MISSISSIPPI DEPARTMENT OF WILDLIFE, FISHERIES, AND PARKS

2017–2018 DEER PROGRAM REPORT

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PREPARED BY MDWFP WILDLIFE BUREAU

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Acknowledgements

Numerous people are responsible for the information presented in this report. The vision and work of Mississippi Game and Fish Commission patriarchs like Fannye Cook and Bill Turcotte initiated plans in the 1930s that ultimately provided Mississippi Sportsmen with the deer population we enjoy today.

Leaf River Refuge Manager Quinton Breland, Upper Sardis Refuge Manager Garald Mize and other dedicated Commission employees protected, trapped, and relocated hundreds of deer throughout the state during the days of Mississippi's deer restoration. In addition, game wardens of the deer restoration era protected a growing deer population through the early period of wildlife conservation. During this time in the history of Mississippi's Wildlife Management Agency, game wardens provided their own gun and vehicle. Mobile communication with other officers was little more than a futuristic dream. Wildlife enforcement, or the game warden that interfered with the "jacklighting" of deer and illegal harvest of game, was not a welcome sight to some hunters at that time. Refuge managers and game wardens of the restoration era are pioneers of the deer population restoration success of today.

Today the conservation officer is considered differently. Most men and women who enjoy the bountiful wildlife that exist today regard the conservation officer as a partner in wildlife conservation. As those who are responsible for the deer populations we treasure are remembered, the conservation officers of today should not be forgotten.

The Mississippi Legislature is also to be thanked for their historic and sustained funding of this agency. Since the establishment of the Game and Fish Commission in the days of the Great Depression, the Mississippi Legislature has funded efforts necessary for the wildlife conservation success story of the white-tailed deer.

The Commission on Wildlife, Fisheries, and Parks and the Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) Executive Committee is to be commended for the foresight and vision to allow the Wildlife Bureau the ability to assemble a team of dedicated biologists.

Mississippi landowners have made deer in the Magnolia State a reality. Without landowner desire to have deer, most agency efforts would have proved ineffective. Those of us who hunt, study, or admire the white-tailed deer truly thank you.

This report would not have been possible without the efforts and cooperation of MDWFP Wildlife Bureau technical staff and field personnel. An extra-special appreciation is extended to Linda Taylor for assistance with many aspects of producing and mailing this report and to Matt Goss who was responsible for the report layout and design. A special thanks to Rick Dillard who coordinates the Magnolia Records Program on his own time. Also, a special thanks to all the other biologists who had a part in developing this report. Finally, a very special thank you to Phil Jones for assistance with generating reports and the development of the XNet analysis program.

Additionally, Mississippi's deer hunters deserve special recognition. Your data collection efforts, concern, and support for white-tailed deer are vital to the success of the White-tailed Deer Program.

Look for this information on www.mdwfp.com/deer. If you have any questions, feel free to contact us.

FEDERAL AID IN WILDLIFE RESTORATION

A PITTMAN-ROBERTSON FUNDED PROJECT

This report is produced by the Technical Guidance Project, Statewide Wildlife Development Project and Statewide Wildlife Investigations Project and is primarily funded by Federal Aid in Wildlife Restoration.

The first Deer Management Assistance Program (DMAP) report was completed in 1982. The DMAP report evolved into the Mississippi Deer Program Report in 1992. Since its inception, the purpose of this report was to consolidate all deer-related information obtained by Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) personnel. Compilation of these data provides managers the opportunity to analyze trends in deer harvest and physiological condition. In the future, managers will have a chronicled reference to more effectively critique effects of changes in season framework, hunter success, and climatic conditions on the deer population.

Decision makers such as the Mississippi Legislature and the Mississippi Commission on Wildlife, Fisheries, and Parks have served the sportsmen of the state well. Deer harvest and management opportunities exist today that were considered far-fetched a few decades ago.

Deer hunting regulations are subject to change each year, and often do. Several changes occurred affecting the 2017–2018 season. Two new deer management zones were created, for a total of five deer management zones. The antlerless deer bag limit was reduced to three antlerless deer per season in the Northeast, East Central, Delta, and Southwest zones and reduced to two antlerless deer in the Southeast zone. Additionally, doe harvest was restricted to archery and youth seasons only on all the national forests and several wildlife management areas in the state.

Annual surveys are used to monitor trends in hunter harvest and effort in Mississippi. This year the survey format remained unchanged from the 2016–2017 hunting season. The current harvest survey was conducted by Responsive Management in a phone survey format. This method provided harvest estimates much earlier than the previous surveys. Hopefully, MDWFP can continue to use more progressive survey methods to acquire harvest estimates much sooner.

MDWFP began using a computer summary program (XtraNet) to enter and analyze all DMAP and WMA data in 2004–2005. Data from 2001–2017 was analyzed using xNet, while data prior to 2001 was analyzed using DeerTrax. This may be the cause for differences in some numbers between 2000 and 2001. Statewide Compiled DMAP summary tables and graphs include harvest reports from WMAs that collect deer harvest data. Soil region summary tables only include data from private lands on DMAP to give managers a better representation of expectations for their property.

Sample methods were unchanged for the following data sets:

- Hunter effort and harvest information collected on state-operated WMAs
- Employee observations of deer mortality due to motor vehicle collisions
- Enforcement Bureau monitoring of deer hunting-related citations
- Chronic Wasting Disease monitoring and data collection
- Deer research projects conducted in cooperation with Mississippi State University Forest and Wildlife Research Center

Last, and certainly not least, shortly after the deer season ended in 2018, Chronic Wasting Disease was detected in Issaquena County. This was the first animal to test positive for the disease in Mississippi after almost 14,000 samples. The deer was a 4-year-old buck reported by a hunter in late January after he watched the deer die from the illness. The positive results were returned from the National Veterinary Services Laboratory on February 9, 2018. MDWFP activated the CWD Response Plan and actions began to combat this fatal deer disease.

Department wildlife biologists continued to inform and educate sportsmen relative to deer management needs and issues. Our goals are to provide insight into current deer management needs while providing the leadership to identify and guide future issues. All known media sources were utilized in this process. In addition, public presentations were made to hunting, civic, and conservation groups throughout the state. This report captures a portion of the informational and educational efforts.

CENTRAL REGION

By Pierce Young

After one of the more difficult hunting seasons in recent years in 2016–2017, hunters had a lot to look forward to in Central Mississippi for the 2017–2018 season. Spring and summer rains before deer season produced abundant nutritious natural vegetation to help with antler growth and fawn production. Moist weather conditions continued in to the fall to help with establishing food plots for most of the Central Region. The acorn crop was good early in the season, but were quickly eaten up as colder than average temperatures settled in through the duration of deer season putting heavier pressure on natural vegetation and food plots. Many higher quality bucks born in the wet summers of 2012–2014 were not able to be harvested in the previous season, which meant more larger-antlered bucks in the woods for the 2017–2018 season.

- Overall deer harvest increased 7%.
- Buck harvest increased 33%.
- Doe body weights and lactation were near average.
- Percentage of 3.5+ year old does harvested has increased to 59% (+9%) in the last 5 seasons, indicating an older growing deer population.
- Antler sizes were the highest since 2012.
- Percentage of 3.5+ year old bucks harvested increased from 61% to 77%.
- Percentage of 4.5+ year old bucks harvested increased from 35% to 41%.

DELTA REGION

By Alec Conrad

- Hunters in the Delta region reported harvesting a deer per 87 acres, which is 8% decrease in harvest compared to the 2016–17 season and 15% lower than the average over the past five years. The 2017–18 season improved drastically for hunters in the Batture, who reported taking a deer per 47 acres, a 20% increase compared to the 2016–17 season and 11% higher than average.
- Body weights in both the Delta and Batture areas were similar to those recorded during the past few seasons but are quite a bit lower than they have been historically.
- Hunters in the Delta and Batture primarily favored older bucks, and 2017–18 season was the second season in DMAP history where more than 85% of the bucks harvested were estimated to be at least 3.5 years old. Antler size approximated the average in the Delta this past season while average estimates from the Batture were below the regional average. Bucks in the batture may have been stressed by flooding by the Mississippi River during early spring and summer.
- The past few years have been marked by below average fawn crops, presumably due to drought and untimely flooding. However, lactation estimates suggest that the summer of 2017 produced an outstanding fawn crop Delta and Batture areas.

EAST CENTRAL REGION

By Conner Herrington

- The 2017–2018 season showed improvements from the 2016–2017 season for east central Mississippi hunters.
- Doe harvest decreased slightly from the previous season, but the age structure of does harvested remained relatively unchanged, which indicates stable populations throughout the region.
- Lactation rates increased significantly from last year throughout all age classes of does along with an increase in body weights of mature does.
- Although buck harvest remained stable in terms of total bucks harvested, success rates on mature bucks (3.5 years or older) increased while the number of 2.5-year-old bucks harvested decreased. Hunters are targeting more mature bucks and are proving to be successful at doing so.
- Stable harvest numbers, increased lactation rates, and an increasing trend in the targeting of mature bucks should provide another successful hunting season this fall.

NORTHEAST REGION

By John Gruchy

Hunters in Northeast Mississippi saw much more favorable hunting conditions during the 2017–2018 hunting season than the previous two seasons resulting in somewhat improved hunter success and enjoyment. Improved fall moisture conditions resulted in more productive supplemental plantings and general habitat conditions during the 2017–2018 season, though total deer harvest per acre was similar to previous season.

- Total harvest per acre was fairly similar to the previous season, though improved from the 2015–2016 season.
- Although doe harvest was down a bit, buck harvest was slightly improved.
- Greater than three quarters of bucks harvested on DMAP clubs were three years old or older.
- The age structure of doe harvest on DMAP properties was skewed towards older age classes.
- Yearling and mature doe weights were up from the 2016–2017 season, which is to be expected given the drought conditions during the fall of 2016.
- Overall, mature doe lactation rates appear to have been somewhat low during the 2017–2018 season continuing a declining trend in lactation in much of the Northeast region. Several factors may influence lactation including errors in data collection, doe body condition, and loss of fawns due to predation.
- Fawn crops from the previous two seasons appear to be below average. Hunters should manage their expectations and work with biologists where possible to develop harvest recommendations based on their management goals and objectives.

SOUTHEAST REGION

By Kamen Campbell

- For the 2017 season overall harvest of both bucks and does decreased from years prior.
- This decrease could be caused by a relatively warm beginning of the hunting season as well as a lack of a defined rut during the latter part of season.
- However, the decreased harvest could be the result of hunters being more selective with their harvest efforts in order to harvest more mature deer.
- The percentage of both mature does and bucks in the harvest increased substantially from 2016–2017.
- Mature buck doe and buck body weights increased indicating a healthier herd and also offering a positive outlook on the upcoming season.
- 4.5 year old and older buck antler sizes also increased from 2016–2017.
- Doe lactation rates remain low but will hopefully increase in the upcoming season after adequate rainfall this summer.

SOUTHWEST REGION

By Kamen Campbell

Southwest Mississippi had an average year for weather and environmental conditions. The summer of 2017 was characterized by frequent intermittent rainfall that was sufficient to grow summer food plots and avoid a drought. There was no summer or winter flooding along the Mississippi River counties. Natural deer browse was available and abundant in most parts of the southwest region. The hunting season had periods of low rainfall and above average temperatures. Although most hunters reported increased deer observations, the general consensus is that deer movement was fair to poor.

- Total Buck and Doe harvest declined by 10% from 2016–2017.
- The percent of 4 and older bucks in the harvest declined by 3% from 2016–2017.
- The percent of 3 and older does in the harvest decreased by 9% from 2016–2017.
- Yearling doe and adult doe weights increased by 4 and 2 pounds, respectively from 2016–2017.

Through a cooperative research program with Mississippi State University initiated in 1976, Mississippi Department of Wildlife, Fisheries, and Parks gained information which provided biologists with the ability to evaluate population density relative to carrying capacity, using body condition indicators and harvest age structure parameters rather than less reliable population estimates or browse surveys. This Cooperative Deer Management Assistance Program (DMAP) directly involved hunters in management through the collection of biological data. The interpretation of these data, through a partnership between DMAP cooperators and biologists, is the guiding principle of DMAP. From a two-county pilot project in its first year, DMAP grew steadily until participation peaked in 1994 at almost 1,200 cooperators with over 3.25 million acres under management.

SPECIAL NOTE: The statewide summary table and all graphs include harvest data from all DMAP Cooperators including private lands, Wildlife Management Areas (WMAs), and National Wildlife Refuges (NWRs) that participate in DMAP. WMA and NWR data is not included in the soil region summary tables and is used for comparison in Tables 2-5 and Figures 7-10.

As a result of the diligence of hundreds of DMAP cooperators, representing thousands of sportsmen, the DMAP has successfully provided biologists and managers with data to aid in recommendations and decision making. In excess of 10,000 deer have annually been available for comparative purposes since 1983. (Figure 2 DMAP Deer Harvest). Analysis of these data over time captured the obvious trends and subtle changes in deer herd condition and structure. These trends and changes would have gone undocumented and possibly undetected without DMAP. Clubs and landowners participating in DMAP may or may not be representative of hunter goals and objectives on a statewide basis. Therefore, deer condition and herd structure on DMAP lands may not reflect herds on un-managed lands. However, a data source representing more than 1.5 million acres is credible and can be used to examine trend data. The statewide coverage of private lands enrolled in DMAP at the county level can be seen in Figure 1 DMAP Cooperators by County.

Liberalized season structure and antlerless bag limits during the mid-1990s allowed land managers the flexibility to meet harvest objectives without the need for additional antlerless tags, which resulted in a decline in DMAP participation in the mid-2000s (Figure 3 DMAP Acreage and Cooperators). Furthermore, it is likely that the peak in DMAP participation in the mid-2000s represents the peak in MDWFPs resources that could effectively be applied to DMAP cooperators. This "saturation point" was predicted in the original DMAP position statement drafted in 1980. Furthermore, the original intent of DMAP was to teach private landowners and hunting clubs to manage their own deer herds. It stands to reason that some clubs might cease to participate in the program once they have gleaned a sufficient amount of deer management knowledge. Current enrollment (public and private lands) includes 442 cooperators on 1,700,761 acres. Total DMAP cooperators have remained on a slightly declining trend since 2002. Total DMAP harvest has mirrored the changes in cooperators and acreage in DMAP over the past few years.

Based on the statewide DMAP data, a few trends are apparent. The addition of statewide antler criteria, first "the 4-point rule" in 1995 followed by statewide spread and main-beam regulations in 2009, have successfully protected yearling bucks and increased the average age of all harvested bucks (Figure 5 Average Age All Bucks). Indeed, it is quite impressive to consider that 44% of the buck harvest from 1991–1994 was made up of yearlings, while only 10% of bucks harvested today are yearlings, many of those are taken as management bucks or by youth hunters. Subsequently, three-quarters of the buck harvest on DMAP properties during the 2017–2018 season were mature (>3.5-year-old). Furthermore, acreage per mature buck harvested is half of what it was during the early 1990s. This means that mature bucks are likely more common over the past 5 hunting seasons than they have been since such data has been recorded.

Statewide condition data for harvested deer on WMAs, NWRs, and DMAP properties are summarized in Table 2 Statewide Compiled Data (DMAP, NWR, WMAs). This table shows trend data on various antler parameters such as spread, length, circumference, and points. Other information, such as weight and lactation data are also provided in this table.

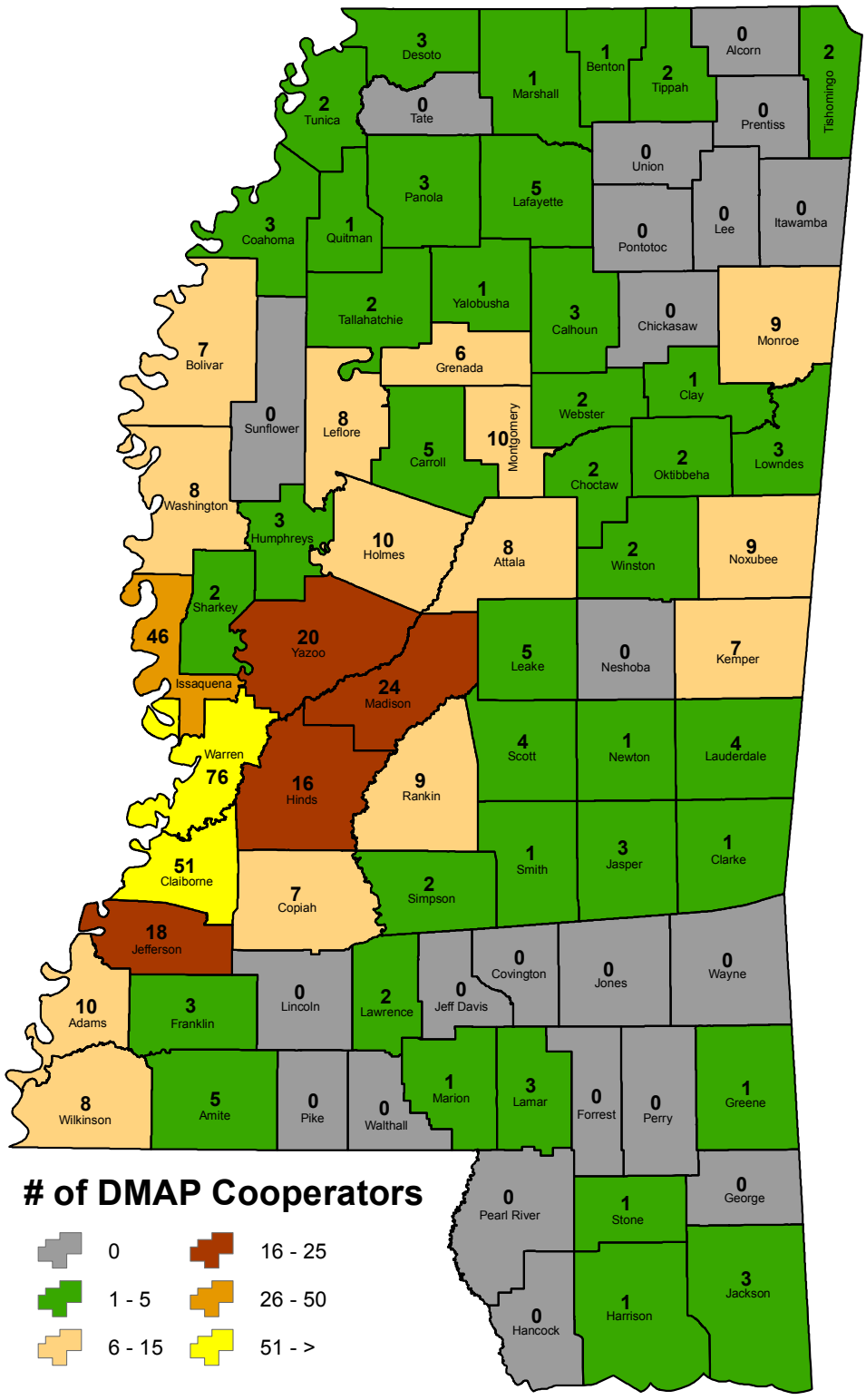
Perhaps the greatest utility of the DMAP dataset is the ability to evaluate specific deer herd metrics based on soil region. Categorizing harvest data based on soil region, or major physiographic region (Figure A6– Soil Resource Areas Map), is believed to be appropriate based on peer-reviewed research which has shown morphological and antler characteristic differences between these regions. These data are presented in Tables A2-A12 in the appendix. Soil region summaries allow individual DMAP cooperators and landowners not enrolled in DMAP to compare their harvest data to soil region averages. These tables also present trend data on various antler characteristics such as spread, length, circumference, and points. Other information, such as weight and lactation data are provided in these tables as well. WMA and NWR harvested deer are not included in the soil region tables to give a better representation of the deer herd on private lands on DMAP.

A comparison of WMAs/NWRs to DMAP properties reveals some interesting trends. During the 2017 season, private DMAP cooperators harvested 1.6 does for every buck, while public land hunters took 0.9 does for every buck. Acres per

deer harvested showed a declining trend through the mid-2000s on both DMAP and WMAs/NWRs, indicating increased hunter success. During the 2015 thru 2017 seasons, however, acres per deer harvested showed a relatively large increase, indicating decreased hunter success. Although, average temperature during December 2015 and 2016 was warmer than the average temperature during the previous several Decembers, raising the traditional concerns of decreased deer movement related to temperatures, no peer-reviewed study has shown that such effects on deer movement exist. Regulation changes suspending antlerless harvest on many public areas further decreased hunter success.

The early-2010s saw similar trends across private DMAP cooperators and WMAs/NWRs of increasing hunter success in harvesting mature bucks (e.g., decreasing acres per 3.5+ year old buck harvested; Figure 9 Acres/3.5 Year Old Buck Harvested: Private vs Public). Notice the dramatic increase in harvest efficiency of mature bucks from 2009 to 2001. This is surely due to the implementation of minimum spread/main beam criteria on these WMAs/NWRs during the 2008 season. The average age of bucks harvested on WMAs/NWRs was once again above 3 years old. This is very likely a perfect reflection of the reduction in antler criteria on many WMAs during the previous 3-year cycle of WMA regulations. Increased antler criteria on many WMAs were reinstated for the 2015 season. As expected, more young bucks were protected. It is important to consider harvest data from WMAs/NWRs as minimum harvest numbers. Compliance with WMA regulations for submitting harvest data is known to be poor on some WMAs and NWRs.

Figure 1: **2016 DMAP Cooperators by County**



MANAGEMENT BUCK TAGS

During the 2003–2004 hunting season, sub–4 point bucks were legal to harvest for the first time since 1995. Sub–4 point tags were issued by biologists to DMAP properties on a limited basis for management purposes. During the 2005–2006 season, tags were expanded to include management bucks. Management buck tags were issued to DMAP properties to allow additional harvest of sub-optimal bucks. Tagged bucks did not count against the annual bag limit. During the 2006–2007 season, tagged bucks did not count towards the annual and daily bag limit. The management buck harvest criteria were for an individual property and determined by the DMAP biologist. Management bucks harvested under this permit must be identified with a tag immediately upon possession and noted in the harvest records.

A total of 2,669 tags were issued to these DMAP properties, and 623 of these tags were used. (Figure 13). These tags allow the harvest of sub-optimal bucks that would otherwise be passed up by hunters being that the deer would count against the daily and annual bag limit. Removal of these deer aids many clubs in maintaining deer herds at or under habitat carrying capacity.

ANTLERLESS TAGS

MDWFP issues antlerless tags to DMAP properties to allow the harvest of antlerless deer in excess of the annual and daily bag limits. These tags have been issued since the implementation of DMAP. When antlerless seasons were liberalized statewide, the need for antlerless tags was reduced. However, some landowners and managers still have the need for more antlerless harvest than the state bag limit allows. With the changes in bag limits for the upcoming season, antlerless tags will be more important for properties with the need to harvest surplus does.

Antlerless tags are issued by DMAP biologists based on an individual landowner's or manager's need. The tags can only be used on antlerless deer on the property to which they were issued.

DMAP biologists issued 6,896 antlerless tags to 252 DMAP clubs during the 2017–2018 season. However, the increased interest in deer management throughout Mississippi correlates with significantly more tags being issued on an average annual basis since the 2003–2004 and previous seasons (Figure 14).

FEE MANAGEMENT ASSISTANCE PROGRAM

The Fee Management Assistance Program (FMAP) was implemented during the 1989–1990 season. It began as a pilot program in two north-central counties at the request of local conservation officers to control expanding deer populations. Under this program, does tags were purchased for $10 each, at a rate of one per 50 acres. The landowner or club was required to show proof of ownership or hunting control. FMAP allowed the permittee to harvest antlerless deer in addition to the state bag limit. This program was accepted and quickly spread statewide. Sportsmen realized they could properly harvest does and still maintain a healthy population. Initially, a large number of permits were sold. However, liberalization of antlerless opportunity has occurred throughout the state, and no FMAP permits were sold from 2013–2016. One permit was sold for the 2017–2018 season. Continuation of the program is recommended because it provides an opportunity to harvest antlerless deer in excess of the season bag limit on specific areas that exceed the environmental carrying capacity.

