,660 | 36.8% | -28.2% | -23.4% |
| Replacement Antlerless[A] | 140 | 37[F] | 126 | 0.3% | -73.6% | -70.6% |
| Either-sex Tag[A] | 7 | 5 | 6 | <0.01% | -28.6% | -16.7% |
| Subtotal | 7,208[D] | 5,082 | 6,808 | 43.2% | -29.5% | -25.4% |
| **Youth Hunting Day[E]** | 34 | 51 | 43 | 0.4% | 50.0% | 18.6% |
| **Landowner** | 1,176 | 1,065 | 1,037 | 9.0% | -9.4% | 2.7% |
| **Total** | **12,682** | **11,774** | **11,778** | **100%** | **-7.2%** | **0.0%** |

[A] *Replacement antlerless and either-sex tags were available in zones 11 and 12 only.*
[B] *Included as part of private land archery total.*
[C] *Includes controlled hunt areas.*
[D] *Includes 42 harvested deer whose date and location were not recorded.*
[E] *Harvest was included in shotgun/rifle totals for state and private land.*
[F] *Replacement harvest may have declined due to extra tags being given with original permits.*

**Table 2. Change in reported harvest totals for the archery, muzzleloader, and shotgun/rifle seasons, from 2008 to 2009, when the new harvest reporting system was implemented.**

| Deer Management Zone | % Change in Reported Harvest | | |
|---|---|---|---|
| | Archery | Muzzleloader | Shotgun/Rifle [A] |
| **1** | 101 | 51 | -28 |
| **2** | 36 | 59 | -15 |
| **3** | 94 | 74 | -17 |
| **4A** | 60 | 67 | -44 |
| **4B** | 75 | 47 | -34 |
| **5** | 59 | 40 | -39 |
| **6** | 31 | 23 | -3 |
| **7** | 116 | 95 | -36 |
| **8** | 70 | 29 | -28 |
| **9** | 54 | 14 | -29 |
| **10** | 15 | -4 | -41 |
| **11** | 2 | 7 | -15 |
| **12** | 3 | 6 | -31 |
| **Average overall change** | **31** | **32** | **-28** |

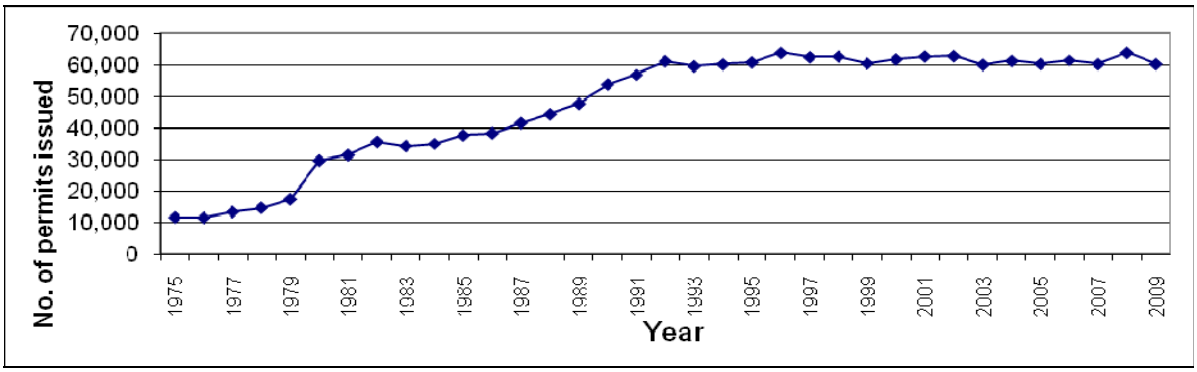
[A] *Excludes 42 harvested deer whose date and location were not recorded in 2008.*

**Table 3. Deer hunting permits issued in Connecticut for all regulated hunting seasons, 2007-2009.**

| Season | Permits 2007 | Permits 2008 | Permits 2009 | 3-year Average Permits 2006-2008 | % of Total 2009 | % Change 2008 to 2009 | % Change 3-year Avg. to 2009 |
|---|---|---|---|---|---|---|---|
| **Archery** | 12,423 | 13,333 | 14,046 | 12,716 | 23.3% | 5.3% | 10.5% |
| **Muzzleloader** | | | | | | | |
| State Land | 5,676 | 5,963 | 5,094 | 5,780 | 8.4% | -14.6% | -11.9% |
| Private Land | 9,101 | 9,515 | 8,186 | 9,304 | 13.6% | -14.0% | -12.0% |
| Subtotal | 14,777 | 15,478 | 13,280 | 15,085 | 22.0% | -14.2% | -12.0% |
| **Shotgun/Rifle** | | | | | | | |
| State Land A* | 6,050 | 5,943 | 5,629 | 6,023 | 9.3% | -5.3% | -6.5% |
| State Land B* | 4,225 | 5,029 | 4,329 | 4,372 | 7.2% | -13.9% | -1.0% |
| Private Land | 17,468 | 18,478 | 17,332 | 18,065 | 28.7% | -6.2% | -4.1% |
| Subtotal | 27,743 | 29,450 | 27,290 | 28,460 | 45.2% | -7.3% | -4.1% |
| **Landowner** | 5,452 | 5,799 | 5,771 | 5,599 | 9.6% | -0.5% | 3.1% |
| **Total** | **60,395** | **64,060** | **60,387** | **61,859** | **100.0%** | **-5.7%** | **-2.4%** |

**Includes controlled hunt permits.*

**Figure 1. Total deer permit issuance in Connecticut, 1975-2009.**




## Hunter Success

Hunter success rate was estimated by dividing total deer harvest by total permit issuance and multiplying by 100 (Table 4). Success rates may fluctuate annually, depending on weather conditions, timing of rain and snow storms, fall acorn crops, and deer herd size. As previously mentioned, the reported harvest for the 2009 archery and muzzleloader seasons appears to have been affected by the new reporting system. Bowhunter success rates reached a record high of 27.8% in 2003 and have fluctuated between 24.3 and 27.6% from 2004 to 2008. Hunter success in 2009 increased to 33.6% and exceeded the previous record high. It is assumed that this success rate is more reflective of actual success rates due to a more convenient method of reporting harvested deer. Success rates for the remaining seasons varied from 2008 to 2009, with the private land shotgun/rifle season experiencing the greatest decrease. Compared to the 3-year average, success rates decreased for all shotgun/rifle seasons and increased for all remaining hunting seasons in 2009. In 2009, archery hunters had the highest annual success rate (33.6%), followed by private land shotgun/rifle hunters (25.0%) and landowners (18.5%). Success rate for the combined muzzleloader seasons was 6.8%. Lower success rates are expected because the muzzleloader season occurs after the shotgun/rifle deer hunting seasons.

**Table 4. Deer hunter success rates (%) in Connecticut, 2008-2009.**

| Season | 2008 | 2009 | 3-year Avg. Success Rate (2005-2007) | Difference from 2008 | Difference from 3-year Avg. |
|---|---|---|---|---|---|
| **Archery** | | | | | |
| Combined[A] | 27.1% | 33.6% | 25.6% | 6.5% | 8.0% |
| **Muzzleloader** | | | | | |
| State Land | 2.4% | 3.1% | 2.8% | 0.7% | 0.3% |
| Private Land | 5.7% | 9.1% | 5.8% | 3.4% | 3.3% |
| Combined | 4.5% | 6.8% | 4.7% | 2.4% | 2.1% |
| **Shotgun/Rifle** | | | | | |
| State Land A | 15.1% | 9.9% | 15.4% | -5.2% | -5.5% |
| State Land B | 4.5% | 3.4% | 4.6% | -1.1% | -1.2% |
| Private Land | 32.7% | 25.0% | 30.9% | -7.7% | -5.9% |
| Combined | 24.5% | 18.6% | 23.7% | -5.9% | -5.1% |
| **Landowner** | 20.3% | 18.5% | 18.4% | -1.8% | 0.1% |
| **Average[B]** | **19.8%** | **19.5%** | **19.0%** | **-0.3%** | **0.5%** |

[A] *Data available only for state and private land combined.*
[B] *Average is based on total number of deer harvested/total number of permits issued.*

## Archery Statistics

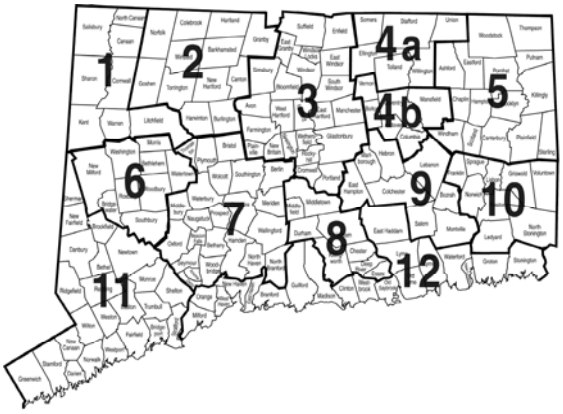
Excluding the landowner season, just under half of the deer taken during the hunting seasons was harvested by a bowhunter. Eighty percent (3,795 – 3,117 private, 678 state) of the total archery harvest was taken during the early archery season (September 15 to November 17); 9% (402 – 359 private, 43 state) was taken during the 3-week shotgun/rifle season (open in all zones on private land

and state land bowhunting-only areas); 7% (329 – 288 private, 41 state) was taken during the muzzleloader season (December 9 to December 31); and 4% (192) was taken during the January season open in zones 11 and 12 on private land only (January 1-31, 2010).

## Connecticut Deer Management Zones

To better manage the statewide deer population, data from hunter surveys, regulated deer harvests, and total deer mortality have been recorded and evaluated by deer management zone (Figure 2). Current population status and long-term trends are analyzed for each zone. This approach facilitates the assessment and management of regional deer populations.

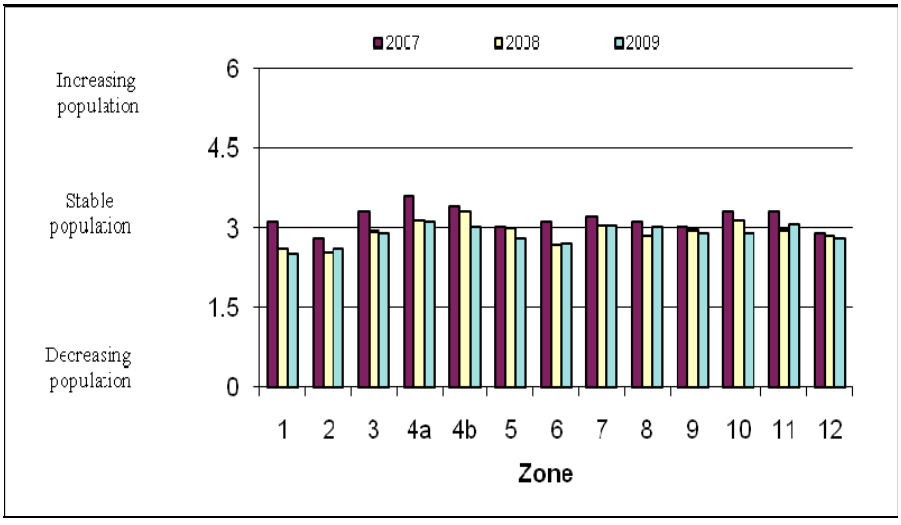
**Figure 2. Connecticut's deer management zones, 2009.**




### Hunter Perceptions of Population Trends

In 2009, 8,715 deer hunters were sent an E-mail requesting that they complete an on-line hunter survey. At total of 3,820 hunters responded for a 44% response rate, far exceeding response rates from previous years (10-20%) using a mail survey card. Similar to hunter surveys from previous years, the survey included the question, "How would you describe the status of the deer population from last year to this year?" Hunter perceptions of deer population trends were ranked on a scale of 0 (decreasing population) to 6 (increasing population). Half of the hunters (48%) who responded to the survey believed that the population was stable, 20% believed it was increasing or slightly increasing, and 32% believed it was decreasing or slightly decreasing. Zones 1 and 2 had the lowest average rank (2.5 and 2.6; Figure 3) and zone 4A had the highest average rank (3.1). After 7 years of antlerless tag restrictions in zone 4A, hunters are seeing a noticeable increase in the deer population. Based on hunter opinions, the general trend over the past 3 years has been a decreasing statewide population.

