

**PENNSYLVANIA GAME COMMISSION  
BUREAU OF WILDLIFE MANAGEMENT  
RESEARCH DIVISION  
PROJECT ANNUAL JOB REPORT**

**PROJECT CODE NO.:** 06210

**TITLE:** White-tailed Deer Research/Management

**PROJECT JOB NO.:** 21001

**TITLE:** Estimating County Deer Population Sizes & Growth Rates

**PERIOD COVERED:** 1 July 2000 through 30 June 2001

**COOPERATING AGENCIES:** None

**WORK LOCATION(S):** Statewide

**PREPARED BY:** George Kelly, Bret Wallingford, and Christopher Rosenberry

**DATE:** 13 March 2002

*Abstract:* We used data on deer reproduction, sex and age of harvested deer, license numbers of successful hunters, and reported harvests to estimate 2000 and 2001 deer populations by management unit. Wildlife Conservation Officers (WCOs) also conducted winter deer mortality surveys along preselected routes in their respective districts. Six hundred and eight does were used to determine conception and fawning dates. The average reproductive rate was 0.99 embryos/doe with the median conception date of November 14. The median projected birth date was May 30. Average points and spread of 3,184 sets of antlers measured in the 2000 season ranged from 5-8 points and 10-17 inch spread for 1.5-year-olds and 3.5<sup>+</sup>-year-olds, respectively. Our 2000-01 winter deer density of 39 deer/mi<sup>2</sup> of forest land was the same as in 1999-00. The 2000-01 winter deer loss index of 0.21 deer/mile was well below previously recorded losses. We projected a preseason deer population of 1.504 million for 2001. Changes approved for the 2001-02 deer seasons include: a 12-day concurrent antlered and antlerless rifle season for all hunters; an expanded, 7-day antlerless muzzleloader season in October; a 3-day antlerless rifle season in October for junior, senior, disabled, and military license holders; antlerless licenses that are unsold after all hunters have an opportunity to purchase one will be sold, up to 2 per hunter; the "private land only" restriction on unsold licenses was removed; field possession regulations were liberalized to allow a hunter to harvest another deer after tagging the first deer harvested; and crossbows will be legal during the regular firearms season in Special Regulations Areas. The goal for 2001 is to reduce the statewide deer herd by about 5 percent. Population analyses indicate that about 328,000 antlerless deer need to be harvested to reduce the statewide deer population 5 percent. We used information from Michigan, Wisconsin, and from the 1999 fall flintlock season to estimate the potential impacts of the new regulations. We recommend expanding the opportunities for antlerless deer hunting by adding a county-specific, 3-day October gun hunt that begins on a Thursday and ends on a Saturday. We also recommend a statewide antler point restriction that would allow some 1.5-year-old males to escape into older age classes. For antlerless licenses, we recommend that hunters be permitted to purchase and use the entire antlerless allocation without regard to individual limits; and that flintlock hunters be included in the antlerless license system.

**OBJECTIVE**

To determine deer population sizes and harvest recommendations by management unit.

## PROCEDURES

To obtain data on reproduction by age class, WCOs examined female deer killed by various causes from 1 February through 31 May 2000. They recorded location (county, township, and proposed deer management unit), date killed, cause of death, and number and sex of embryos for each doe on a form attached to a deer jaw envelope. They measured embryos so that we could determine conception and projected birth dates and removed 1 side of the lower jaw from each deer for age determination. Jaws were forwarded to wildlife biologists who made the age assignments in July 2000. Personnel in the Bureau of Automated Technology Services (BATS) processed the reproductive data and provided summary reports for the state and each county.

During the 2000 antlered and antlerless rifle seasons, 32 data collection teams examined deer in assigned areas. Each team spent 2 days during the October muzzleloader season and at least 3 days during each of the rifle (antlered and antlerless) seasons collecting ages, sexes, counties of harvest, and hunting license numbers from harvested deer found in butcher shops and other locations. Deer teams determined deer ages using tooth wear and replacement (Severinghaus 1949). Data collection teams also recorded points and measured spreads and beam diameters of antlers to determine antler characteristics by year class.