Figure 13: Buck Tags Issued and Used on DMAP Properties

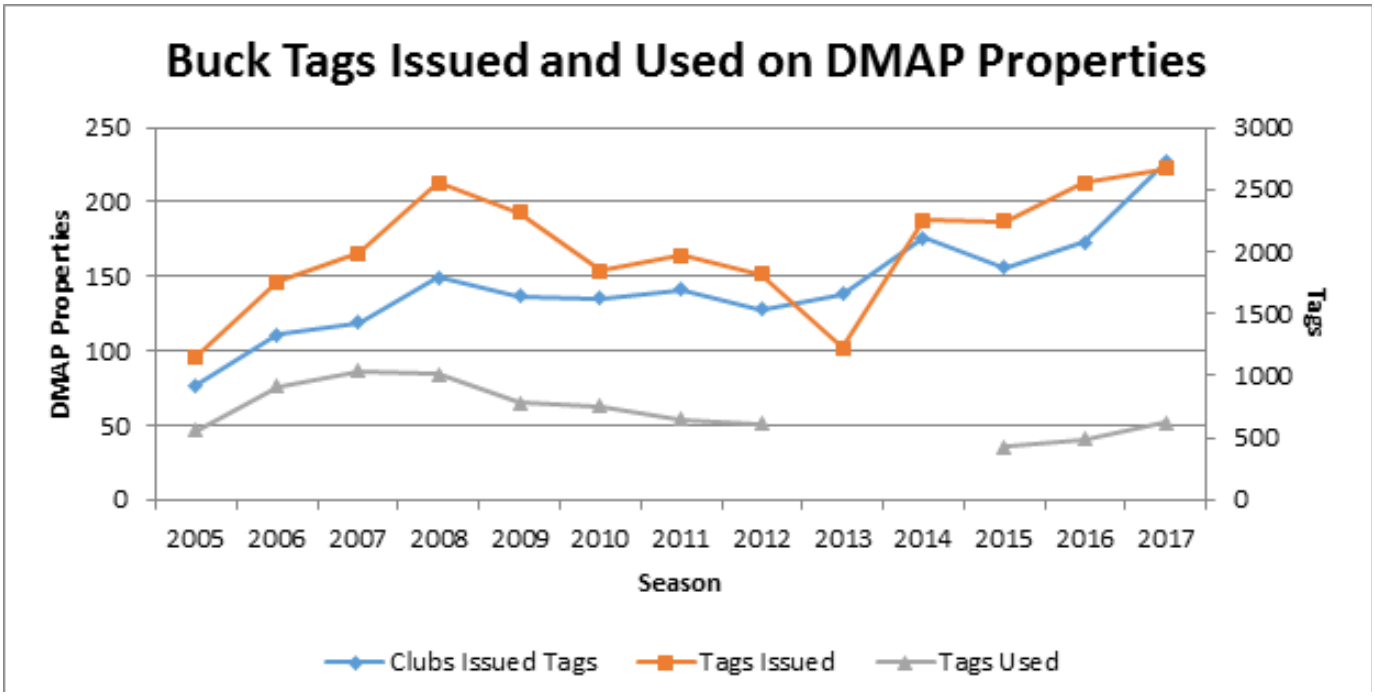


Figure 14: Antlerless Deer Tags Issued on DMAP Properties

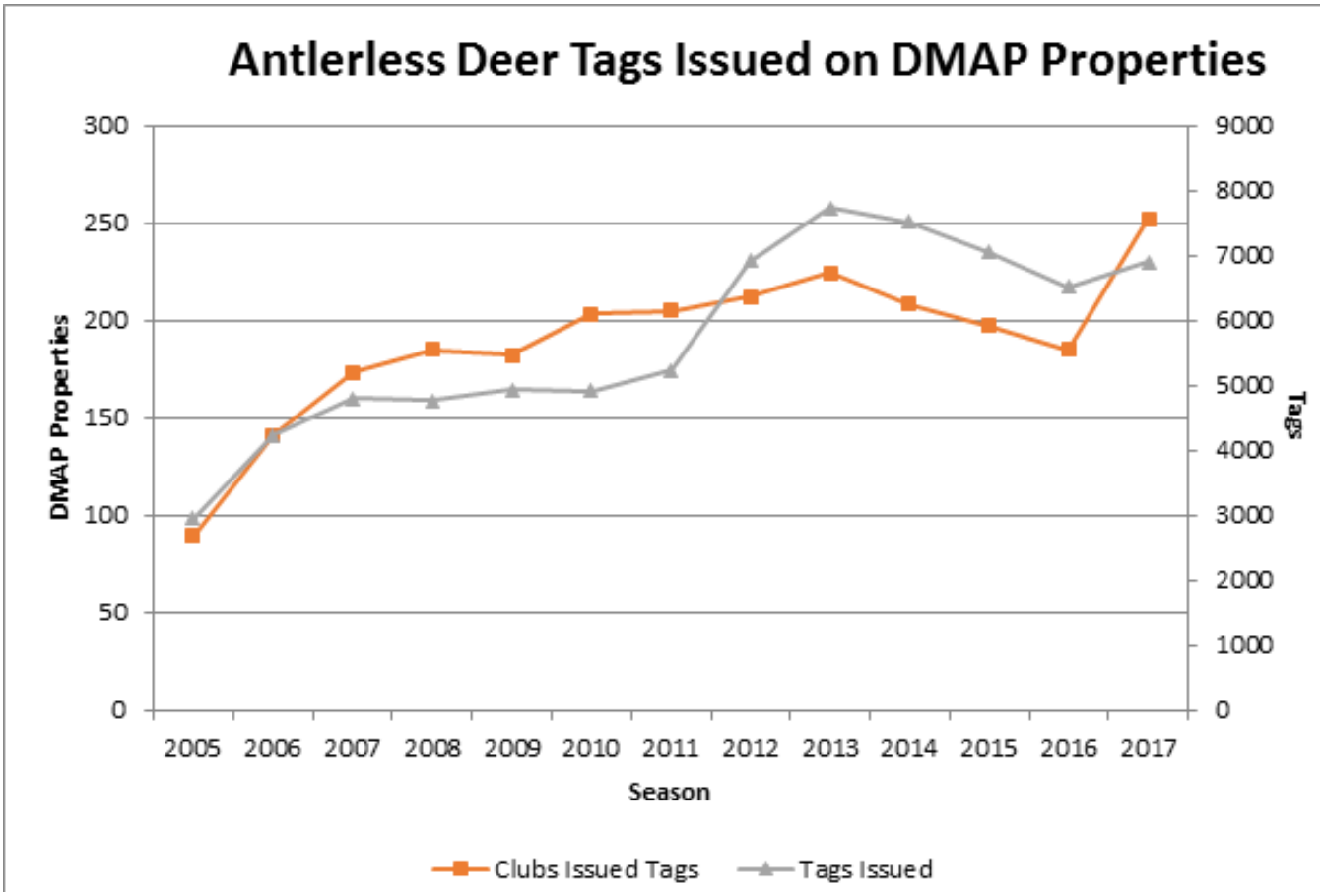


Table 1: DMAP Participation and Harvest by County					
County	Cooperators	Acres	Bucks	Does	Total
ADAMS	9	43,338	99	97	196
ALCORN	1	2,668	7	8	15
AMITE	2	8,222	41	66	107
ATTALA	10	37,682	156	161	317
BENTON	0	0	0	0	0
BOLIVAR	3	17,125	96	191	287
CALHOUN	2	11,220	17	7	24
CARROLL	6	14,655	61	79	140
CHICKASAW	1	28,000	35	2	37
CHOCTAW	3	29,277	42	26	68
CLAIBORNE	47	89,329	646	1,095	1,741
CLARKE	1	4,000	15	33	48
CLAY	1	5,085	11	43	54
COAHOMA	3	11,485	60	92	152
COPIAH	7	26,264	129	220	349
COVINGTON	0	0	0	0	0
DESOTO	3	9,060	32	59	91
FORREST	0	0	0	0	0
FRANKLIN	3	32,585	49	17	66
GEORGE	1	18,000	40	3	43
GREENE	2	29,500	4	6	10
GRENADA	3	13,137	39	87	126
HANCOCK	0	0	0	0	0
HARRISON	0	0	0	0	0
HINDS	13	25,050	133	284	417
HOLMES	8	20,544	109	207	316
HUMPHREYS	4	9,844	31	59	90
ISSAQUENA	43	112,269	827	1,263	2,090
ITAWAMBA	1	27,500	34	16	50
JACKSON	3	22,100	31	24	55
JASPER	4	31,741	44	53	97
JEFF DAVIS	0	0	0	0	0
JEFFERSON	13	36,722	148	233	381
JONES	1	30,000	27	6	33
KEMPER	6	19,120	70	121	191
LAFAYETTE	6	57,432	60	66	126
LAMAR	1	2,004	1	4	5
LAUDERDALE	6	26,473	56	86	142
LAWRENCE	0	0	0	0	0
LEAKE	4	11,225	32	40	72
LEE	0	0	0	0	0

Table 1: DMAP Participation and Harvest by County					
County	Cooperators	Acres	Bucks	Does	Total
LEFLORE	5	8,963	24	62	86
LINCOLN	0	0	0	0	0
LOWNDES	4	13,505	38	74	112
MADISON	20	35,225	192	449	641
MARION	3	29,373	91	145	236
MARSHALL	0	0	0	0	0
MONROE	6	12,645	49	113	162
MONTGOMERY	12	27,503	98	127	225
NESHOBA	1	7,655	14	21	0
NEWTON	2	6,975	48	42	90
NOXUBEE	12	41,398	245	281	526
OKTIBBEHA	3	11,235	16	21	37
PANOLA	3	6,384	45	74	119
PEARL RIVER	2	23,000	37	13	50
PERRY	1	40,000	92	8	100
PIKE	0	0	0	0	0
PONTOTOC	0	0	0	0	0
PRENTISS	1	2,930	2	5	7
QUITMAN	2	12,943	58	118	176
RANKIN	8	20,004	70	108	178
SCOTT	9	42,460	100	71	171
SHARKEY	3	66,180	138	53	191
SIMPSON	1	6,000	22	24	46
SMITH	2	14,475	34	72	106
STONE	3	104,090	34	12	46
SUNFLOWER	0	0	0	0	0
TALLAHATCHIE	1	2,515	9	40	49
TATE	0	0	0	0	0
TIPPAH	1	6,500	8	2	10
TISHOMINGO	2	16,116	15	10	25
TUNICA	3	9,264	33	19	52
UNION	1	2,284	8	15	23
WALTHALL	0	0	0	0	0
WARREN	68	114,525	861	1,114	1,975
WASHINGTON	11	42,110	293	477	770
WAYNE	0	0	0	0	0
WEBSTER	2	7,472	27	68	95
WILKINSON	4	12,400	70	67	137
WINSTON	1	3,500	8	17	25
YALOBUSHA	1	500	2	15	17
YAZOO	23	87,976	467	833	1,300
TOTALS	442	1,700,761	6,430	9,324	15,754

Statewide DMAP Data

Table 2: Statewide Compiled Data (DMAP, NWR, WMA)					
Season	**2017**	**2016**	**2015**	**2014**	**2013**
Acres	1,700,761	1,836,388	1,988,597	2,175,845	2,219,276
Total Deer	15,763	17,841	19,381	25,860	25,646
Bucks	6,430	6,980	7,237	9,341	9,379
Does	9,324	10,829	12,075	16,458	16,214
Acres/Deer	107.9	102.9	102.6	84.1	86.5
Bucks	264.5	263.1	274.8	232.9	236.6
Does	182.4	169.6	164.7	132.2	136.9
Avg. Age ALL Bucks	3.5	3.5	3.2	3.3	3.3
Avg. Points ALL Bucks	7.3	7.2	7.2	7.2	7.1
Avg. Length ALL Bucks	17.6	16.9	17.0	17.1	16.9
Avg. Spread ALL Bucks	14.4	13.9	14.0	14.2	14.0
Acres/3.5+ Bucks	377.3	369.7	396	361	365
% 0.5 Yr. Bucks	4.4	1.7	3.9	4.9	4.8
Weight	63.7	64.0	61	63	61
% 1.5 Yr.	10.3	9.3	12.0	11.1	13.3
Weight	111.0	107.0	103	106	106
Points	2.6	2.5	2.5	2.4	2.4
Circumf.	1.9	1.8	1.9	1.8	1.9
Length	6.1	4.9	5	4.9	5
Spread	5.9	5.5	5.4	5.4	5.5
% 2.5 Yr.	10.6	12.1	10.8	14.2	11.9
Weight	145.5	142.0	138	143	143
Points	6.6	6.7	6.6	6.6	6.7
Circumf.	3.4	3.4	3.3	3.4	3.4
Length	14.7	14.6	14.7	14.9	14.8
Spread	12.3	12.0	12.1	12.3	12.1
% 3.5 Yr.	25.3	22.3	23.6	21.9	21.8
Weight	166.1	164.1	159	166	162
Points	7.6	7.7	7.6	7.7	7.6
Circumf.	3.9	4.0	3.8	4.0	3.9
Length	17.2	17.3	17.1	17.6	17.3
Spread	14.0	14.1	13.9	14.3	14.1
% 4.5+ Yr.	49.4	52.2	45.7	42.6	43.1
Weight	186.8	184.7	176.0	181.3	177.6
Points	8.2	8.3	8.1	8.1	8.1
Circumf.	4.5	4.5	4.4	4.4	4.4
Length	19.9	19.9	19.3	19.6	19.6
Spread	15.9	16.0	15.5	15.8	15.7

Table 2 Continued: Statewide Compiled Data (DMAP, NWR, WMA)					
Season	**2017**	**2016**	**2015**	**2014**	**2013**
% 5.5 Yr.	16.0	17.0	14.0	12.0	12.4
Weight	191.6	187.0	179	185	178
Points	8.2	8.5	8.3	8.2	8.2
Circumf.	4.6	4.5	4.5	4.5	4.5
Length	20.3	20.2	19.8	20.0	19.9
Spread	16.3	16.3	15.8	16.1	15.9
% 6.5 Yr.	6.2	7.2	6.3	6.3	6.6
Weight	190.3	190.0	182	184	180
Points	8.3	8.3	8.1	8.1	8.2
Circumf.	4.7	4.7	4.5	4.6	4.6
Length	20.4	20.4	19.8	20.3	20.2
Spread	16.2	16.5	15.8	16.2	16.1
% 7.5 Yr.	1.8	2.1	1.9	1.9	1.5
Weight	189.9	189.0	182	187	186
Points	8.3	8.2	8.0	8.2	8.2
Circumf.	4.6	4.6	4.6	4.6	4.6
Length	20.6	20.2	20.2	20.6	20.5
Spread	16.3	16.1	16.3	16.6	16.8
% 8.5 Yr.	1.6	1.7	1.4	1.3	1.0
Weight	189.5	191.0	175	179	180
Points	7.8	8.7	7.7	7.5	8.0
Circumf.	4.5	4.8	4.6	4.5	4.6
Length	20.1	20.7	19.8	20.0	20.7
Spread	15.9	16.7	15.8	15.9	16.8
Doe Age Classes					
% 0.5 Yr.	8.3	7.8	6.7	7.5	7.1
% 1.5 Yr.	20.5	16.1	19.6	17.7	22.2
% 2.5 Yr.	17.0	19.2	17.9	23.4	17.9
% 3.5+ Yr.	54.2	56.9	55.8	51.3	52.8
Doe Weights					
0.5 Yr.	66	64	61	63	61
1.5 Yr.	98	95	91	94	94
2.5 Yr.	109	107	105	108	108
3.5+ Yr.	115	114	112	115	113
% Doe Lactation					
1.5 Yr.	12	11	8	11	10
2.5 Yr.	57	51	43	51	48
2.5+ Yr.	66	54	52	60	57
3.5+ Yr.	69	56	55	64	60
All Antlerless Harvest					
% 0.5 Yr. Buck Fawns	2.9	2.5	2.4	2.8	2.7
% 0.5 Yr. Doe Fawns	8.1	7.6	6.8	7.5	7.1
% 1.5 Yr. Does	19.9	15.7	19.7	17.7	22.1
% 2.5 Yr. Does	16.5	18.8	17.9	23.4	17.8
% 3.5+ Yr. Does	52.6	55.5	53.2	48.7	50.2

Statewide DMAP Data

Table 3: Harvest Summary of Bucks by Age Class: WMAs, NWR, and DMAP														
Season	Sample	0.5 Bucks		1.5 Bucks		2.5 Bucks		3.5 Bucks		4.5+ Bucks		Avg. Age All Bucks	Total 3.5+ Bucks	Acres/ 3.5+ Bucks
		#	%	#	%	#	%	#	%	#	%			
1991	17,850	1,250	7.0	8,392	47.0	5,280	29.6	2,200	12.3	677	3.8	2.1	2,877	960
1992	17,631	1,410	8.0	8,025	45.5	5,154	29.2	2,255	12.8	831	4.7	2.1	3,086	847
1993	18,585	1,301	7.0	8,527	45.9	5,488	29.5	2,489	13.4	852	4.6	2.1	3,341	740
1994	19,128	1,530	8.0	7,063	36.9	6,529	34.1	3,020	15.8	1,045	5.5	2.2	4,065	685
1995	14,650	1,172	8.0	3,391	23.1	5,503	37.6	3,367	23.0	1,187	8.1	2.5	4,554	560
1996	16,350	1,308	8.0	3,246	19.9	6,489	39.7	3,601	22.0	1,697	10.4	2.3	5,298	500
1997	14,405	1,296	9.0	2,737	19.0	5,474	38.0	3,601	25.0	1,585	11.0	2.4	5,186	456
1998	13,278	1,062	8.0	2,257	17.0	4,913	37.0	3,452	26.0	1,859	14.0	2.5	5,311	410
1999	12,336	740	6.0	1,974	16.0	4,441	36.0	3,454	28.0	1,727	14.0	2.9	5,181	393
2000	11,329	566	5.0	1,586	14.0	3,965	35.0	3,399	30.0	1,813	16.0	3.0	5,211	379
2001	10,639	404	3.8	1,319	12.4	3,660	34.4	3,192	30.0	2,064	19.4	2.7	5,256	468
2002	11,258	394	3.5	1,396	12.4	3,411	30.3	3,580	31.8	2,466	21.9	2.8	6,046	438
2003	10,737	374	3.5	1,546	14.4	2,974	27.7	3,328	31.0	2,512	23.4	2.8	5,841	456
2004	10,100	362	3.6	1,121	11.1	2,818	27.9	3,373	33.4	2,424	24.0	2.9	5,797	463
2005	9,719	452	4.7	1,205	12.4	2,196	22.6	3,285	33.8	2,576	26.5	2.9	5,861	408
2006	10,246	460	4.5	1,506	14.7	2,070	20.2	3,125	30.5	3,074	30.0	3.0	6,199	387
2007	10,026	426	4.3	1,564	15.6	2,115	21.1	2,938	29.3	2,978	29.7	3.0	5,915	401
2008	10,234	438	4.3	1,750	17.1	2,129	20.8	3,142	30.7	2,763	27.0	2.9	5,905	346
2009	10,033	472	4.7	1,354	13.5	2,027	20.2	3,120	31.1	3,060	30.5	3.0	6,180	401
2010	10,341	496	4.8	1,293	12.5	1,706	16.5	3,630	35.1	3,630	35.1	3.2	7,259	347
2011	9,468	528	5.6	1,146	12.1	1,553	16.4	2,642	27.9	3,598	38.0	3.2	6,240	358
2012	9,525	571	6.2	1,211	12.5	1,330	12.2	2,535	25.7	3,878	43.4	3.2	6,413	355
2013	8,896	446	5.0	1,244	14.0	1,118	12.6	2,041	22.9	4,047	45.5	3.3	6,088	365
2014	8,847	461	5.2	1,039	11.7	1,322	14.9	2,050	23.2	3,975	45.0	3.3	6,025	361
2015	6,949	284	4.1	866	12.5	780	11.2	1,710	24.6	3,309	47.6	3.4	5,019	396
2016	6,661	271	4.1	620	9.3	803	12.1	1,488	24.3	3,479	52.3	3.5	4,967	370
2017	6,050	265	4.4	630	10.4	647	10.7	1,528	25.3	2,980	49.3	3.0	4,508	377

Table 4: Comparison of Bucks Harvested on WMAs and NWR vs. Private Lands DMAP

Season	Average Age		Average Points		Average Length		Average Spread		Acres/3.5+	
	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public
2001	2.7	2.4	7.2	6.8	15.9	14.1	13.0	11.3	359	1,582
2002	2.8	2.5	7.3	6.8	16.3	14.2	13.2	11.4	346	1,359
2003	2.9	2.1	7.2	5.7	16.5	12.1	13.3	10.1	346	2,429
2004	2.9	2.6	7.2	7.1	16.4	15.1	13.4	12.6	361	2,299
2005	3.0	2.4	7.2	6.2	16.6	13.6	13.6	11.3	300	2,249
2006	3.1	2.4	7.1	6.3	16.5	14.1	13.5	11.6	293	1,666
2007	3.0	2.7	7.1	6.6	16.5	14.3	13.6	11.6	311	1,024
2008	2.9	2.6	7.0	6.5	16.2	14.1	13.5	11.7	310	1,055
2009	3.1	2.7	7.3	7.0	16.8	15.0	13.8	12.4	312	1,048
2010	3.2	3.0	7.3	7.2	17.3	15.9	14.0	13.0	270	915
2011	3.3	2.8	7.4	6.9	17.1	15.0	14.1	12.4	266	915
2012	3.5	2.8	7.4	7.1	17.5	15.7	14.5	13.0	269	962
2013	3.5	3.0	7.1	7.0	17.1	15.7	14.2	13.0	266	960
2014	3.5	2.9	7.2	7.1	17.4	15.9	14.4	13.2	263	1,130
2015	3.6	3.1	7.2	7.1	17.2	15.9	14.1	13.2	290	1,053
2016	3.8	3.1	7.5	7.2	17.9	16.4	14.7	13.6	261	949
2017	3.8	3.0	7.3	7.2	17.9	16.2	14.6	13.5	287	1,015

Table 5: Comparison of WMAs and NWR vs. Private Lands DMAP

Season	Acres		Total Deer		Bucks		Does		Acres/Deer		Acres/Buck		Acres/Does	
	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private	Public
2001	1,651,465	672,467	21,362	2,934	9,162	1,571	12,200	1,363	77	229	180	428	135	493
2002	1,784,033	664,467	22,878	2,740	9,779	1,488	13,099	1,252	78	243	182	447	136	531
2003	1,819,587	684,967	23,401	2,431	9,442	1,278	13,959	1,153	78	282	193	536	130	594
2004	1,858,150	627,746	23,042	1,844	9,152	903	13,890	941	81	340	203	695	134	667
2005	1,701,621	726,346	21,585	2,310	8,912	1,148	12,673	1,162	79	314	191	633	134	625
2006	1,644,169	694,682	23,678	2,455	9,304	1,178	14,374	1,277	69	283	177	590	114	544
2007	1,671,498	756,762	23,054	3,007	9,177	1,672	13,877	1,335	73	252	182	453	120	567
2008	1,645,261	765,780	23,086	3,691	9,223	1,807	13,863	1,884	71	207	178	424	119	406
2009	1,629,220	767,216	21,853	3,461	8,450	1,658	13,403	1,803	75	222	193	463	122	426
2010	1,543,744	726,671	23,993	3,545	8,782	1,559	15,211	1,986	64	205	176	466	101	366
2011	1,336,729	803,417	19,563	4,203	7,449	2,066	12,114	2,137	68	191	179	389	110	376
2012	1,511,078	761,895	23,616	3,649	8,436	1,734	15,180	1915	64	209	179	439	100	398
2013	1,407,704	762,132	21,000	3,291	7,394	1,646	13,606	1645	67	232	190	463	103	463
2014	1,406,799	765,872	21,884	3,241	7,551	1,571	14,333	1670	64	236	186	488	98	459
2015	1,255,453	718,213	16,268	2,730	5,873	1,275	10,395	1455	77	263	214	563	121	494
2016	1,086,657	749,731	14,944	2,897	5,586	1,417	9,386	1,472	73	259	195	529	116	509
2017	973,154	728,701	13,557	2,219	5,249	1,192	8,308	1,027	72	328	185	611	117	710