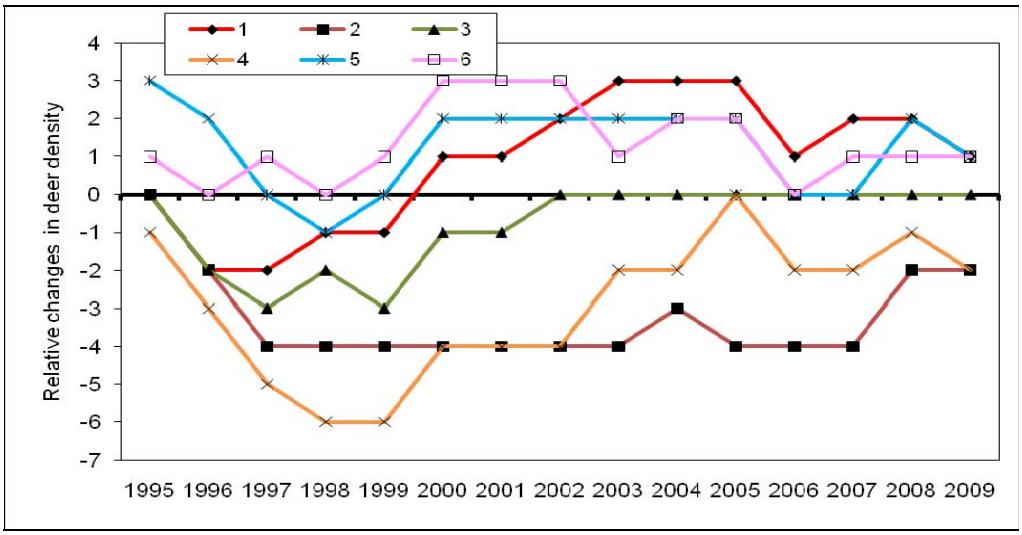
**Figure 3. Perception of zonal deer population trends (average rank) by Connecticut's deer hunters, 2007-2009.**



## Population Trends

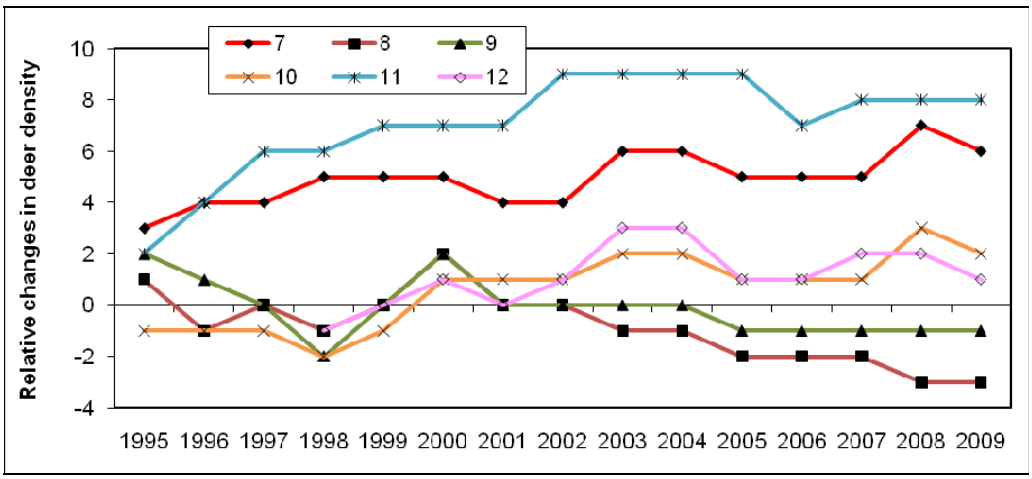
To assess the status of zonal deer populations in Connecticut, hunter perceptions and changes in harvest data (buck harvest/square mile, hunter success, yearling antler beam diameters, total deer mortality/square mile, and roadkills/square mile) were analyzed. This analysis suggests that from 2008 to 2009, deer population growth in 7 zones (1, 4A, 4B, 5, 7, 10, and 12) decreased or slightly decreased, while population growth in 6 zones (2, 3, 6, 8, 9, and 11) remained stable (Figures 4 and 5).

**Figure 4. Trends in Connecticut deer population growth in deer management zones 1-6 from 1995 to 2009.***




**Horizontal lines represent a stable population relative to the previous year. Lines that project upwards or downwards represent increasing or decreasing populations when compared to the previous year.*

**Figure 5. Trends in Connecticut deer population growth in deer management zones 7-12 from 1995 to 2009.***




**Horizontal lines represent a stable population relative to the previous year. Lines that project upwards or downwards represent increasing or decreasing populations when compared to the previous year.*

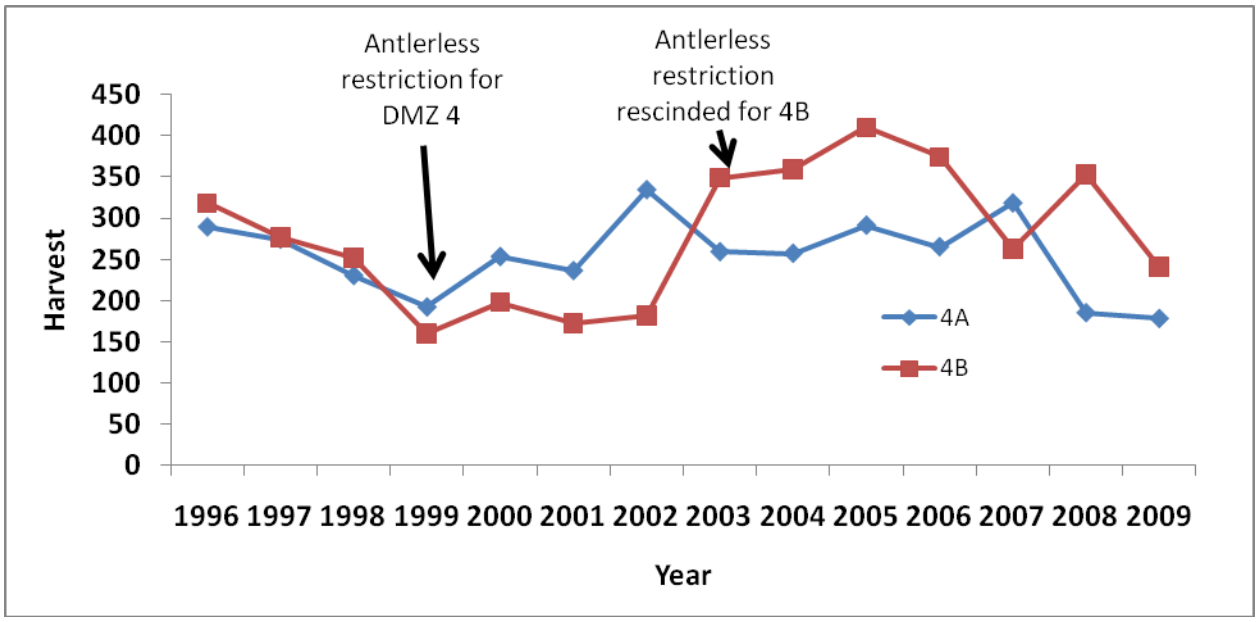
## Zonal Deer Management

Because deer populations vary across the state, Connecticut developed different deer management zones. Management strategies in each zone may vary depending on population growth. In zone 4, a 4-year decreasing trend, beginning in 1996, prompted harvest restrictions on female deer in this zone in 1999. During shotgun/rifle and muzzleloader seasons, the antlerless-only tag on 2-tag permits was not valid in zone 4. This restriction resulted in a decrease in the number of does harvested, allowing the population to stabilize. In 2002, deer populations appeared to be stable in the southern portion of zone 4, but not in the northern portion. In 2003, zone 4 was split into two zones (4A and 4B), allowing each zone to maintain different management objectives. In zone 4A (northern portion), the restriction on the use of antlerless tags was retained, while the use of antlerless tags was again allowed in zone 4B

(southern portion). The percentage of antlered deer harvested was larger for zone 4A (56%) than zone 4B (47%) in 2009. This was expected due to the restricted use of antlerless tags in zone 4A (Figure 6).

In zones 11 and 12, free replacement antlerless tags and either-sex tags (bonus buck tags) were available during the private land archery, shotgun/rifle, and muzzleloader seasons in 2009. Replacement tags were available in these zones because these regions of the state were experiencing more human-deer conflicts and, therefore, had different management objectives than other regions. These programs have resulted in a substantial increase in the harvest of antlerless deer (Figure 11).

**Figure 6. Private land shotgun/rifle deer harvest in deer management zones 4A and 4B, 1996-2009.**




## Insight into Deer Hunter Success Rates by Zone

### Shotgun/Rifle Season Success

Annual deer harvest is one of many variables monitored by the Wildlife Division to assess changes in Connecticut's deer population over time for each deer management zone. However, without information on hunter distribution and effort by zones, the potential usefulness of this data is limited. To gain insight into hunter distribution and success rates by zone, deer hunters were asked on the hunter survey, "In what zone do you do most of your deer hunting?" In 2009, all private land shotgun/rifle deer hunters answered this question on their survey. The relative percent of hunters in each deer management zone was multiplied by total number of deer permits issued in 2009 to estimate total number of hunters by zone. Total number of hunters and total private land deer harvest for each zone were used to estimate deer hunter success rates for each zone (Table 5). In general, higher hunter success rates suggest higher deer density. Of the 13 management zones, most hunting (46%) occurred in 4 zones (5, 9, 11, and 12). Highest private land deer harvests were reported for zones 1, 5, 11, and 12. Zones 4B and 11 had the highest deer harvest per square mile (1.9) and zones 9 and 11 had the greatest density of hunters (6.1 and 7.6 per square mile). Hunter success rates were highest in zone 4B (33%), likely due to several years of an antlerless tag restriction, while success in zone 4A was the lowest (14%). The 3-year trend in hunter success rates declined for 5 of 13 zones (Table 6). Three deer management zones (4B, 11, and 12) have continued to produce relatively high hunter success rates over the past 3 years (Table 6).

### Archery Season

Based on the number of deer harvested and reported by bowhunters, 1 of 3 (35%) hunters harvested 2 or more deer during the bowhunting season. Bowhunter success rates were highest in zones 4B, 7, 11, and 12. In zone 4A, restriction on use of antlerless tags during the firearms seasons allowed for the population to increase between 1999 and 2003. In 2003, the zone was split into 4A and 4B, and the antlerless restriction was rescinded in 4B, likely contributing to the high success rates. Firearms hunting is more limited in zones 11 and 12 and the archery season framework is liberal (use of bait, unlimited tags, longer seasons) (Table 7). The archery deer harvest in zone 11 was at least 3 times higher than all other zones.

**Table 5. Zonal hunter numbers, harvest, and success rates for private land during the 2009 shotgun/rifle hunting season.**

| Zone | Zone Hunted Private Land[A] Shotgun/Rifle | % of Hunters Answered[A] Question 09 | Estimated # of Private Land Shotgun/ Rifle | Harvest | Area Harvest/ Sq. Mile | Deer Harvest/ Sq. Mile | Hunters/ Sq. Mile | Success Rate |
|---|---|---|---|---|---|---|---|---|
| **1** | 184 | 8.4 | 1,458 | 417 | 344.59 | 1.2 | 4.2 | 29% |
| **2** | 158 | 7.2 | 1,252 | 261 | 410.69 | 0.6 | 3.0 | 21% |
| **3** | 108 | 4.9 | 856 | 238 | 273.33 | 0.9 | 3.1 | 28% |
| **4A** | 105 | 4.8 | 832 | 117 | 213.5 | 0.5 | 3.9 | 14% |
| **4B** | 88 | 4.0 | 697 | 233 | 120.66 | 1.9 | 5.8 | 33% |
| **5** | 317 | 14.5 | 2,511 | 706 | 445.94 | 1.6 | 5.6 | 28% |
| **6** | 148 | 6.8 | 1,172 | 330 | 260.03 | 1.3 | 4.5 | 28% |
| **7** | 123 | 5.6 | 974 | 223 | 373.08 | 0.6 | 2.6 | 23% |
| **8** | 115 | 5.3 | 911 | 201 | 169.11 | 1.2 | 5.4 | 22% |
| **9** | 212 | 9.7 | 1,679 | 390 | 279.39 | 1.4 | 6.0 | 23% |
| **10** | 148 | 6.8 | 1,172 | 310 | 244.36 | 1.3 | 4.8 | 26% |
| **11** | 277 | 12.7 | 2,194 | 545 | 291.53 | 1.9 | 7.5 | 25% |
| **12** | 205 | 9.4 | 1,624 | 408 | 358.39 | 1.1 | 4.5 | 25% |
| **Total** | **2,188** | **100.0** | **17,332** | **4,379** | **3,785** | 1.2 | 4.6 | 25% |

[A]*Based on question on hunter survey asking hunters which zone they primarily hunt in.*

**Table 6. Zonal comparisons in private land shotgun/rifle harvest, hunter distributions, and success rates, 2007-2009.**

| Zone | Area (sq. miles) | Deer Harvest/Sq. Mile | | | Hunters/Sq. Mile | | | Hunter Success Rate % | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 2007 | 2008 | 2009 | 2007 | 2008 | 2009 | 2007 | 2008 | 2009 |
| **1** | 344.59 | 1.5 | 1.6 | 1.2 | 5.1 | 5.0 | 4.2 | 29 | 33 | 29 |
| **2** | 410.69 | 0.6 | 0.7 | 0.6 | 3.4 | 3.4 | 3.0 | 18 | 21 | 21 |
| **3** | 273.33 | 1.0 | 1.1 | 0.9 | 2.9 | 3.4 | 3.1 | 33 | 32 | 28 |
| **4A** | 213.50 | 0.9 | 0.9 | 0.5 | 4.4[A] | 4.9[A] | 3.9 | 20 | 18 | 14 |
| **4B** | 120.66 | 2.0 | 2.0 | 1.9 | 4.4[A] | 4.9[A] | 5.8 | 45 | 41 | 33 |
| **5** | 445.94 | 2.0 | 2.6 | 1.6 | 7.0 | 7.2 | 5.6 | 29 | 36 | 28 |
| **6** | 260.03 | 1.3 | 1.3 | 1.3 | 5.4 | 5.0 | 4.5 | 24 | 26 | 28 |
| **7** | 373.08 | 0.7 | 0.9 | 0.6 | 2.3 | 2.5 | 2.6 | 30 | 38 | 23 |
| **8** | 169.11 | 1.4 | 1.6 | 1.2 | 5.2 | 5.9 | 5.4 | 27 | 27 | 22 |
| **9** | 279.39 | 1.7 | 1.9 | 1.4 | 5.7 | 6.6 | 6.0 | 30 | 29 | 23 |
| **10** | 244.36 | 1.6 | 2.1 | 1.3 | 6.1 | 6.1 | 4.8 | 27 | 34 | 26 |
| **11** | 291.53 | 2.0 | 2.0 | 1.9 | 6.4 | 5.1 | 7.5 | 32 | 40 | 25 |
| **12** | 358.39 | 1.8 | 1.7 | 1.1 | 4.4 | 4.3 | 4.5 | 40 | 39 | 25 |
| **Total** | **3,785** | **1.4** | **1.6** | **1.2** | **4.8** | **4.9** | **4.6** | **29** | **33** | **25** |

[A] *Zone 4 was separated into zones 4A and 4B in 2003, but hunter survey data did not reflect this change.*