BATS personnel inputted and processed data from 2000-01 deer harvest report cards submitted by hunters and the biological collections by the deer teams. BATS also provided a PC download for population analysis. For each county the download included: the reported antlered harvest, the reported antlerless harvest, reporting rates, age and sex breakdowns of the harvest, reproductive data, combined reported regular three-day antlerless rifle and antlerless archery harvests, and the total antlerless rifle and archery harvests. We used the download data in DEERPOP and PROJECT software (Shope pers. commun.) to estimate 2000 and project 2001 county deer populations. Besides estimating populations, we used PROJECT to develop antlerless allocation recommendations for 2001.

In late March and early April, WCOs conducted winter deer mortality surveys in their assigned districts. Each WCO walked three 1.5-mile routes along stream bottoms to locate possible winter losses. They recorded the sex and age of all dead deer found and submitted the data to us for analysis. We converted the data to a deer/mile index and compared it with previous winter loss indexes to decide if we needed to adjust any projected county estimates for excessive winter losses.

## FINDINGS

WCOs examined 1,075 females during the 2000 prefawning season. Six hundred forty-nine were pregnant and 608 were usable for determining conception dates. Twenty-eight percent of the fawns and 90 percent of the adults were pregnant. Pregnant fawns averaged 1.12 embryos/doe and pregnant adults 1.78 embryos/doe. The average reproductive rates for pregnant and barren fawns and adults were 0.31 and 1.60 embryos/doe, respectively. The average reproductive rate for all females was 0.99 embryos/doe. The median conception date for all does was November 14. Ninety percent of all breeding occurred between October 16 and December 16, with the median date fawns bred as November 28, 17 days later than adult does (Figure 1). The median projected birth date for all fetuses examined was May 30 (Figure 2).

Data collection teams measured 3,184 sets of antlers during the 2000 antlered deer season. Statewide, 1.5-year-old bucks averaged 5 points and a 10-inch spread, 2.5-year-old bucks averaged 7 points and a 15-inch spread, and 3.5 and older bucks averaged 8 points and a 17-inch spread (Table 1). One and one-half year old bucks from poor habitat averaged 4 points and a 9-inch spread while those from excellent habitat averaged 6 points and an 11-inch spread.

Statewide, WCOs found 0.21 dead deer/mile on winter survey routes in 2000. In most counties, winter losses were well below the high losses recorded in 1978 (Table 2).

Hunters harvested 504,600 deer in the 2000-01 deer seasons. The antlered harvest was 203,221, up from 194,368 in 1999-00. The antlerless harvest was 301,379, up from 184,224 in 1999-00. The increased antlerless harvest resulted from increased opportunities for hunters and excellent weather conditions. Changes that provided increased opportunities were: the 3-day rifle antlerless season started on a Saturday concurrently with the last day of the antlered season; junior, senior, disabled, and military license holders could take antlerless deer during the entire 2-week antlered season; and a 3-day October antlerless muzzleloader season. More antlerless licenses were issued, primarily because licenses that were unsold after all hunters had an opportunity to obtain one were sold with the restriction that they be used on private property or on public lands with an approved deer management plan.

We estimated a 2000-01 statewide winter density of 39 deer/mi<sup>2</sup> of forested habitat. This density was about the same as the 1999-00 winter density (Table 3). The statewide winter deer population was 86% higher than the agency goal of 21 deer/mi<sup>2</sup> and over 1.0 million white-tailed deer again overwintered in Pennsylvania in 2000-01.

We projected a preseason state population of 1.504 million deer (58 deer/mi<sup>2</sup> of forest land) for the 2001 fall hunting season. This figure does not include counties with special regulations. Projected county densities (excluding counties with special regulations) ranged from lows of 26, 29, 34, 37, and 37 deer/mi<sup>2</sup> of forest land in the counties of Cameron, Clinton, Elk, Carbon, and Monroe, respectively, to highs of 129, 125, 125, 117, and 108 deer/mi<sup>2</sup> of forest land in the counties of Lancaster, Washington, York, Berks, and Lehigh, respectively. The lowest projected rates of population increase from postseason 1999 to preseason 2000 were 31% in Elk County, 36% in Lycoming County, and 37% in Cameron, Snyder, and Sullivan counties. The highest projected rates of population increase were 59-62% in Beaver, Butler, Mercer, Washington, Armstrong, Franklin, and Lancaster counties (Table 4).