Figure 2: **DMAP Deer Harvest**

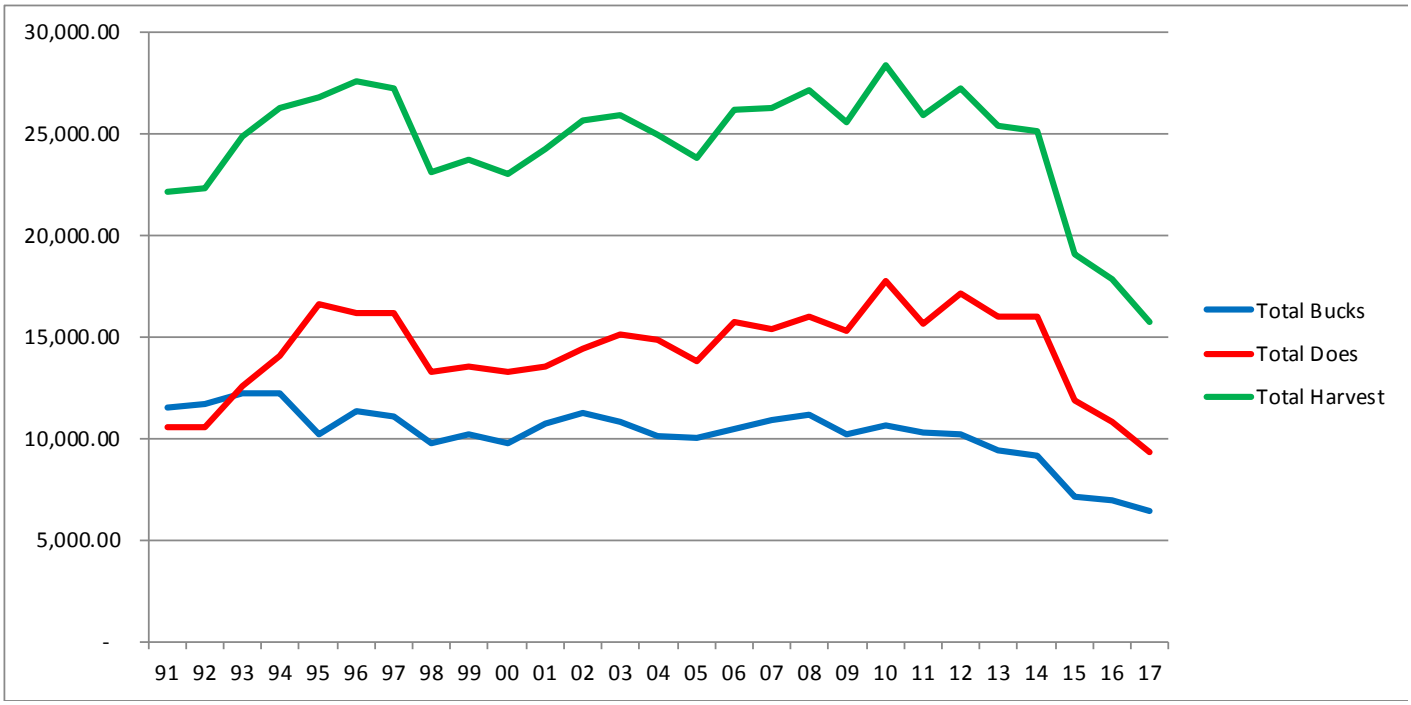


Figure 3: **DMAP Acreage and Cooperators**

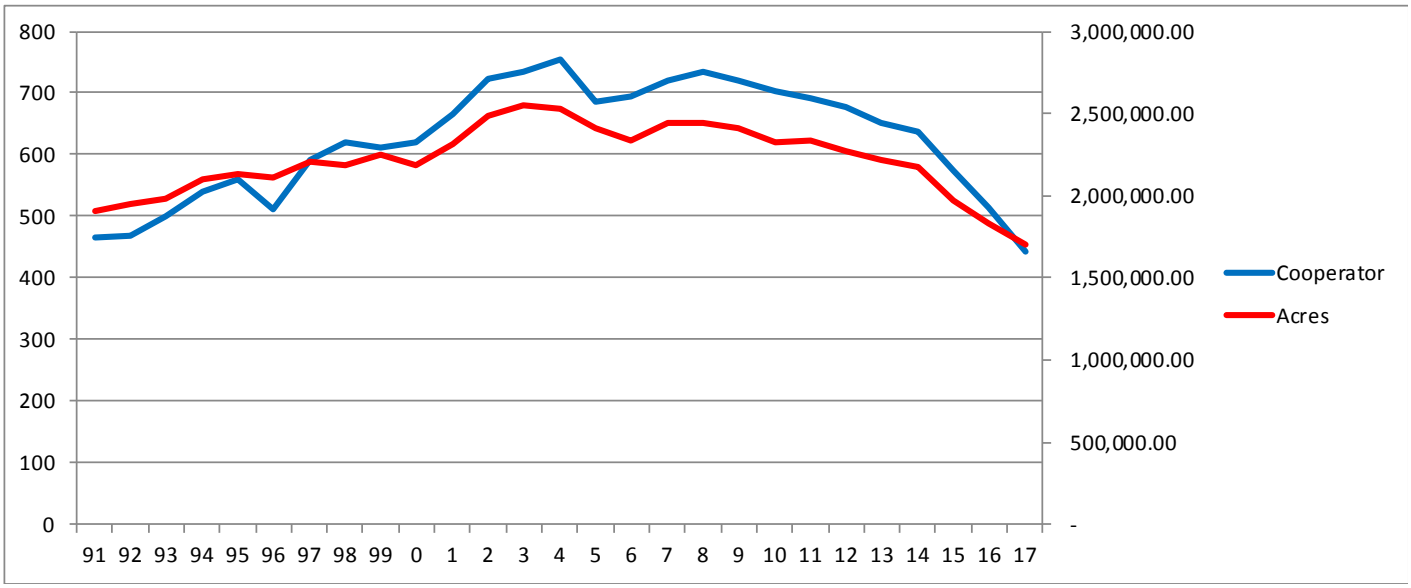


Figure 4: **Acres/Deer Harvest**

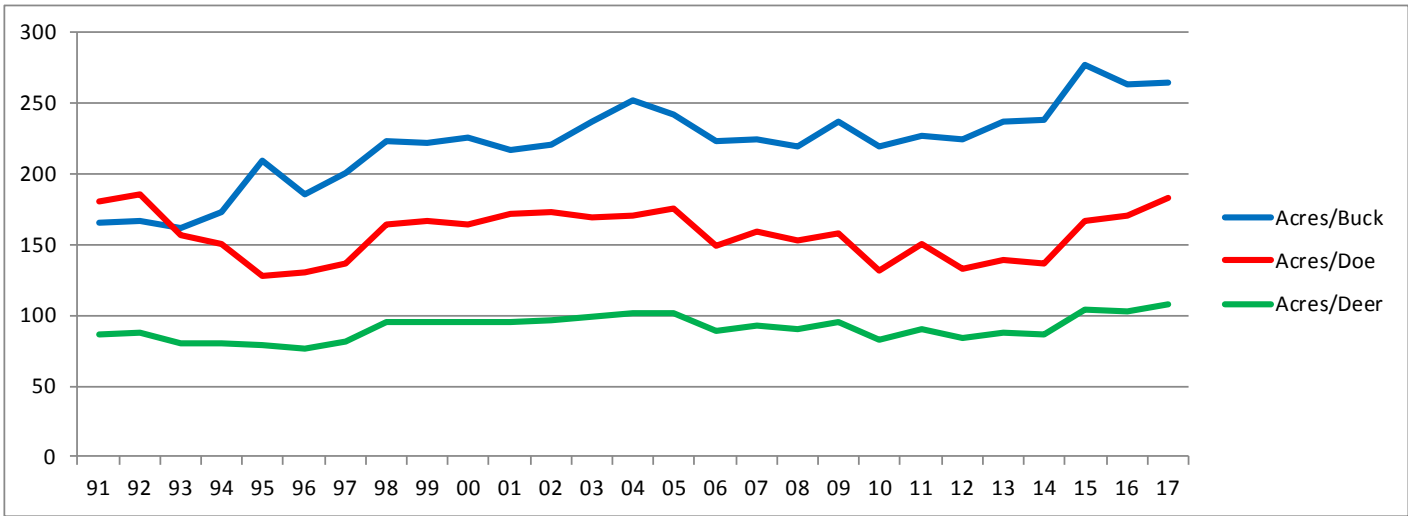


Figure 5: **Average Age All Bucks**

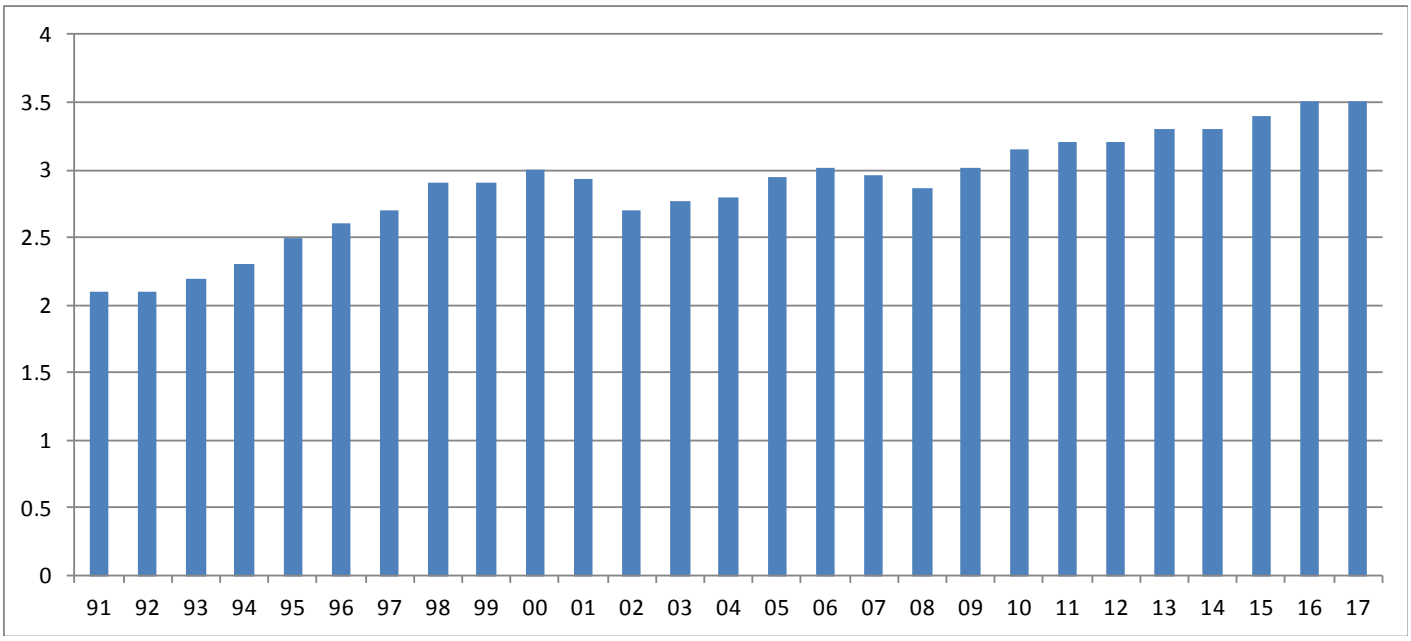


Figure 6: **Acres per 3.5+ Year Old Buck**

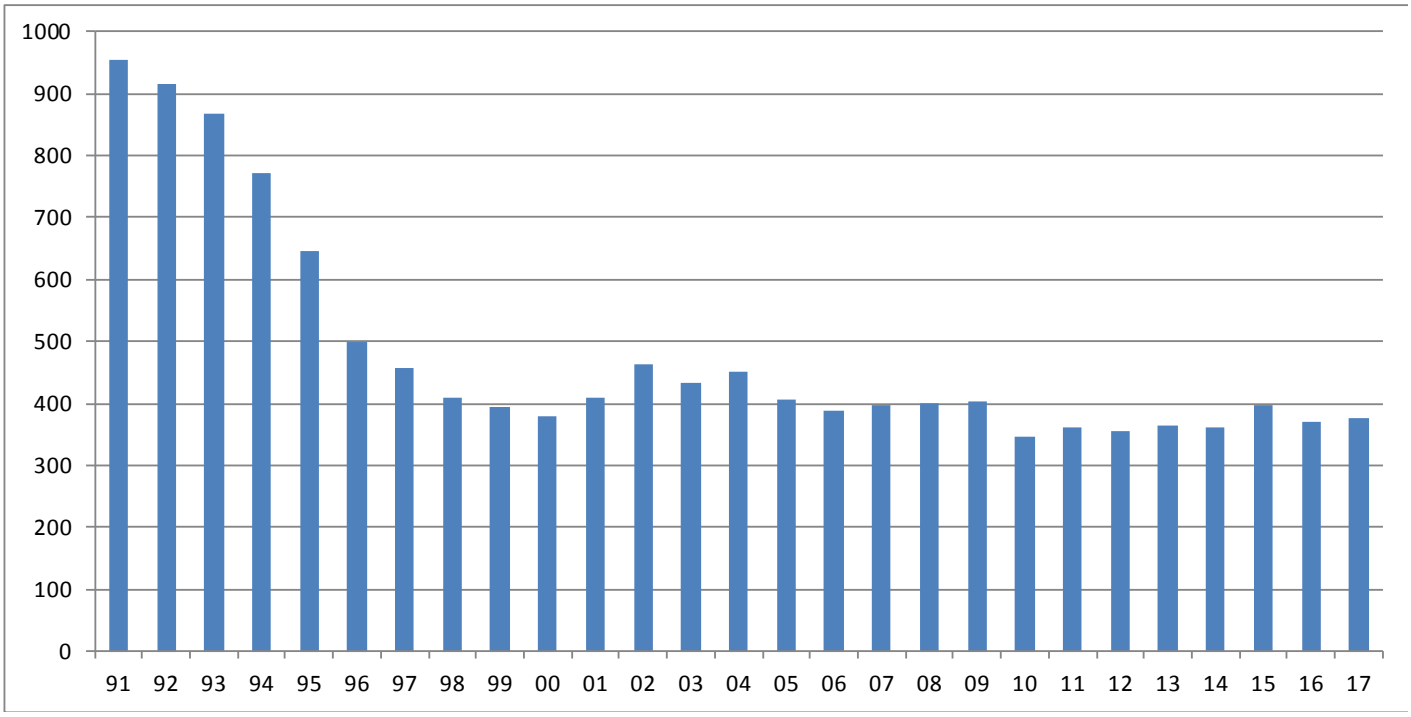


Figure 7: **Total Deer Harvest - Private vs. Public**

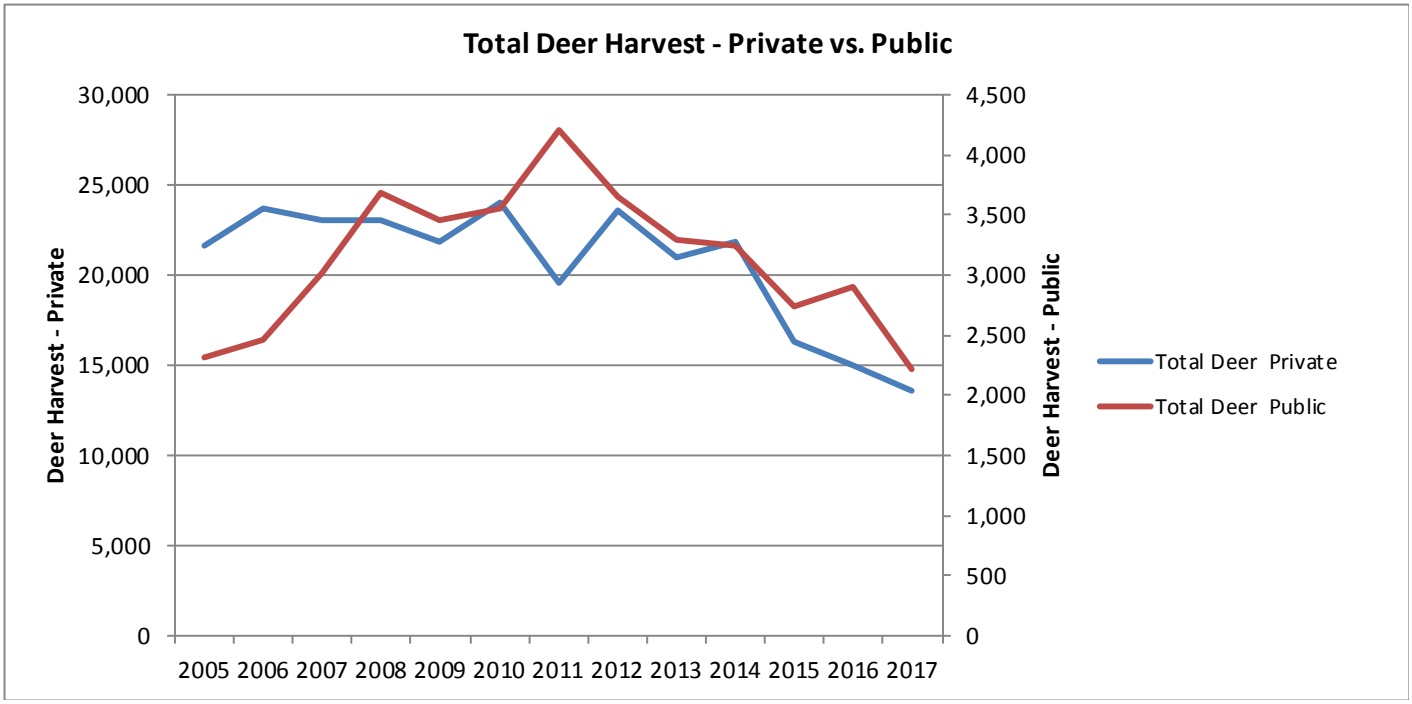


Figure 8: **Acres / Deer Harvested - Private vs. Public**

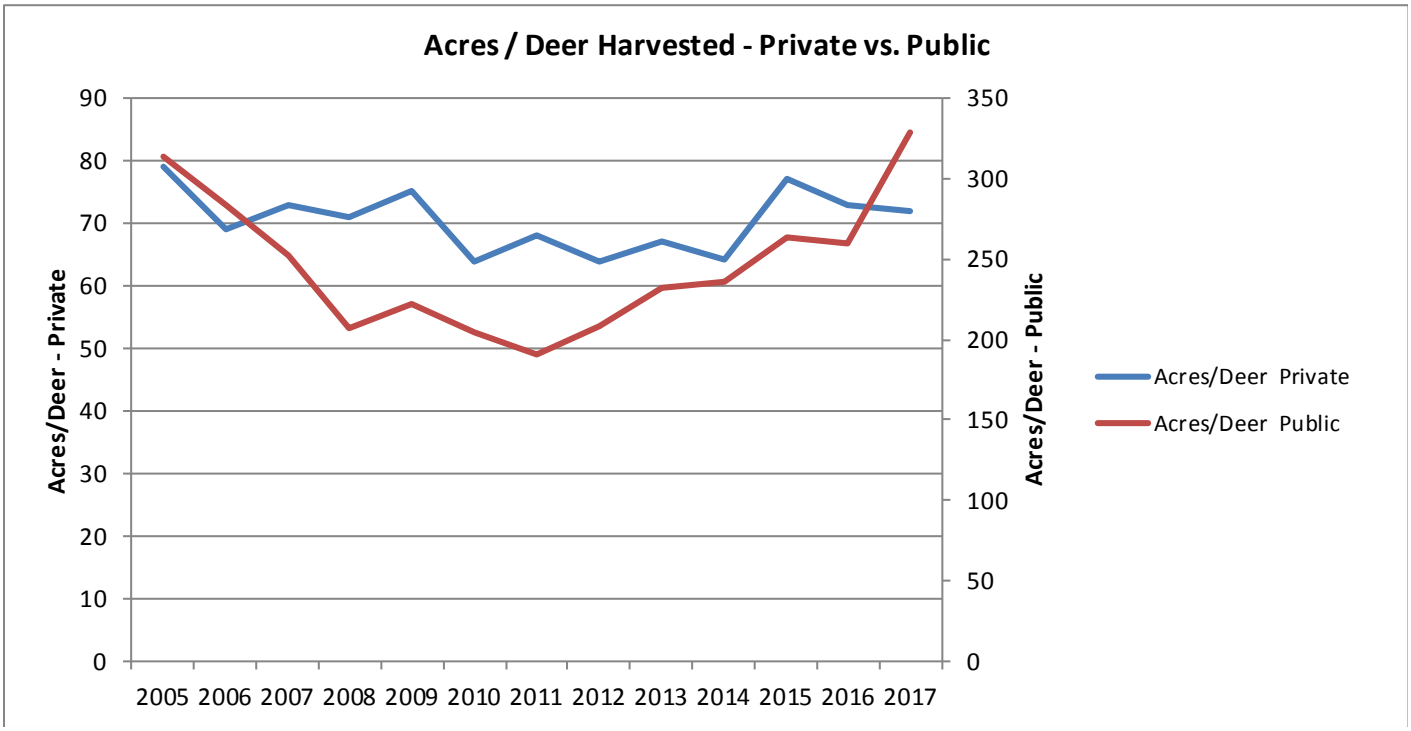


Figure 9: **Acres / 3.5 Year Old Buck Harvested - Private vs. Public**

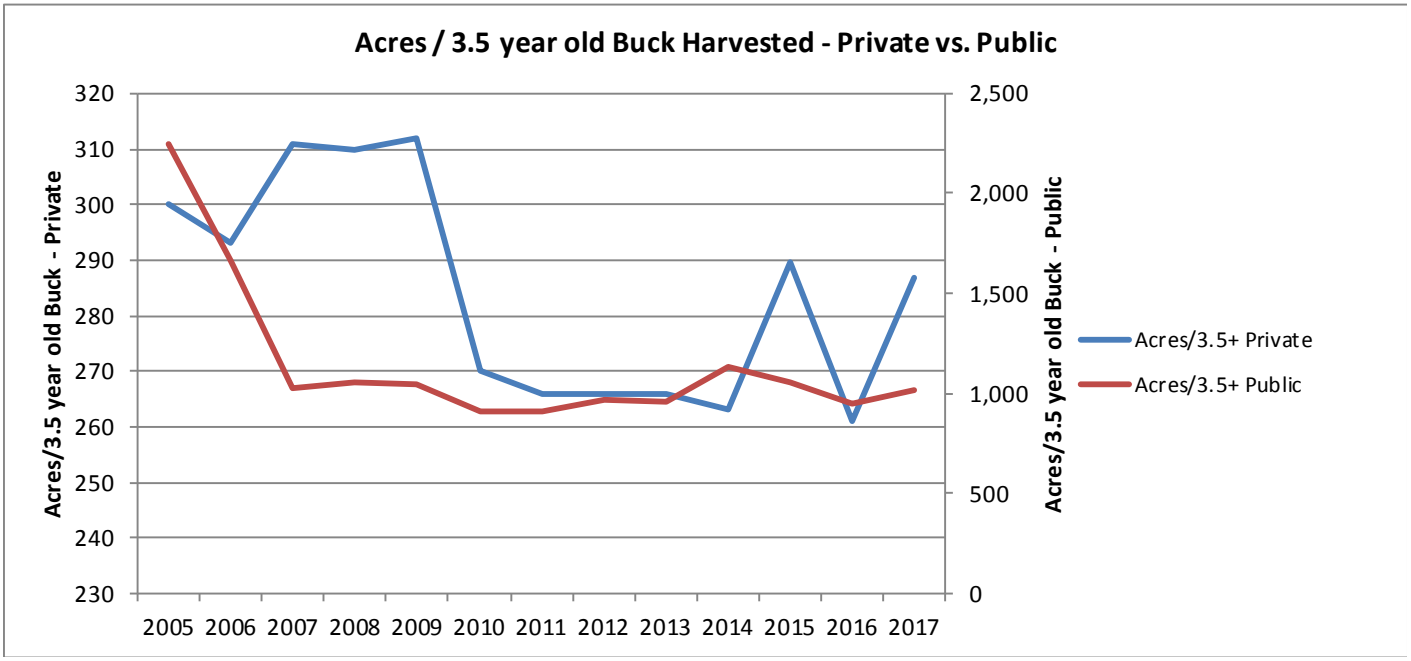
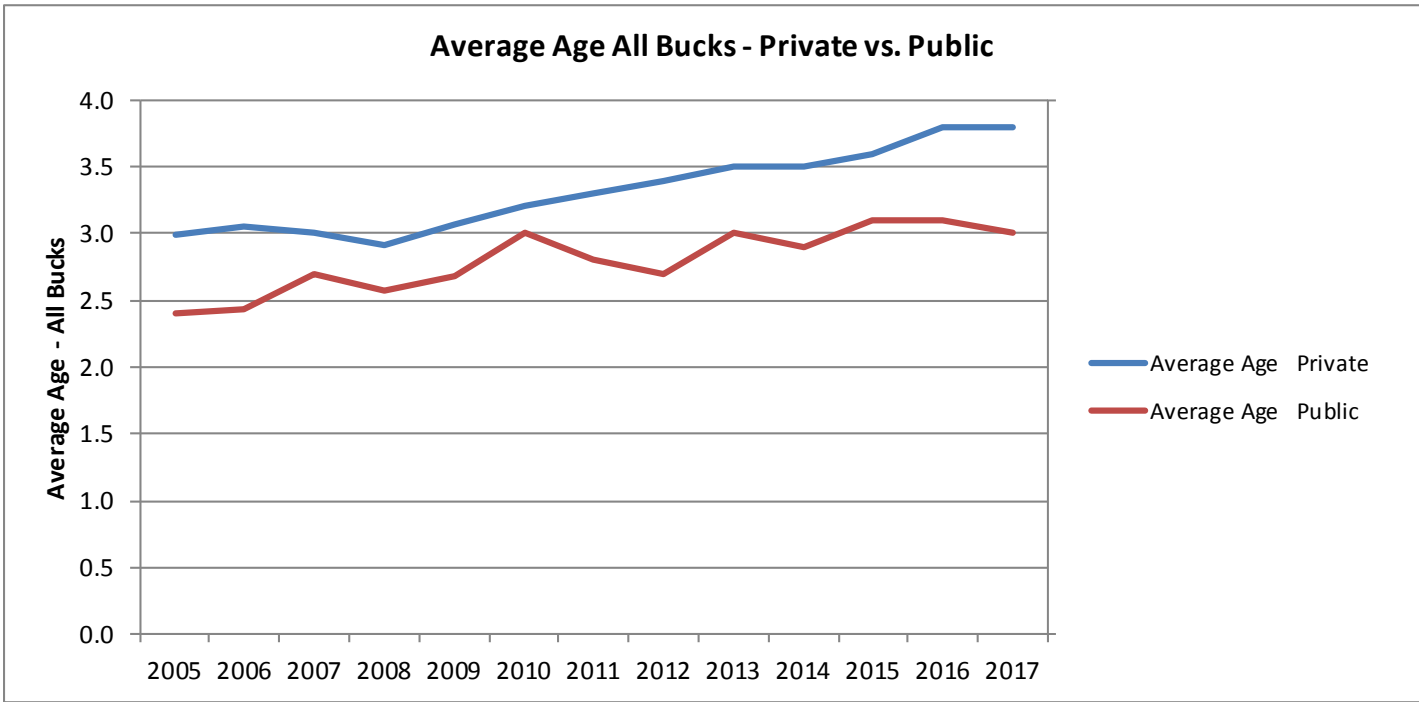


Figure 10: **Average Age All Bucks - Private vs. Public**




Paul T. Brown


Paul T. Brown

WILDLIFE MANAGEMENT AREAS

One does not have to own land or even have access to private land for outdoor recreation. The Mississippi Wildlife Management Area (WMA) system is expansive and diverse. It includes 54 areas encompassing over 665,000 acres. Mississippi WMAs offer great opportunities for family and friends to enjoy outdoor activities such as hunting, fishing, trapping, bird watching, hiking, and wildlife viewing.

WHAT DO YOU NEED?

All persons using a WMA, except those exempt from purchasing an annual hunting or fishing license, must carry on their person an annual statewide Wildlife Management Area User Permit. This permit is required in addition to the daily visitor use permit and any required license and may be purchased wherever licenses are sold. Users are also exempt on lands owned by the U.S. Forest Service unless they are hunting, fishing, or trapping. If you are not sure who owns the land, you can visit our website at www.mdwfp.com or give us a call at 601-432-2199.

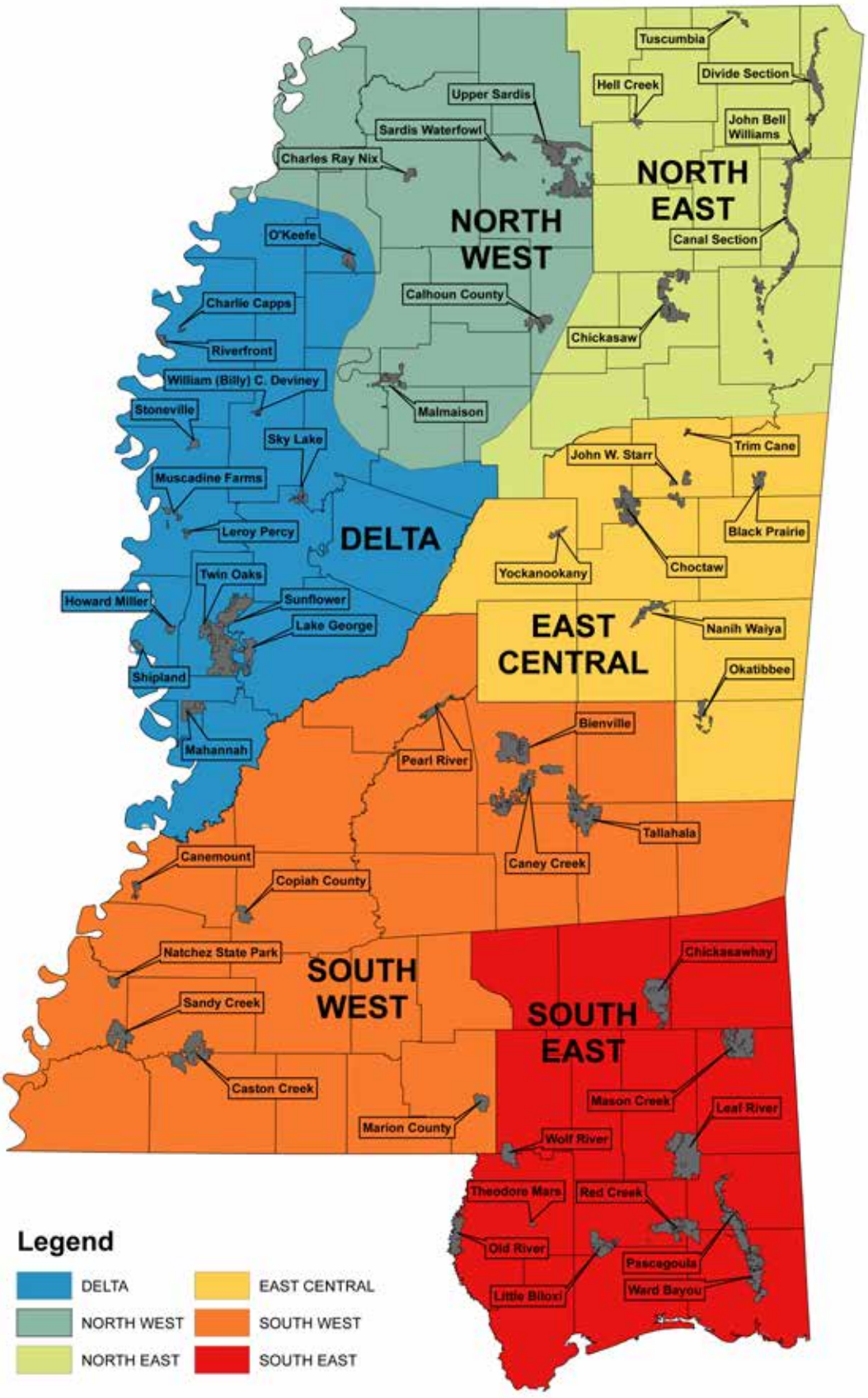
HUNTING OPPORTUNITIES

WMAs offer opportunities to hunt a variety of wildlife species. While deer hunting is the leading use, there are many other resident and migratory game species available to pursue. Wild turkey, squirrel, rabbit, quail, raccoon, opossum, fox, and bobcat are among the resident species traditionally hunted on WMAs. Ducks, geese, and doves are the most commonly hunted migratory species, but several other migratory game birds may be taken too.

YOUTH HUNTING OPPORTUNITIES

Youth are the key to continuing our hunting heritage as well as promoting wildlife conservation in years to come. It is important to provide youth the opportunity to be outdoors and have positive hunting experiences. Many WMAs offer special youth hunting opportunities. Most WMAs provide special or additional hunts for youth to pursue wild turkey, white-tailed deer, squirrels, dove, and waterfowl.

Figure 11: **WMA Region Map**



WMA REGIONS

DELTA REGION

By Roger Tankesly and Caleb Hinton

Lake George WMA

- Location: Near Holly Bluff in Yazoo County
- Ownership: U.S. Army Corps of Engineers, managed by MDWFP
- This area consists primarily of 25-year-old replanted bottomland hardwood timber. This hardwood regeneration has created an early successional habitat that has allowed the growth of massive amounts of browse.
- Hunter effort and doe harvest have increased dramatically for the past two seasons. This is primarily due to limiting doe harvest on Sunflower WMA beginning in 2016. Doe harvest opportunity will be decreased during the 2018–19 season.

Leroy Percy WMA

- Location: Near Hollandale in Washington County
- Ownership: State Park, MDWFP owned
- This area is dominated by bottomland hardwood stands currently consisting of even-age timber classes that have shaded out herbaceous plants. Future timber thinning will open the forest once again to promote vegetation growth. The WMA benefits from agricultural food sources on adjacent properties.
- Total harvest and hunter effort were average.

Mahannah WMA

- Location: Near Vicksburg in Issaquena and Warren counties
- Ownership: U.S. Corps of Engineers, managed by MDWFP
- This area is comprised of a unique blend of flooding timber, cypress swamps, and controlled flooded agricultural lands. Mahannah WMA floods annually during winter, spring, and summer months. A majority of the WMA was inundated with water from mid-April to mid-June which affected habitat and maintenance operations on the WMA.
- Total harvest for bucks and does remained similar to the previous five years averages. Hunter effort was slightly down due to changing from 3-day hunts to two 2-day hunts per week. Tuesdays are designated to be closed to all WMA activities to allow the WMA to have a rest day and to allow staff to perform needed tasks without interrupting hunters.

O'Keefe WMA

- Location: Near Lambert in Quitman County
- Ownership: MDWFP
- This area contains one of the few remaining contiguous tracts of bottomland hardwood forest in the Mississippi delta.
- Buck harvest was slightly lower from previous years, however, the number of quality bucks harvested is on the rise. The increase of quality bucks is related to recent timber harvest activities that were designed to improve timber health and benefit both game and non-game wildlife species.