**Table 7. Zonal comparisons of archery season success rates, 2009.**

| Zones | Zone Hunted Private Land Archery[A] | % of Hunters Answered Question[A] | Estimated # of Archery Hunters | Harvest | Success Rate |
|---|---|---|---|---|---|
| **1** | 156 | 7.3% | 1,019 | 273 | 26.8 |
| **2** | 142 | 6.6% | 927 | 145 | 15.6 |
| **3** | 108 | 5.0% | 705 | 194 | 27.5 |
| **4A** | 109 | 5.1% | 712 | 231 | 32.5 |
| **4B** | 66 | 3.1% | 431 | 178 | 41.3 |
| **5** | 234 | 10.9% | 1,528 | 476 | 31.2 |
| **6** | 121 | 5.6% | 790 | 167 | 21.1 |
| **7** | 163 | 7.6% | 1,064 | 479 | 45.0 |
| **8** | 116 | 5.4% | 757 | 163 | 21.5 |
| **9** | 161 | 7.5% | 1,051 | 209 | 19.9 |
| **10** | 122 | 5.7% | 797 | 179 | 22.5 |
| **11** | 463 | 21.5% | 3,023 | 1,584 | 52.4 |
| **12** | 190 | 8.8% | 1,241 | 440 | 35.5 |
| **Total** | **2,151** | **100.0%** | **14,046** | **4,718** | **33.6** |

[A] *Based on question on hunter survey asking hunters which zone they primarily hunt in.*

## Fall Acorn Crop

Acorns are a preferred food for white-tailed deer during fall and winter. Acorn availability influences deer movement patterns and herd health. To interpret changes in harvest rates, herd health, and herd productivity, the Deer Program has been collecting data on abundance of the fall acorn crop from hunter surveys since 1993. Hunter perceptions of the fall acorn crop were ranked on a scale from 0 (scarce) to 6 (abundant acorns). In 2009, 61% of the hunters who responded to the survey ranked the fall acorn crop as abundant, 32% as moderate, and 7% as scarce. The highest average rank (4.9) was in zone 11 and the lowest average rank (4.18) was in zone 1 (Figure 7). On a scale of 0-6, the average rank statewide was 4.6.

The past 17 years of data on acorn abundance and deer harvest rates suggest that a correlation exists between hunter success and acorn abundance (Figure 8). In 1993, when acorns were most abundant, hunter success was one of the lowest success rates recorded and, in 2004, when acorns were least abundant, the hunter success rate was the highest. Deer travel more to access other food sources, such as green fields, during years with low acorn productivity, increasing their vulnerability to hunters. On average, the acorn crop statewide has been moderate most years, scarce about every 5-6 years, and abundant about every 2 years.

**Figure 7. Perception of acorn crops (average rank) by Connecticut's deer hunters, 2006-2009.**

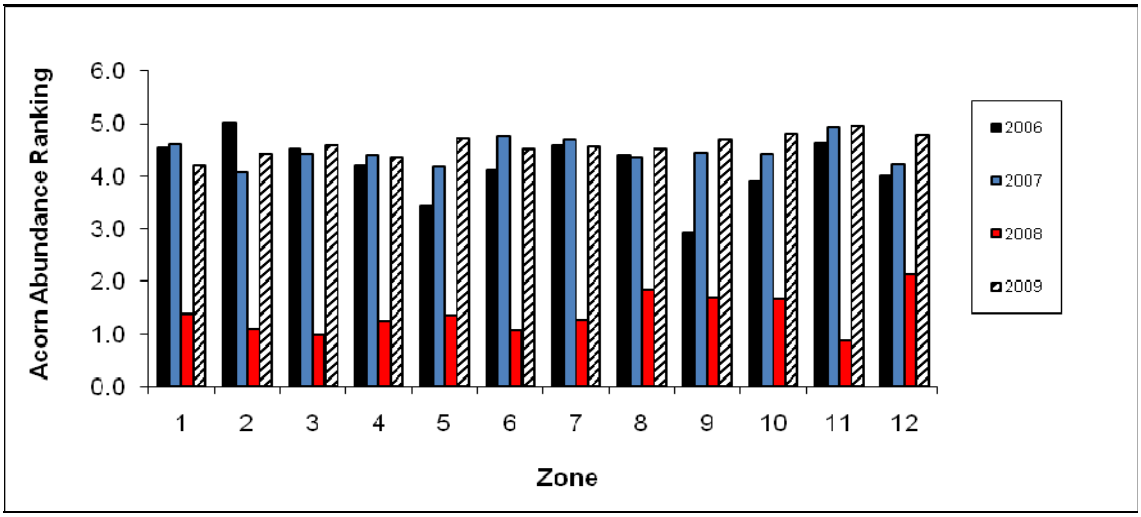
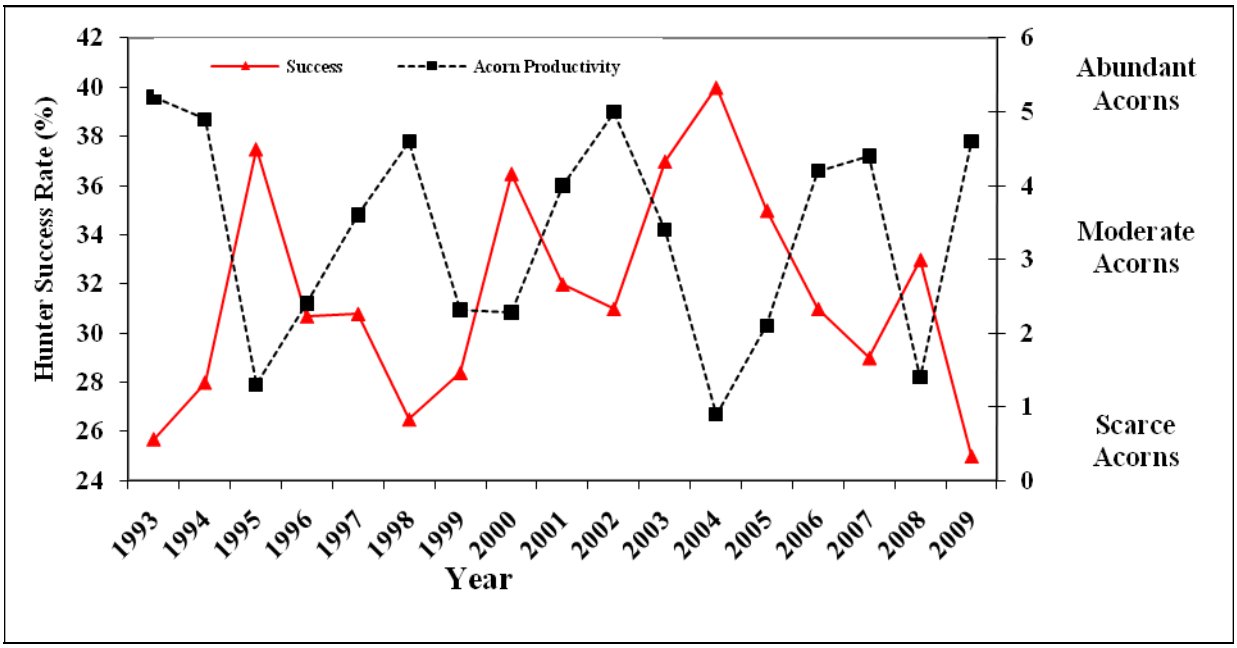


**Figure 8. Relationship between private land shotgun/rifle hunter success rates and fall acorn productivity, 1993-2009.**




## Private Land Deer Harvest

The 2009 private land deer harvest was highest for deer management zones 5, 11, and 12 (Table 8). Zonal harvest levels have fluctuated in most zones over the past 11 years (Table 8). These fluctuations likely reflect the difference in weather conditions, snow cover, acorn abundance, and deer densities. Highest total deer harvest for the last 8 years has been observed in zone 11, likely a result of the availability of replacement deer tags in zones 11 and 12 and from expanding the size of these zones (see note below Table 8). Total private land deer harvest decreased 8.7% from 2008 to 2009.

## Herd Health

Measuring antler beam diameters (1 inch above the base) of yearling males is one method of assessing deer herd health. Mean antler beam diameters on yearling males are correlated with female productivity, which is related to habitat quality. For example, yearling males with large antler beam diameters (20.0+ mm) indicate excellent herd health, while small beam diameters (12-15.4 mm) imply poor herd health. Beam diameters 15.5-17.9 mm and 18.0-19.9 mm imply the herd is in fair to good condition. Mean yearling antler beam measurements in 2009 indicate that the deer herd in most zones was in fair condition. Mean beam measurements exceeded 18.0 in 1 of 13 zones (zone 1, Table 9). Mean antler beam measurements have typically ranged between 17-18mm the past 11 years. Minor variations in beam measurements from year to year probably are due to fluctuations in food availability (i.e., acorns), winter conditions, or other variables. Most zones have fluctuated within the fair to good range since 1995.

## Deer Weights

Trends in deer weights are another indicator of overall herd health. Average dressed weights increased from 2008 to 2009 for harvested young-of-year and decreased for yearling and adult males (Table 10). During the 2009 shotgun/rifle season, no bucks were checked in at check stations weighing 200 pounds or more. The 3 heaviest bucks were harvested in Harwinton (195 lbs.), Torrington, (191 lbs.), and Beacon Falls (189 lbs.).

**Table 8. Private land deer harvest for all seasons (excluding landowner) in each of Connecticut's deer management zones, 1999-2009.**

| | Year | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Zone** | **1999** | **2000** | **2001** | **2002** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** |
| **1** | 910 | 1,184 | 936 | 937 | 796[C] | 828 | 811 | 639 | 680 | 710 | 719 |
| **2** | 360 | 389 | 351 | 259 | 373[b] | 383 | 369 | 357 | 323 | 385 | 394 |
| **3** | 397 | 529 | 442 | 478 | 457 | 434 | 413 | 362 | 338 | 397 | 442 |
| **4[a]** | 583 | 729 | 662 | 471 | | | | | | | |
| **4A** | | | | | 237[b] | 207 | 273 | 218 | 259 | 293 | 267 |
| **4B** | | | | | 397 | 445 | 476 | 467 | 329 | 471 | 434 |
| **5** | 1,612 | 2,061 | 1,651 | 1,293 | 1,250[c] | 1,510 | 1,607 | 1,348 | 1,165 | 1,488 | 1,218 |
| **6** | 808 | 909 | 854 | 746 | 550[C] | 596 | 544 | 511 | 458 | 489 | 524 |
| **7** | 529 | 624 | 524 | 489 | 564[b] | 618 | 473 | 454 | 438 | 584 | 685 |
| **8** | 486 | 523 | 433 | 378 | 463 | 514 | 467 | 398 | 330 | 360 | 343 |
| **9** | 1,208 | 1,593 | 1,408 | 1,197 | 873[c] | 882 | 817 | 757 | 628 | 693 | 612 |
| **10** | 597 | 746 | 713 | 519 | 521 | 664 | 567 | 504 | 504 | 640 | 486 |
| **11** | 1,237 | 1,400 | 1,562 | 1,839 | 2,084[b] | 2,128 | 1,799 | 1,898 | 1,846 | 2,179 | 2,088 |
| **12** | 679 | 720 | 646 | 636 | 1,272[b] | 1,330 | 1,080 | 976 | 1,030 | 1,040 | 872 |
| **Total** | **9,406** | **11,407** | **10,182** | **9,242** | **9,793** | **10,485** | **9,613** | **8,832** | **8,328** | **9,955** | **9,084** |
| **% Change** | **8.6%** | **21.3%** | **-10.7%** | **-9.2%** | **6.0%** | **7.1%** | **-8.3%** | **-8.1%** | **-5.7%** | **19.5%** | **-8.7%** |

[a] *Zone 4 separated into Zones 4A and 4B in 2003.*
[b] *In 2003 town/towns added to zone.*
[c] *In 2003 town/towns removed from zone.*

**Table 9. Average antler beam diameter (mm) of yearling males in each of Connecticut's deer management zones, 1997-2009.***

| | Year | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Zone** | **1997** | **1999** | **2000** | **2001** | **2002** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** |
| **1** | 16.6 | 17.9 | 17.2 | 17.7 | 18.9 | 17.4 | 16.8 | 17.0 | 16.4 | 17.3 | 17.7 | 18.1 |
| **2** | 18.0 | 18.1 | 18.1 | 16.7 | 18.1 | 18.6 | 16.9 | 19.2 | 17.0 | 18.4 | 19.4 | 15.9 |
| **3** | 18.7 | 19.3 | 18.7 | 15.7 | 18.3 | 18.2 | 16.1 | 19.8 | 16.4 | 17.8 | 18.7 | 15.6 |
| **4[a]** | 17.0 | 18.4 | 18.7 | 16.0 | 17.9 | | | | | | | |
| **4A[A]** | | | | | | 18.7 | 16.2 | 15.8 | 15.4 | 17.8 | 17.5 | 14.6 |
| **4B[A]** | | | | | | 18.0 | 18.0 | 17.8 | 16.7 | 16.9 | 17.9 | 16.1 |
| **5** | 16.8 | 18.3 | 18.2 | 17.0 | 17.8 | 16.4 | 18.1 | 15.8 | 16.3 | 16.1 | 17.4 | 16.4 |
| **6** | 18.0 | 18.1 | 18.1 | 16.3 | 18.4 | 18.0 | 16.9 | 15.7 | 17.0 | 17.6 | 18.3 | 15.6 |
| **7** | 17.5 | 17.1 | 18.3 | 16.1 | 17.9 | 17.4 | 17.8 | 17.5 | 16.1 | 17.9 | 17.3 | 16.3 |
| **8** | 17.5 | 18.0 | 17.4 | 16.8 | 17.3 | 18.6 | 17.6 | 20.5 | 17.5 | 18.8 | 17.6 | 16.5 |
| **9** | 17.1 | 19.1 | 17.9 | 16.5 | 18.4 | 17.3 | 16.7 | 17.7 | 17.5 | 17.9 | 18.5 | 16.7 |
| **10** | 18.1 | 17.6 | 17.1 | 16.0 | 17.9 | 15.9 | 17.5 | 15.5 | 14.5 | 16.2 | 17.4 | 16.2 |
| **11** | 16.5 | 16.3 | 16.8 | 18.7 | 17.2 | 17.9 | 17.4 | 15.3 | 20.3 | 16.4 | 18.7 | 14.7 |
| **12** | ND | 17.4 | 17.1 | 15.7 | 18.2 | 17.1 | 17.1 | 17.8 | 16.2 | 16.4 | 16.7 | 17.4 |
| **Average** | **17.3** | **17.8** | **17.4** | **16.9** | **18.0** | **17.6** | **17.2** | **17.3** | **16.7** | **17.1** | **17.9** | **16.2** |