Dr. Gary Alt and the deer management team are in the second year of an aggressive campaign to remedy deer population imbalances. The Deer Management Section has focused on educating the public and deer management decision-makers and starting new deer research in Pennsylvania. Management goals are to balance deer with their habitat and enhance the breeding ecology of the deer herd.

The objective of regulatory changes for the 2000-01 season was to stop the deer population growth that had occurred in each of the 2 previous years. This was accomplished with the increased harvest in 2000 and the population was stabilized at a statewide post-season density of 39 deer/mi<sup>2</sup> of forested land (23 deer/mi<sup>2</sup> of total land). This is still 86% above the statewide goal of 21 deer/mi<sup>2</sup> of forested land (12 deer/mi<sup>2</sup> of total land).

The projected 2001 preseason population is approximately 1.5 million, about the same as last year. The objective of regulatory changes for this season is to reduce the statewide deer herd by about 5%. In addition, regulations adopted for 2001 are designed to increase the harvest of antlerless deer, decrease the harvest of antlered deer, and provide a more natural breeding ecology by removing additional antlerless deer before the rut. Reducing the population and removing antlerless deer in October will also reduce pressure on habitat.

Recommendations proposed and accepted by the Commissioners at the January meeting and approved in April were: a 12-day concurrent antlered and antlerless rifle season for all hunters; an expanded, 7-day antlerless muzzleloader season in October; a 3-day antlerless rifle season in October for junior, senior, disabled, and military license holders; antlerless licenses that are unsold after all hunters have had an opportunity to purchase one will be sold, up to two per hunter; the "private land only" restriction on unsold licenses has been removed;

field possession regulations have been liberalized to allow a hunter to harvest another deer after tagging the first deer harvested; and crossbows will be legal during the regular firearms season in Special Regulations Areas.

Based on increased efficiencies expected from the new seasons and bag limits, the unit-specific antlerless license allocation for 2001 is 692,500 (744,900 in 2000). The total allocation is 780,250 when the 6 Special Regulations Area counties are included, compared to 830,650 in 2000.

#### **RECOMMENDATIONS**

Expanded opportunities in 2001 for antlerless deer should increase the efficiency of the antlerless licenses. With an increasing deer population and a declining hunter base to harvest deer, increasing the efficiency of antlerless licenses is essential to attaining harvest objectives. To further increase the efficiency of antlerless licenses, we recommend adding a county specific, 3-day October gun hunt for antlerless deer that begins on a Thursday and ends on a Saturday. We also recommend that hunters be permitted to purchase and use all unsold licenses and that muzzleloader hunters be included in the antlerless license system.

We recommend that statewide antler restrictions of 3 or 4 points to a side be adopted. This change would protect a portion of our 1.5 year-old bucks, increasing the number of bucks living at least 1 more year, and resulting in an improved buck-to-doe ratio and larger numbers of older bucks to compete for breeding rights.

#### **LITERATURE CITED**

Severinghaus, C. W. 1949. Tooth development and wear as criteria of age in white-tailed deer. *J. Wildl. Manage.* 13:195-216.

Figure 1. Conception time periods based on 608 roadkilled does, Pennsylvania, 2000.