Shipland WMA

- Location: Near Mayersville in Issaquena County, within the batture land of MS River
- Ownership: MDWFP
- This area consists of bottomland hardwood and an approximately 100-acre sand field. Timber thinning in the past has greatly increased the browse and escape cover on the WMA.
- Buck harvest remained the same as previous years, however doe harvest more than tripled. This is primarily due to limiting doe harvest on Sunflower WMA beginning in 2016. Doe harvest opportunity will be decreased during the 2018–19 season.
- The Mississippi River impacted habitat and management activities for most of the spring and summer months.

Sky Lake

- Location: Near Belzoni in Humphreys and Leflore counties
- Ownership: MDWFP/U.S. Army Corps of Engineers, managed by MDWFP
- This area is dominated by regenerated bottomland hardwood forest with abundant browse and escape cover.
- Total harvest remained the same as the past seasons, however hunter effort declined slightly.

Stoneville WMA

- Location: Near Leland in Washington County, within the MSU Delta Branch Experiment Station
- Ownership: Mississippi State University
- This area is dominated by bottomland hardwood stands of varying age classes with some mature tim-

ber stands scattered throughout the area.
- Total harvest and hunter effort remained average from the past 10 seasons. There are usually only a handful of bucks harvested each year.

Sunflower WMA
- Location: Near Rolling Fork in Sharkey County, Delta National Forest
- Ownership: U.S. Forest Service
- This area consists entirely of bottomland hardwood forest, with stands varying in age from regeneration areas to mature forests.
- Hunter effort decreased by 45%, probably due to restricting doe harvest opportunities. Buck harvest followed this trend by decreasing 38%.
- The U.S. Forest Service has conducted timber thinnings and clear cuts in the past few years, so there are many areas to provide good browse and bedding habitat.

Twin Oaks WMA
- Location: Near Rolling Fork in Sharkey County
- Ownership: U.S. Army Corps of Engineers, managed by MDWFP
- This area consists of primarily bottomland hardwood in varying quantities and stages of maturity.
- Total harvest was average for the past 10 seasons. A mild growing season allowed for sufficient browse and bedding cover.

EAST CENTRAL REGION

By Chad Masley

Black Prairie WMA
- Location: Near Brooksville in Lowndes County
- Ownership: MDWFP
- There has been an increase in habitat improvements on the area over the last several years. Greater acreage is being treated with prescribed fire and work is also being done to reclaim overgrown green ash and cedar thickets to create more desirable wildlife habitat.
- Harvest of mature bucks increased slightly from the previous seasons.

Choctaw WMA
- Location: Near Ackerman in Choctaw and Winston counties, within the Tombigbee National Forest
- Ownership: U.S. Forest Service, managed by MDWFP
- Prescribed burning is conducted annually by the U.S. Forest Service, which helps improve wildlife habitat, however there is a significant amount of canopy closure which prohibits sunlight from reaching the forest floor resulting in poor browse conditions.
- The new doe season structure decreased doe harvest significantly from the previous seasons.

John W. Starr Forest WMA
- Location: Near Starkville in Oktibbeha and Winston counties
- Ownership: Mississippi State University, managed by MDWFP
- This area is a self-sustaining pine forest planted and managed by Mississippi State University.
- The new doe season structure decreased doe harvest from the previous seasons.

Nanih Waiya WMA
- Location: Near Philadelphia in Neshoba County
- Ownership: U.S. Army Corps of Engineers, managed by MDWFP
- This area runs along the Pearl River and is mostly bottomland hardwood. Deer hunting pressure and success on the WMA is highly dependent upon the water level of the river.
- Doe harvest was slightly lower than the previous years, but average body weights are higher than the previous two years.

Okatibbee WMA
- Location: Near Collinsville in Lauderdale County
- Ownership: U.S. Army Corps of Engineers, managed by MDWFP
- This area is mostly comprised of mixed hardwood and pine forest.
- Due to the low harvest last season, no conclusions can be made to determine population growth from the percentage of mature does harvested. Of the total buck harvest, 50% were in the 4.5-year-old age class.

Trim Cane WMA
- Location: Near Starkville in Oktibbeha County
- Ownership: MDWFP
- Due to the small size of this area, hunting is limited to wheelchair bound and youth hunters. It is primarily a waterfowl hunting, but deer habitat should be enhanced over next few years. Approximately 200 acres are being burned annually and work has also begun to provide additional early successional habitat.
- Because of low harvest, sample size was too small to make determinations regarding population trends.

Yockanookany WMA
- Location: Near Kosciusko in Attala County
- Ownership: MDWFP
- This area is predominantly forested with stands of bottomland hardwoods. There are future plans to enhance habitat by creating more openings, improving accessibility, and conducting timber harvests to allow more sunlight to reach the floor. The Yockanookany River system is prone to frequent flooding and limits hunter access.
- Because of low harvest, sample size was too small to make determinations regarding population trends.

NORTH EAST REGION

By Nathan Blount

Canal Section WMA
- Location: Near Fulton in Itawamba, Monroe, Prentiss, and Tishomingo counties
- Ownership: U.S. Army Corps of Engineers, managed by MDWFP
- This area is comprised primarily of bottomland hardwood forest. Habitat quality ranges from poor to fair, but continues to improve with increased prescribed burning, timber management, hydrology improvements, and trapping of feral swine and beaver.
- Total harvest increased 87% and hunter effort decreased 7% from the previous season. Fifty-six percent of the does harvested were 3.5+ years old. Hunter compliance increased this season thanks to additional agency presence. This may explain the boost in reported harvest.

Chickasaw WMA
- Location: Near Houston in Chickasaw County, Tombigbee National Forest–Trace Unit
- Ownership: U.S. Forest Service, managed by MDWFP
- This area is primarily composed of pine, hardwood, and mixed forests. Habitat quality is marginal. Acorns are the main winter food source for deer on the area and acorn production has a significant impact on annual herd condition. Recent outbreaks of southern pine beetle have resulted in scattered openings and timber salvage operations. This disturbance will provide more food and cover for wildlife in the near future.
- Total harvest decreased 62% and hunter effort decreased 30% from the previous season. Fifty percent of the does harvested were 3.5+ years old. The large decreases in harvest and hunter effort can be attributed to reduced antlerless harvest opportunity. This was the first season in which hunters could only harvest antlerless deer during the archery and youth gun seasons. Buck harvest per man-day of effort was strong and well above the 10-year average.

Divide Section WMA
- Location: Near Iuka in Tishomingo and Prentiss counties
- Ownership: U.S. Army Corps of Engineers, managed by MDWFP
- This area is comprised primarily of old fields and hardwood, pine, and mixed forests. Habitat quality is fair in terms of cover but marginal to poor in terms of browse quality. Annual prescribed burning and invasive plant and animal control (i.e. feral swine) help to improve browse and cover quality in old fields and forests.
- Total harvest decreased 14% and hunter effort decreased 36% from the previous season. Fifty-seven percent of the does harvested were 3.5+ years old. Man-days on this area were at a long-term low.

Hell Creek WMA
- Location: Near New Albany in Union County
- Ownership: MDWFP
- This area is comprised of pine and hardwood forest blocks scattered around agricultural fields. Habitat quality is fair to good. Prescribed burns, timber stand improvements, and fall disking are improving cover within small woodlots, old fields, and natural vegetation buffers around agricultural fields found on the WMA. Soybeans are farmed within many of the large fields on the area and provide ample summer forage.
- Total harvest increased 460% and hunter effort increased 24% from the previous season. Thirty-six

percent of the does harvested were 3.5+ years old. The increases in harvest and hunter effort are a result of more hunters utilizing the recently expanded archery and youth gun seasons. Harvest per man-day of effort was at a ten-year high.

John Bell Williams WMA

- Location: Near Booneville in Prentiss County
- Ownership: Tennessee Tombigbee Water Management District, managed by MDWFP
- This area is comprised of hardwood and pine forests and old field habitat. Habitat quality is fair to good. Timber thins and wind damage (2014 tornado) have improved quantity and quality of browse and cover for deer on the WMA.
- Total harvest increased 43% and hunter effort decreased 20% from the previous season. All does harvested were older than 3.5 years old.

Tuscumbia WMA

- Location: Near Corinth in Alcorn County
- Ownership: MDWFP
- This area is dominated by wetland habitat and floods frequently during the winter months. Area management focuses on providing habitat for wintering waterfowl and waterfowl hunting. Deer hunting opportunity exists, but availability of quality deer habitat and access restrictions make hunting deer on the area a little challenging.
- Total harvest increased 375% and hunter effort increased 95% from the previous season. Fourteen percent of the does harvested were 3.5+ years old. The significant boosts in harvest and hunter effort are a result of prolonged low water conditions increasing hunter access and opportunity. Hunter effort was near an all-time high and harvest was at an eight-year high.

NORTH WEST REGION

By Brad Holder

Malmaison WMA

- Location: Near Greenwood in Carroll, Leflore, and Grenada counties
- Ownership: MDWFP
- Mature hardwoods dominate both the hills and delta sections of this area. However, forest habitat conditions are generally marginal for due to reduced amounts of understory vegetation, which provides food and cover for deer. Future forest management in the form of timber thins will help to address this limiting factor.
- Total harvest increased 51% from the previous season while hunter effort increased by 23%. Forty-nine percent of does harvested were 3.5+ years old.

Calhoun County WMA

- Location: Near Calhoun City in Calhoun County
- Ownership: Quitman Timber, LLC, managed by MDWFP
- This area is composed primarily of pine plantations with a few hardwood drains. Deer habitat conditions on Calhoun County WMA are fair. Annual timber harvest on the WMA provide patches of browse and cover. Crops and natural vegetation produced in adjacent fertile river valleys provide additional, high-quality forage for the local herd.
- Total harvest was the same as the previous season and remains 80% below the nine-season average prior to the 2016–17 season. Hunter effort increased 28%. No does were reported harvested during the 2017–18 season. To address low deer densities on certain WMAs, a new and temporary regulation restricting doe harvest opportunity to archery and youth gun seasons was implemented on a number of WMAs including Calhoun County WMA prior to the 2017–18 season.

Charles Ray Nix WMA

- Location: Near Sardis in Panola County
- Ownership: MDWFP
- This area is comprised primarily of hardwood woodlands, some pine, and numerous old fields. Deer habitat quality is general good. Frequent prescribed burning, fall disking, invasive vegetation control, and timber management techniques maintain ample browse and cover for deer in forests and old fields found throughout the WMA.
- Total harvest decreased 13% and hunter effort decreased 8% from the previous season. Forty-seven percent of the does harvested were 3.5+ years old.

Sardis Waterfowl WMA

- Location: Near Oxford in Lafayette County
- Ownership: U.S. Army Corps of Engineers, managed by MDWFP
- This area is comprised of hardwood, pine, and mixed forests with occasional old fields. Deer habitat quality is fair to good. Old fields and portions of WMA forest are periodically burned which helps maintain browse and cover on the area.
- Total harvest decreased 54% and hunter effort increased 17% from the previous season. Twenty-five percent of the does harvested were 3.5+ years old.

Upper Sardis WMA

- Location: Near Oxford in Lafayette County
- Ownership: The portion of the WMA along the Tallahatchie River Canal is owned by the U.S. Army Corps of Engineers. The rest of the WMA falls within the Holly Springs National Forest between County Road 244 and State Highway 6.
- This area is comprised primarily of pine, hardwood, and mixed forests. Deer habitat quality is marginal to poor. Acorns are the main food source for deer on the area and acorn production has a significant impact on annual herd condition. Patches of thinned timber and areas damaged by tornadoes in 2008 and 2012 provide cover and browse. Pine beetle damage and associated future timber thins will provide some additional browse and cover for the local herd.
- Total harvest decreased 56% and hunter effort decreased 70% from the previous season. The decreases were anticipated. To address low deer densities on certain WMAs, a new and temporary regulation restricting doe harvest opportunity to archery and youth gun seasons was implemented on a number of WMAs including Upper Sardis WMA prior to the 2017–18 season. Fifty percent of harvested does reported were 3.5+ years old.

Cossar State Park WMA

- Location: Near Oakland in Yalobusha County
- Ownership: U.S. Army Corps of Engineers
- Habitat: This 604-acre area is comprised primarily of hardwood and mixed pine/hardwoods. Deer habitat quality is poor due to closed canopy forests and over browsing by numerous white-tailed deer.
- The 2017–18 season marked the first hunting season within the state park. A deer season comprised of two youth draw hunts and five adult draw hunts, was implemented inside park boundaries to reduce extreme deer overpopulation, improve deer herd health, and address human dimension issues. A total of 17 deer (15 does and 2 bucks) harvested and 55 man-days were reported for the inaugural 2017–18 deer season at Cossar State Park. Eighty-seven percent of the does harvested were 3.5+ years of age.

SOUTH EAST REGION

By Cody Haynes

Chickasawhay WMA

- Location: South of Laurel in Jones County, part of the DeSoto National Forest.
- Ownership: U.S. Forest Service, managed by MDWFP
- This area is a southern pine forest, typical of Southeastern Mississippi. Management practices include prescribed fire, timber harvest, mid-story removal, and eradication of invasive plant species.
- Total harvest decreased 16% from the previous year. Hunter effort decreased 27% from the previous year. Both decreases are likely the result of the antlerless harvest restriction.

Leaf River WMA

- Location: Northeast of Wiggins, in Laurel County, part of the DeSoto National Forest.
- Ownership: U.S. Forest Service, managed by MDWFP
- This area is a southern pine forest, typical of Southeastern Mississippi. Management practices include prescribed fire, timber harvest, mid-story removal, and eradication of invasive plant species.
- Total harvest decreased by 55% from the previous year and hunter effort decreased by 28%. Both decreases are likely the result of the antlerless harvest restriction.

Little Biloxi WMA

- Location: South of Wiggins, in Stone and Harrison counties.
- Ownership: Weyerhaeuser, & U.S. Forest Service
- This area is a southern pine forest, typical of Southeastern Mississippi. Management practices include

prescribed fire, timber harvest, mid-story removal, and eradication of invasive plant species. There have also been timber harvests in recent years which improve habitat conditions.
- Due to the restriction of antlerless harvest, total harvest decreased 49% from the previous year, buck harvest remained unchanged. Hunter effort decreased 32%.

Mason Creek WMA
- Location: East of Richton, in Greene County, part of the De Soto National Forest
- Ownership: U.S. Forest Service, managed by MDWFP
- This area is a southern pine forest, typical of Southeastern Mississippi. Management practices include prescribed fire, timber harvest, mid-story removal, and eradication of invasive plant species. Habitat conditions on Mason Creek WMA have improved in recent years due to timber thinning, prescribed fire, and the maintenance of wildlife openings.
- Total harvest decreased 57% from the previous year and hunter effort decreased 24%. Man-days were at a five-year low. All decreases are likely the result of the antlerless harvest restriction.

Old River WMA
- Location: West of Poplarville, in Pearl River County
- Ownership: MDWFP
- Forest type transitions from southern pine forest to bottomland hardwood forest, depending on elevation and proximity to the Pearl River. Backwater flooding can be frequent throughout late winter and spring.
- Total harvest decreased 30% from the previous year and hunter effort decreased 26% but both mimicked the five year average.

Pascagoula WMA
- Location: Near Lucedale and Hurley in George and Jackson counties
- Ownership: MDWFP
- This area is a southern pine forest, typical of Southeastern Mississippi. Management practices include prescribed fire, timber harvest, mid-story removal, and eradication of invasive plant species.
- Total harvest decreased by 55% from the previous year and hunter effort decreased by 28%. Both decreases are likely the result of the antlerless harvest restriction.

Red Creek WMA
- Location: South east of Wiggins, in Stone, George, and Jackson counties, part of the DeSoto National Forest
- Ownership: U.S. Forest Service
- This area is a southern pine forest, typical of Southeastern Mississippi. Management practices include prescribed fire, timber harvest, mid-story removal, and eradication of invasive plant species.
- Total harvest decreased 58% from the previous year but mimicked the five year average. Hunter effort decreased 26%. Both decreases were likely a result in the restriction of antlerless harvest.

Theodore A. Mars Jr. WMA
- Location: Near Poplarville in Pearl River County
- Ownership: MDWFP
- This area is a Longleaf pine restoration with some mixed hardwood drainages, managed with prescribed fire.
- One buck and one doe were harvested for the 2017–2018 season. Hunter effort was similar to the five year average. Deer hunting is limited to youth hunters.

Ward Bayou WMA
- Location: Northeast of Vancleave, in Jackson County
- Ownership: U.S. Army corps of Engineers, managed by MDWFP
- Forest type transitions from southern pine forest to bottomland hardwood forest, depending on elevation and proximity to the Pascagoula River. Habitat conditions on Ward Bayou WMA have been significantly improved in recent years. Management practices include pre-commercial thinning of longleaf pines, prescribed fire, and control of invasive and non-desirable plant species.
- Total harvest decreased by 63% from the previous year and hunter effort decreased 32%. These decreases are likely the result of antlerless harvest being restricted.

Wolf River WMA
- Location: Near Poplarville, in Lamar and Pearl River counties
- Ownership: Weyerhaeuser Company, managed by MDWFP
- This area is a southern pine forest, typical of Southeastern Mississippi and consists of various aged pine plantations interspersed with minor hardwood stream bottoms.

- Total harvest decreased 60% from the previous year and hunter effort decreased 38%. Hunter effort was at a five-year low, likely due to restricted antlerless harvest opportunity.

SOUTH WEST REGION

By Josh Moree

Bienville WMA

- Location: Near Morton in Scott County, within the Bienville National Forest
- Owner: U.S. Forest Service, managed by MDWFP
- Habitat conditions on this area have improved over the years due to management for the red-cockaded woodpecker. Pine mortality from Southern Pine Beetle infestations has created more early successional habitat throughout the WMA. These areas will provide additional browse and fawning cover for deer.
- Total harvest decreased 54% and hunter effort decreased 7% from the previous season. The decreased deer harvest can be attributed to new antlerless deer harvest regulations that were implemented prior to the 2017–2018 season.

Canemount WMA

- Location: Near Port Gibson in Claiborne County
- Owner: MDWFP
- This area is comprised of mixed hardwood timber stands with a very high component of cherrybark oak.
- Total harvest decreased 34% and hunter effort decreased 13% from the previous season. Fifty-seven percent of the does with harvest data were 3.5+ years old. This could suggest that the deer herd is increasing. The harvest numbers differ from the age distribution totals because all deer reported harvested did not have biological data submitted.

Caney Creek WMA

- Location: Near Forest in Smith and Scott counties, within the Bienville National Forest
- Ownership: U.S. Forest Service, managed by MDWFP
- The U.S. Forest Service conducts timber harvest operations and spring prescribed burns on Caney Creek WMA, which should increase available browse for deer and other wildlife. Pine mortality from Southern Pine Beetle infestations has created more early successional habitat throughout the WMA. These areas will provide additional browse and fawning cover for deer.
- Total harvest decreased 62% and hunter effort decreased by 26% from the previous season. The decreased deer harvest can be attributed to new antlerless deer harvest regulations that were implemented prior to the 2017–2018 season.

Caston Creek WMA

- Location: Near Meadville in Franklin and Amite counties within the Homochitto National Forest
- Ownership: U.S. Forest Service, managed by MDWFP
- Total harvest decreased 57% and hunter effort decreased by 28% from the previous season. The decreased deer harvest can be attributed to new antlerless deer harvest regulations that were implemented prior to the 2017–2018 season.

Copiah County WMA

- Location: Near Hazlehurst in Copiah County
- Ownership: MDWFP
- This area consists primarily of pine and mixed pine/hardwood stands. Various timber stands on the WMA were thinned over the last few years. Periodic prescribed fire is used to promote desirable herbaceous vegetation on the WMA. Numerous permanent openings throughout the WMA are maintained with native vegetation and supplemental plantings.
- Total harvest increased 19% and hunter effort increased 10% from the previous season. Forty-nine percent of the does with harvest data were 3.5+ years old. The harvest numbers differ from the age distribution totals because all deer reported harvested did not have biological data submitted.

Marion County WMA

- Location: Near Columbia in Marion County
- Ownership: MDWFP
- This area consists primarily of longleaf pine stands and mixed pine/hardwood stands along the creeks and drains. Periodic prescribed fire is used to promote desirable herbaceous vegetation on the WMA. Numerous permanent openings throughout the WMA are maintained with native vegetation and supplemental plantings.

- Total harvest decreased 2% and hunter effort increased by 5% from the previous season. Fifty-three percent of the does with harvest data were 3.5+ years old.

Natchez State Park WMA

- Location: Near Natchez in Adams County
- Ownership: MDWFP
- Total harvest had no change while hunter effort decreased 16% from the previous season. Fifty-five percent of the does with harvest data were 3.5+ years old. The harvest numbers differ from the age distribution totals because all deer reported harvested did not have biological data submitted.

Pearl River WMA

- Location: Near Canton in Madison County
- Ownership: Pearl River Valley Water Supply District, managed by MDWFP
- Total harvest increased 25% and hunter effort increased 47% from the previous season. Thirty-one percent of the does harvested were 3.5+ years old.

Sandy Creek WMA

- Location: Near Natchez in Adams and Franklin counties, within the Homochitto National Forest
- Ownership: U.S. Forest Service, managed by MDWFP
- Total harvest decreased 26% and hunter effort decreased by 19% from the previous season. The decreased deer harvest can be attributed to new antlerless deer harvest regulations that were implemented prior to the 2017–2018 season.

Tallahala WMA

- Location: Near Montrose in Scott, Newton, Smith, and Jasper counties, within the Bienville National Forest
- Ownership: U.S. Forest Service, managed by MDWFP
- The U.S. Forest Service continues to conduct spring prescribed burns and timber management on the WMA. This will enhance browse production. Pine mortality from Southern Pine Beetle infestations has created more early successional habitat throughout the WMA. These areas will provide additional browse and fawning cover for deer.
- Total harvest decreased 38% and hunter effort decreased by 20% from the previous season. The decreased deer harvest can be attributed to new antlerless deer harvest regulations that were implemented prior to the 2017–2018 season.

Figure 12: WMA Man-day Graph

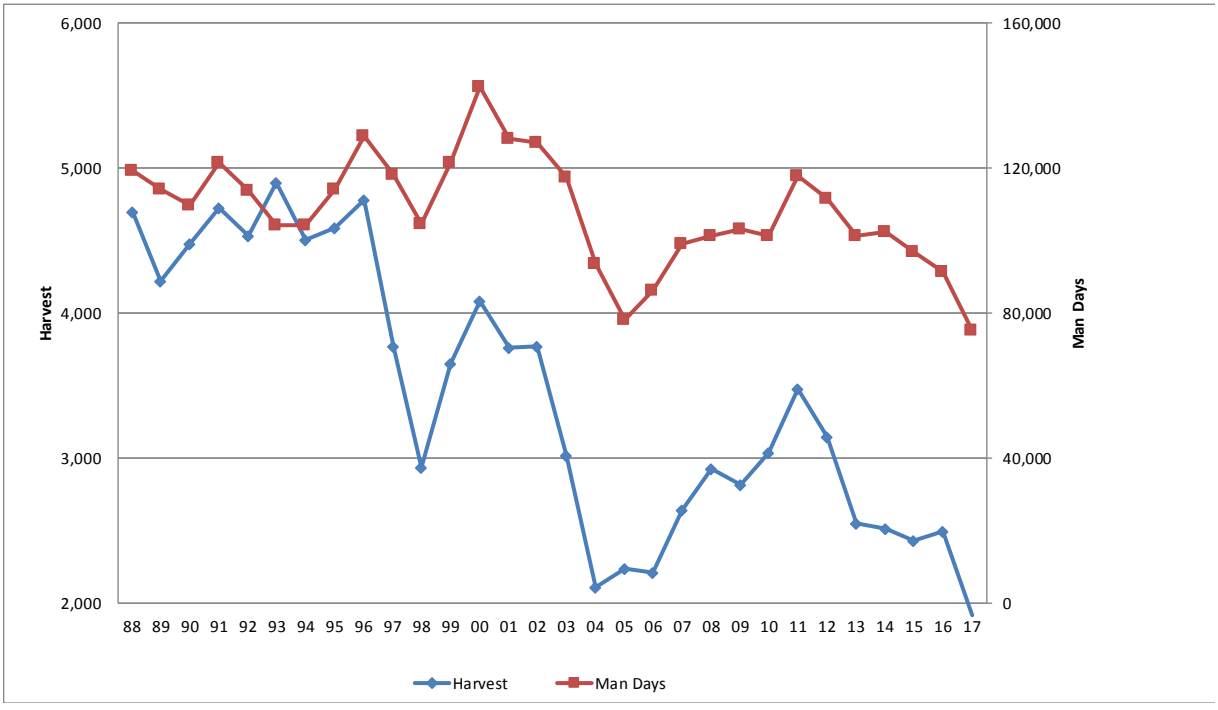


Table 6: Wildlife Management Area Harvest Information for the 2017–2018 Season									
Region	**Wildlife Management Area**	**Acreage**	**Total Harvest**	**Acres/ Deer**	**Buck Harvest**	**Acres/ Buck**	**Doe Harvest**	**Acres/Doe**	**Total Mandays**
Delta	Lake George	8,383	152	55	61	137	91	92	3,284
	Leroy Percy	1,642	11	149	5	328	6	274	418
	Mahannah	12,675	227	56	97	131	130	98	1,373
	O'Keefe	5,914	53	112	22	269	31	191	1,115
	Sky Lake	4,306	28	154	7	615	21	205	167
	Shipland	1,800	19	95	12	150	7	257	839
	Stoneville	2,500	20	125	6	417	14	179	1,183
	Sunflower	58,480	86	680	81	722	5	11,696	6,494
	Twin Oaks	5,675	38	149	11	516	27	210	537
	Delta Total	**101,375**	**634**		**302**		**332**		**15,410**
	Delta Average	**11,264**	**70**	**175**	**34**	**365**	**37**	**1,467**	
East Central	Black Prairie	6,001	58	103	23	261	35	171	475
	Choctaw	24,314	25	973	22	1,105	3	8,105	1,186
	John Starr	8,244	12	687	7	1,178	5	1,649	794
	Nanih Waiya	8,040	35	230	14	574	21	383	796
	Okatibbee	6,883	10	688	4	1,721	6	1,147	397
	Trim Cane	891	5	178	3	297	2	446	13
	Yockanookany	2,379	7	340	3	793	4	595	190
	East Central Total	**26,437**	**69**		**31**		**38**		**2,190**
	East Central Average	**8,107**	**22**	**457**	**11**	**847**	**11**	**1,785**	**550**
North East	Canal Section	29,672	58	512	33	899	25	1,187	4,150
	Chickasaw	26,815	43	624	40	670	3	8,938	3,153
	Divide Section	15,337	19	807	9	1,704	10	1,534	1,484
	Hell Creek	2,344	23	102	8	293	15	156	163
	John Bell Williams	3,198	7	457	2	1,599	5	640	354
	Tuscumbia	2,587	15	172	8	323	7	370	367
	North East Total	**79,953**	**165**		**100**		**65**		**9,671**
	North East Average	**13,326**	**28**	**446**	**17**	**915**	**11**	**2,137**	**1,612**
North West	Calhoun County	7,545	13	580	13	580	0	0	897
	Charles Ray Nix	3,812	87	44	32	119	55	69	1,027
	Cossar State Park	604	17	36	2	302	15	40	66
	Malmaison	9,953	66	151	25	398	41	243	2,172
	Sardis Waterfowl	2,480	14	177	6	413	8	310	83
	Upper Sardis	50,485	34	1,485	30	1,683	4	12,621	1,509
	North West Total	**74,879**	**231**		**108**		**123**		**5,754**
	North West Average	**12,480**	**39**	**412**	**18**	**583**	**21**	**2,214**	**959**