**No data collected in 1998 - no biological check stations.*
[a] *Zone 4 separated into zones 4A and 4B in 2003.*
*ND=No data collected. Zone 12 was not delineated before 1997.*

**Table 10. Average dressed weights (lbs.) of male deer harvested during the shotgun/rifle hunting season, 2007-2009.**

| | Young-of-year | | | Yearling | | | Adult | | |
|---|---|---|---|---|---|---|---|---|---|
| **Zone** | **2007** | **2008** | **2009** | **2007** | **2008** | **2009** | **2007** | **2008** | **2009** |
| **1** | 69.9 | 64.3 | ND | 107.1 | 115.2 | 108.1 | 142.5 | 156.7 | 134.5 |
| **2** | 68.0 | 53.8 | ND | 109.5 | 121.6 | 105.3 | 145.6 | 150.2 | 177.2 |
| **3** | 66.0 | 61.4 | ND | 98.7 | 112.4 | 93.0 | 144.9 | 151.2 | 140.3 |
| **4A** | 64.4 | 48.0 | ND | 105.5 | 105.3 | 91.4 | 139.3 | 141.4 | 136.8 |
| **4B** | 68.2 | 60.1 | 62.0 | 102.3 | 108.1 | 96.6 | 135.1 | 145.7 | 134.0 |
| **5** | 65.9 | 61.9 | 63.4 | 101.6 | 106.4 | 97.1 | 138.9 | 140.7 | 135.7 |
| **6** | 74.0 | 70.0 | ND | 106.6 | 112.0 | 98.9 | 139.2 | 153.4 | 136.0 |
| **7** | 74.4 | 69.2 | ND | 103.0 | 113.2 | 102.4 | 139.4 | 151.3 | 139.6 |
| **8** | 62.3 | 59.4 | 60.5 | 102.2 | 104.9 | 99.0 | 147.0 | 143.6 | 138.7 |
| **9** | 66.2 | 64.8 | 63.8 | 101.5 | 111.2 | 98.1 | 133.9 | 162.3 | 138.3 |
| **10** | 73.6 | 67.0 | 69.7 | 107.1 | 113.5 | 106.8 | 138.9 | 146.1 | 139.6 |
| **11** | 60.2 | 62.7 | 59.3 | 101.9 | 105.2 | 92.9 | 129.2 | 147.8 | 131.0 |
| **12** | 63.9 | 56.4 | 66.9 | 103.9 | 105.6 | 95.7 | 135.8 | 140.1 | 136.7 |
| **Average** | **67.5** | **61.5** | **63.6** | **103.9** | **110.4** | **98.9** | **139.2** | **148.5** | **139.9** |

*ND = ≤ 5 deer recorded*

## Antler Points

Deer age, nutritional status, and genetics affect the number of antler points on bucks. Number of antler points on yearling bucks aged at check stations ranged from 1 to 8 in 2009 (Figure 9). Most yearling bucks had 2 (49%) or 4 (18%) points and 10% had 6 or more points in 2009 (Figure 9, Appendix 2). Mean number of antler points on yearling males has fluctuated between 2 and 4 among most zones during the past 3 years (Appendix 3). Of all antlered bucks harvested, 8-pointers were the most frequent point category, followed by 2, 6, and 4 points (Figure 10). Number of points on antlered bucks has remained consistent over the past 4 years (Figure 10).

**Figure 9. Number of antler points on yearling males harvested during the shotgun/rifle deer season, 2009.**

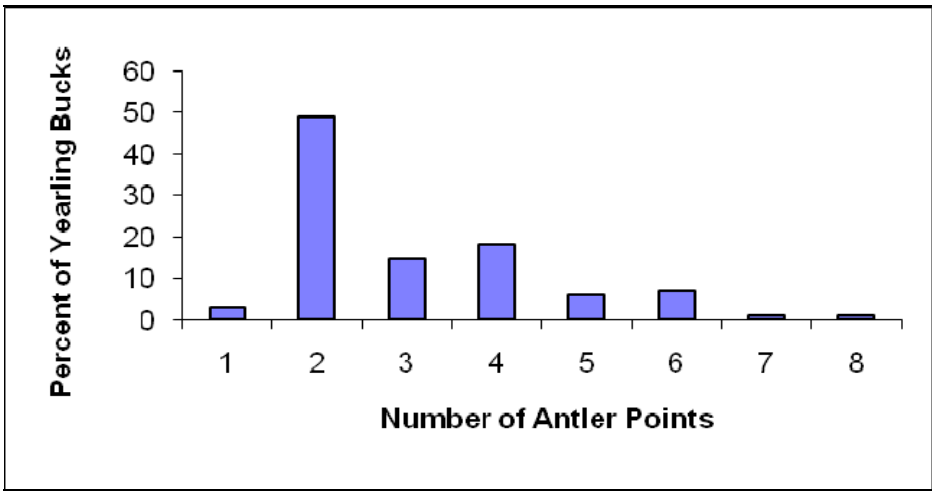
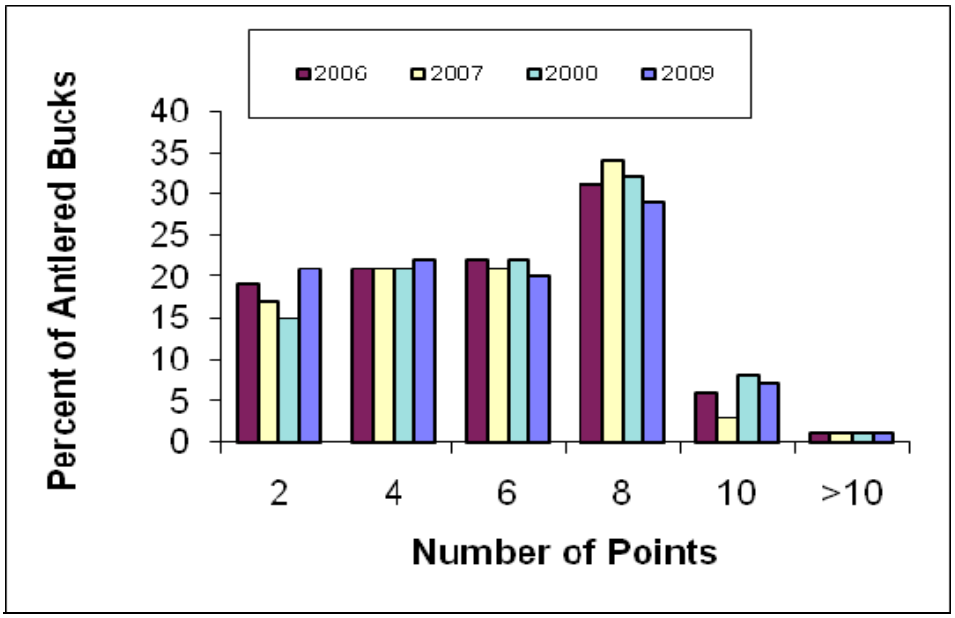


**Figure 10. Percent of all antlered bucks harvested by point category during the shotgun/rifle deer season, 2005-2009.**




## Deer Harvest Sex Ratios

Removal of female deer is the most efficient means of stabilizing deer population growth. To facilitate stabilization, the Wildlife Division developed permits that encourage the harvest of female deer. All 2-tag permits come with 1 antlerless-only and 1 either-sex deer tag. In 2009, this was increased to 1 either-sex and 2 antlerless deer for hunters in zone 7 and 1 either-sex and 3 antlerless deer for hunters in zones 11 and 12. In zone 4A, the antlerless-only tag was NOT valid, reducing the bag limit to 1 deer per hunter during the private land firearms season. Although button bucks are included in the antlerless harvest, this system promotes the removal of female deer (Table 11). Overall deer harvest sex ratios have been similar over the past 3 years (1.2 males per female) (Table 12). In 2009, 53% (5,870) of the total regulated deer harvest (excludes crop damage harvest) was comprised of antlerless deer. A significant proportion of the harvest included adult females, which contributes to population control efforts (Appendix 4).

**Table 11. Sex ratios and antlered to antlerless ratios of deer harvested in 2009.**

| | Muzzleloader | Shotgun/Rifle | Archery | Landowner | Crop Damage | Total |
|---|---|---|---|---|---|---|
| **Male:Female** | 0.60:1 | 1.4:1 | 1.0:1 | 0.6:1 | 0.81:1 | 0.88:1 |
| **Antlered:Antlerless** | 0.40:1 | 0.98:1 | 0.75:1 | 0.43:1 | 0.51:1 | 0.85:1 |

**Table 12. Sex ratios (male:female) of deer harvested during Connecticut's regulated hunting seasons, 2006-2009.**

| 2008 | | 2009 | | Males per Female | | | | 3-year Average |
|---|---|---|---|---|---|---|---|---|
| **Males** | **Females** | **Males** | **Females** | **2006** | **2007** | **2008** | **2009** | **(2006-2008)** |
| 6,970 | 5,848 | 5,269 | 5,675 | 1.3:1 | 1.3:1 | 1.1:1 | 0.9:1 | 1.2:1 |

## Replacement Tags

The replacement tag system was developed to increase the harvest of female deer. This system is currently in place in zones 11 and 12. Since 1998, when archery hunters had access to replacement tags in zone 11, the buck harvest has remained relatively stable while the antlerless harvest in that zone has increased nearly 5 times (from 200 to almost 1,000 deer annually). During that time, the number of roadkills in zone 11 has shown a steady decline (Figure 11). The ratio of female deer harvested in zone 11 increased from 0.9 females per male (1994-1997) to 1.3 females per male (1998-2008) (Figure 12).

Check stations in zones 11 and 12 issued 792 replacement antlerless tags and 112 either-sex tags during the 2009 shotgun/rifle, archery, and muzzleloader deer seasons. Bowhunters reported using 43.6% of replacement antlerless tags and 90.1% of replacement either-sex tags. However, hunters may have been confused when using the new reporting system and reported using a replacement either-sex tag instead of a standard either-sex tag. The previous 3-year average for replacement either-sex tags was about 35.6%.

**Figure 11. Comparison of trends in roadkills and the antlered and antlerless deer harvests during the archery deer season in deer management zone 11, 1995-2009.**

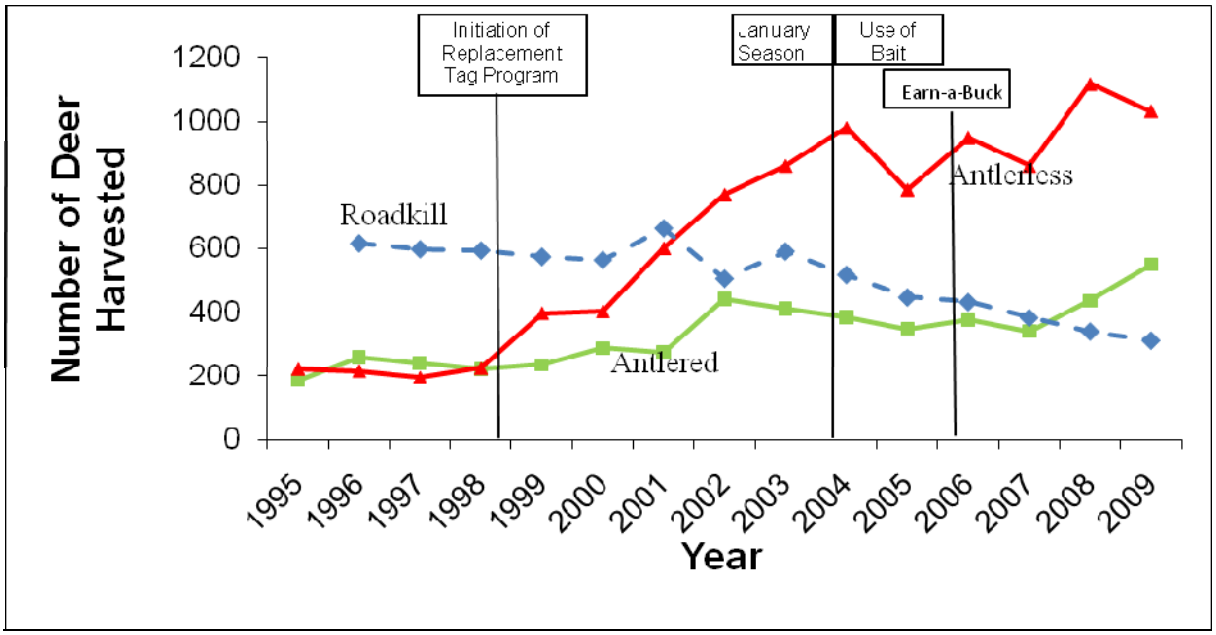
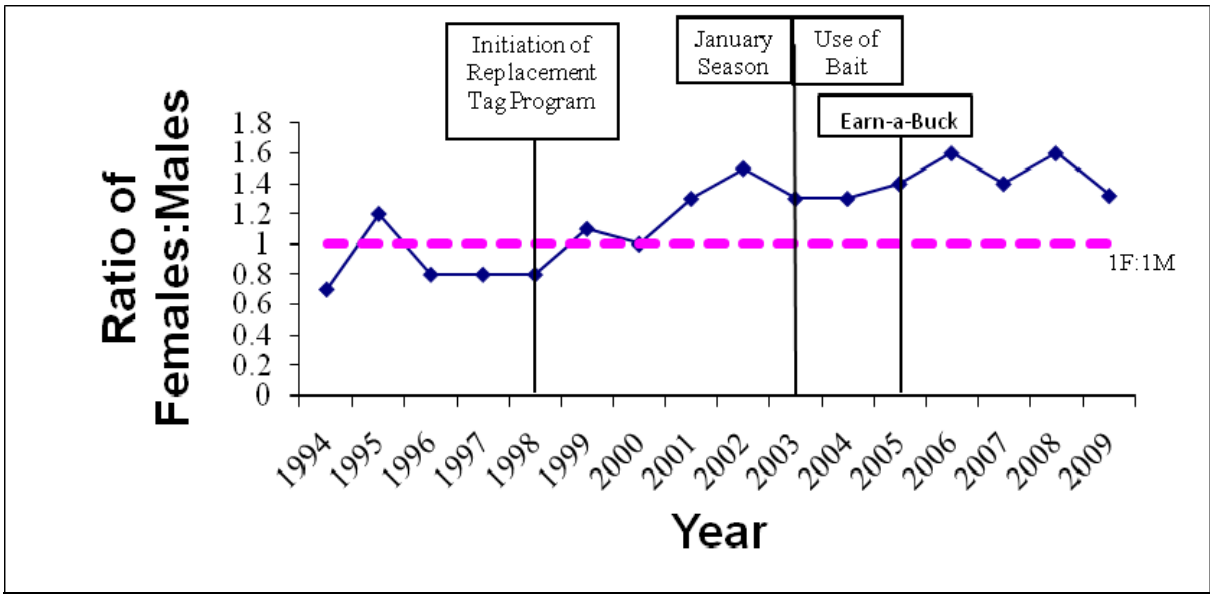