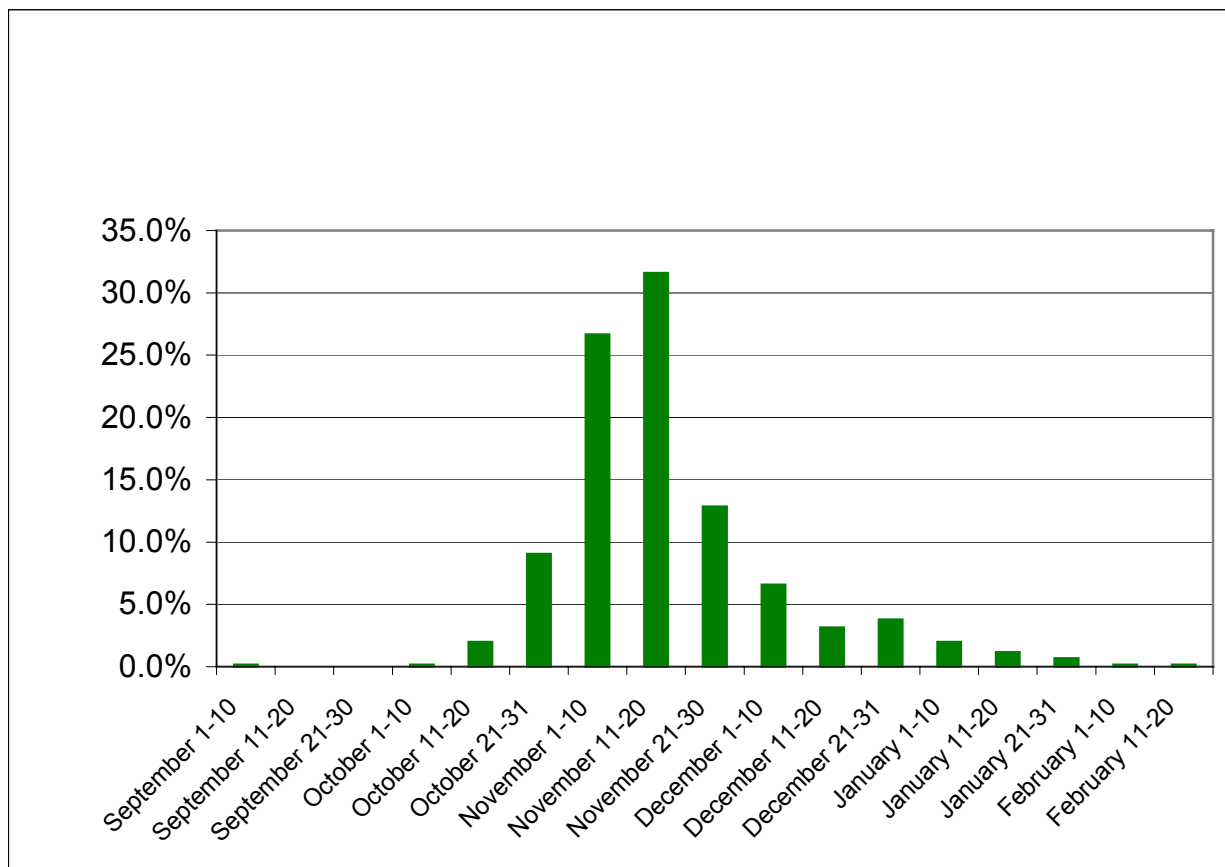


Figure 2. Projected birth dates of fetuses of 608 roadkilled does, Pennsylvania, 2000.