Table 6 Continued: Wildlife Management Area Harvest Information for the 2017–2018 Season									
Region	**Wildlife Management Area**	**Acreage**	**Total Harvest**	**Acres/ Deer**	**Buck Harvest**	**Acres/ Buck**	**Doe Harvest**	**Acres/Doe**	**Total Mandays**
South East	Chickasawhay	30,000	33	909	27	1,111	6	5,000	2,273
	Leaf River	41,411	100	414	92	450	8	5,176	5,423
	Little Biloxi	14,540	31	442	25	548	6	2,283	2,374
	Mason Creek	28,000	3	9,333	3	9,333	0	N/A	1,227
	Old River	13,000	31	419	19	684	12	1,083	1,920
	Pascagoula River	37,415	43	870	40	935	3	12,472	5,267
	Red Creek	22,954	8	2,869	8	2,875	0	N/A	1,118
	Theodore A. Mars Jr.	900	1	N/A	0	N/A	1	900	51
	Ward Bayou	13,234	4	3,309	4	3,309	0	N/A	1,318
	Wolf River	10,881	19	573	18	556	1	10,000	1,073
	South East Total	**212,335**	**273**		**236**		**37**		**22,044**
	South East Average	**21,234**	**27**	**2,126**	**24**	**2,200**	**4**	**5,273**	**2,204**
South West	Bienville	26,136	48	545	42	622	6	4,356	1,915
	Canemount	3,500	77	45	24	146	53	66	646
	Caney Creek	28,000	26	1,077	20	1,400	6	4,667	2,140
	Caston Creek	27,785	15	1,852	14	1,985	1	27,785	2,973
	Copiah County	6,811	112	61	49	139	63	108	2,544
	Marion County	7,125	49	145	19	375	30	238	1,635
	Natchez State Park	2,261	33	69	19	119	14	162	536
	Pearl River	6,925	30	231	17	407	13	533	1,431
	Sandy Creek	16,407	37	443	29	566	8	2,051	2,329
	Tallahala	28,120	37	760	28	1,004	9	3,124	2,202
	South West Total	**153,070**	**464**		**261**		**203**		**18,351**
	South West Average	**15,307**	**46**	**523**	**26**	**676**	**20**	**4,309**	**1,835**
TOTAL		**678,364**	**1,919**		**1,083**		**836**		**75,081**
AVERAGE		**14,133**	**40**	**730**	**23**	**952**	**17**	**2,929**	**1,564**

Table 7: Wildlife Management Area Harvest Information for 2013–2017 Hunting Seasons.											
Region	Wildlife Management Area	Buck Harvest					Doe Harvest				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
Delta	Lake George	38	42	49	48	58	30	46	31	65	91
	Leroy Percy	3	9	2	11	4	3	4	6	4	4
	Mahannah	43	90	61	93	90	106	131	85	154	136
	O'Keefe	24	35	30	17	24	18	22	17	9	35
	Shipland	13	14	6	12	10	11	11	7	7	21
	Sky Lake	12	1	8	9	9	10	3	13	6	6
	Stoneville	9	6	4	8	7	16	10	3	9	15
	Sunflower	130	100	82	130	116	103	113	88	51	7
	Twin Oaks	5	7	10	10	13	35	36	35	42	31
	Delta Total	**277**	**304**	**252**	**338**	**331**	**331**	**376**	**285**	**347**	**346**
	Delta Average	**31**	**34**	**28**	**38**	**37**	**37**	**42**	**32**	**39**	**38**
East Central	Black Prairie	28	19	18	15	23	49	36	54	42	35
	Choctaw	43	37	30	29	22	49	40	59	32	3
	John Starr	23	16	27	17	7	24	10	22	22	5
	Nanih Waiya	15	10	18	21	14	21	33	23	35	21
	Okatibbee	2	3	5	7	4	4	5	4	9	6
	Trim Cane	1	2	3	2	3	0	1	1	1	2
	Yockanookany	9	1	2	4	3	5	2	5	7	4
	East Central Total	**121**	**88**	**103**	**95**	**76**	**152**	**127**	**168**	**148**	**76**
	East Central Average	**17**	**13**	**15**	**14**	**11**	**22**	**18**	**24**	**21**	**8**
North East	Canal Section	30	21	24	17	33	17	12	21	16	25
	Chickasaw	45	41	41	62	40	50	39	42	52	3
	Divide Section	8	7	11	12	9	15	9	13	10	10
	Hell Creek	2	3	1	0	8	9	16	7	5	15
	John Bell Williams	3		4	1	2	3	2	3	3	5
	Tuscumbia	4	4	4	1	8	5	7	5	3	7
	North East Total	**92**	**76**	**85**	**93**	**100**	**99**	**85**	**91**	**89**	**65**
	North East Average	**15**	**15**	**14**	**16**	**17**	**17**	**14**	**15**	**15**	**11**
North West	Calhoun County	36	12	36	7	13	27	16	30	6	0
	Charles Ray Nix	30	22	36	29	32	37	40	54	68	55
	Cossar State Park					2					15
	Malmaison	17	22	12	25	25	47	70	42	23	41
	Sardis Waterfowl	15	10	12	19	6	23	10	8	11	8
	Upper Sardis	53	47	39	38	30	60	55	63	39	4
	North West Total	**151**	**113**	**135**	**118**	**108**	**194**	**191**	**197**	**147**	**123**
	North West Average	**30**	**23**	**27**	**24**	**18**	**39**	**38**	**39**	**29**	**21**

Table 7 Continuted: Wildlife Management Area Harvest Information for 2013–2017 Hunting Seasons.											
Region	Wildlife Management Area	Buck Harvest					Doe Harvest				
		2013	2014	2015	2016	2017	2013	2014	2015	2016	2017
South East	Chickasawhay	18	15	30	17	27	18	15	30	22	6
	Leaf River	111	139	126	108	92	66	76	80	112	6
	Little Biloxi	12	22	23	25	25	22	32	20	36	8
	Mason Creek	20	18	18	7	3	1	7	5	0	0
	Old River	14	14	19	23	19	18	19	12	21	12
	Pascagoula River	41	24	41	62	40	34	26	31	32	3
	Red Creek	3	1	1	7	8	2	3	6	12	0
	Theodore A. Mars Jr.	0	0	0	0	0	0	1	0	0	0
	Ward Bayou	7	11	1	4	4	8	12	9	7	0
	Wolf River	31	27	25	34	18	21	17	24	13	1
	South East Total	**257**	**271**	**284**	**287**	**236**	**190**	**208**	**217**	**255**	**36**
	South East Average	**26**	**27**	**28**	**29**	**24**	**19**	**21**	**22**	**26**	**4**
South West	Bienville	77	64	56	44	42	73	65	58	60	6
	Canemount	29	24	39	22	24	50	44	54	39	53
	Caney Creek	43	54	31	30	20	38	37	30	39	6
	Caston Creek	38	47	39	30	14	9	6	19	5	1
	Copiah County	55	54	35	50	49	62	53	38	44	63
	Marion County	42	44	17	22	19	44	41	33	28	30
	Natchez State Park	**22**	**16**	**12**	**20**	**19**	**19**	**15**	**10**	**13**	**14**
	Pearl River	**8**	**10**	**8**	**16**	**17**	**18**	**20**	**16**	**12**	**13**
	Sandy Creek	60	57	33	37	29	24	35	17	13	8
	Tallahala	37	29	26	31	28	36	34	21	29	9
	South West Total	**411**	**399**	**296**	**302**	**261**	**373**	**350**	**296**	**282**	**203**
	South West Average	**41**	**40**	**30**	**30**	**26**	**37**	**35**	**30**	**28**	**20**
Statewide WMA Total		**1,309**	**1,257**	**1,192**	**1,233**	**1,138**	**1,339**	**1,318**	**1,304**	**1,226**	**922**
Statewide WMA Average		**27**	**27**	**25**	**26**	**24**	**28**	**28**	**28**	**26**	**19**

Table 8: WMA Harvest Age Distribution and Antler Criteria for the 2017–2018 Season															
Region	Wildlife Management Area	*Antler Criteria	***Average Antler Measurements from Harvested Bucks	Buck Age Distribution						Doe Age Distribution					
				0.5	1.5	2.5	3.5	4.5+	Total	0.5	1.5	2.5	3.5	4.5+	Total
Delta	Lake George	15/18	15.1/18.3	0	19	6	20	13	58	35	26	7	6	17	91
	Leroy Percy	12/15	13.6/17.3	0	0	2	2	0	4	0	0	3	1	0	4
	Mahannah	16/20	16.5/19.7	0	27	14	26	23	90	9	46	26	25	30	136
	O'Keefe	16/20	17.3/21.2	7	4	8	7	4	24	11	4	9	2	9	35
	Shipland	15/18	16.4/19.2	0	0	2	7	1	10	2	9	4	4	2	21
	Sky Lake	15/18	15/18.1	0	0	5	3	1	9	0	2	4	0	0	6
	Stoneville	12/15	15.3/18.5	0	3	1	3	2	7	7	2	5	0	1	15
	Sunflower	15/18	15.3/18.9	0	16	32	49	19	116	0	2	4	0	1	7
	Twin Oaks	16/20	15.6/19	0	1	2	3	7	13	4	8	8	4	7	31
East Central	Black Prairie	15/18	11.9/16	1	4	6	7	5	23	2	3	17	11	1	35
	Choctaw	10/13	13.4/16.2	0	1	4	12	5	22	0	0	3	0	0	3
	John Starr	10/13	12.9/14.6	0	1	1	4	2	8	2	1	1	1	0	5
	Nanih Waiya	10/13	11/13.3	0	2	7	4	0	13	4	5	6	2	4	21
	Okatibbee	10/13	13.2/16.4	0	0	1	1	2	4	3	0	0	2	1	6
	Trim Cane	10/13	8.7/10.7	0	2	0	0	1	3	0	0	0	2	0	2
	Yockanookany	12/15	9.9/11.5	0	1	1	0	1	3	1	0	1	0	2	4
North East	Canal Section	12/15	14.2/15.7	1	1	17	9	7	35	2	3	2	4	5	16
	Chickasaw	10/13	12.2/14.9	0	1	17	8	7	33	0	1	0	0	1	2
	Divide Section	12/15	14.4/19.6	0	0	1	3	4	8	1	1	1	1	3	7
	Hell Creek	12/15	17.0/19.9	0	4	2	1	0	7	0	5	4	1	4	14
	John Bell Williams	12/15	N/A	1	1	0	0	0	2	0	1	4	0	0	5
	Tuscumbia	10/13	N/A	0	2	3	0	1	6	0	1	5	1	0	7
North West	Calhoun County	10/13	13.9/16.1	0	1	1	4	3	9	0	0	0	0	0	0
	Charles Ray Nix	15/18	13.6/17.2	3	5	3	11	10	32	10	10	9	8	18	55
	Malmaison	****	12/13.1	0	0	0	1	1	2	0	1	1	1	12	15
	Sardis Waterfowl	15/18	15.4/18	0	1	0	10	14	25	11	4	6	8	12	41
	Upper Sardis	**None	0/0	0	4	0	0	2	6	3	2	1	0	2	8
	North East Average	10/13	11.8/15.4	0	1	5	8	14	28	0	0	1	0	1	2
North West	Calhoun County	31	36	12	36	7	50	27	16	30	6				
	Charles Ray Nix	42	30	22	36	29	47	37	40	54	68				
	Malmaison	34	17	22	12	25	53	47	70	42	23				
	Sardis Waterfowl	12	15	10	12	19	13	23	10	8	11				
	Upper Sardis	59	53	47	39	38	48	60	55	63	39				

Table 8 Continued: WMA Harvest Age Distribution and Antler Criteria for the 2017–2018 Season															
Region	Wildlife Management Area	*Antler Criteria	***Average Antler Measurements from Harvested Bucks	Buck Age Distribution						Doe Age Distribution					
				0.5	1.5	2.5	3.5	4.5+	Total	0.5	1.5	2.5	3.5	4.5+	Total
South East	Chickasawhay	10/13	11.4/13.8	0	0	10	7	10	27	0	0	3	2	1	6
	Leaf River	10/13	11.5/14.2	0	1	9	44	24	78	0	3	1	1	3	8
	Little Biloxi	10/13	13.6/16.1	0	2	10	5	6	23	0	1	2	1	2	6
	Mason Creek	10/13	11/14.5	0	0	1	1	1	3	0	0	0	0	0	0
	Old River	10/13	12.8/16.3	0	3	4	6	3	16	0	2	7	1	2	12
	Pascagoula River	10/13	11.8/14.9	0	2	18	15	5	40	0	1	2	0	0	3
	Red Creek	10/13	12.0/16.6	0	0	2	3	3	8	0	0	0	0	0	0
	Theodore A. Mars Jr.	**None	N/A												
	Ward Bayou	10/13	N/A	0	0	1	2	1	4	0	0	0	0	0	0
	Wolf River	10/13	13.4/15.4	0	0	1	8	8	17	0	0	0	0	1	1
South West	Bienville	12/15	13.5/16.2	0	0	18	19	4	41	2	1	1	0	0	4
	Canemount	16/20	15.7/18.6	0	0	1	8	13	22	5	8	5	9	21	48
	Caney Creek	12/15	12.7/16.3	0	0	8	8	2	18	0	1	1	1	0	3
	Caston Creek	10/13	10.5/12.5	0	0	1	1	0	2	0	0	0	0	0	0
	Copiah County	12/15	12.8/16.3	6	7	5	16	8	42	9	8	9	10	15	51
	Marion County	12/15	11.5/15.3	1	2	3	10	3	19	1	9	4	8	8	30
	Natchez State Park	12/15	15.5/17.4	1	3	2	2	6	14	3	1	1	2	4	11
	Pearl River	10/13	12.6/15.8	1	4	7	2	3	17	1	5	3	2	2	13
	Sandy Creek	10/13	12.3/14.8	0	0	1	9	8	18	0	1	0	0	0	1
	Tallahala	12/15	12/13.9	0	0	12	10	5	27	0	1	1	2	4	8

**Antler Criteria:1st number indicates Inside Spread, 2nd number indicates Main Beam Length.*
***Youth hunting areas: Hardened antler above hairline*
**** Average inside spread and main beam lengths of 3.5 year old bucks harvested in the 2017–2018 season*

CHRONIC WASTING DISEASE

Pictured above: A deer from Wisconsin with CWD

A white-tailed deer collected on January 25, 2018, in Issaquena County tested positive for Chronic Wasting Disease (CWD). The deer was a 4.5-year-old male that died of natural causes and was reported to Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP).

This is the first time an animal in Mississippi has tested positive for the disease, which is fatal to white-tailed deer. MDWFP immediately implemented the CWD Response Plan under the auspices of the Commission on Wildlife, Fisheries, and Parks.

Pursuant to the Order of the Executive Director on behalf of the Commission, supplemental feeding and new mineral sites were banned in the following counties: Claiborne, Hinds, Issaquena, Sharkey, Warren, and Yazoo.

- From October 1, 2017 to June 19, 2018, MDWFP collected 1,853 CWD samples statewide, with 855 of these samples coming from the CWD Management Zone.
- Only the 1 deer tested positive.
- Information and education efforts regarding CWD included the following:

o Number of sampling operations - 16
o Road kill routes - 3
o Public talks - 20
o Public meetings - 2
o Facebook videos - 6

Chronic Wasting Disease (CWD) is a contagious neurological disease affecting deer, elk, and moose. It causes a characteristic spongy degeneration of the brains of infected animals resulting in emaciation, abnormal behavior, loss of bodily functions, and death. CWD belongs to a group of diseases known as transmissible spongiform encephalopathies (TSEs), similar to "mad cow disease", but the diseases are distinctly different. Currently, there is no evidence that CWD poses a risk for humans; however, public health officials recommend that human exposure to the CWD infected animals be avoided as they continue to evaluate any potential health risk. A recent study has shown that macaques, a primate, can contract the disease from eating low doses of CWD infected venison over a long period.

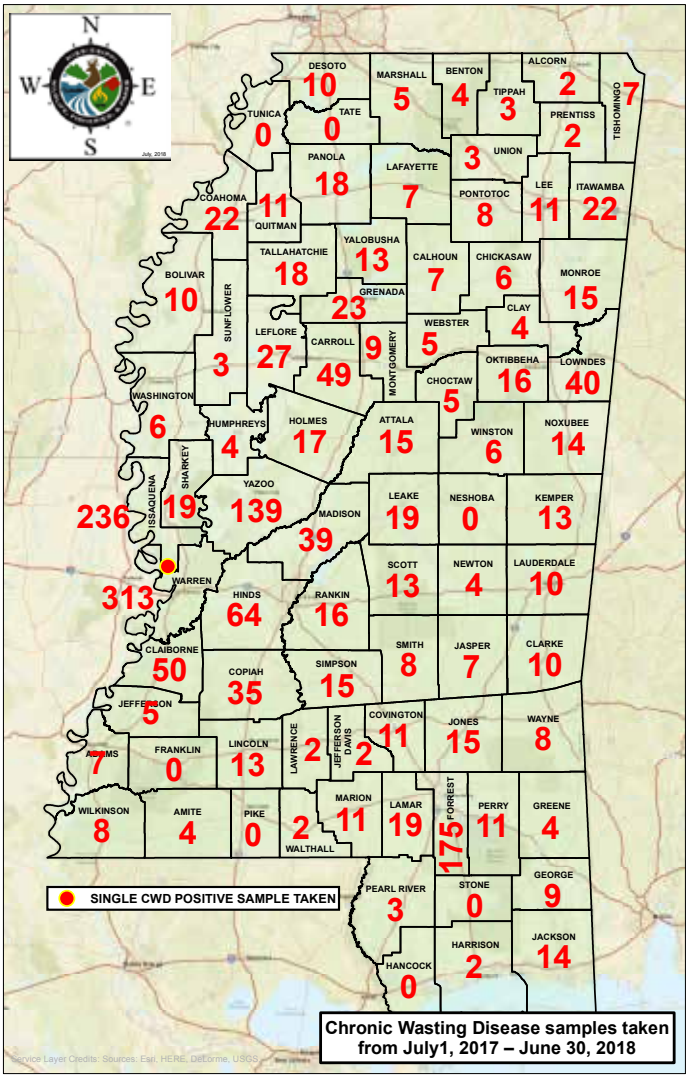
Public health and wildlife officials advise hunters to take the following precautions when pursuing or handling deer and elk that may have been exposed to CWD:

- Do not shoot, handle, or consume any animal that is acting abnormally or appears sick.
- Wear latex or rubber gloves when field dressing your deer.
- Do not saw through bone, and avoid cutting through the brain or spinal cord (backbone).
- Wash hands and instruments thoroughly after field dressing is completed.
- Avoid consuming brain, spinal cord, eyes, spleen, tonsils, and lymph nodes.
- Avoid consuming the meat from any animal that tests positive for the disease.
- If you have your deer commercially processed, request that your animal is processed individually, without meat from other animals being added to meat from your animal.

On January 21, 2017 a tornado took down thousands of feet of fence for a 420-acre illegal deer enclosure in Lamar County that had been subject to federal and state investigation for illegally importing white-tailed deer into Mississippi from Texas (a CWD positive state). Native deer were free to move on and off the property before all of the deer were able to be tested for CWD. Testing will be made available for a period of three years for CWD on the property and will be available for deer killed within a 5-mile radius of the property on a volun-

tary basis. Five drop-off locations and one taxidermist were used for CWD sample collection. A total of 70 samples were submitted from the 5-mile radius during the 2017–2018 hunting season. CWD was not detected in these samples.

Additionally, 118 CWD samples were submitted from 13 permitted enclosures. CWD was not detected in these samples.



For more information visit:

MDWFP
www.mdwfp.com/cwd
Chronic Wasting Disease Alliance
www.cwd-info.org
USDA APHIS VS
www.aphis.usda.gov
USGS National Wildlife Health Center
www.nwhc.usgs.gov/disease_information/chronic_wasting_disease/index.jsp
Department of Health & Human Services Center for Disease Control
www.cdc.gov/prions/cwd/index.html

DETERMINING THE ORIGIN OF THE CWD-POSITIVE BUCK

Jordan Youngmann, Steve Demarais, Randy DeYoung, Bronson Strickland, and William McKinley

One of the first questions asked about the buck that was positive for Chronic Wasting Disease was, "where did he come from?" To answer this question, we compared his DNA to several deer populations. We used DNA from 2 nearby free-ranging populations, one 20 miles away at Sunflower Wildlife Management Area in Sharkey County, MS and one 30 miles away at Tensas National Wildlife Refuge in Madison Parish, LA. We also included genetic material from a breeding pen population about 50 miles away in Louisiana. This facility was not suspected of being the origin of the CWD-positive buck but we included it to represent captive, genetically-manipulated deer. Finally, we included a free-range population from 375 miles away in Oklahoma to provide geographic scope to our analysis.

A complex statistical analysis of their DNA showed that each of the four populations were relatively unique, represented by different color codes: >95% blue for 30 deer from Oklahoma; 100% yellow for 33 deer from the breeding pen; about 95% green for 30 deer from Tensas NWR; and 90% red and 10% green for 20 deer from Sunflower WMA. The CWD-positive buck was 80% red and 15% green, which most closely matches deer from Sunflower WMA (Figure 1). These findings tell us two things: the CWD-positive buck was not a direct descendant from a breeding pen and it was generally similar in genetic makeup to deer from nearby Sunflower WMA.

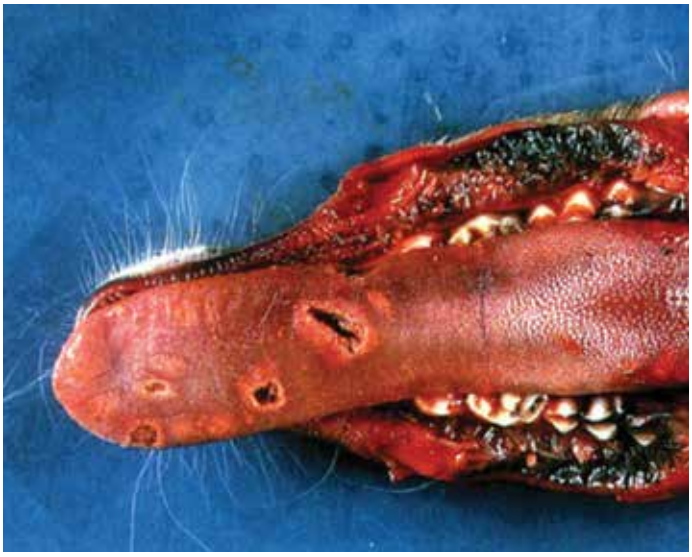
This analysis does not allow us to determine where the CWD buck originated. Importantly, these results do not mean that the buck and CWD originated on Sunflower WMA! It just means that of the four populations used in the comparison, the buck's DNA most closely resembled deer from Sunflower WMA. We conclude that this buck originated within the lower Delta region, but we can't be more specific at this time. It could have originated near where it died, or it could have moved there from a birth area miles away. Additional sampling within the lower Delta region may allow us to determine the geographic source of the disease.

Our genetic analyses also do not allow us to determine how CWD arrived in Mississippi. We may never know that answer, but further sampling will determine if there are additional cases of CWD-positive animals. If additional positive animals are discovered, the MSU Deer Lab and partners will evaluate their genetic composition, which may inform management decisions. This cooperative effort by Mississippi Department of Wildlife, Fisheries, and Parks, Mississippi State University Deer Lab, and Texas A&M-Kingsville is supported by Federal Aid to Wildlife Restoration funds.

HEMORRHAGIC DISEASE

Biting Midge (Culicoides spp.) transmits EHD

Hoof Sloughing from EHD



Mouth Lesions from EHD

Hemorrhagic Disease (HD), also recognized as Epizootic Hemorrhagic Disease (EHD) or Bluetongue (BT), is considered the most important viral disease of white-tailed deer in the United States. There are currently six subtypes of BT virus and two subtypes of EHD virus known in North America. Wildlife biologists refer to both viruses collectively as HD, due to the indistinguishable differences in symptoms.

Biting midges of the genus Culicoides transmit HD; therefore the disease is seasonal, based on the abundance of midge vectors. Normal occurrence of HD is late summer through fall (approximately late July–November). Deer that become infected with the HD virus may exhibit a variety of outward symptoms. Some mildly infected deer will exhibit few symptoms. Others which contract a more potent form of the virus will appear depressed, become feverish, have swollen areas around the head or neck, and may have trouble breathing. Those contracting the potent form of the virus can die within 1 to 3 days. Normal population mortality rates from HD are usually less than 25 percent. However, mortality rates greater than 50 percent of the population have been documented. On a brighter note, HD has destroyed no free-ranging deer population.

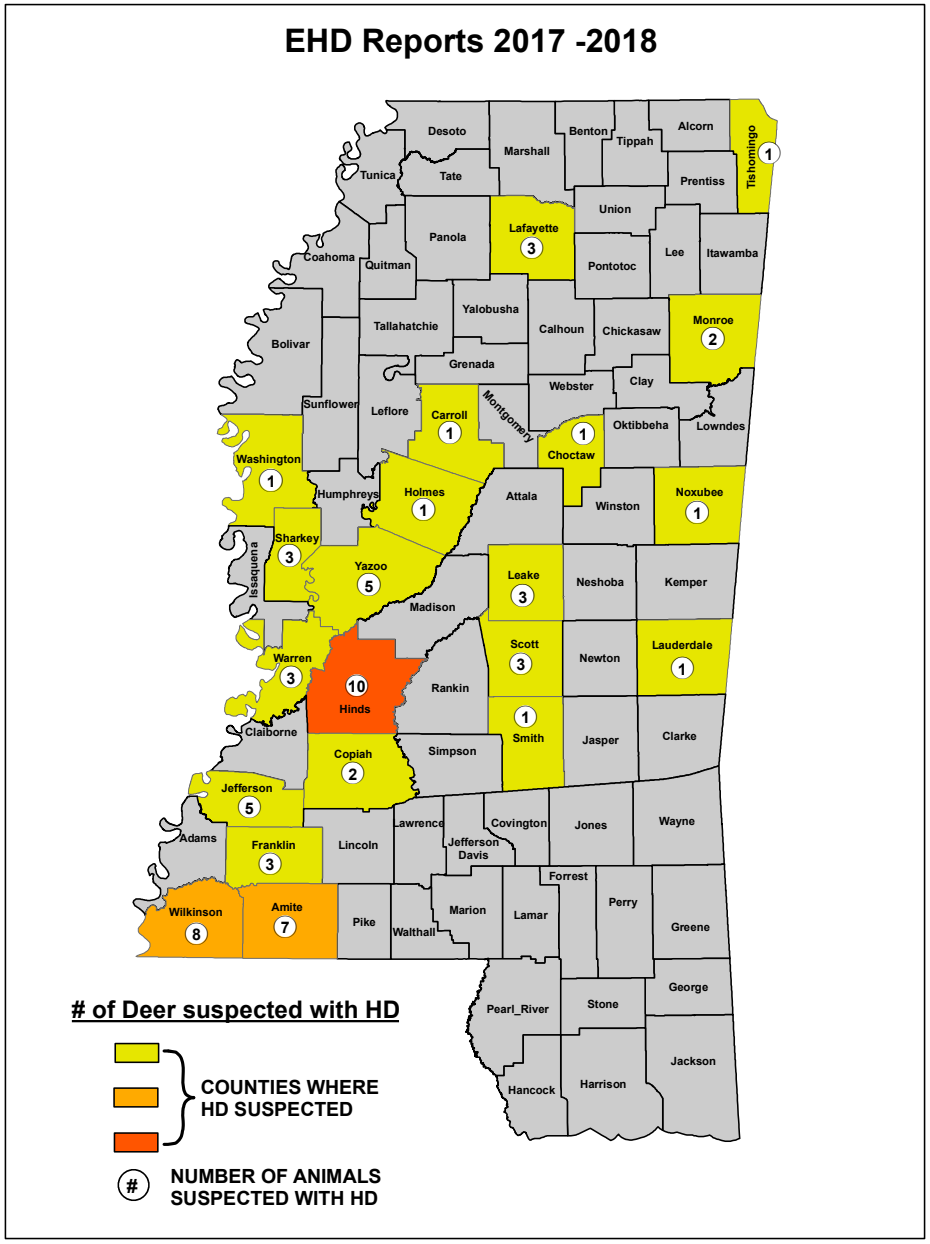
HD is first suspected when unexplained deer mortality is observed in late summer or early fall. Typically, archers who are scouting during late September are the first to observe suspect carcasses in the woods. On some occasions, HD deer are found dead during the late summer in or adjacent to water. The fever produced by the disease causes the infected deer to seek water. These deer may subsequently succumb to the disease in or near creeks and ponds.