**Figure 12. Sex ratios of harvested deer from deer management zone 11 after implementation of the archery antlerless replacement tag program, 1994-2009.**



## January Hunter Survey

In February 2010, all hunters that purchased an archery permit in January and provided an E-mail address were contacted via E-mail and requested to complete an online January Hunter Survey. The Wildlife Division received 62% of the surveys after 3 mailings. Forty-three percent of hunters who purchased an archery permit in January hunted in January, with 30% hunting in January for the first time. Based on total number of permits sold in January ($n$ = 2,623), it is estimated that 1,135 hunters were afield during the January season. The majority of hunters (81%) were aware that crossbows were legalized for the January 2010 season on private land in zones 11 and 12. Hunters reported using a compound bow (79%) or crossbow (19%), while few used a traditional longbow or re-curve (2%). The primary reasons hunters used crossbows were they could not pull back traditional bows (42%), crossbows are easier to use (24%), they wanted to try something new (18%), crossbows increase accuracy (9%), and increased range and success (6%). Fifty-eight percent of hunters who used a crossbow believed that using a crossbow increased their success. Of all hunters who purchased an archery permit in January, 42% expect to use a crossbow during the January 2011 season.

Hunter use of bait on private land in zones 11 and 12 increased from 2009 (48%) to 2010 (54%). The majority (65%) of hunters using bait believed baiting increased their success rate. Few hunters (25%) used automatic feeders to dispense bait. Hunters baited with corn (53%); a combination of corn, sweet feed, apples, and pumpkins (17%); corn and sweet feed (15%); sweet feed (9%); apples (5%); and mineral licks (1%).

## Deer Hunter Expenditures, Effort, and Venison Calculations

Deer hunting-related expenditures contribute significantly to Connecticut's economy. Deer permit sales generated $932,332 in 2008 and $849,606 in 2009 to the Connecticut General Fund. In addition, data collected from the annual deer hunter surveys indicated that Connecticut deer hunters spent an estimated $10,095,551 on deer hunting-related goods and services in 2009.

In 2009, deer hunters spent a cumulative total of 422,709 days afield. Private and state land shotgun/rifle hunters used the greatest percentage of available hunting days during those seasons (33.0% and 34.0%). Although bowhunters used a smaller percentage of available hunting days (21.8%), the archery season is much longer than the firearms season. Connecticut deer hunters collectively spent slightly more time (35.9 days per deer taken) and less money ($857 per deer taken) in 2009 than in 2008 (33.1 days at $882 per deer taken). In 2009, hunters harvested an estimated 588,700 pounds (avg. 50 lbs. of meat/hunter) (263 tons) of venison at an estimated value of $3,973,725 ($6.75/lb.).

## 2009 Subscription Rates for State Land Lottery Permits

In 2009, 6,922 hunters were selected to hunt during the shotgun and controlled hunt seasons through the state-administered deer lottery program. Lottery permits were allocated at a maximum rate of 1 shotgun permit per 20 acres. In many areas, permit issuance was less than the permit quota established for a given area. In 2009, the total number of no-lottery hunt areas was 19. Sixty-four percent of all potential lottery permits were issued. Permit issuance reached 100% for 5 of 7 controlled hunt areas (Table 13). The following example explains how to interpret Table 13: In Deer Lottery Hunting Area (DLHA) 10, 100% of permits were issued. Consequently, DLHA 12 was under-subscribed compared to DLHA 10. The odds of receiving an "A" season permit are greater in areas with low hunter subscription rates.

## Moose Sightings

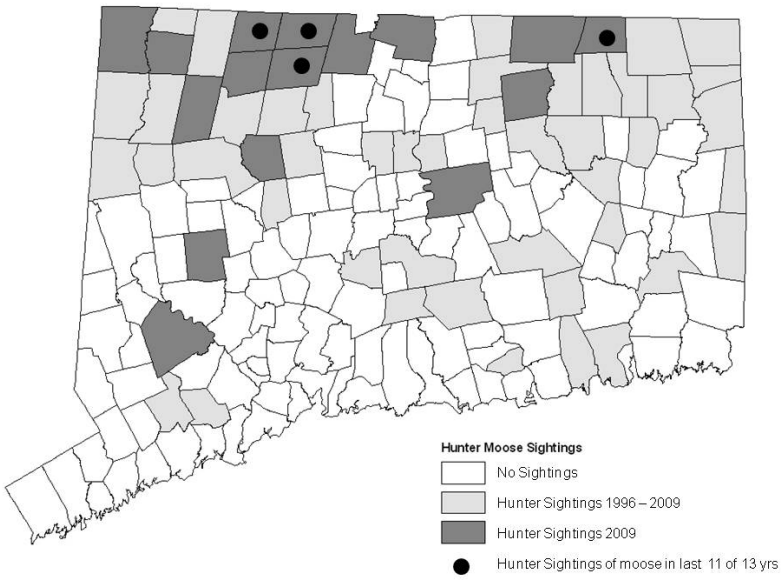
An increasing moose population in Massachusetts has led to an increased number of moose wandering or dispersing into Connecticut. In an effort to monitor trends in moose sightings in Connecticut, a question was added to the deer hunter survey card in 1996 regarding hunter observations of moose during the fall hunting season. Deer hunters reported 42 moose sightings in 17 towns in 2009 and 444 sightings over the past 14 years (Figure 13). During this 14-year period, moose sightings have been reported in 62 different towns. Sightings also have been reported from 9 to 22 different towns each year and in the same 9 towns in 7 of the last 14 years. Moose have been observed in Barkhamsted, Colebrook, Hartland, and Union for 11 of the last 13 years. Most towns where hunters report moose sightings occur along the Connecticut-Massachusetts border. In 2009, an average of 1 moose was observed by hunters for every 1,294 hunter-days spent in the field, similar to the number of days spent hunting to observe a moose compared to 2008, when 1 moose was observed for every 1,281 hunter-days in the field. Currently, Connecticut has no open hunting season for moose.

**Table 13. Deer lottery selection results by Deer Hunting Lottery Area (DHLA), 2005-2009.**

| Deer Hunting Lottery Area | % of Hunting Slots Filled | | | | |
|---|---|---|---|---|---|
| | 2005 | 2006 | 2007 | 2008 | 2009 |
| 1[b] | 38 | 34 | 64 | 64 | 54 |
| 2[b] | 40 | 38 | 79 | 77 | 74 |
| 3[a] | 41 | 57 | 44 | 54 | 32 |
| 4[a] | 32 | 35 | 37 | 37 | 30 |
| 5 | 99 | 82 | 70 | 74 | 63 |
| 6[b] | 58 | 55 | 100 | 100 | 82 |
| 7 | 89 | 92 | 100 | 100 | 85 |
| 8 | 100 | 100 | 100 | 100 | 89 |
| 9 | 100 | 100 | 100 | 100 | 87 |
| 10[b] | 76 | 70 | 100 | 100 | 100 |
| 11 | 62 | 63 | 68 | 66 | 57 |
| 12 | 67 | 64 | 61 | 60 | 53 |
| 13[b] | 53 | 48 | 100 | 98 | 81 |
| 14[b] | 52 | 57 | 48 | 52 | 50 |
| 15[b] | 85 | 90 | 81 | 75 | 77 |
| 16 | 66 | 64 | 69 | 77 | 63 |
| 17[a] | 31 | 27 | 33 | 32 | 31 |
| 18 | 93 | 83 | 82 | 76 | 72 |
| 19[a] | 28 | 27 | 30 | 22 | 25 |
| 20[b] | 37 | 39 | 69 | 58 | 61 |
| 21[a] | 26 | 27 | 26 | 28 | 30 |
| 22[b] | 39 | 43 | 91 | 72 | 74 |
| 23[a] | 38 | 40 | 44 | 40 | 42 |
| 24[b] | 42 | 45 | 74 | 80 | 69 |
| 25[b] | 39 | 36 | 46 | 40 | 29 |
| 26 | 100 | 100 | 100 | 100 | 100 |
| 27 | 100 | 100 | 100 | 100 | 77 |
| 51 (Yale) | 76 | 77 | 65 | 68 | 60 |
| 52 (Bristol Water Co) | 100 | 100 | 100 | 100 | 100 |
| 53 (Maromas) | 100 | 100 | 100 | 100 | 100 |
| 54 (Skiff Mt.) | 87 | 67 | 65 | 50 | 76 |
| 56 (BHC-CWSF) | 100 | 100 | 100 | 100 | 100 |
| 57 (MDC Colebrook) | 18 | 14 | 22 | 23 | 34 |
| 58[c] (MDC Nepaug) | NA | NA | NA | NA | 100 |
| 59[d] (MDC Nepaug) | NA | NA | NA | NA | 100 |

[a] *Based on "A" season only. "B" season is a "No-Lottery" option.*
[b] *Based on "A and B" season through 2006. In 2007 "B" season became a "No-Lottery" option.*
[c] *Valentine Area*
[d] *Pine Hill Area*

**Figure 13. Moose sightings reported on deer hunter surveys, 1996-2009.**




## Controlled Deer Hunts

**Yale Forest (Area 51):** Yale Forest is a 7,700-acre forest located in Eastford and Ashford. The forest is owned and managed by Yale University for research, education, and forest products. Controlled hunts have been implemented on the property since 1984 in an effort to reduce deer impacts on forest regeneration. During the first 4 days of the 2009 controlled hunt, 12 deer were harvested.

**Bristol Water Company (BWC; Area 52):** In 1994, BWC contacted the Wildlife Division and expressed interest in opening 4,500 acres for deer management. In 1995, the Wildlife Division conducted a winter aerial deer survey on BWC lands. After survey results were summarized, BWC requested to participate in the controlled hunt program for the 1996, 1997, and 1998 deer seasons to reduce the local deer population. After 3 years of successfully implementing a deer management program on BWC land, BWC requested to continue participating in the program. During the first 4 days of the 2009 controlled hunt, 10 deer were harvested.

**Maromas Cooperative Management Area (Area 53):** Since 1996, Maromas, a 1,400-acre parcel in Middletown owned by Northeast Utilities, has been open to shotgun and muzzleloader hunting to maintain deer densities at levels compatible with available habitat. During the first 4 days of the 2009 controlled hunt, 4 deer were harvested.

**Skiff Mountain (Area 54):** Skiff Mountain is a 710-acre property in Sharon owned by Northeast Utilities. It is open to shotgun and muzzleloader hunting. During the first 4 days of the 2009 controlled hunt, no deer were harvested.

**Centennial Watershed State Forest (formerly known as Bridgeport Hydraulic Company) (Area 56):** The Hemlock Tract has been open to hunting since 1996. In 2005, an additional 1,765 acres were opened to hunting (3,474 total acres). During the first 4 days of the 2009 controlled hunt, 27 deer were harvested.

**MDC Colebrook Reservoir/Hogback Dam (Area 57):** This 4,159-acre parcel in Colebrook was opened to hunting in 1999. During the first 4 days of the 2009 controlled hunt, 1 deer was harvested.

**MDC Nepaug Reservoir (Area 58 and 59):** In 2007, MDC contacted the Wildlife Division and expressed concern about the impacts of deer on forest regeneration at their Valentine (1,075 acres) and Pine Hill (325 acres) forest blocks. A browse survey indicated that over 95% of forest regeneration was browsed by deer. In 2008, MDC worked with the Wildlife Division to develop a deer management plan for the 2 forest blocks. In 2009, both Valentine and Pine Hill were opened to hunting during the early archery and shotgun/rifle seasons. Nine deer were harvested during the early archery season and an additional 24 deer were harvested during the shotgun/rifle season.

**Devil's Den:** The Nature Conservancy owns this 1,660-acre property in Weston and Redding. In 2009, 83 deer were removed.