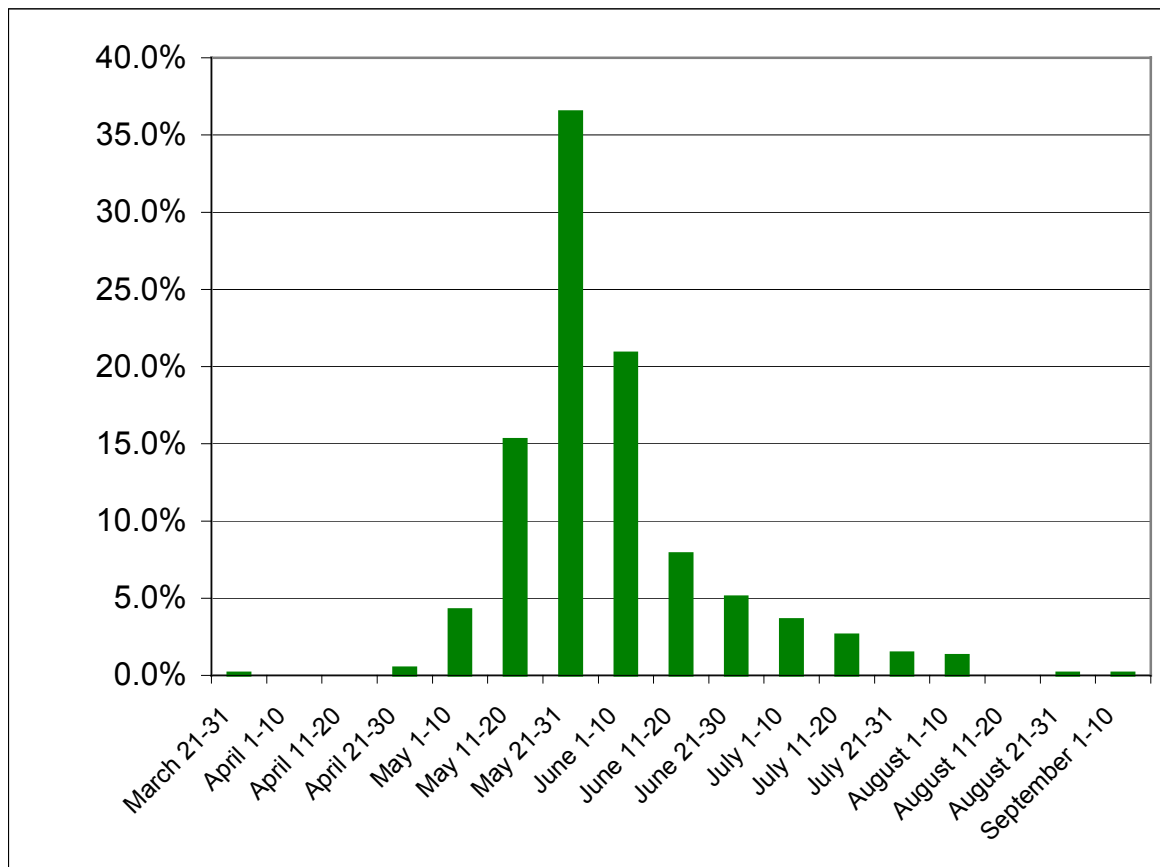


Table 1. Mean antler points and spread of yearling and 2.5+ year-old bucks by county in Pennsylvania, 2000.

County	Yearling		2.5+ year-old	
	Points	Spread (in)	Points	Spread (in)
Adams	4.47	10.10	6.22	13.72
Allegheny	8.33	12.83	11.50	19.63
Armstrong	5.65	10.64	9.75	17.38
Beaver	6.04	11.65	8.50	16.71
Bedford	4.34	8.70	7.43	15.40
Berks	5.70	11.02	7.15	16.11
Blair	3.91	7.95	8.78	16.83
Bradford	5.21	9.90	8.07	16.79
Bucks	4.94	9.72	7.74	16.76
Butler	6.80	11.95	10.00	15.50
Cambria	5.31	10.29	7.50	16.00
Cameron	3.27	8.15	7.35	14.81
Carbon	4.13	8.64	7.62	15.56
Centre	3.82	8.33	6.59	13.79
Chester	5.64	11.36	8.16	17.48
Clarion	5.11	10.02	7.33	16.08
Clearfield	4.59	9.51	6.86	14.38
Clinton	3.73	8.23	6.63	13.44
Columbia	5.75	10.94	8.11	16.26
Crawford	5.53	10.93	7.44	16.24
Cumberland	4.85	10.57	8.60	16.65
Dauphin	5.32	11.52	8.46	16.63
Delaware	7.33	12.83	8.33	18.42
Elk	3.00	8.67	7.09	15.15
Erie	5.58	10.72	8.05	17.04
Fayette	6.07	10.57	8.33	14.29
Forest	3.36	8.18	7.00	13.47
Franklin	3.60	8.13	8.00	11.00
Fulton	3.57	8.50	9.00	15.13
Greene	4.80	8.78	8.00	13.81
Huntingdon	4.10	8.15	6.73	13.24
Indiana	5.38	11.19	5.80	14.56
Jefferson	5.80	11.00	6.75	16.42
Juniata	5.13	11.24	7.27	13.66
Lackawanna	4.46	8.90	8.63	16.13
Lancaster	5.87	11.38	8.20	17.47
Lawrence	8.00	16.75		
Lebanon	5.00	10.96	9.25	15.38
Lehigh	6.40	12.29	8.44	17.58
Luzerne	5.18	10.40	7.62	16.20
Lycoming	4.56	9.01	7.13	14.34
McKean	3.21	7.83	7.07	15.08
Mercer	4.00	10.38	9.50	18.63
Mifflin	4.50	8.64	6.67	12.50
Monroe	4.44	9.12	6.38	14.40
Montgomery	6.33	12.64	7.75	17.10
Montour	7.50	12.38	11.50	23.00
Northampton	6.00	12.00	9.00	16.63
Northumberland	5.89	10.25	8.50	15.25
Perry	5.29	10.62	7.08	14.77
Pike	3.25	7.70	6.64	13.71
Potter	4.17	9.03	6.91	14.53
Schuylkill	5.43	10.53	7.07	14.14
Snyder	4.91	10.21	6.00	17.25
Somerset	5.64	10.77	8.08	15.54
Sullivan	4.47	8.95	7.67	16.64
Susquehanna	4.76	9.47	7.77	16.36
Tioga	4.20	8.39	7.62	15.81
Union	5.50	10.11	5.83	12.54
Venango	5.65	10.25	7.83	15.36
Warren	4.27	8.73	7.35	14.28
Washington	5.80	10.25	7.63	15.81
Wayne	3.77	8.14	7.54	15.05
Westmoreland	6.54	11.55	9.00	16.60
Wyoming	4.44	9.78	7.00	16.13
York	5.23	10.79	7.70	16.13