Hunters will most frequently encounter the evidence of HD while observing harvested deer during the winter months. During the high fever produced by HD, an interruption in hoof growth occurs. This growth interruption causes a distinctive ring around the hoof, which is readily identifiable upon close examination. Hoof injury, as well as bacterial or fungal infection can cause a "damaged" appearance on a single hoof. HD is not considered unless involvement is noticed on two or more hooves.

Fortunately, people are not at risk of contracting HD. Handling infected deer or eating the venison from infected deer is not a public health risk. Even being bitten by the midge carrying the virus is not a cause of concern for humans. Deer which develop bacterial infections or abscesses secondary to HD may not be suitable for consumption.

The case is not as clear regarding domestic livestock. A small percentage of BT infected cattle can become lame, have reproductive problems, or develop sore mouths. Variations exist between BT and EHD virus infection in cattle and domestic sheep. Sheep are usually unaffected by EHD but can develop serious disease symptoms with the BT virus.

Occasionally over-population of a deer herd has been blamed for outbreaks of HD. Abnormally high deer populations are expected to have greater mortality rates because the deer are in sub-optimal condition. Furthermore, the spread of the virus would be expected to be greater in dense deer herds. However, an outbreak of HD cannot be directly attributed to an overpopulated deer herd.



HD can be diagnosed several ways. A reliable tentative diagnosis can be made after necropsy by a trained biologist or veterinarian. A confirmed diagnosis can only be made by isolating one of the viruses from refrigerated whole blood, spleen, lymph node, or lung from a fresh carcass.

MDWFP biologists have been monitoring the presence of HD in Mississippi by several methods: through investigation of sudden, unexplained high deer mortality during late summer and early fall, necropsy diagnosis, isolation of EHD or BT virus, and observation of hoof lesions on hunter-harvested deer. The occurrence of HD during the 2017–2018 hunting season was half of the total from the previous year, with evidence of HD reported in 79 deer across 28 counties compared to 158 deer across 30 counties reported in 2016–2017 (Figure EHD 17–18). The highest areas of HD reports were from counties in Southwest Mississippi, counties along the Big Black River corridor, and the North Delta. Researchers have documented a distinctive 2–3 year cycle in HD outbreaks. Assuming that these cyclic outbreaks occur, we can expect a lower occurrence of HD during the 2018–2019 hunting season in these areas.


Paul T. Brown

The 2017–2018 deer season saw a reduced bag limit on antlerless deer across the state. In addition, antlerless harvest was suspended on all open public land and several WMAs, affecting nearly 2 million acres. The early archery season and youth weekend were the only times antlerless harvest was allowed on open public land.

Some predicted these changes would have a minimal impact on the harvest. They were incorrect. Harvest declined by 20% from the previous year and by 24% from the previous 5-year average. Last season marked the lowest deer harvest since Mississippi began surveying its hunters in 1976. In addition, deer hunter numbers declined by 7%, which is the largest drop observed in Mississippi's history.

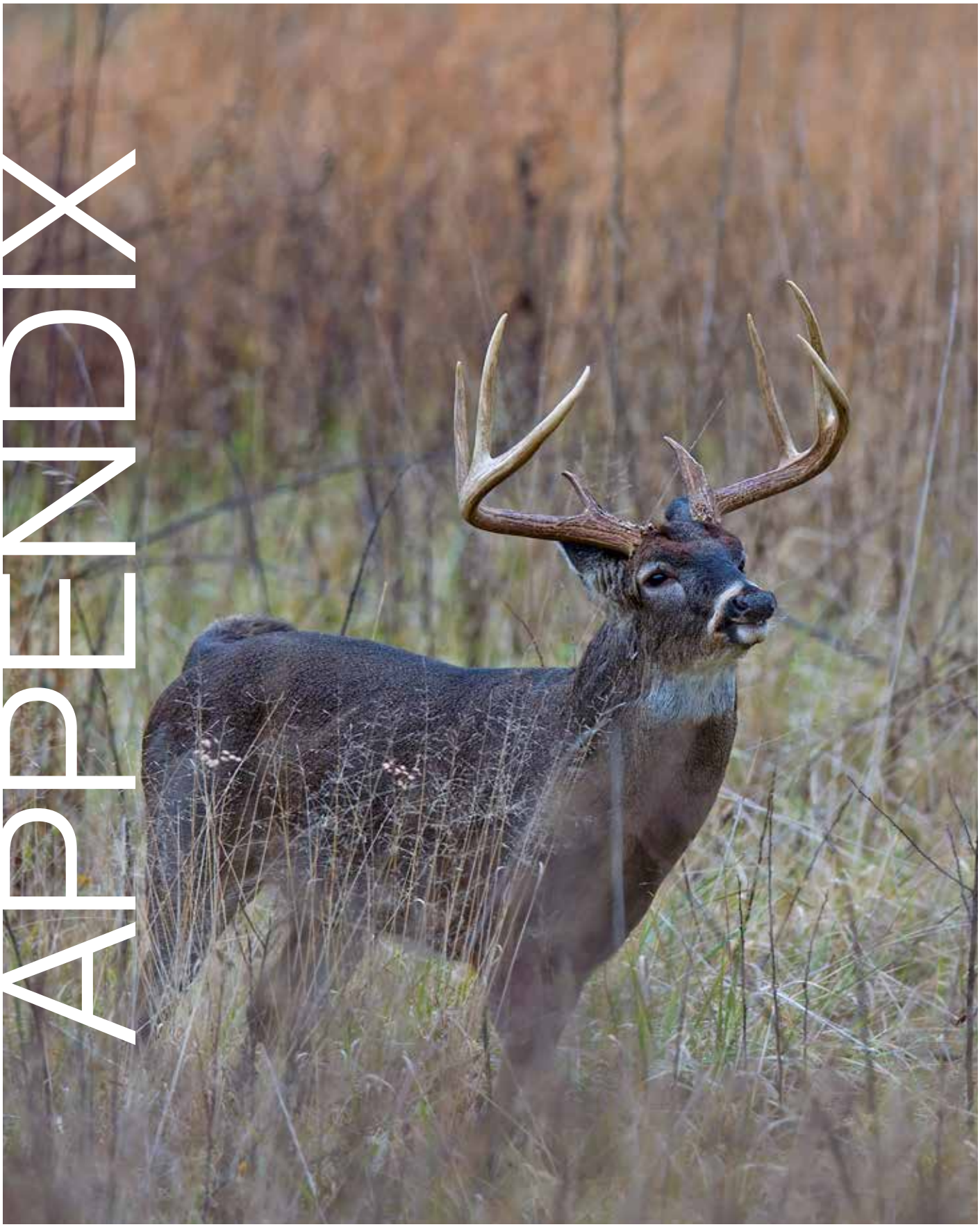
Deer populations appeared to be declining in many areas of the state based on observations and limited local data sets. The reduction in harvest may stop the population decline, if such decline actually existed.

Feeding deer appears to be at an all-time high within Mississippi. According to a recent survey greater than half of Mississippi deer hunters attribute the reduced deer sightings to the increased amount of deer feeders on the landscape. MDWFP and Mississippi State University have collaborated to study this, using radio collared bucks in central Mississippi. The study will evaluate movement of bucks that have feeders placed into and removed from their home ranges.

Immediately following the 2017–2018 season, we learned of the first Chronic Wasting Disease positive deer in Mississippi. On February 9, 2018, MDWFP received notice that a 4.5-year-old buck from Issaquena County tested positive for the disease, making Mississippi the 25th state to be CWD positive. MDWFP activated the CWD Response Plan. Over 1,800 deer have been sampled since October 2017, with only the 1 positive animal. It remains to be seen what impact the CWD positive will have on hunter numbers and harvest for the upcoming years.

Managing a state's deer herd has always been a challenge, but that challenge has been accelerated with the discovery of CWD and the decrease in hunters. While the future remains unknown, MDWFP will continue striving toward our mission statement to: "conserve and enhance Mississippi's wildlife, fisheries, and parks, provide quality outdoor recreation, and engage the public in natural resource conservation."

APPENDIX




Paul T. Brown

Since 1997, MDWFP personnel have monitored statewide deer road kill in an effort to gain trend information about population levels and to compare rates over time. All MDWFP personnel record the county and deer sex (where possible) for all deer carcasses observed on or adjacent to roads during regular travel from October 1–January 31. Data are reported as numbers of carcasses observed per 10,000 miles driven for the previous 10 season (Figure A1).

The precision and accuracy of this method of data collection has not been critically evaluated. Furthermore, we acknowledge some critical assumptions, such as the number of vehicles traveling state highways and MDWFP observers or the rate of carcass collection by MDOT road crews remain similar across regions and years, are not easily verified. Therefore, any inferences or interpretation of these data should be approached cautiously. Although road kill observation data has limitations, these data may be useful as an index of fluctuations or trends over time.

- Observations of road kill carcasses showed a slightly increasing trend during the 2017–2018 deer season when compared to the 2016–2017 season.
- Road kill observations are consistently highest in December. This likely represents a high number of yearling bucks which may be more susceptible to vehicle collisions during their first breeding season or perhaps during dispersal.

Figure A1: Statewide Averages (Deer/10,000 Miles Driven)

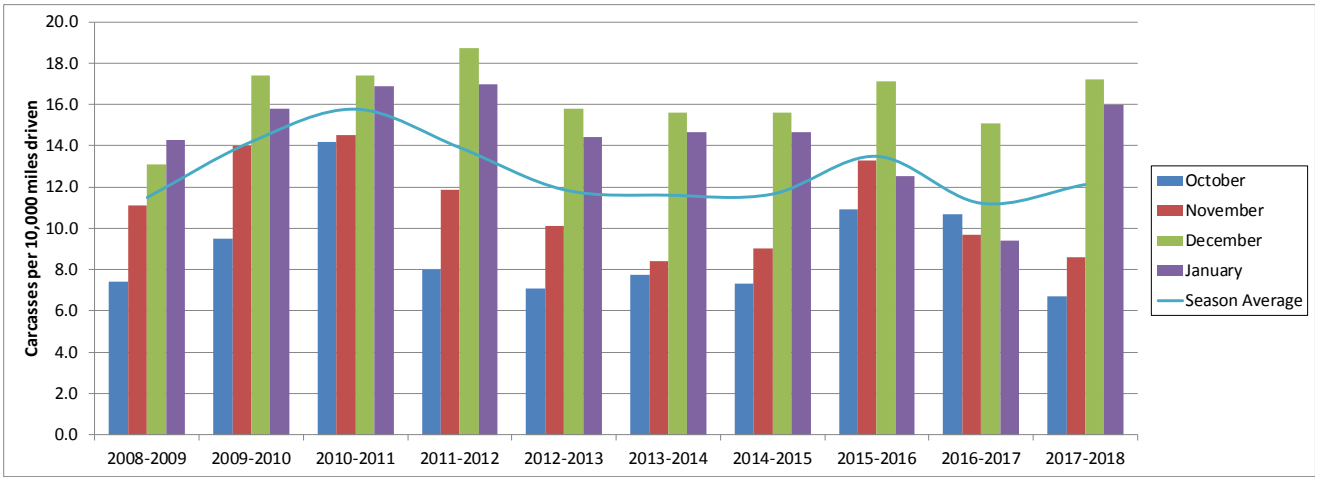


Figure A2: State Farm Nationwide Deer Collision Statistics 2017–2018

State	Estimated Industry Claims Counts 2017-18	Licensed Drivers	2017-18 Likelihood of Collision with Deer	2017-18 State Ranking	Estimated Industry Claims Counts 2016-17	Licensed Drivers	2016-17 Likelihood of Collision with Deer	2016-17 State Ranking	Percentage Change in Likelihood
ALABAMA	28,966	3,943,082	1 in 136	22	29,830	3,907,038	1 in 131	23	3.8% DECREASE
ALASKA	1,348	534,585	1 in 396	42	1,309	533,227	1 in 407	44	2.7% INCREASE
ARIZONA	4,738	5,082,305	1 in 1,073	48	5,119	4,978,762	1 in 973	49	9.3% DECREASE
ARKANSAS	22,531	2,391,103	1 in 106	14	21,922	2,119,578	1 in 97	14	8.9% DECREASE
CALIFORNIA	23,280	26,199,436	1 in 1,125	50	22,855	25,532,920	1 in 1,117	50	0.7% DECREASE
COLORADO	14,659	4,066,580	1 in 277	39	15,728	3,974,521	1 in 253	36	8.9% DECREASE
CONNECTICUT	9,930	2,611,007	1 in 263	37	8,434	2,566,673	1 in 304	40	15.7% INCREASE
DELAWARE	5,455	756,328	1 in 139	24	5,644	742,524	1 in 132	24	5.1% DECREASE
DISTRICT OF COLUMBIA	555	489,831	1 in 883	47	639	455,602	1 in 713	46	19.2% DECREASE
FLORIDA	17,653	14,675,160	1 in 831	46	16,845	14,262,715	1 in 847	47	1.9% INCREASE
GEORGIA	53,242	6,975,900	1 in 131	19	56,768	6,906,191	1 in 122	18	7.1% DECREASE
HAWAII	146	931,703	1 in 6,379	51	133	909,797	1 in 6,823	51	7.0% INCREASE
IDAHO	7,066	1,160,922	1 in 164	27	7,507	1,135,009	1 in 151	29	8.0% DECREASE
ILLINOIS	42,618	8,514,644	1 in 200	32	41,394	8,462,193	1 in 204	32	2.3% INCREASE
INDIANA	31,015	4,553,259	1 in 147	25	30,837	4,467,848	1 in 145	27	1.3% DECREASE
IOWA	30,684	2,245,640	1 in 73	5	32,080	2,224,130	1 in 69	4	5.3% DECREASE
KANSAS	15,640	2,030,025	1 in 130	18	16,031	2,028,657	1 in 127	19	2.5% DECREASE
KENTUCKY	28,274	3,031,447	1 in 107	15	30,344	3,021,266	1 in 100	15	7.1% DECREASE
LOUISIANA	10,793	3,395,095	1 in 315	40	10,098	3,357,091	1 in 332	41	5.7% INCREASE
MAINE	7,581	1,021,332	1 in 135	21	8,024	1,019,879	1 in 127	19	5.7% DECREASE
MARYLAND	30,933	4,264,875	1 in 138	23	32,913	4,185,752	1 in 127	19	7.8% DECREASE
MASSACHUSETTS	10,750	5,040,662	1 in 469	44	8,500	5,040,662	1 in 593	45	26.5% INCREASE
MICHIGAN	87,959	7,074,674	1 in 80	8	83,477	7,104,484	1 in 85	9	5.8% INCREASE
MINNESOTA	43,689	3,377,910	1 in 77	7	45,528	3,351,430	1 in 74	7	4.8% DECREASE
MISSISSIPPI	22,155	2,018,862	1 in 91	10	20,951	1,988,396	1 in 95	12	4.1% INCREASE
MISSOURI	38,603	4,249,579	1 in 110	16	37,667	4,213,302	1 in 112	17	1.6% INCREASE
MONTANA	14,098	797,145	1 in 57	2	13,640	781,427	1 in 57	2	1.3% INCREASE
NEBRASKA	9,412	1,404,479	1 in 149	26	10,436	1,394,301	1 in 134	25	10.5% DECREASE
NEVADA	1,721	1,872,376	1 in 1,088	49	1,899	1,835,511	1 in 966	48	11.2% DECREASE
NEW HAMPSHIRE	4,529	1,096,234	1 in 242	35	4,267	1,074,766	1 in 252	35	4.1% INCREASE
NEW JERSEY	26,859	6,238,436	1 in 232	33	27,037	6,179,318	1 in 229	34	1.6% DECREASE

State	Estimated Industry Claims Counts 2017-18	Licensed Drivers	2017-18 Likelihood of Collision with Deer	2017-18 State Ranking	Estimated Industry Claims Counts 2016-17	Licensed Drivers	2016-17 Likelihood of Collision with Deer	2016-17 State Ranking	Percentage Change in Likelihood
NEW MEXICO	3,358	1,521,785	1 in 453	43	3,696	1,467,782	1 in 397	43	12.4% DECREASE
NEW YORK	72,314	11,947,568	1 in 165	28	72,500	11,689,839	1 in 161	30	2.4% DECREASE
NORTH CAROLINA	64,200	7,267,042	1 in 113	17	65,628	7,160,621	1 in 109	16	3.6% DECREASE
NORTH DAKOTA	5,402	555,935	1 in 103	13	6,297	545,027	1 in 87	10	51.9% DECREASE
OHIO	59,396	7,974,951	1 in 134	20	61,921	7,923,439	1 in 128	22	4.7% DECREASE
OKLAHOMA	15,169	2,498,178	1 in 165	28	13,526	2,621,733	1 in 194	31	17.7% INCREASE
OREGON	11,138	2,855,746	1 in 256	36	11,070	2,808,548	1 in 254	37	1.1% DECREASE
PENNSYLVANIA	141,777	8,996,815	1 in 63	3	141,145	8,942,967	1 in 63	3	0.2% DECREASE
RHODE ISLAND	1,400	753,143	1 in 538	45	2,667	745,470	1 in 280	39	48.0% DECREASE
SOUTH CAROLINA	38,292	3,746,681	1 in 98	11	38,951	3,683,824	1 in 95	12	3.3% DECREASE
SOUTH DAKOTA	8,304	622,663	1 in 75	6	8,989	655,707	1 in 73	6	2.7% DECREASE
TENNESSEE	30,128	5,197,904	1 in 173	30	32,352	4,621,401	1 in 143	26	17.2% DECREASE
TEXAS	60,857	16,162,382	1 in 266	38	59,105	15,879,876	1 in 269	38	1.2% INCREASE
UTAH	8,202	1,960,366	1 in 239	34	8,602	1,913,564	1 in 222	33	6.9% DECREASE
VERMONT	3,205	553,670	1 in 173	30	3,653	548,799	1 in 150	28	13.0% DECREASE
VIRGINIA	59,610	5,912,048	1 in 99	12	61,592	5,820,209	1 in 94	11	4.7% DECREASE
WASHINGTON	14,268	5,635,715	1 in 395	41	15,483	5,516,134	1 in 356	42	9.8% DECREASE
WEST VIRGINIA	25,176	1,159,348	1 in 46	1	27,403	1,167,346	1 in 43	1	7.5% DECREASE
WISCONSIN	58,435	4,206,770	1 in 72	4	57,940	4,194,759	1 in 72	5	0.6% INCREASE
WYOMING	4,812	421,098	1 in 88	9	5,325	422,450	1 in 79	8	9.4% DECREASE
UNITED STATES TOTAL	1,332,322	221,994,424	1 in 167	NA	1,345,701	218,084,465	1 in 162	NA	2.7% DECREASE

Source for number of licensed drivers is FHWA
(https://www.fhwa.dot.gov/policyinformation/statistics/2015/)

Animal Control Permits

Each year, white-tailed deer cause damage to agricultural crops and smaller areas such as gardens in residential settings. The preferred method of controlling deer depredation problems is adequate hunter harvest during deer season. This lowers the deer population to levels that are in balance with the environmental carrying capacity of the habitat. Normally this involves cooperation with adjoining landowners and hunting clubs. Landowners can also employ other forms of direct methods to alleviate depredation issues, with lethal removal being a last resort.

Alternative direct methods used to solve depredation problems include scare or harassment tactics, assorted chemical applications, electric fencing, and traditional fencing at a height that eliminates deer access. These tactics have both benefits and limitations. White-tailed deer typically become habituated to harassment tactics, rendering them ineffective after a short period of time. However, since most crops are extremely susceptible to depredation during the first few weeks of growth, harassment tactics may be a viable option to mitigate the damage. Chemical applications and fencing can become quite costly to landowners with large amounts of property. High fencing around gardens and small problem areas is costly as well but provides assured control on a long-term basis with little or no maintenance.

In some instances, after other control measures have been exhausted, deer will be lethally removed. This process seldom provides a long-term solution but is used in some problem situations. Conservation officers often assist farmers and landowners in mitigating agricultural depredation by deer through the use of Animal Control Permits (ACPs).

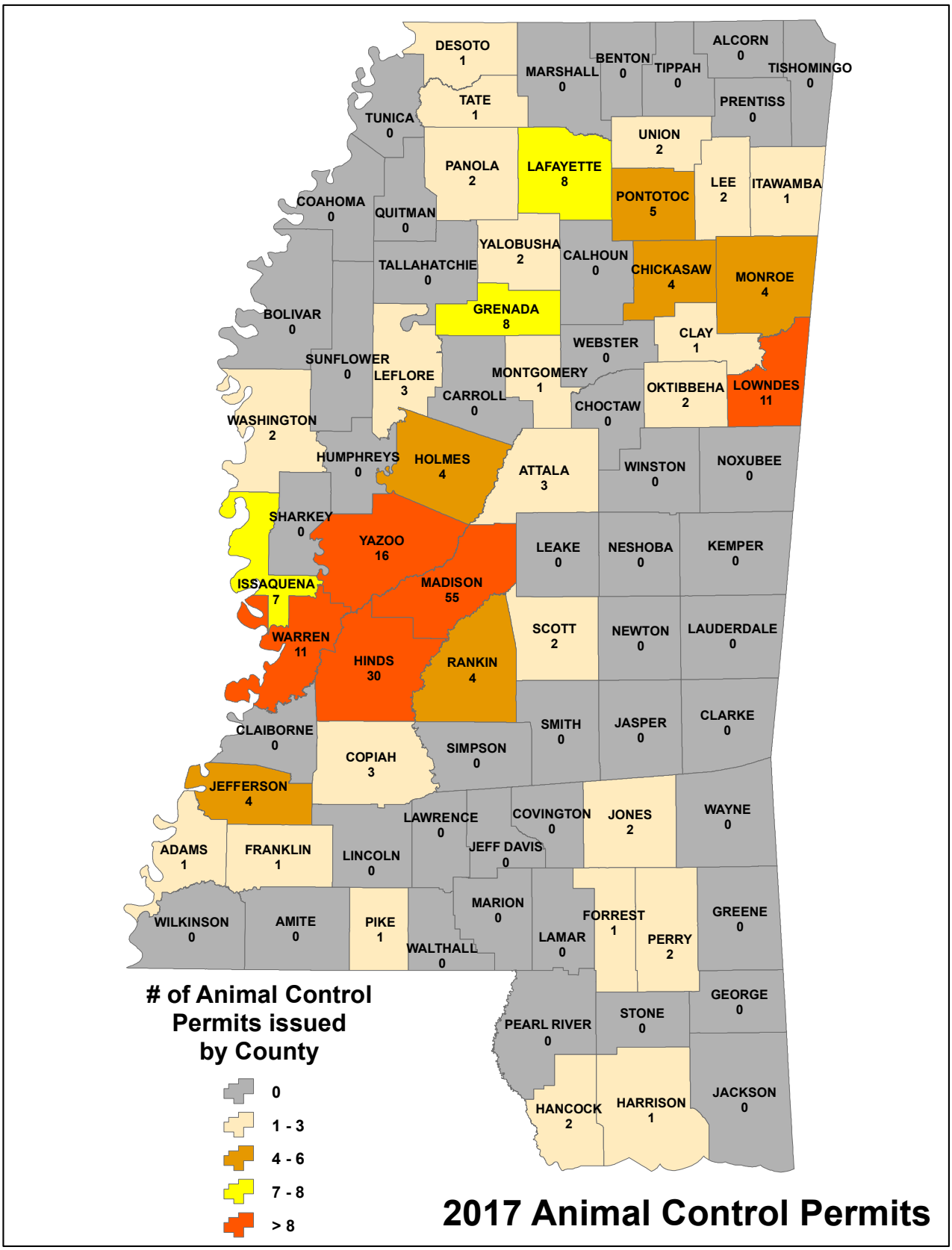
The method for application of ACPs changed significantly in the fall of 2009. Landowners who experience deer depredation problems on agricultural plants, gardens, and ornamental landscaping are required to apply for a permit before any action is taken to harass or remove problem animals. The process for permit issuance includes an on-site evaluation by an MDWFP officer to verify the occurrence of depredation, documentation of damage or safety concerns with photographic evidence, followed by submission of the ACP application to supervisors and administrative personnel for final approval. Permits are issued primarily for agricultural damage, but ornamental vegetation is included. Agricultural ACPs must include a notarized letter from all adjoining landowners within ½ mile of fields to be covered under the ACP and in the case of leasing the land, a notarized letter from the landowner must be attached as well. These letters must state that they are aware of the ACP. Miscellaneous problems such as deer on airport runways and in suburban areas also occur and are handled by the U.S. Department of Agriculture/Wildlife Services (USDA/WS), who are issued permits to conduct removals. MDWFP personnel are not permitted to conduct lethal removals under an ACP within an urban/suburban area due to safety and liability concerns. Additionally, property owners should know that permits are not issued in every situation.

A total of 211 ACPs were issued in 38 counties during 2017. This was a decrease from the 299 permits issued in 45 counties during 2016. This decrease could possibly be the result of adequate harvest during the hunting season or farmers properly mitigating damage via alternative methods. The permitting process also changed midway through the growing season in 2017. Farmers now have to apply for a permit every 2 weeks instead of once a month. This change will affect the permit numbers in the future when compared to previous years.

The ability to associate trends in deer abundance with the number of ACPs issued may have been lost until people adjusted to the new application process. Counties where ACPs were issued and the number of permits issued by county are shown in Figure A3. Counties with the most depredation problems are generally counties with the most rapidly expanding deer populations. Also, these counties often possess an abundance of forested acres. Producers in certain areas of the delta can mitigate damage by simply planting less palatable crops in fields that have multiple forested borders since these borders are often excellent white-tailed deer habitat. Producers in more forested areas do not have that luxury. Cases of deer depredation included damage to soybeans, corn, cotton, peas, sweet potatoes, watermelons, gourds, numerous garden and truck crops, flowers, ornamental trees, shrubs, landscaping, and interference on airports.

Due to most agricultural plant's high palatability and nutritional value, depredation problems will continue to occur in Mississippi as long as abundant deer populations exist. Extensive problems with agricultural depredation can be controlled with adequate antlerless harvest. Instances of urban conflicts with deer are increasing due to escalating deer numbers and urban sprawl. Urban deer problems are magnified in cities where bowhunting has been banned.

Figure A3: 2017 Animal Control Permits



DEER HERD HEALTH EVALUATIONS

Deer herd health evaluations (HHE's) are conducted by MDWFP biologists annually. Evaluation sites are selected each year based on a specific need for additional information which cannot be obtained from hunter-harvested deer. These sites may be DMAP cooperator lands, WMAs, open public lands, or areas with a specific deer management concern. Some sites are sampled annually, others on a rotational schedule of 2–3 years, and some locations on an as-needed basis.

Time and personnel constraints normally limit the number of locations biologists sample each year. Deer collections are conducted during the months of February, March, and April. Collection timing must be late enough to insure that all does have been bred, but early enough to precede spring green-up when foliage density reduces the ability to readily observe and identify deer. The sampling window is most critical in the southern portion of the state where late breeding is a chronic problem and early green-up of native vegetation occurs.