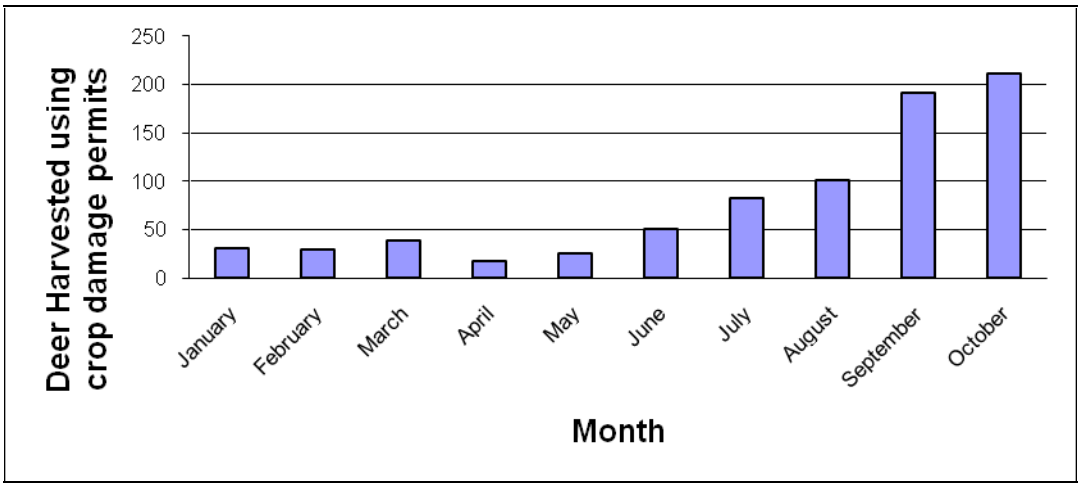
**Bluff Point:** Controlled hunts and DEP deer removals at Bluff Point Coastal Reserve in Groton have been implemented over the past 14 years to reduce and maintain the deer population at about 25 animals. Since the program started in 1996, 530 deer have been removed from Bluff Point, resulting in improved deer herd health and ecosystem stability. In December 2009, the deer population was estimated to be 35 deer. In February 2010, 11 deer were removed by DEP personnel. After the February 2010 removal, the population was estimated to be 24 deer.

**Greenwich:** Greenwich Audubon initiated a deer management program to reduce the deer population and restore the biological health of this 285-acre sanctuary located in northern Greenwich. In 2009, hunters from Greenwich Sportsmen's and Landowners Association harvested 71 deer.

## Crop Damage Permits

Deer damage is an important economic concern to some commercial agricultural operations. The Wildlife Division's crop damage program regulates the removal of deer on agricultural properties that meet specific criteria and are experiencing verifiable deer damage to specific plant commodities. The Division also encourages agriculturists to take advantage of the regulated deer hunting season to aid in the removal of problem deer and to use other methods, such as fencing, to reduce deer damage. During the 2009 calendar year, 780 deer were taken with crop damage permits (Appendix 5). From 1993-2009, annual deer harvest with crop damage permits has fluctuated between 543 and 946 deer. Harvest in deer management zone 11 accounted for 14% of deer removed with crop damage permits in 2009. Crop damage harvest increased steadily from May to October, with 52% of the annual harvest occurring in September and October (Figure 14). Crop damage permits are not valid in November and December.

**Figure 14. Crop damage harvest by month, 2009.**




## Non-hunting Deer Mortality

Non-hunting deer mortality, particularly roadkills, represents a significant percentage of annual deer losses in Connecticut. Roadkill data provide important information relative to cultural carrying capacity, population modeling, and, to a lesser extent, deer density and herd sex ratios. In an urban-suburban state like Connecticut, measures of land-use conflicts, such as roadkills, are an important source of data for the formulation of management policies and recommendations.

In 2009, 1,998 non-hunting deer mortalities were reported (Appendix 6). Of those, 1,902 deer were killed in collisions with vehicles. This equates to an average of 5.2 deer being killed per day on Connecticut roads and highways. Roadkills accounted for 95% of all reported non-hunting mortality (excluding crop damage) in 2009. Based on a 2-year study (2000-2001), for every 1 deer killed by a vehicle and reported to the Wildlife Division, 5 additional deer are killed by a vehicle and not reported. Based on this correction factor, it is estimated that the actual number of roadkills in 2008 was 11,412. Sixteen percent (313) of all reported roadkilled deer in Connecticut occurred in deer management zone 11 (Fairfield County, Figure 2) in 2009 (Appendix 7). The number of roadkills in zone 11 has shown a steady decline since the implementation of the replacement tag program, extension of the archery season, and the legalization of baiting (Figure 11). Non-hunting mortality comprised 19.1% of the total reported deer mortality in Connecticut, including crop damage harvest (Appendix 6).

## Disease Testing of White-tailed Deer

Over the past 7 years, the Wildlife Division has focused much effort on conducting surveillance for chronic wasting disease (CWD) in deer. CWD is one of a group of diseases called transmissible spongiform encephalopathies (TSE), or prion diseases, that are inevitably fatal to members of the deer family. CWD is closely related to, but different from, other TSEs in other species, such as scrapie in sheep.

CWD was first recognized as a disease in 1967 in captive mule deer at a wildlife research facility in Fort Collins, Colorado. The disease was first diagnosed in free-ranging elk, mule deer, and white-tailed deer in Colorado and Wyoming in 1981, 1985, and 1990, respectively. To date, CWD has been diagnosed in captive cervid facilities in Alberta, Colorado, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, New York, Oklahoma, Saskatchewan, and South Dakota, and in free-ranging cervids in Colorado, Illinois, Nebraska, New Mexico, New York, South Dakota, Saskatchewan, Utah, Virginia, West Virginia, Wisconsin, and Wyoming.

Concerns about CWD entering Connecticut prompted emergency regulations to be enacted in 2002 restricting the movement of live animals into the state. The DEP began its first intensive CWD surveillance program in 2003. From 2003 to 2008, a total of 3,136 samples have been collected from hunter harvested and roadkilled deer and tested at either the University of Connecticut's Department of Pathobiology and Veterinary Science or the Wisconsin Veterinary Diagnostic Laboratory, and all tested negative for CWD. In 2009, an additional, 623 samples were tested – 287 from high-risk areas along the New York border and 336 from the remainder of the state. All samples were negative for CWD. The DEP will continue to monitor for CWD as long as funding is available.

In 2008, a hunter who harvested a deer from Lebanon was cut while field dressing a deer and later contracted parapoxvirus. A similar situation occurred with a hunter from Virginia in 2008. Parapox is a skin disease found throughout the world in sheep, goats, and cattle. Recently, the virus has been shown to be transmissible to deer. Symptoms generally include lesions, scabs, and blisters around the mouth, lips, and muzzle. Animals without any apparent scabs or scars may still be infected with parapoxvirus. A total of 10 deer from Lebanon were tested during the 2010 hunting season and all were negative for parapoxvirus. Hunters should take normal precautions when handling deer, such as wearing latex gloves and thoroughly washing hands and equipment after field dressing or processing deer.

## Conclusion

Over the past 30 years, deer population size, human land-use practices, and public attitudes toward wildlife have changed considerably. Today, hunters may legally take up to 14 deer per year if they participate in all hunting seasons and additional deer may be taken in 2 of the 13 deer management zones. Historically, permit issuance increased consistently from 11,710 in 1975 to 61,333 in 1992. Since 1992, permit issuance has remained relatively stable, fluctuating between 60,316 and 64,032. Permit issuance increased to its highest point in history in 2008. The cause for this increase is unknown, but may be attributed to the poor economy, where harvesting one's own food may be a desirable means of obtaining quality protein. Permit issuance declined slightly in 2009, likely due to the increased cost of permits. Over the last 10 years, harvest in most deer management zones has remained relatively stable. However, with increased opportunities and incentives to harvest deer in urban deer management zones 11 and 12, the harvest has more than doubled, while roadkills have been exhibiting a steady downward trend. Increased harvest efforts appear to have stabilized deer populations in many areas of the state.

Although hunting is the most effective and cost-efficient means of deer population control, opinions regarding use of different options for managing urban deer herds vary greatly. To better understand deer movement patterns and public opinions regarding deer populations in urban and suburban areas, the Wildlife Division initiated several long-term urban deer studies in residential communities in recent years. Reports summarizing findings from these studies are available to communities interested in managing deer in more developed areas of the state, such as Fairfield County. To obtain copies of these reports, go to the DEP Web site (www.ct.gov/dep) or contact the Wildlife Division's Deer Program at 860-642-7239. The Division will continue to provide technical assistance on deer control options to interested communities. Future management efforts will continue to focus on deer population stabilization. Landowners will be encouraged to use hunting in areas with overabundant deer populations, where possible, as a management tool. A booklet on *Managing Urban Deer in Connecticut* is available from Division offices or on the Web site (www.ct.gov/dep/lib/dep/wildlife/pdf_files/game/urbandeer07.pdf) to assist communities in developing effective deer management programs. The Northeast Deer Technical committee made available a booklet in 2009 "*An Evaluation of Deer Management Options*" which can also be found online at www.ct.gov/dep/lib/dep/wildlife/pdf_files/game/deeroptions.pdf.

**Appendix 1. Total deer harvest and reported roadkilled deer by town, 2009.**

| Town | Archery | Shotgun/Rifle | Landowner | Muzzleloader | Cropkill | Roadkill | Other | Total |
|---|---|---|---|---|---|---|---|---|
| Andover | 30 | 25 | 9 | 8 | 0 | 13 | 0 | 85 |
| Ansonia | 16 | 2 | 0 | 0 | 0 | 0 | 0 | 18 |
| Ashford | 38 | 86 | 32 | 30 | 1 | 16 | 0 | 203 |
| Avon | 4 | 8 | 0 | 2 | 0 | 16 | 0 | 30 |
| Barkhamsted | 14 | 18 | 9 | 6 | 0 | 12 | 0 | 59 |
| Beacon Falls | 11 | 25 | 2 | 5 | 1 | 3 | 0 | 47 |
| Berlin | 30 | 23 | 3 | 5 | 5 | 3 | 0 | 69 |
| Bethany | 24 | 18 | 6 | 8 | 0 | 9 | 0 | 65 |
| Bethel | 53 | 23 | 0 | 15 | 4 | 10 | 3 | 108 |
| Bethlehem | 7 | 27 | 4 | 2 | 3 | 5 | 0 | 48 |
| Bloomfield | 17 | 12 | 2 | 8 | 0 | 1 | 0 | 10 |
| Bolton | 15 | 14 | 2 | 5 | 12 | 16 | 0 | 64 |
| Bozrah | 16 | 33 | 9 | 4 | 1 | 4 | 0 | 67 |
| Branford | 9 | 3 | 2 | 1 | 4 | 2 | 1 | 22 |
| Bridgeport | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| Bridgewater | 12 | 38 | 2 | 6 | 1 | 2 | 0 | 61 |
| Bristol | 4 | 3 | 1 | 0 | 0 | 10 | 0 | 18 |
| Brookfield | 123 | 14 | 1 | 1 | 0 | 16 | 0 | 155 |
| Brooklyn | 26 | 57 | 19 | 17 | 4 | 12 | 0 | 135 |
| Burlington | 19 | 36 | 0 | 3 | 0 | 16 | 0 | 74 |
| Canaan | 27 | 35 | 8 | 5 | 11 | 6 | 1 | 93 |
| Canterbury | 27 | 55 | 28 | 2 | 6 | 12 | 0 | 130 |
| Canton | 12 | 22 | 5 | 1 | 2 | 10 | 0 | 52 |
| Chaplin | 30 | 49 | 8 | 7 | 0 | 8 | 0 | 102 |
| Cheshire | 34 | 24 | 0 | 6 | 22 | 21 | 1 | 108 |
| Chester | 13 | 21 | 2 | 2 | 0 | 4 | 0 | 42 |
| Clinton | 6 | 4 | 0 | 3 | 0 | 0 | 0 | 13 |
| Colchester | 28 | 97 | 22 | 11 | 8 | 58 | 0 | 224 |
| Colebrook | 2 | 4 | 7 | 0 | 0 | 5 | 0 | 18 |
| Columbia | 18 | 38 | 15 | 1 | 10 | 23 | 0 | 105 |
| Cornwall | 30 | 62 | 10 | 7 | 2 | 2 | 0 | 113 |
| Coventry | 63 | 82 | 11 | 15 | 0 | 19 | 2 | 192 |
| Cromwell | 2 | 7 | 1 | 0 | 7 | 6 | 0 | 23 |
| Danbury | 56 | 25 | 0 | 4 | 0 | 7 | 0 | 92 |
| Darien | 40 | 1 | 0 | 0 | 0 | 16 | 6 | 62 |
| Deep River | 6 | 9 | 1 | 6 | 8 | 2 | 0 | 32 |
| Derby | 6 | 1 | 0 | 1 | 0 | 2 | 0 | 9 |
| Durham | 31 | 57 | 6 | 11 | 0 | 5 | 0 | 110 |
| East Granby | 5 | 17 | 0 | 3 | 0 | 8 | 0 | 33 |
| East Haddam | 51 | 107 | 26 | 14 | 2 | 19 | 0 | 219 |
| East Hampton | 26 | 64 | 10 | 9 | 6 | 5 | 0 | 120 |
| East Hartford | 3 | 4 | 0 | 0 | 6 | 6 | 1 | 20 |
| East Haven | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| East Lyme | 24 | 55 | 6 | 7 | 4 | 18 | 2 | 116 |
| East Windsor | 17 | 26 | 7 | 7 | 0 | 3 | 1 | 61 |
| Eastford | 28 | 52 | 7 | 5 | 11 | 8 | 1 | 112 |