Table 2. Dead deer found on winter survey routes in 2001 and dead deer found/mile surveyed in 2001 and 1978 in Pennsylvania.

County	2001		Dead deer/mile	
	Miles	Dead deer	2001	1978
Adams	9.50	2	0.21	0.33
Allegheny	9.50	10	1.05	0.15
Armstrong	8.70	1	0.11	0.11
Beaver	7.25	9	1.24	0.00
Bedford	14.80	9	0.61	1.35
Berks	15.10	3	0.20	0.00
Blair	14.00	6	0.43	4.00
Bradford	20.50	8	0.39	0.81
Bucks	9.50	2	0.21	
Butler	0.00	0	0.00	0.09
Cambria	10.20	1	0.10	2.18
Cameron	4.50	4	0.89	13.60
Carbon	9.50	0	0.00	0.13
Centre	15.50	3	0.19	3.35
Chester	9.50	2	0.21	0.00
Clarion	10.00	0	0.00	1.88
Clearfield	14.50	5	0.34	5.17
Clinton	11.00	0	0.00	0.87
Columbia	11.75	4	0.34	0.83
Crawford	27.50	3	0.11	0.33
Cumberland	9.50	0	0.00	0.55
Dauphin	11.75	2	0.17	1.67
Delaware	1.50	0	0.00	
Elk	9.65	2	0.21	1.86
Erie	15.70	2	0.13	0.08
Fayette	12.00	5	0.42	0.00
Forest	11.50	0	0.00	0.42
Franklin	11.10	1	0.09	0.29
Fulton	4.50	1	0.22	0.75
Greene	9.00	2	0.22	0.83
Huntingdon	15.20	8	0.53	0.95
Indiana	11.00	0	0.00	2.16
Jefferson	11.10	2	0.18	1.00
Juniata	5.80	0	0.00	2.67
Lackawanna	12.20	0	0.00	2.24
Lancaster	17.90	0	0.00	0.00
Lawrence	9.90	0	0.00	0.33
Lebanon	6.00	0	0.00	
Lehigh	4.70	0	0.00	0.00
Luzerne	15.30	7	0.46	0.78
Lycoming	25.40	4	0.16	0.70
McKean	15.80	6	0.38	1.23
Mercer	9.50	0	0.00	0.00
Mifflin	6.25	0	0.00	0.77
Monroe	10.00	0	0.00	4.10
Montgomery	10.00	0	0.00	0.14
Montour	4.50	0	0.00	0.00
Northampton	5.90	0	0.00	
Northumberland	4.50	0	0.00	1.67
Perry	9.00	1	0.11	1.01
Philadelphia	4.70	5	1.06	
Pike	9.00	0	0.00	4.33
Potter	21.50	5	0.23	3.69
Schuylkill	9.00	3	0.33	0.74
Snyder	5.55	0	0.00	0.63
Somerset	18.75	3	0.16	3.93
Sullivan	4.50	0	0.00	0.75
Susquehanna	9.00	6	0.67	3.97
Tioga	23.50	2	0.09	4.17
Union	8.50	0	0.00	1.09
Venango	5.00	2	0.40	0.38
Warren	19.50	2	0.10	2.10
Washington	5.75	2	0.35	0.29
Wayne	12.20	2	0.16	16.42
Westmoreland	15.00	2	0.13	3.03
Wyoming	4.50	0	0.00	0.00
York	23.00	1	0.04	
2001 Totals	737.90	153	0.21	
1978 Totals	686.05	1,330		1.94