The 2018 Health check season came during a period when the agency had discovered it's first CWD positive deer. The concentration of manpower toward the CWD response led to fewer HHE's being conducted. 5 HHEs were canceled, and only 3 HHEs were conducted during the spring of 2018.

During a typical HHE, biological data regarding reproduction, body condition, and disease are collected from mature females. A minimum of 10 mature females are desired to obtain an adequate sample size to assess herd parameters. Mature does are collected during the late afternoon on existing food plots or at night with the aid of a light and truck platform, which has been designed specifically for this purpose. All deer are donated to a charitable institution or to an individual determined needy by agency personnel. Neither deer, nor portions thereof, are utilized by any MDWFP employees. Rarely, instances have occurred where deer had to be disposed of in a manner where human utilization was not possible.

REPRODUCTION

Reproductive data collected during HHEs include conception dates, fawning dates, number of corpus lutea per doe, and number of fetuses per doe. Conception dates and fawning dates are determined using a fetal aging scale. Fetal length is measured on the fetal aging scale and the length is used to calculate conception date and fawning date. Breeding date ranges for Mississippi are presented in Figure A4. Data from the 2018 statewide deer HHEs are given in Table A1. Data were collected from 35 deer on 3 sites across the state.

In Table A1, conception date ranges, averages, and corresponding fawning dates are given for each collection site. Sample sizes for each collection site are given as N1 or N2. Different groupings by age and sex are mandatory to accurately interpret condition and reproductive data. Total 1½+ year old fecund (capable of breeding) does are represented as N1. Mature 2½+ year old does are represented as N2. Both N1 and N2 deer are utilized to calculate conception dates, but only N2 deer are considered in the sample when reproductive rates (CLs and number of fetuses) and condition data (dressed weight and kidney fat index) are compared.

The earliest conception date (December 13) was detected at Mahannah WMA in Issaquena County. The latest conception date (February 2) was detected at Chickasaw WMA in Chickasaw County. Mean fawning dates based on the conception dates ranged from (July 13) on Mahannah WMA to (July 30) on Chickasaw WMA. The statewide average conception date was (January 4) and the corresponding state average fawning date was (July 19).

Average number of corpus lutea (CLs) is determined by examination of the ovaries of each N2 deer in the sample and counting the number of CLs present at the time of collection. A CL is a structure in the ovary which forms when an egg is released. The CL functions to maintain pregnancy by the release of hormones. Healthy deer on a high plane of nutrition will produce more eggs than deer in poor condition. Therefore, CL data provide a quantitative index to gauge not only reproductive performance at a specific site but also provide a general index to overall herd condition. CL data ranged from 2.0 CLs per doe at Mahannah WMA and Chickasaw WMA to 2.4 CLs per doe on Black Prairie WMA in Lowndes County.

Average number of fetuses are also self-explanatory, but will, in most instances, be a lower number than the average number of CLs because all CLs do not represent a viable fetus. As the average number of CLs provides an index to reproductive rates and herd condition, the average number of fetuses per doe provides an additional index to determine site-specific herd health. Average number of fetuses per doe ranged from 1.8 at Mahannah WMA to 2.4 on Black Prairie WMA.

BODY CONDITION

Body condition data collected during HHEs include dressed weight and kidney fat index (KFI). Average dressed weight only includes N2 deer. A wide range of weights are possible due to soil type, deer herd condition, and habitat type. In general, dressed weight is a reliable indicator to help gauge herd condition but should not be used to compare different sites unless all soil and habitat types are uniform.

KFI provides a quantitative index to energy levels within a deer herd. KFI is calculated by expressing the weight of the kidney fat as a percentage of the kidney weight. Generally, deer in good physical condition have a KFI of over 100%. However, high KFI indices can also be observed in areas with large mast crops. The lowest kidney fat levels (20.6%) were found at Chickasaw WMA. The highest kidney fat value was (165.6%) on Mahannah WMA.

DISEASE

Biological samples were taken during the HHEs for the purpose of Chronic Wasting Disease (CWD) monitoring. The presence of CWD was not detected in any samples taken during the 2018 herd health evaluations.

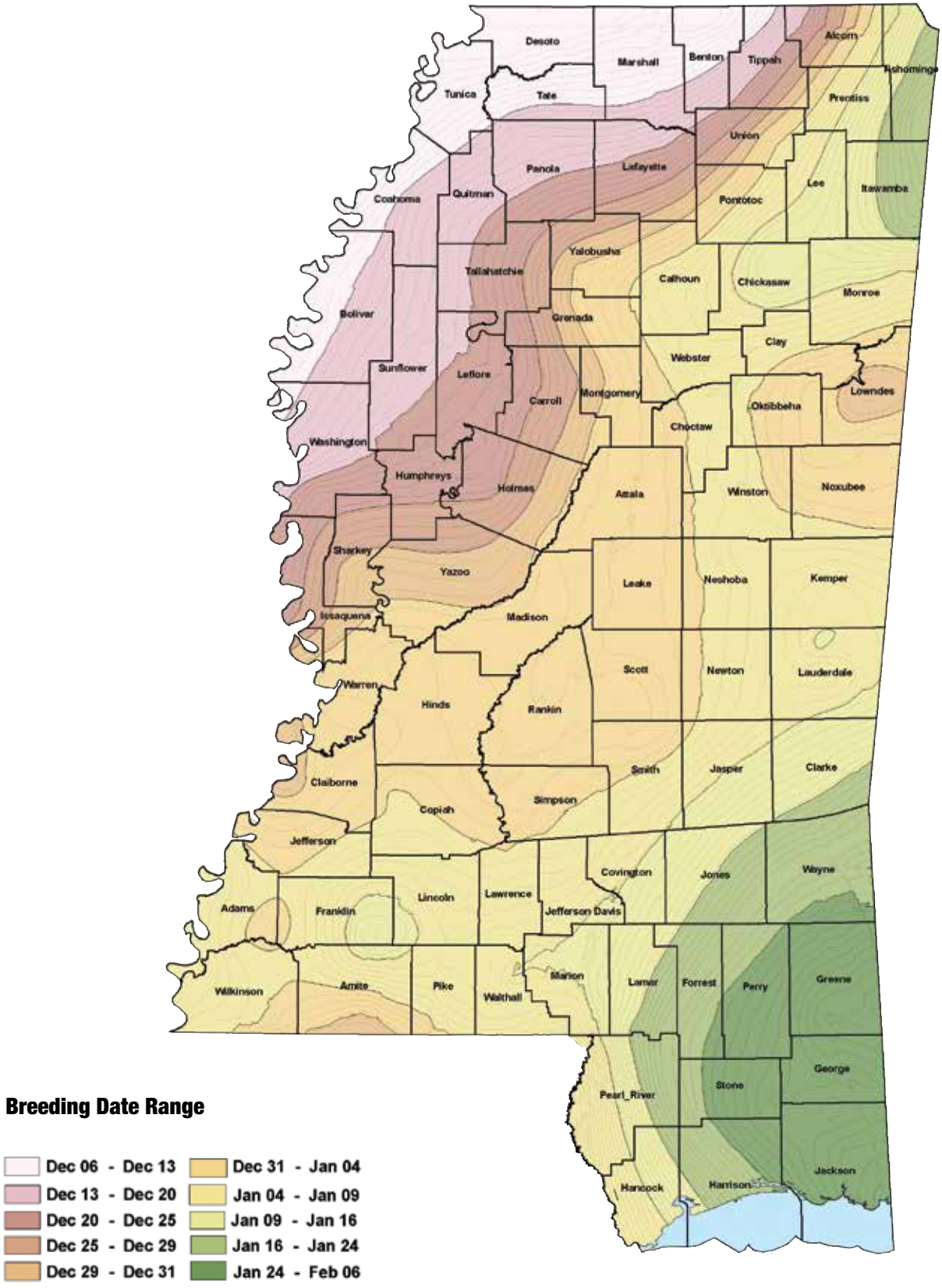
DISCUSSION

A wide range of reproductive and heard health levels were observed, likely due to widely varied deer harvest strategies and land use in the different parts of the state where these samples were taken. Deer density and available nutrition varies greatly because of these differences.

Table A1: Heard Health Evaluations

Soil	SiteID	SITE	Date	N1	N2	Min Con Date	Max Con Date	Avg Con	Avg Fawn	Avg #CLs	Avg Fetus	Avg Wght	Avg KFI
BP	20	Black Prairie WMA	6-Mar	7	7	21-Dec	22-Jan	1-Jan	16-Jul	2.4	2.3	92.3	67.3
D	115	Mahannah WMA	8-Mar	16	12	13-Dec	15-Jan	29-Dec	13-Jul	2.0	1.8	90.3	165.6
UCP	39	Chickasaw WMA	19-Mar	12	9	23-Dec	2-Feb	15-Jan	30-Jul	2.0	2.0	65.6	20.6

Figure A4: **Breeding Date Range**



PERMITS

40 Miss Admin. Code, Part 2, Rule 8.2 requires owners of enclosures containing white-tailed deer to obtain an annual Facility Permit from MDWFP. The permit is valid from July 1 through June 30. For the 2017–2018 permit year, 122 facility permits applications were received totaling 91,747 acres. See Figure A5 for enclosure locations in Mississippi.

40 Miss Admin. Code, Part 2, Rule 8.2 allows white-tailed deer breeding pens within enclosures of at least 300 acres. For the 2017–2018 permit year, 6 white-tailed deer breeder permits were issued along with 375 metal ear tags which are to be inserted in all deer 1.5 years old and older being held in a breeding facility.

As described in Section 49-11-3, Mississippi Code of 1972, MDWFP may issue operating licenses to any person, partnership, association, or corporation for the operation of commercial wildlife enclosures. Each commercial wildlife enclosure shall contain a minimum of 300 acres in one tract of leased or owned land. During the 2017–2018 permit years, 16 big game commercial wildlife enclosure licenses were issued.

ENCLOSURE MANAGEMENT ASSISTANT PROGRAM

As required 40 Miss Admin. Code, Part 2, Rule 8.2, all permitted high-fenced enclosures containing white-tailed deer must be enrolled in the Enclosure Management Assistance Program (EMAP). The owner of a permitted high-fenced enclosure must work with an MDWFP approved wildlife biologist to manage the white-tailed deer herd within the enclosure.

EMAP is a sub-level of DMAP (Deer Management Assistance Program). The starting point of EMAP is goal/objective setting by the enclosure owner to manage the white-tailed deer herd within their enclosure. Once goals and objectives are set, biological data are collected from harvested white-tailed deer, (i.e., weights, antler measurements, lactation data on does, and a jaw-bone pulled to determine the age of each deer harvested). The enclosure owner is responsible for the collection of biological data. The wildlife biologist is responsible for supplying the enclosure owner with harvest data sheets and jawbone tags.

EMAP cooperators receive a harvest summary report after each hunting season. This report contains a detailed analysis of current and historical harvest as well as graphs and charts that show trend directions while facilitating data interpretation.

For management of deer herds within high-fenced enclosures and upon the request of the wildlife biologist, MDWFP may issue management buck and doe tags to EMAP properties to allow the harvest of does and management bucks in excess of the annual and daily bag limits.

For the 2017–2018 hunting season, harvest data were submitted for 56 enclosures, with 298 bucks and 435 does harvested. Using reported harvest data, deer harvested within enclosures do not differ from statewide free-range deer in antler size or body weights. For management purposes, 302 management buck tags and 368 antlerless tags were issued to 17 enclosures.

Chronic Wasting Disease Surveillance

Regulations adopted by the Mississippi Commission on Wildlife, Fisheries, and Parks (40 Miss Admin. Code, Part 2, Rule 8.2) allow the movement of captive white-tailed deer from one permitted high-fenced enclosure to another permitted high-fenced enclosure within Mississippi only if the high-fence enclosure from which the deer originate is participating in the Mississippi White-tailed Deer Herd CWD Certification Program. No person may import a live white-tailed deer into Mississippi pursuant to Section §49-7-54, Mississippi Code of 1972.

It is the responsibility of the enclosure/breeding pen owner to obtain sampling supplies and collect samples. Retropharyngeal lymph nodes and obex tissue must be collected for testing.

MDWFP supplies sampling data sheets to the enclosure/breeding pen owner. Once samples are collected, MDWFP submits samples to the testing laboratory and supplies test results back to the enclosure/breeding pen owner. The contract laboratory for all captive CWD testing is the National Veterinary Services Laboratories.

For the 2017–2018 permit year, 105 samples were taken from white-tailed deer within 12 high-fenced enclosures and submitted to the National Veterinary Services Laboratories for CWD testing; however, 11 of these samples were incorrect tissue and were not sampled. The remaining 94 samples were tested and evidence of CWD was not detected in any of the samples.

Figure A5: 2017 Permitted Enclosures

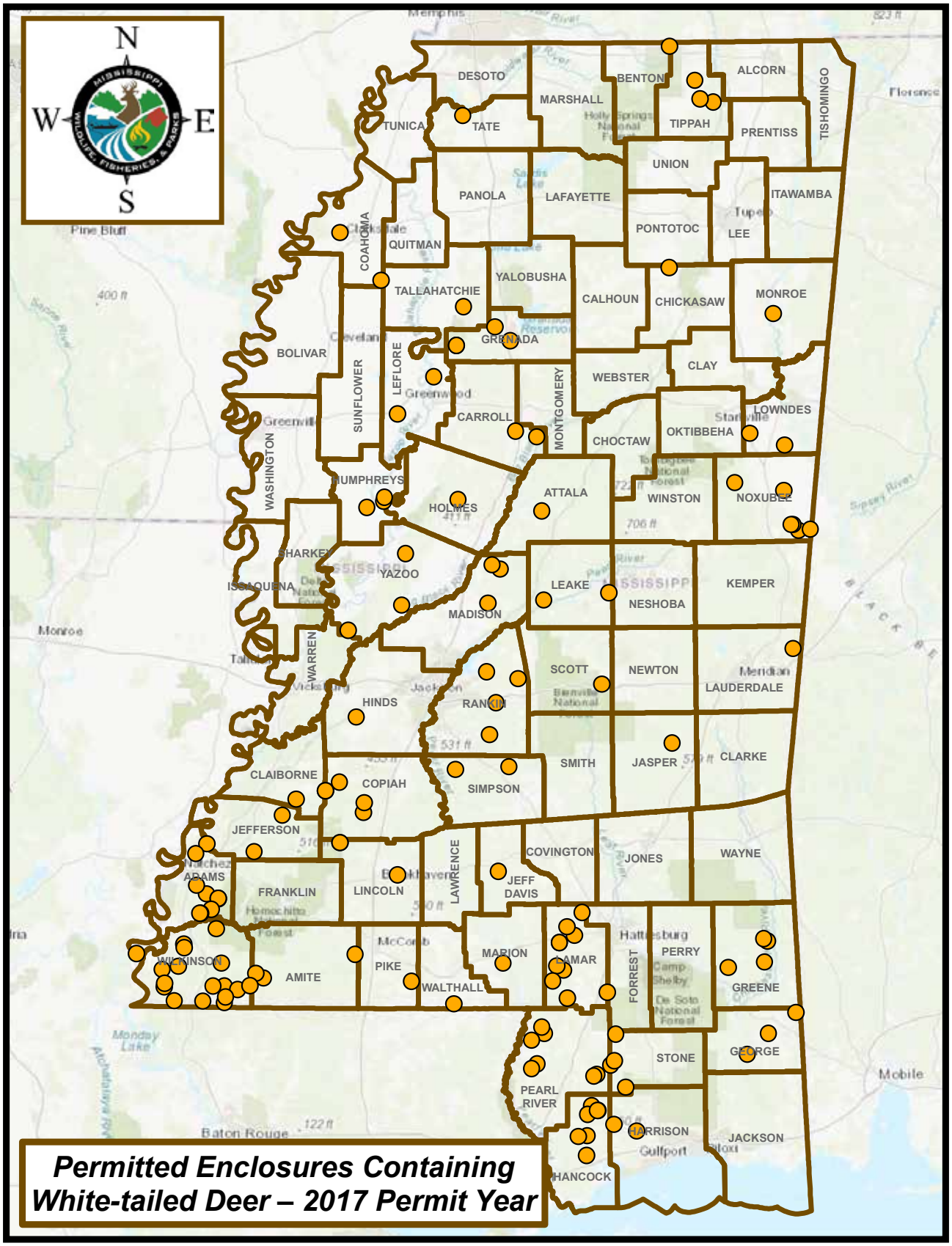


Figure A6: **Soil Resource Areas Map**

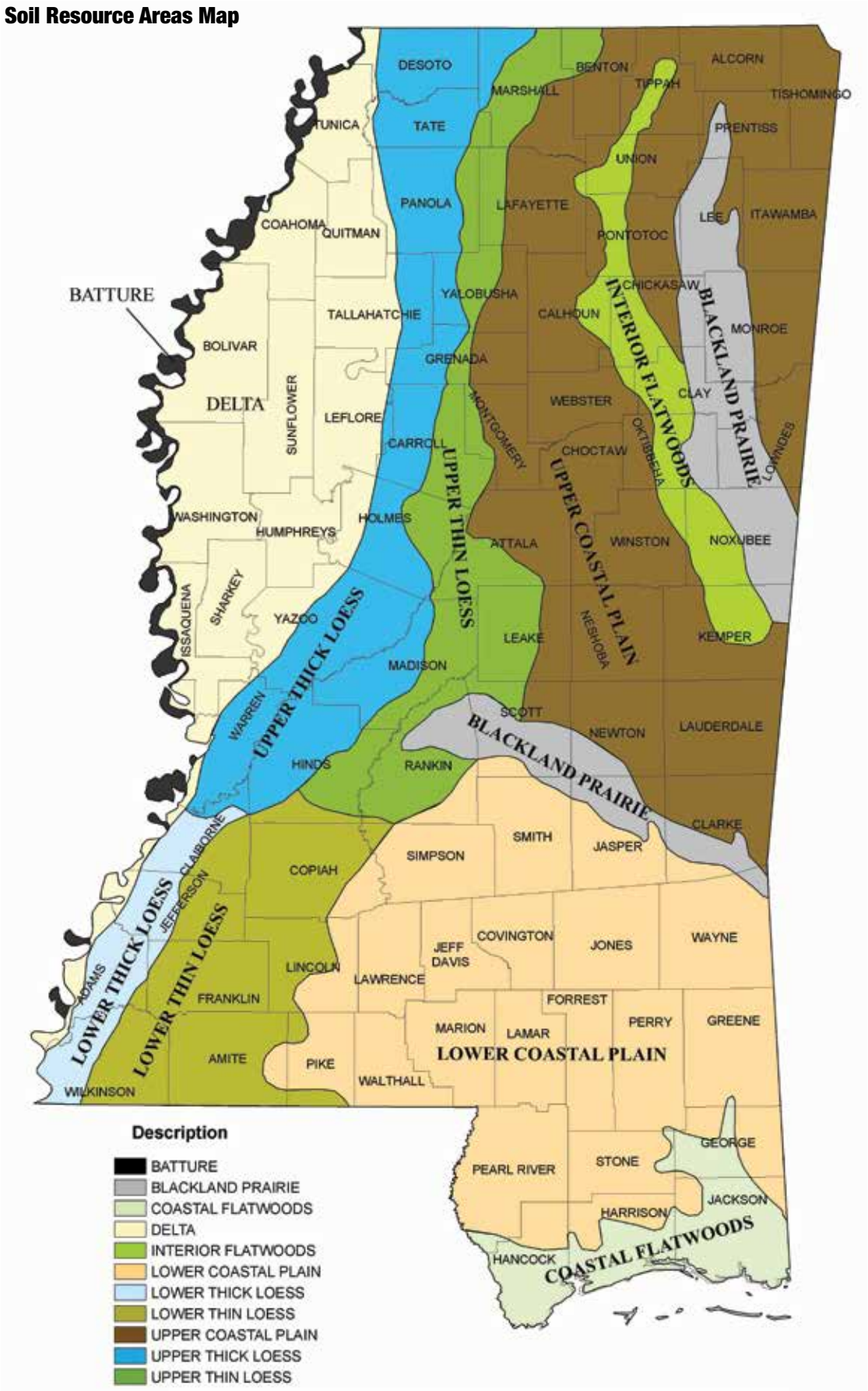


Table A2: Batture Soil Resource Area (Summary of DMAP Data)						
	2017 Season	2016 Season	2015 Season	2014 Season	2013 Season	'13–17 Season
Acres	166,398	215,113	235,150	249,319	254,044	224,005
Total Deer	3,531	3,622	3,575	5,852	4,902	4,296
Bucks	1,382	1,469	1,356	2,133	1,847	1,637
Does	1,915	2,070	2,199	3,703	3,045	2,586
Acres/Deer	47.1	59.4	65.8	42.6	51.8	53.3
Bucks	120.4	146.4	173.4	116.9	137.5	138.9
3.5+ Bucks	138.4	161.9	212.0	145.9	167.6	165.2
Does	86.9	103.9	106.9	67.3	83.4	89.7
Avg. Age ALL Bucks	4.3	4.3	4.0	4.0	4.0	4.1
% 0.5 Yr. Bucks	2.5	3.5	1.5	4.2	3.5	3.1
Weight	68.8	68.2	64.9	66.4	65.0	66.7
% 1.5 Yr.	6.8	1.9	7.8	4.1	5.4	5.2
Weight	109.4	108.6	102.3	109.7	115.5	109.1
Points	2.3	2.0	2.1	2.3	2.1	2.2
Circumf.	2.2	2.0	1.8	2.1	2.1	2.0
Length	5.8	3.3	4.3	5.3	6.1	5.0
Spread	5.9	4.3	4.7	5.7	6.1	5.3
% 2.5 Yr.	2.5	4.0	6.2	9.2	6.9	5.8
Weight	171.2	158.0	160.4	161.1	164.3	163.0
Points	6.9	7.0	6.7	6.7	7.0	6.9
Circumf.	3.8	3.6	3.5	3.6	3.6	3.6
Length	17.6	16.7	16.9	16.9	16.8	17.0
Spread	15.0	13.7	13.9	13.7	13.9	14.0
% 3.5 Yr.	15.0	16.7	23.9	22.6	22.9	20.2
Weight	178.0	174.9	181.8	184.3	184.7	180.7
Points	7.5	7.9	7.6	7.9	7.9	7.8
Circumf.	4.0	4.1	4.0	4.1	4.2	4.1
Length	18.5	18.7	18.5	19.0	19.4	18.8
Spread	15.0	15.2	15.2	15.4	15.8	15.3
% 4.5+ Yr.	73.2	73.9	60.5	59.8	61.2	65.7
Weight	193.5	190.8	196.7	196.4	197.1	194.9
Points	8.0	8.4	8.0	8.1	8.2	8.1
Circumf.	4.5	4.5	4.4	4.5	4.6	4.5
Length	20.6	20.7	20.2	20.7	20.9	20.6
Spread	16.3	16.6	16.1	16.8	16.9	16.5
Doe Age Classes						
% 0.5 Yr.	7.0	4.2	3.0	5.4	5.7	5.1
% 1.5 Yr.	19.1	6.2	23.0	17.6	26.1	18.4
% 2.5 Yr.	14.7	23.0	24.5	31.0	23.3	23.3
% 3.5+ Yr.	59.2	66.5	49.5	45.9	44.9	53.2
Doe Weights						
0.5 Yr.	66.8	66.1	64.1	65.5	64.0	65.3
1.5 Yr.	98.9	94.1	91.9	98.8	99.6	96.7
2.5 Yr.	112.0	108.0	109.5	112.3	113.1	111.0
3.5+ Yr.	117.5	116.8	117.3	120.0	119.3	118.2
% Doe Lactation						
1.5 Yr.	11.6	6.5	3.2	10.3	9.1	8.1
2.5 Yr.	66.4	43.4	34.9	55.6	53.2	50.7
2.5+ Yr.	74.4	59.1	39.0	64.3	61.1	59.6
3.5+ Yr.	76.4	64.5	41.1	70.1	65.2	63.5

Table A3: Delta Soil Resource Area (Summary of DMAP Data)						
	2017 Season	2016 Season	2015 Season	2014 Season	2013 Season	'13–17 Season
Acres	151.577	166,172	150,534	185,546	182,256	167.217
Total Deer	1,742	2,066	2,139	2,993	2,590	2,306
Bucks	582	713	701	908	689	719
Does	1,148	1,315	1,420	2,072	1,885	1,568
Acres/Deer	87.0	80.4	70.4	62.0	70.4	74.0
Bucks	260.4	233.1	214.7	204.3	264.5	235.4
3.5+ Bucks	306.2	271.1	273.7	280.7	403.2	307.0
Does	132.0	126.4	106.0	89.5	96.7	110.1
Avg. Age ALL Bucks	3.7	4.0	3.7	3.5	3.2	3.6
% 0.5 Yr. Bucks	3.1	4.2	4.7	5.0	5.2	4.4
Weight	73.7	72.9	71.2	68.8	72.2	71.8
% 1.5 Yr.	5.4	3.5	9.3	8.5	15.6	8.4
Weight	119.4	123.1	119.8	120.3	116.8	119.9
Points	2.5	2.3	2.2	2.2	2.2	2.3
Circumf.	2.0	1.6	1.9	1.5	1.6	1.7
Length	6.4	4.7	4.5	4.2	4.4	4.8
Spread	5.9	4.7	5.1	5.1	4.4	5.0
% 2.5 Yr.	5.6	5.4	5.3	12.0	10.8	7.8
Weight	167.0	159.7	161.5	163.1	163.3	162.9
Points	6.2	7.1	6.2	6.5	7.3	6.7
Circumf.	3.5	3.6	3.5	3.5	3.6	3.5
Length	15.7	15.7	16.9	16.0	15.8	16.0
Spread	13.6	13.1	14.2	13.3	13.0	13.4
% 3.5 Yr.	25.7	18.8	22.9	22.6	25.0	23.0
Weight	195.0	191.1	185.8	189.0	187.8	189.7
Points	8.1	8.2	8.0	7.9	8.1	8.1
Circumf.	4.3	4.5	4.1	4.2	4.2	4.3
Length	19.1	19.2	18.6	18.9	19.0	19.0
Spread	15.9	15.4	15.3	15.3	15.6	15.5
% 4.5+ Yr.	60.2	68.0	57.9	52.0	43.5	56.3
Weight	204.5	200.5	199.9	203.3	200.6	201.8
Points	8.4	8.4	8.4	8.3	8.3	8.4
Circumf.	4.7	4.7	4.6	4.6	4.5	4.6
Length	20.9	20.6	20.3	20.7	20.5	20.6
Spread	16.6	16.6	16.5	16.8	16.6	16.6
Doe Age Classes						
% 0.5 Yr.	6.9	8.3	7.3	6.7	6.7	7.2
% 1.5 Yr.	21.3	16.3	18.3	15.4	24.6	19.2
% 2.5 Yr.	21.0	19.6	20.2	28.2	21.8	22.2
% 3.5+ Yr.	50.8	55.7	54.2	49.7	46.9	51.5
Doe Weights						
0.5 Yr.	73.4	70.6	65.7	69.6	67.8	69.4
1.5 Yr.	107.1	107.0	103.5	105.9	102.3	105.2
2.5 Yr.	115.8	118.0	114.9	115.8	116.1	116.1
3.5+ Yr.	123.3	124.0	124.2	125.2	126.9	124.7
% Doe Lactation						
1.5 Yr.	18.4	17.8	11.3	18.1	10.2	15.2
2.5 Yr.	61.3	50.6	40.4	55.1	45.4	50.6
2.5+ Yr.	67.9	60.6	52.3	61.3	56.1	59.6
3.5+ Yr.	70.7	64.1	56.7	64.8	61.1	63.5