| Town | Archery | Shotgun/Rifle | Landowner | Muzzleloader | Cropkill | Roadkill | Other | Total |
|---|---|---|---|---|---|---|---|---|
| Easton | 75 | 58 | 2 | 4 | 9 | 16 | 0 | 151 |
| Ellington | 17 | 26 | 10 | 7 | 0 | 7 | 0 | 67 |
| Enfield | 25 | 20 | 3 | 5 | 1 | 19 | 0 | 73 |
| Essex | 2 | 12 | 1 | 1 | 0 | 2 | 0 | 18 |
| Fairfield | 113 | 14 | 0 | 5 | 6 | 12 | 3 | 153 |
| Farmington | 10 | 8 | 0 | 0 | 9 | 17 | 1 | 45 |
| Franklin | 16 | 35 | 12 | 12 | 6 | 6 | 0 | 87 |
| Glastonbury | 33 | 64 | 14 | 10 | 58 | 38 | 3 | 220 |
| Goshen | 11 | 40 | 11 | 6 | 0 | 8 | 0 | 76 |
| Granby | 6 | 26 | 3 | 3 | 0 | 2 | 0 | 40 |
| Greenwich | 75 | 2 | 0 | 1 | 0 | 1 | 0 | 79 |
| Griswold | 27 | 63 | 21 | 16 | 15 | 1 | 0 | 143 |
| Groton | 12 | 12 | 2 | 1 | 4 | 14 | 0 | 45 |
| Guilford | 42 | 22 | 7 | 10 | 0 | 31 | 3 | 115 |
| Haddam | 43 | 67 | 19 | 12 | 1 | 10 | 0 | 152 |
| Hamden | 11 | 13 | 3 | 5 | 20 | 3 | 0 | 55 |
| Hampton | 23 | 47 | 28 | 13 | 4 | 11 | 0 | 126 |
| Hartford | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 4 |
| Hartland | 4 | 17 | 0 | 4 | 0 | 2 | 0 | 27 |
| Harwinton | 24 | 38 | 7 | 1 | 6 | 12 | 0 | 88 |
| Hebron | 42 | 48 | 15 | 5 | 8 | 34 | 0 | 152 |
| Kent | 19 | 68 | 8 | 12 | 1 | 11 | 0 | 119 |
| Killingly | 33 | 52 | 19 | 7 | 4 | 35 | 0 | 150 |
| Killingworth | 22 | 33 | 3 | 6 | 0 | 6 | 0 | 70 |
| Lebanon | 42 | 85 | 34 | 15 | 46 | 24 | 0 | 246 |
| Ledyard | 21 | 57 | 9 | 8 | 3 | 27 | 1 | 126 |
| Lisbon | 7 | 24 | 15 | 8 | 0 | 3 | 0 | 57 |
| Litchfield | 46 | 70 | 14 | 16 | 5 | 20 | 1 | 172 |
| Lyme | 28 | 74 | 11 | 11 | 9 | 7 | 0 | 140 |
| Madison | 21 | 15 | 0 | 4 | 0 | 7 | 0 | 47 |
| Manchester | 14 | 7 | 0 | 2 | 0 | 13 | 0 | 36 |
| Mansfield | 38 | 70 | 6 | 17 | 11 | 45 | 1 | 188 |
| Marlborough | 23 | 57 | 2 | 10 | 0 | 22 | 0 | 114 |
| Meriden | 11 | 4 | 1 | 2 | 3 | 9 | 0 | 30 |
| Middlebury | 19 | 8 | 4 | 1 | 0 | 11 | 0 | 43 |
| Middlefield | 17 | 18 | 2 | 1 | 21 | 2 | 0 | 61 |
| Middletown | 29 | 55 | 9 | 10 | 3 | 9 | 1 | 116 |
| Milford | 13 | 3 | 0 | 0 | 1 | 14 | 2 | 33 |
| Monroe | 26 | 25 | 2 | 1 | 2 | 0 | 0 | 56 |
| Montville | 19 | 36 | 7 | 6 | 8 | 34 | 0 | 110 |
| Morris | 20 | 19 | 5 | 8 | 2 | 9 | 0 | 63 |
| Naugatuck | 25 | 18 | 4 | 6 | 0 | 7 | 0 | 60 |
| New Britain | 2 | 1 | 0 | 1 | 0 | 2 | 0 | 5 |
| New Canaan | 87 | 0 | 0 | 0 | 0 | 29 | 4 | 120 |
| New Fairfield | 33 | 37 | 2 | 10 | 0 | 19 | 0 | 101 |
| New Hartford | 24 | 39 | 10 | 6 | 2 | 6 | 0 | 87 |
| New Haven | 4 | 0 | 0 | 1 | 0 | 2 | 0 | 7 |

| Town | Archery | Shotgun/Rifle | Landowner | Muzzleloader | Cropkill | Roadkill | Other | Total |
|---|---|---|---|---|---|---|---|---|
| New London | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New Milford | 39 | 88 | 10 | 10 | 15 | 5 | 0 | 167 |
| Newington | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Newtown | 162 | 101 | 2 | 17 | 15 | 20 | 1 | 318 |
| Norfolk | 12 | 30 | 5 | 4 | 0 | 3 | 0 | 54 |
| North Branford | 55 | 4 | 1 | 0 | 2 | 7 | 0 | 69 |
| North Canaan | 7 | 13 | 4 | 4 | 0 | 6 | 0 | 34 |
| North Haven | 21 | 5 | 0 | 1 | 0 | 3 | 0 | 30 |
| North Stonington | 28 | 60 | 18 | 8 | 1 | 9 | 0 | 124 |
| Norwalk | 14 | 0 | 0 | 0 | 0 | 5 | 0 | 19 |
| Norwich | 26 | 40 | 4 | 5 | 0 | 21 | 3 | 99 |
| Old Lyme | 48 | 40 | 2 | 6 | 0 | 16 | 0 | 112 |
| Old Saybrook | 10 | 9 | 0 | 1 | 0 | 7 | 0 | 27 |
| Orange | 42 | 6 | 0 | 0 | 0 | 8 | 2 | 58 |
| Oxford | 23 | 48 | 10 | 3 | 8 | 11 | 0 | 103 |
| Plainfield | 30 | 64 | 20 | 17 | 4 | 13 | 0 | 148 |
| Plainville | 3 | 6 | 0 | 1 | 0 | 0 | 0 | 10 |
| Plymouth | 10 | 17 | 3 | 1 | 2 | 6 | 0 | 39 |
| Pomfret | 44 | 92 | 17 | 27 | 18 | 19 | 0 | 217 |
| Portland | 11 | 49 | 3 | 4 | 7 | 18 | 0 | 92 |
| Preston | 15 | 34 | 11 | 4 | 20 | 8 | 0 | 92 |
| Prospect | 17 | 17 | 0 | 4 | 0 | 23 | 0 | 61 |
| Putnam | 14 | 18 | 6 | 3 | 0 | 10 | 0 | 51 |
| Redding | 206 | 97 | 8 | 10 | 13 | 9 | 0 | 343 |
| Ridgefield | 253 | 67 | 0 | 15 | 1 | 61 | 19 | 416 |
| Rocky Hill | 4 | 3 | 0 | 1 | 3 | 5 | 0 | 16 |
| Roxbury | 14 | 33 | 3 | 4 | 8 | 3 | 0 | 65 |
| Salem | 13 | 42 | 6 | 6 | 2 | 9 | 0 | 78 |
| Salisbury | 91 | 88 | 16 | 10 | 21 | 18 | 0 | 244 |
| Scotland | 29 | 38 | 12 | 10 | 7 | 13 | 1 | 110 |
| Seymour | 17 | 6 | 0 | 5 | 0 | 4 | 1 | 33 |
| Sharon | 45 | 109 | 12 | 22 | 4 | 16 | 0 | 208 |
| Shelton | 37 | 14 | 1 | 1 | 48 | 21 | 1 | 123 |
| Sherman | 23 | 42 | 4 | 5 | 4 | 7 | 0 | 85 |
| Simsbury | 11 | 11 | 0 | 2 | 0 | 14 | 1 | 39 |
| Somers | 20 | 18 | 5 | 8 | 0 | 14 | 0 | 65 |
| South Windsor | 10 | 6 | 6 | 4 | 2 | 8 | 0 | 34 |
| Southbury | 23 | 24 | 2 | 4 | 8 | 30 | 1 | 92 |
| Southington | 38 | 13 | 1 | 1 | 19 | 14 | 4 | 90 |
| Sprague | 2 | 14 | 2 | 0 | 7 | 3 | 0 | 28 |
| Stafford | 61 | 44 | 53 | 8 | 2 | 12 | 1 | 181 |
| Stamford | 61 | 8 | 0 | 0 | 0 | 1 | 1 | 71 |
| Sterling | 26 | 39 | 21 | 2 | 18 | 9 | 0 | 115 |
| Stonington | 41 | 38 | 5 | 5 | 8 | 20 | 1 | 118 |
| Stratford | 6 | 3 | 0 | 2 | 0 | 5 | 1 | 17 |
| Suffield | 15 | 32 | 8 | 4 | 1 | 1 | 0 | 61 |
| Thomaston | 15 | 11 | 7 | 4 | 6 | 3 | 0 | 46 |

| Town | Archery | Shotgun/Rifle | Landowner | Muzzleloader | Cropkill | Roadkill | Other | Total |
|---|---|---|---|---|---|---|---|---|
| Thompson | 65 | 58 | 27 | 15 | 6 | 16 | 0 | 187 |
| Tolland | 53 | 27 | 18 | 10 | 4 | 33 | 0 | 145 |
| Torrington | 13 | 20 | 3 | 5 | 2 | 3 | 0 | 46 |
| Trumbull | 26 | 0 | 0 | 0 | 0 | 28 | 5 | 59 |
| Union | 52 | 37 | 9 | 6 | 0 | 3 | 0 | 107 |
| Vernon | 14 | 12 | 1 | 4 | 0 | 9 | 2 | 42 |
| Voluntown | 37 | 47 | 16 | 9 | 24 | 2 | 0 | 135 |
| Wallingford | 36 | 16 | 2 | 7 | 5 | 13 | 2 | 81 |
| Warren | 8 | 23 | 7 | 1 | 11 | 3 | 0 | 53 |
| Washington | 24 | 46 | 13 | 5 | 8 | 8 | 0 | 104 |
| Waterbury | 3 | 1 | 0 | 0 | 0 | 4 | 0 | 7 |
| Waterford | 62 | 46 | 9 | 5 | 1 | 46 | 1 | 170 |
| Watertown | 11 | 21 | 4 | 0 | 2 | 6 | 2 | 46 |
| West Hartford | 0 | 0 | 0 | 0 | 0 | 10 | 3 | 13 |
| West Haven | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 8 |
| Westbrook | 9 | 12 | 0 | 0 | 0 | 1 | 0 | 22 |
| Weston | 40 | 20 | 0 | 0 | 0 | 0 | 0 | 60 |
| Westport | 8 | 0 | 0 | 0 | 0 | 7 | 0 | 15 |
| Wethersfield | 0 | 2 | 0 | 0 | 5 | 6 | 0 | 13 |
| Willington | 28 | 26 | 10 | 6 | 0 | 16 | 0 | 86 |
| Wilton | 67 | 38 | 0 | 2 | 3 | 23 | 1 | 134 |
| Winchester | 4 | 24 | 5 | 4 | 0 | 3 | 0 | 40 |
| Windham | 15 | 44 | 8 | 8 | 0 | 16 | 0 | 91 |
| Windsor | 6 | 7 | 5 | 0 | 2 | 9 | 1 | 30 |
| Windsor Locks | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 2 |
| Wolcott | 13 | 3 | 0 | 2 | 0 | 13 | 1 | 32 |
| Woodbridge | 40 | 4 | 0 | 5 | 0 | 13 | 0 | 62 |
| Woodbury | 17 | 40 | 4 | 4 | 11 | 20 | 0 | 96 |
| Woodstock | 48 | 76 | 28 | 15 | 12 | 9 | 0 | 188 |
| **Totals** | **4,718** | **5,082** | **1,065** | **909** | **780** | **1,902** | **96** | **14,521** |

**Appendix 2. Percent of yearling bucks harvested by antler point category, 1986-2009.**

| Year | Sample Size | Number of Antler Points on Yearling Bucks | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| **1986** | 373 | 0.8 | 39.7 | 13.7 | 24.4 | 8.8 | 8.3 | 1.6 | 2.1 | 0.3 | 0.3 |
| **1987** | 463 | 0.2 | 45.4 | 14.9 | 19.7 | 7.6 | 8.4 | 1.5 | 2.2 | 0.2 | 0.0 |
| **1988** | 735 | 2.3 | 54.6 | 11.6 | 15.5 | 7.6 | 5.6 | 0.7 | 1.6 | 0.3 | 0.3 |
| **1989** | 607 | 0.8 | 55.4 | 14.2 | 14.8 | 6.3 | 4.9 | 1.3 | 2.0 | 0.3 | 0.0 |
| **1990** | 485 | 0.4 | 49.3 | 14.8 | 20.4 | 6.2 | 5.8 | 1.0 | 1.0 | 0.6 | 0.4 |
| **1991** | 579 | 0.0 | 46.8 | 14.3 | 22.1 | 6.4 | 7.6 | 1.0 | 1.6 | 0.2 | 0.0 |
| **1992** | 342 | 0.3 | 38.3 | 13.7 | 23.4 | 9.1 | 10.2 | 2.6 | 2.0 | 0.3 | 0.0 |
| **1993** | 370 | 0.3 | 62.7 | 14.3 | 11.9 | 3.5 | 4.3 | 1.6 | 1.1 | 0.3 | 0.0 |
| **1994** | 328 | 0.6 | 43.9 | 14.3 | 19.8 | 8.8 | 9.1 | 1.5 | 1.5 | 0.3 | 0.0 |
| **1995** | 428 | 0.7 | 28.5 | 13.6 | 26.2 | 13.3 | 11.4 | 3.5 | 2.3 | 0.2 | 0.2 |
| **1996** | 524 | 0.8 | 47.9 | 13.4 | 19.5 | 8.2 | 7.4 | 1.5 | 1.1 | 0.2 | 0.0 |
| **1997** | 506 | 0.4 | 47.6 | 11.9 | 20.4 | 8.9 | 7.1 | 2.6 | 1.2 | 0.0 | 0.0 |
| **1998*** | | | | | | | | | | | |
| **1999** | 564 | 0.4 | 31.2 | 13.8 | 28.2 | 10.5 | 10.1 | 2.8 | 3.0 | 0.0 | 0.0 |
| **2000** | 739 | 0.1 | 34.4 | 12.6 | 24.6 | 11.9 | 11.5 | 3.7 | 1.2 | 0.0 | 0.0 |
| **2001** | 573 | 0.9 | 55.0 | 11.3 | 18.7 | 6.5 | 5.9 | 0.9 | 0.9 | 0.0 | 0.0 |
| **2002** | 535 | 3.7 | 33.1 | 15.1 | 26.0 | 8.0 | 10.7 | 2.8 | 0.6 | 0.0 | 0.0 |
| **2003** | 499 | 0.2 | 32.0 | 17.0 | 25.0 | 11.6 | 9.2 | 3.0 | 1.4 | 0.2 | 0.0 |
| **2004** | 671 | 1.0 | 41.0 | 15.0 | 22.0 | 7.0 | 9.0 | 2.0 | 2.0 | 0.0 | 0.0 |
| **2005** | 603 | 3.4 | 43.1 | 15.3 | 20.7 | 7.6 | 7.3 | 1.1 | 1.9 | 0.2 | 0.2 |
| **2006** | 528 | 2.3 | 46.2 | 17.2 | 17.8 | 6.8 | 7.2 | 2.1 | 0.4 | 0.0 | 0.0 |
| **2007** | 475 | 4.0 | 43.2 | 12.2 | 21.5 | 8.4 | 6.1 | 2.3 | 1.3 | 0.5 | 0.5 |
| **2008** | 473 | 1.9 | 35.3 | 14.6 | 21.8 | 10.1 | 10.4 | 3.0 | 1.9 | 0.6 | 0.4 |
| **2009** | 409 | 3.2 | 49.1 | 14.9 | 17.6 | 5.6 | 7.1 | 1.5 | 1.0 | 0.0 | 0.0 |
| **Average** | **513** | **1.2** | **43.6** | **14.1** | **21.0** | **8.2** | **8.0** | **2.0** | **1.5** | **0.2** | **0.1** |