Table 3. County forest statistics, winter deer density goals, and estimated winter density trends from the winter of 1996-97 through the winter of 2000-01 for Pennsylvania. Special regulations counties are excluded.

County	% Forest	Mi <sup>2</sup> of forested land <sup>a</sup>				Total	Goal <sup>b</sup>	Winter deer density estimates				
		Seedling sapling	Pole timber	Saw timber				96-97	97-98	98-99	99-00	00-01
Adams	33	33	41	99	173	24	40	50	58	58	57	
Armstrong	54	98	43	214	355	29	45	44	52	55	51	
Beaver	48	33	60	117	210	22	34	39	36	47	47	
Bedford	72	172	212	342	726	25	30	31	29	34	31	
Berks	35	40	85	175	300	21	56	49	60	71	75	
Blair	64	59	113	166	338	22	36	41	40	42	43	
Bradford	59	127	269	280	676	22	31	37	42	45	44	
Butler	50	75	110	212	397	23	42	42	47	56	58	
Cambria	64	52	116	271	439	21	28	29	33	32	38	
Cameron	94	20	86	266	372	19	19	15	15	19	19	
Carbon	75	67	114	105	286	23	32	21	27	29	26	
Centre	76	104	304	429	837	20	27	27	29	31	35	
Clarion	61	91	85	194	370	26	41	42	41	45	39	
Clearfield	74	145	305	398	848	21	37	33	37	38	42	
Clinton	87	33	275	464	772	16	18	18	18	21	21	
Columbia	53	29	102	126	257	19	34	39	46	54	53	
Crawford	48	42	158	285	485	18	35	33	39	46	44	
Cumberland	35	17	87	90	194	17	27	34	37	49	46	
Dauphin	50	51	85	129	265	23	22	20	27	32	32	
Elk	91	64	137	552	753	21	23	21	24	26	26	
Erie	47	100	49	224	373	29	30	30	36	40	38	
Fayette	61	74	114	292	480	23	28	26	33	33	38	
Forest	93	50	43	304	397	23	29	32	39	43	37	
Franklin	44	77	40	219	336	27	45	34	34	38	40	
Fulton	69	34	91	177	302	20	31	30	30	35	29	
Greene	56	44	111	169	324	20	45	50	59	69	67	
Huntingdon	75	94	210	353	657	21	36	39	40	42	40	
Indiana	61	100	160	243	503	23	36	33	39	40	45	
Jefferson	61	21	74	308	403	19	42	39	37	37	44	
Juniata	66	18	80	161	259	18	37	29	34	32	30	
Lackawanna	68	59	105	147	311	23	30	23	32	32	33	
Lancaster	13	0	11	114	125	19	48	49	57	69	81	
Lawrence	42	24	43	84	151	22	21	23	28	29	31	
Lebanon	34	18	26	78	122	23	26	31	38	44	43	
Lehigh	29	12	20	68	100	22	52	52	66	70	69	
Luzerne	66	60	273	253	586	17	29	26	33	40	46	
Lycoming	77	85	310	559	954	19	27	23	24	29	28	
McKean	81	90	237	485	812	20	26	25	30	35	30	
Mercer	39	35	62	166	263	22	35	37	40	46	47	
Mifflin	72	35	56	205	296	22	27	29	32	31	28	
Monroe	76	38	178	245	461	18	25	17	22	25	26	
Montour	27	9	0	27	36	30	57	55	72	72	68	
Northampton	34	29	18	80	127	27	39	47	51	64	57	
Northumberland	50	45	78	105	228	23	26	23	26	29	33	
Perry	64	10	92	253	355	17	38	30	37	42	36	
Pike	82	42	149	260	451	19	27	20	22	28	30	
Potter	86	73	202	652	927	20	23	24	31	36	34	
Schuylkill	71	110	295	146	551	20	31	34	37	38	36	
Snyder	51	18	76	75	169	18	30	31	33	37	35	
Somerset	64	157	238	294	689	24	29	29	29	33	35	
Sullivan	86	18	139	230	387	16	23	20	27	26	30	
Susquehanna	65	114	134	283	531	25	45	34	37	36	41	
Tioga	66	103	305	352	760	19	31	30	38	40	38	
Union	68	6	79	129	214	16	27	27	26	31	28	
Venango	72	26	111	348	485	19	36	25	34	40	41	
Warren	79	62	109	527	698	21	30	30	31	34	33	
Washington	50	132	113	182	427	28	50	49	67	74	79	
Wayne	66	54	154	272	480	20	39	30	38	45	48	
Westmoreland	51	137	98	283	518	28	40	39	48	48	52	
Wyoming	62	47	82	118	247	23	34	31	30	34	39	
York	27	9	55	180	244	18	48	51	69	75	80	
Statewide Total	59	3,738	7,740	15,051	26,529	21	31	30	34	39	39	

<sup>a</sup>Forest statistics are based on 1989 U.S. Forest Service inventory data for Pennsylvania.

<sup>b</sup>Goals are based on 60 deer/mi<sup>2</sup>, 5 deer/mi<sup>2</sup>, and 20 deer/mi<sup>2</sup> for seedling/sapling, pole, and sawtimber stands, respectively.

Table 4. County deer population densities (deer/mi<sup>2</sup> of forest land) and projected rates of population increase from postseason 2000 to preseason 2001. Special regulations counties are not included.

	2000 deer densities		2001 projected preseason density	% population increase
	Preseason	Postseason		
Adams	84	57	89	56
Armstrong	84	51	81	59
Beaver	77	47	76	62
Bedford	50	31	45	45
Berks	112	75	117	56
Blair	64	43	62	44
Bradford	68	44	69	57
Butler	89	58	93	60
Cambria	55	38	57	50
Cameron	23	19	26	37
Carbon	36	26	37	42
Centre	49	35	49	40
Clarion	65	39	59	51
Clearfield	59	42	61	45
Clinton	27	21	29	38
Columbia	80	53	82	55
Crawford	73	44	69	57
Cumberland	71	46	72	57
Dauphin	47	32	48	50
Elk	33	26	34	31
Erie	65	38	60	58
Fayette	55	38	57	50
Forest	57	37	54	46
Franklin	56	40	60	59
Fulton	48	29	43	48
Greene	102	67	104	55
Huntingdon	60	40	57	43
Indiana	68	45	71	58
Jefferson	66	44	69	57
Juniata	44	30	42	40
Lackawanna	42	33	46	39
Lancaster	115	81	129	59
Lawrence	52	31	49	58
Lebanon	66	43	65	51
Lehigh	104	69	108	57
Luzerne	60	46	65	41
Lycoming	39	28	38	36
Mckean	43	30	43	43
Mercer	77	47	75	60
Mifflin	41	28	39	39
Monroe	34	26	37	42
Montour	102	68	106	56
Northampton	88	57	89	56
Northumberland	49	33	52	58
Perry	57	36	53	47
Pike	40	30	43	43
Potter	46	34	48	41
Schuylkill	54	36	54	50
Snyder	52	35	48	37
Somerset	51	35	52	49
Sullivan	40	30	41	37
Susquehanna	56	41	59	44
Tioga	55	38	55	45
Union	43	28	39	39
Venango	64	41	64	56
Warren	52	33	51	55
Washington	114	79	125	58
Wayne	65	48	67	40
Westmoreland	81	52	82	58
Wyoming	55	39	57	46
York	120	80	125	56
Statewide	58	39	58	49
Totals				