** No data collected in 1998.*

**Appendix 3. Mean number of antler points of yearling males by deer management zone, 1999-2009.**

| | 1 | 2 | 3 | 4 | 4A | 4B | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1999** | 3.7 | 3.5 | 3.8 | 3.9 | | | 3.8 | 4 | 3.3 | 4.3 | 3.9 | 4 | 3 | 3.8 |
| **2000** | 3.7 | 3.7 | 3.6 | 3.5 | | | 4.1 | 4.2 | 3.6 | 2.9 | 3.6 | 3.1 | 3.2 | 3.2 |
| **2001** | 3.2 | 3.1 | 2.6 | 2.6 | | | 3 | 2.9 | 3.2 | 3.6 | 3 | 2.9 | 3.5 | 2.8 |
| **2002** | 4.0 | 4.5 | 3.0 | 4.0 | | | 5.0 | 3.5 | 3.8 | 3.0 | 3.5 | 4.0 | 4.0 | 4.0 |
| **2003** | 3.1 | 3.8 | 3.6 | | 3.8 | 3.5 | 3.4 | 4 | 3.8 | 3.8 | 3.6 | 3.6 | 3.2 | 3.5 |
| **2004** | 3.2 | 3.1 | 3.6 | | 3.6 | 3.3 | 3.6 | 3.2 | 3.1 | 3.5 | 3.4 | 3.7 | 3.3 | 3.0 |
| **2005** | 3.2 | 3.4 | 3.7 | | 3.2 | 3.5 | 3.3 | 3.2 | 3.4 | 3.5 | 3.3 | 3.6 | 2.3 | 2.9 |
| **2006** | 2.8 | 2.7 | 3.1 | | 2.7 | 2.9 | 3.0 | 3.1 | 3.4 | 3.9 | 3.4 | 3.5 | 3.3 | 3.2 |
| **2007** | 3.4 | 3.5 | 3.5 | | 3.1 | 3.1 | 2.9 | 4.1 | 3.5 | 4.0 | 3.6 | 2.7 | 3.7 | 2.3 |
| **2008** | 3.3 | 5.4 | 4.1 | | 3.2 | 3.5 | 3.4 | 3.9 | 3.6 | 3.1 | 3.6 | 3.2 | 4.1 | 3.1 |
| **2009** | 3.2 | 3.2 | 2.3 | | 2.9 | 3.3 | 3.0 | 2.8 | 2.9 | 3.1 | 3.2 | 2.9 | 3.0 | 3.5 |

**Appendix 4. Sex ratios (male:female) of deer harvested during Connecticut's regulated hunting seasons, 2007-2009.**

| | 2007 | | 2008 | | 2009 | | 3-year Average (2006-2008) | | Males Per Female | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Season** | **Males** | **Females** | **Males** | **Females** | **Males** | **Females** | **Males** | **Females** | **2007** | **2008** | **2009** |
| **Archery** | | | | | | | | | | | |
| State Land | 248 | 206 | 257 | 210 | 431 | 331 | 254 | 219 | 1.2:1 | 1.2:1 | 1.3:1 |
| Private Land | 1,205 | 1,265 | 1,705 | 1,436 | 1,964 | 1,992 | 1,395 | 1,341 | 0.95:1 | 1.2:1 | 1.0:1 |
| **Subtotal** | **1,453** | **1,471** | **1,962** | **1,646** | **2,395** | **2,323** | **1,619** | **1,560** | **0.99:1** | **1.2:1** | **1.0:1** |
| **Muzzleloader** | | | | | | | | | | | |
| State Land | 91 | 90 | 67 | 78 | 75 | 85 | 76 | 82 | 1.0:1 | 0.9:1 | 0.9:1 |
| Private Land | 320 | 224 | 225 | 320 | 266 | 483 | 281 | 265 | 1.4:1 | 0.7:1 | 0.6:1 |
| **Subtotal** | **411** | **314** | **292** | **398** | **341** | **568** | **357** | **347** | **1.3:1** | **0.7:1** | **0.6:1** |
| **Shotgun/Rifle** | | | | | | | | | | | |
| State Land A | 527 | 235 | 468 | 258 | 396 | 160 | 549 | 271 | 2.2:1 | 1.8:1 | 2.5:1 |
| State Land B | 112 | 86 | 114 | 103 | 66 | 81 | 112 | 87 | 1.3:1 | 1.1:1 | 0.8:1 |
| Private Land | 3,308 | 2,003 | 3,424 | 2,581 | 2,494 | 1,885 | 3,383 | 2,263 | 1.7:1 | 1.3:1 | 1.3:1 |
| **Subtotal** | **3,947** | **2,324** | **4,006** | **2,942** | **2,956** | **2,126** | **4,045** | **2,621** | **1.7:1** | **1.4:1** | **1.4:1** |
| **Landowner** | 576 | 410 | 686 | 490 | 407 | 658 | 610 | 431 | 1.4:1 | 1.4:1 | 0.6:1 |
| **Total** | **6,387** | **4,519** | **6,946** | **5,476** | **5,269** | **5,675** | **6,630** | **4,959** | **1.4:1** | **1.3:1** | **0.9:1** |

**Appendix 5. Deer harvested using crop damage permits in Connecticut's deer management zones, 1997-2009.**

| | Year | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Zone** | **1997** | **1998** | **1999** | **2000** | **2001** | **2002** | **2003** | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** |
| **1** | 133 | 126 | 160 | 159 | 121 | 103 | 106 | 98 | 82 | 64 | 58 | 59 | 55 |
| **2** | 13 | 9 | 20 | 16 | 7 | 10 | 16 | 24 | 18 | 18 | 17 | 17 | 12 |
| **3** | 32 | 76 | 52 | 60 | 59 | 44 | 61 | 109 | 105 | 71 | 49 | 76 | 101 |
| **4** | 45 | 52 | 34 | 43 | 41 | 40 | | | | | | | |
| **4A** | | | | | | | 17 | 9 | 25 | 14 | 21 | 21 | 6 |
| **4B** | | | | | | | 35 | 46 | 38 | 32 | 33 | 51 | 33 |
| **5** | 55 | 26 | 48 | 87 | 75 | 46 | 71 | 124 | 129 | 95 | 68 | 119 | 95 |
| **6** | 83 | 39 | 146 | 112 | 71 | 73 | 77 | 56 | 82 | 77 | 54 | 90 | 58 |
| **7** | 34 | 54 | 78 | 44 | 49 | 60 | 78 | 90 | 62 | 69 | 89 | 114 | 93 |
| **8** | 65 | 26 | 42 | 60 | 39 | 47 | 42 | 53 | 37 | 47 | 33 | 42 | 33 |
| **9** | 70 | 33 | 64 | 59 | 38 | 27 | 42 | 43 | 53 | 48 | 30 | 69 | 79 |
| **10** | 60 | 31 | 31 | 54 | 48 | 51 | 45 | 36 | 50 | 66 | 51 | 82 | 76 |
| **11** | 92 | 71 | 113 | 122 | 110 | 104 | 164 | 159 | 114 | 109 | 116 | 111 | 106 |
| **12** | 66* | 49 | 50 | 52 | 31 | 28 | 72 | 99 | 47 | 45 | 48 | 32 | 33 |
| **Total** | **748** | **592** | **838** | **868** | **689** | **633** | **826** | **946** | **842** | **755** | **667** | **883** | **780** |

** Calculated after establishment of zone 12; includes deer from zones 7, 8, 9, 10.*

**Appendix 6. Non-hunting deer mortality reported in Connecticut, 1997-2009.**

| Cause of Death | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Road | 2,612 | 2,263 | 2,674 | 3,101 | 3,038 | 2,434 | 2,778 | 2,620 | 2,667 | 2,029 | 1,967 | 2,190 | 1,902 |
| Dog | 2 | 2 | 6 | 9 | 12 | 6 | 11 | 2 | 3 | 3 | 4 | 3 | 1 |
| Unknown | 173 | 200 | 179 | 175 | 190 | 140 | 217 | 183 | 183 | 117 | 162 | 72 | 92 |
| Illegal | 1 | 5 | 10 | 14 | 21 | 13 | 5 | 6 | 2 | 3 | 1 | 9 | 3 |
| Crop damage | 748 | 592 | 838 | 868 | 689 | 633 | 831 | 946 | 842 | 755 | 667 | 883 | 780 |
| **Total** | **3,536** | **3,062** | **3,707** | **4,167** | **3,950** | **3,226** | **3,842** | **3,757** | **3,697** | **2,907** | **2,801** | **3,157** | **2,778** |
| Non-hunting: Harvest | 1:3.4 | 1:3.3 | 1:3.0 | 1:3.2 | 1:3.0 | 1:3.7 | 1:3.0 | 1:3.6 | 1:3.4 | 1:3.4 | 1:3.9 | 1:4.0 | 1:4.2 |
| % Mortality* | 23.6 | 23.7 | 25.7 | 24.4 | 25.7 | 19.6 | 23.3 | 21.7 | 22.6 | 19.3 | 20.2 | 20.0 | 19.1 |
| % of Harvest | 29.7 | 30.2 | 33.6 | 31.3 | 33.1 | 26.9 | 30.3 | 27.7 | 29.2 | 29.2 | 25.3 | 24.9 | 23.6 |

** Crop damage harvest is included under non-hunting mortality.*

**Appendix 7. Frequency of deer road kills in each of Connecticut's deer management zones, a 5-year comparison, 2005-2009.**

| | | | | | | Five-year | | Habitat | Roadkills/Sq. Mile | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Zone** | **2005** | **2006** | **2007** | **2008** | **2009** | **Total** | **Zonal %** | **(sq. miles)** | **2007** | **2008** | **2009** |
| **1** | 119 | 64 | 86 | 92 | 82 | 443 | 4.1 | 344.1 | 0.25 | 0.27 | 0.24 |
| **2** | 97 | 58 | 63 | 80 | 82 | 380 | 3.5 | 409.85 | 0.15 | 0.20 | 0.20 |
| **3** | 230 | 207 | 173 | 216 | 204 | 1,030 | 9.6 | 272.1 | 0.64 | 0.79 | 0.75 |
| **4A** | 135 | 83 | 92 | 113 | 85 | 508 | 4.7 | 213.1 | 0.43 | 0.53 | 0.40 |
| **4B** | 196 | 128 | 137 | 166 | 125 | 752 | 7.0 | 120.0 | 1.14 | 1.38 | 1.04 |
| **5** | 330 | 240 | 220 | 245 | 207 | 1,242 | 11.6 | 444.9 | 0.49 | 0.55 | 0.47 |
| **6** | 106 | 93 | 111 | 119 | 88 | 517 | 4.8 | 259.1 | 0.43 | 0.46 | 0.34 |
| **7** | 261 | 202 | 180 | 269 | 192 | 1,104 | 10.3 | 370.9 | 0.49 | 0.73 | 0.52 |
| **8** | 54 | 35 | 32 | 26 | 40 | 187 | 1.7 | 167.6 | 0.19 | 0.16 | 0.24 |
| **9** | 282 | 199 | 211 | 199 | 190 | 1,081 | 10.1 | 277.8 | 0.76 | 0.72 | 0.68 |
| **10** | 117 | 93 | 82 | 89 | 80 | 461 | 4.3 | 243.6 | 0.34 | 0.37 | 0.33 |
| **11** | 448 | 433 | 384 | 341 | 313 | 1,919 | 17.8 | 290.76 | 1.32 | 1.17 | 1.08 |
| **12** | 292 | 191 | 196 | 235 | 214 | 1,128 | 10.5 | 356.4 | 0.55 | 0.66 | 0.60 |
| **Total** | **2,667** | **2,026** | **1,967** | **2,190** | **1,902** | **10,752** | **100** | **3,770.2** | **0.52*** | **0.58*** | **0.50*** |

** These numbers are averages, not totals.*