Table A4: Upper Thick Loess Soil Resource Area (Summary of DMAP Data)						
	2017 Season	2016 Season	2015 Season	2014 Season	2013 Season	'13–17 Season
Acres	158,023	190,903	209,744	224,243	231,857	202,954
Total Deer	2,964	3,322	3,661	4,522	4,734	3,841
Bucks	1,022	1,104	1,258	1,432	1,596	1,282
Does	1,942	2,209	2,399	3,086	3,131	2,553
Acres/Deer	53.3	57.5	57.3	49.6	49.0	53.3
Bucks	154.6	172.9	166.7	156.6	145.3	159.2
3.5+ Bucks	222.9	249.9	230.2	238.8	224.2	233.2
Does	81.4	86.4	87.4	72.7	74.1	80.4
Avg. Age ALL Bucks	3.5	3.5	3.4	3.2	3.2	3.4
% 0.5 Yr. Bucks	5.4	5.4	5.4	6.3	5.1	5.5
Weight	61.5	63.7	64.6	70.0	63.3	64.6
% 1.5 Yr.	15.8	16.3	1.5	18.2	20.2	14.4
Weight	112.9	110.2	109.3	112.2	110.2	111.0
Points	2.3	2.4	2.1	2.1	2.1	2.2
Circumf.	1.8	1.8	1.7	1.7	1.7	1.7
Length	5.1	4.3	3.5	4.0	3.7	4.1
Spread	5.0	5.1	4.6	4.5	4.6	4.8
% 2.5 Yr.	5.1	6.6	5.5	7.9	7.4	6.5
Weight	143.1	147.3	146.8	148.4	147.4	146.6
Points	6.7	6.8	6.5	6.2	6.4	6.5
Circumf.	3.3	3.3	3.4	3.2	3.4	3.3
Length	14.1	14.7	14.6	13.7	14.5	14.3
Spread	11.6	12.0	12.0	11.9	12.1	11.9
% 3.5 Yr.	18.0	18.1	21.2	21.3	20.3	19.8
Weight	168.8	167.4	163.1	171.1	169.8	168.0
Points	7.8	7.7	7.6	7.8	7.7	7.7
Circumf.	4.0	4.1	3.9	4.0	4.0	4.0
Length	17.0	17.6	17.3	17.5	17.5	17.4
Spread	14.4	14.4	14.3	14.5	14.2	14.3
% 4.5+ Yr.	55.5	53.6	52.5	46.4	46.4	50.9
Weight	185.9	183.0	181.6	184.4	185.3	184.0
Points	8.2	8.3	8.2	8.1	8.2	8.2
Circumf.	4.6	4.6	4.5	4.5	4.5	4.5
Length	19.7	19.9	19.8	19.4	19.8	19.7
Spread	15.9	16.2	15.9	15.7	15.9	15.9
Doe Age Classes						
% 0.5 Yr.	6.2	7.3	8.4	8.3	6.9	7.4
% 1.5 Yr.	20.7	18.8	18.2	17.3	20.5	19.1
% 2.5 Yr.	16.4	19.8	15.5	20.2	17.4	17.9
% 3.5+ Yr.	56.7	54.1	57.9	54.1	55.2	55.6
Doe Weights						
0.5 Yr.	63.3	64.0	65.7	66.6	64.8	64.9
1.5 Yr.	98.8	101.8	97.7	100.2	98.3	99.4
2.5 Yr.	110.1	110.7	111.1	110.9	112.3	111.0
3.5+ Yr.	117.4	116.1	116.4	119.3	118.0	117.4
% Doe Lactation						
1.5 Yr.	9.1	11.0	9.9	11.1	11.9	10.6
2.5 Yr.	61.1	61.5	56.1	49.1	48.3	55.2
2.5+ Yr.	67.4	67.2	63.2	61.8	58.6	63.7
3.5+ Yr.	69.2	69.3	65.1	66.6	61.9	66.4

Table A5: Lower Thick Loess Soil Resource Area (Summary of DMAP Data)						
	2017 Season	2016 Season	2015 Season	2014 Season	2013 Season	'13–17 Season
Acres	75,013	99,405	111,281	131,919	126,525	108,829
Total Deer	1,164	1,702	1,878	2,275	2,731	1,950
Bucks	464	698	755	880	948	749
Does	700	1,002	1,111	1,383	1,777	1,195
Acres/Deer	64.4	58.4	59.3	58.0	46.3	57.3
Bucks	161.7	142.4	147.4	149.9	133.5	147.0
3.5+ Bucks	211.3	174.1	175.0	192.0	177.5	186.0
Does	107.2	99.2	100.2	95.4	71.2	94.6
Avg. Age ALL Bucks	3.7	3.9	3.9	3.7	3.5	3.7
% 0.5 Yr. Bucks	4.9	1.8	1.9	3.3	4.4	3.3
Weight	64.5	61.7	61.8	59.4	58.6	61.2
% 1.5 Yr.	7.3	6.7	9.7	8.8	12.1	8.9
Weight	104.7	107.5	96.9	101.9	104.8	103.2
Points	2.3	2.7	2.1	2.3	2.2	2.3
Circumf.	1.8	2.2	1.8	1.4	1.9	1.8
Length	4.3	5.1	3.6	2.8	4.0	4.0
Spread	4.2	6.6	3.9	5.0	5.0	4.9
% 2.5 Yr.	8.8	6.7	4.8	7.5	6.8	6.9
Weight	145.3	151.9	143.3	138.2	141.8	144.1
Points	6.5	7.1	7.3	6.2	6.6	6.7
Circumf.	3.4	3.5	3.5	3.2	3.2	3.4
Length	13.7	14.6	14.8	14.1	14.3	14.3
Spread	11.4	12.0	12.5	11.7	11.4	11.8
% 3.5 Yr.	21.7	21.5	21.5	21.9	19.7	21.3
Weight	163.1	162.3	159.0	158.8	161.7	161.0
Points	7.6	7.9	7.7	7.6	7.9	7.7
Circumf.	3.8	4.0	3.9	3.9	4.0	3.9
Length	17.2	17.0	17.0	17.0	17.1	17.1
Spread	13.8	13.8	14.0	13.7	13.9	13.8
% 4.5+ Yr.	57.3	63.7	64.0	58.5	57.1	60.1
Weight	179.4	178.9	174.6	177.6	176.6	177.4
Points	8.2	8.2	8.2	8.1	8.3	8.2
Circumf.	4.5	4.6	4.4	4.4	4.5	4.5
Length	19.6	19.4	18.8	19.0	19.3	19.2
Spread	15.3	15.4	15.0	15.1	15.2	15.2
Doe Age Classes						
% 0.5 Yr.	7.2	5.9	4.2	5.4	5.1	5.5
% 1.5 Yr.	17.0	20.0	21.2	15.6	22.5	19.3
% 2.5 Yr.	17.2	13.5	15.6	19.4	12.3	15.6
% 3.5+ Yr.	58.6	60.5	59.0	59.6	60.1	59.6
Doe Weights						
0.5 Yr.	61.3	62.2	64.5	60.2	58.5	61.3
1.5 Yr.	93.2	92.5	93.5	89.3	91.0	91.9
2.5 Yr.	105.8	105.3	104.9	105.0	109.9	106.2
3.5+ Yr.	113.4	112.2	112.6	113.4	113.8	113.1
% Doe Lactation						
1.5 Yr.	4.4	5.7	8.7	7.1	7.6	6.7
2.5 Yr.	56.4	49.3	33.7	46.3	48.3	46.8
2.5+ Yr.	68.0	60.9	47.9	57.4	56.4	58.1
3.5+ Yr.	71.3	63.6	51.7	61.0	58.1	61.1

Table A6: Upper Thin Loess Soil Resource Area (Summary of DMAP Data)						
	2017 Season	2016 Season	2015 Season	2014 Season	2013 Season	'13–17 Season
Acres	69,535	67,911	73,486	91,546	93,474	79,190
Total Deer	748	793	982	1,392	1,366	1,056
Bucks	306	274	348	490	512	386
Does	441	519	626	899	854	668
Acres/Deer	93.0	85.6	74.8	65.8	68.4	77.5
Bucks	227.2	247.9	211.2	186.8	182.6	211.1
3.5+ Bucks	323.4	449.7	362.0	372.1	342.4	369.9
Does	157.7	130.8	117.4	101.8	109.5	123.4
Avg. Age ALL Bucks	3.0	2.7	2.8	2.7	2.8	2.8
% 0.5 Yr. Bucks	6.2	7.6	7.8	9.1	8.3	7.8
Weight	64.0	66.3	63.3	64.0	61.2	63.8
% 1.5 Yr.	8.0	16.8	20.4	17.8	20.3	16.7
Weight	106.3	104.1	101.7	111.6	110.4	106.8
Points	3.2	2.5	2.5	2.6	2.6	2.7
Circumf.	1.9	1.5	1.8	2.0	1.9	1.8
Length	6.1	4.2	4.3	5.0	4.8	4.9
Spread	5.5	4.9	4.7	5.2	5.1	5.1
% 2.5 Yr.	11.4	17.9	11.1	20.8	14.9	15.2
Weight	142.8	140.6	138.3	146.9	142.9	142.3
Points	6.2	6.7	6.5	6.8	6.7	6.6
Circumf.	3.4	3.4	3.1	3.5	3.5	3.4
Length	14.4	14.1	14.2	15.2	14.5	14.5
Spread	11.9	11.5	11.5	12.2	11.9	11.8
% 3.5 Yr.	39.1	29.0	29.3	22.9	19.5	28.0
Weight	157.6	156.7	153.1	162.8	157.6	157.6
Points	7.4	7.4	7.4	7.7	7.8	7.5
Circumf.	3.9	3.9	3.8	3.9	3.9	3.9
Length	16.7	17.0	16.7	16.7	16.4	16.7
Spread	13.6	13.9	13.5	13.8	13.5	13.7
% 4.5+ Yr.	34.9	28.6	31.4	29.3	37.1	32.3
Weight	171.0	168.6	165.9	173.2	174.0	170.5
Points	7.9	8.2	8.2	8.0	7.9	8.0
Circumf.	4.4	4.2	4.2	4.4	4.3	4.3
Length	18.3	18.5	18.7	18.8	18.4	18.5
Spread	15.1	14.9	14.9	15.1	14.8	15.0
Doe Age Classes						
% 0.5 Yr.	9.9	11.9	9.9	12.5	11.3	11.1
% 1.5 Yr.	25.8	19.3	19.9	24.1	20.4	21.9
% 2.5 Yr.	13.9	16.7	18.9	23.3	18.3	18.2
% 3.5+ Yr.	50.4	52.1	51.3	40.2	50.0	48.8
Doe Weights						
0.5 Yr.	63.2	65.2	59.6	60.5	59.3	61.6
1.5 Yr.	92.7	91.7	86.7	92.3	92.0	91.1
2.5 Yr.	101.6	99.9	100.8	102.5	105.6	102.1
3.5+ Yr.	109.4	108.1	106.8	110.0	110.0	108.9
% Doe Lactation						
1.5 Yr.	21.7	17.9	12.1	14.2	14.2	16.0
2.5 Yr.	54.4	61.7	55.4	58.3	55.7	57.1
2.5+ Yr.	66.5	62.6	60.7	60.7	61.6	62.4
3.5+ Yr.	69.8	62.9	62.7	62.1	63.7	64.2

Table A7: Lower Thin Loess Soil Resource Area (Summary of DMAP Data)						
	2017 Season	2016 Season	2015 Season	2014 Season	2013 Season	'13–17 Season
Acres	56,905	56,997	65,715	74,637	74,981	65,847
Total Deer	653	734	840	1,070	984	856
Bucks	228	262	296	370	354	302
Does	425	470	544	700	629	554
Acres/Deer	87.1	77.7	78.2	69.8	76.2	77.8
Bucks	249.6	217.5	222.0	201.7	211.8	220.5
3.5+ Bucks	406.5	339.3	338.7	369.5	340.8	359.0
Does	133.9	121.3	120.8	106.6	119.2	120.4
Avg. Age ALL Bucks	3.0	3.2	3.2	2.9	3.1	3.1
% 0.5 Yr. Bucks	4.6	5.2	4.7	5.9	5.9	5.3
Weight	65.4	68.2	56.3	69.2	59.1	63.6
% 1.5 Yr.	17.4	19.4	17.0	20.5	22.0	19.3
Weight	112.7	112.2	108.0	109.5	110.6	110.6
Points	2.5	2.5	2.2	2.3	2.4	2.4
Circumf.	2.3	2.1	2.5	2.1	2.2	2.2
Length	6.8	4.7	6.3	5.2	5.3	5.7
Spread	7.1	5.6	5.6	4.8	5.7	5.8
% 2.5 Yr.	14.2	7.7	8.0	13.6	7.9	10.3
Weight	145.6	145.9	139.6	142.2	149.9	144.6
Points	6.8	6.7	5.6	5.9	6.9	6.4
Circumf.	3.4	3.4	3.3	3.2	3.6	3.4
Length	15.0	14.3	13.8	14.1	15.2	14.5
Spread	12.3	11.9	11.2	10.8	11.8	11.6
% 3.5 Yr.	26.0	21.8	22.5	21.7	16.4	21.7
Weight	169.0	158.2	154.1	164.9	157.7	160.8
Points	7.4	7.2	7.3	7.8	7.6	7.5
Circumf.	3.8	3.6	3.7	4.0	3.9	3.8
Length	17.0	15.5	16.2	17.4	16.7	16.6
Spread	13.4	12.9	12.3	13.7	13.4	13.1
% 4.5+ Yr.	37.9	46.0	47.8	38.3	48.1	43.6
Weight	190.5	177.6	176.8	180.9	181.1	181.4
Points	8.2	8.4	8.1	8.2	8.1	8.2
Circumf.	4.6	4.3	4.4	4.5	4.4	4.4
Length	19.4	19.2	19.0	19.6	19.3	19.3
Spread	15.7	15.0	15.1	15.3	15.2	15.3
Doe Age Classes						
% 0.5 Yr.	6.5	8.6	6.2	6.3	7.1	6.9
% 1.5 Yr.	20.2	17.2	17.7	19.2	19.6	18.8
% 2.5 Yr.	19.2	13.7	14.5	15.1	14.3	15.4
% 3.5+ Yr.	54.1	60.6	61.5	59.5	59.0	58.9
Doe Weights						
0.5 Yr.	65.1	8.6	6.2	6.3	7.1	63.3
1.5 Yr.	99.0	17.2	17.7	19.2	19.6	95.5
2.5 Yr.	109.8	13.7	14.5	15.1	14.3	106.9
3.5+ Yr.	115.2	60.6	61.5	59.5	59.0	114.0
% Doe Lactation						
1.5 Yr.	11.0	11.8	8.5	9.3	13.5	11.5
2.5 Yr.	41.0	41.3	53.9	48.8	51.9	50.1
2.5+ Yr.	59.5	53.4	64.2	58.5	60.1	59.9
3.5+ Yr.	66.1	56.3	66.8	60.8	62.7	62.7

Table A8: Black Prairie Soil Resource Area (Summary of DMAP Data)						
	2017 Season	2016 Season	2015 Season	2014 Season	2013 Season	'13–17 Season
Acres	47,436	45,097	58,886	60,734	70,937	56,618
Total Deer	447	379	814	881	977	700
Bucks	140	98	236	295	318	217
Does	307	278	578	584	657	481
Acres/Deer	106.1	119.0	72.3	68.9	72.6	88.0
Bucks	338.8	460.2	249.5	205.9	223.1	295.5
3.5+ Bucks	593.0	777.5	436.2	365.9	427.3	520.0
Does	154.5	162.2	101.9	104.0	108.0	126.1
Avg. Age ALL Bucks	3.0	2.8	2.9	2.8	2.7	2.8
% 0.5 Yr. Bucks	6.4	10.5	7.6	7.4	10.2	8.4
Weight	58.6	56.2	58.7	64.9	63.2	60.3
% 1.5 Yr.	12.9	12.6	6.7	9.3	12.2	10.7
Weight	110.4	97.3	107.7	112.5	104.2	106.4
Points	2.1	2.1	2.6	2.5	2.3	2.3
Circumf.	1.3	1.4	2.0	1.9	1.8	1.7
Length	3.8	3.4	5.2	5.5	5.0	4.6
Spread	4.5	5.0	6.0	6.2	6.4	5.6
% 2.5 Yr.	15.0	15.8	25.1	21.6	22.8	20.0
Weight	146.0	134.0	136.8	149.2	143.0	141.8
Points	7.1	5.7	7.1	7.3	6.9	6.8
Circumf.	3.6	3.4	3.5	3.6	3.3	3.5
Length	15.2	13.4	15.4	15.5	14.5	14.8
Spread	13.6	12.0	12.6	12.6	11.9	12.5
% 3.5 Yr.	26.4	29.5	27.8	33.5	24.1	28.3
Weight	166.6	156.3	156.6	168.1	163.2	162.2
Points	7.4	8.1	7.9	7.9	7.4	7.7
Circumf.	3.8	3.9	4.0	4.1	3.9	3.9
Length	17.7	17.4	17.4	17.8	17.0	17.5
Spread	13.8	14.0	14.1	14.4	13.6	14.0
% 4.5+ Yr.	37.9	31.6	32.7	28.3	30.7	32.2
Weight	190.7	174.8	167.7	176.4	176.4	177.2
Points	8.6	8.2	8.4	8.6	8.1	8.4
Circumf.	4.7	4.5	4.4	4.4	4.4	4.5
Length	20.2	20.3	18.7	18.9	19.0	19.4
Spread	16.1	16.1	14.9	15.4	15.2	15.5
Doe Age Classes						
% 0.5 Yr.	9.5	6.9	8.1	7.4	8.6	8.1
% 1.5 Yr.	20.3	18.4	19.5	9.3	19.6	17.4
% 2.5 Yr.	25.2	26.0	22.1	21.6	20.1	23.0
% 3.5+ Yr.	44.9	48.7	50.3	61.7	51.7	51.5
Doe Weights						
0.5 Yr.	60.3	56.9	60.8	59.7	59.9	59.5
1.5 Yr.	92.2	90.3	88.3	96.6	91.9	91.9
2.5 Yr.	104.9	101.8	101.1	106.9	104.7	103.9
3.5+ Yr.	113.8	109.7	110.6	114.7	112.1	112.2
% Doe Lactation						
1.5 Yr.	11.3	15.7	6.3	13.9	12.8	12.0
2.5 Yr.	59.2	54.2	58.6	54.5	50.8	55.5
2.5+ Yr.	70.4	58.5	59.1	58.9	59.7	61.3
3.5+ Yr.	76.6	60.7	59.3	60.5	63.2	64.1

Table A9: Upper Coastal Plain Soil Resource Area (Summary of DMAP Data)						
	2017 Season	2016 Season	2015 Season	2014 Season	2013 Season	'13–17 Season
Acres	151,022	158,859	301,107	323,725	335,433	254,029
Total Deer	1,338	1,554	2,507	2,883	3,313	2,319
Bucks	539	516	934	1,047	1,206	848
Does	791	1,028	1,572	1,835	2,104	1,466
Acres/Deer	112.9	102.2	120.1	112.3	101.2	109.7
Bucks	280.2	307.9	322.4	309.2	278.1	299.6
3.5+ Bucks	479.4	522.6	574.6	619.0	482.6	535.6
Does	190.9	154.5	191.5	176.4	159.4	174.6
Avg. Age ALL Bucks	2.7	2.8	2.8	2.8	3.0	2.8
% 0.5 Yr. Bucks	8.6	5.6	5.4	5.7	5.7	6.2
Weight	61.3	56.6	57.6	57.7	59.8	58.6
% 1.5 Yr.	12.8	15.1	16.7	15.7	15.9	15.2
Weight	105.0	95.6	94.2	96.5	96.8	97.6
Points	3.0	2.4	2.6	2.5	2.5	2.6
Circumf.	1.8	1.6	1.9	1.8	1.9	1.8
Length	6.9	4.8	5.3	4.9	5.3	5.4
Spread	6.9	5.3	5.7	5.7	5.6	5.8
% 2.5 Yr.	17.3	17.9	19.0	26.5	17.9	19.7
Weight	133.4	135.5	133.7	136.7	135.4	134.9
Points	6.6	6.3	6.5	6.7	6.6	6.5
Circumf.	3.2	3.2	3.3	3.3	3.4	3.3
Length	14.3	13.6	14.1	14.1	14.2	14.1
Spread	11.5	11.0	11.6	11.7	11.6	11.5
% 3.5 Yr.	32.7	30.6	28.3	20.7	22.6	27.0
Weight	147.3	146.3	145.1	149.2	144.7	146.5
Points	6.9	7.2	7.4	7.4	7.2	7.2
Circumf.	3.6	3.8	3.7	3.9	3.7	3.7
Length	15.8	16.0	16.1	16.5	15.8	16.0
Spread	13.1	13.1	13.0	13.5	12.6	13.1
% 4.5+ Yr.	28.6	30.6	30.6	31.4	37.9	31.8
Weight	161.9	161.2	156.7	161.6	158.4	160.0
Points	8.2	8.2	7.8	8.0	7.8	8.0
Circumf.	4.4	4.2	4.1	4.2	4.1	4.2
Length	18.5	18.1	17.9	18.1	17.9	18.1
Spread	14.9	14.8	14.4	14.4	14.3	14.6
Doe Age Classes						
% 0.5 Yr.	10.8	9.7	9.6	5.7	9.5	9.0
% 1.5 Yr.	21.4	18.1	20.6	15.7	22.3	19.6
% 2.5 Yr.	14.4	17.8	17.1	26.5	15.9	18.4
% 3.5+ Yr.	53.3	54.3	52.7	52.1	52.3	52.9
Doe Weights						
0.5 Yr.	60.9	57.7	57.6	58.4	56.5	58.2
1.5 Yr.	87.0	85.6	83.9	85.2	85.6	85.5
2.5 Yr.	94.6	94.8	94.7	96.7	98.2	95.8
3.5+ Yr.	104.7	102.0	101.5	104.0	104.3	103.3
% Doe Lactation						
1.5 Yr.	18.4	11.9	8.7	9.3	9.2	11.5
2.5 Yr.	59.1	56.0	48.5	48.2	45.8	51.5
2.5+ Yr.	64.2	60.8	56.3	59.6	58.2	59.8
3.5+ Yr.	65.6	62.3	58.8	65.4	62.0	62.8

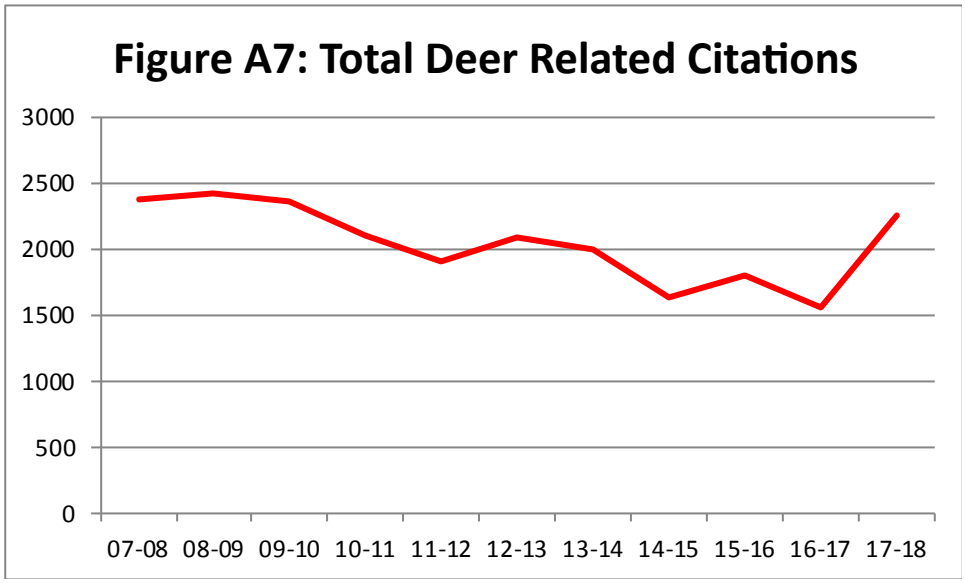
Table A10: Lower Coastal Plain Soil Resource Area (Summary of DMAP Data)						
	2017 Season	2016 Season	2015 Season	2014 Season	2013 Season	'13–17 Season
Acres	46,203	41,898	84,002	84,961	97,826	70,978
Total Deer	371	415	596	656	751	558
Bucks	150	203	266	233	307	232
Does	221	212	330	422	441	325
Acres/Deer	124.5	101.0	140.9	129.5	130.3	125.2
Bucks	308.0	206.4	315.8	364.6	318.7	302.7
3.5+ Bucks	481.3	590.1	449.2	562.7	531.7	523.0
Does	209.1	197.6	254.6	201.3	221.8	216.9
Avg. Age ALL Bucks	3.0	3.1	3.3	3.0	2.9	3.1
% 0.5 Yr. Bucks	5.3	1.0	3.1	2.6	3.7	3.1
Weight	65.8	75.0	58.4	57.5	59.5	63.2
% 1.5 Yr.	11.3	10.4	10.4	13.7	15.1	12.2
Weight	93.9	98.3	108.0	104.5	105.4	102.0
Points	3.2	2.8	3.1	2.6	2.6	2.9
Circumf.	2.3	2.0	2.2	1.6	1.9	2.0
Length	6.1	5.1	7.2	5.6	5.5	5.9
Spread	4.8	6.2	7.5	6.7	5.4	6.1
% 2.5 Yr.	19.3	26.5	14.3	17.2	19.5	19.3
Weight	133.7	133.1	132.2	140.4	142.4	136.4
Points	6.2	6.5	6.5	6.6	6.2	6.4
Circumf.	3.4	3.3	3.2	3.3	3.2	3.3
Length	13.6	13.7	14.1	14.1	13.3	13.8
Spread	10.9	10.8	11.2	11.4	10.9	11.0
% 3.5 Yr.	31.3	26.9	29.0	30.8	29.2	29.4
Weight	143.0	143.4	143.0	149.2	149.9	145.7
Points	7.0	7.4	7.1	7.4	7.4	7.3
Circumf.	3.6	3.7	3.5	3.7	3.6	3.6
Length	15.0	15.6	15.2	15.7	15.4	15.4
Spread	11.7	12.4	12.2	12.6	12.5	12.3
% 4.5+ Yr.	32.7	35.3	43.2	35.7	32.6	35.9
Weight	164.1	152.3	151.1	153.8	156.5	155.6
Points	8.6	8.4	7.8	7.5	7.8	8.0
Circumf.	4.2	4.0	3.9	4.0	4.0	4.0
Length	18.1	17.4	17.0	17.0	17.5	17.4
Spread	14.2	13.9	13.3	13.7	14.0	13.8
Doe Age Classes						
% 0.5 Yr.	5.0	3.8	3.8	3.9	3.3	3.9
% 1.5 Yr.	20.2	13.3	21.3	21.9	18.2	19.0
% 2.5 Yr.	16.1	19.9	16.3	20.2	18.0	18.1
% 3.5+ Yr.	58.7	63.0	58.8	54.0	60.5	59.0
Doe Weights						
0.5 Yr.	58.7	71.6	62.9	63.9	63.4	64.1
1.5 Yr.	88.2	87.3	87.9	88.1	86.5	87.6
2.5 Yr.	97.6	99.4	99.9	99.9	102.3	99.8
3.5+ Yr.	106.0	105.4	102.1	105.8	104.1	104.7
% Doe Lactation						
1.5 Yr.	7.0	0.0	10.6	9.0	13.5	8.0
2.5 Yr.	37.1	47.6	40.4	53.7	51.4	46.0
2.5+ Yr.	50.0	55.2	56.9	57.9	58.1	55.6
3.5+ Yr.	53.5	63.8	61.5	59.5	60.1	59.7

Table A11: Coastal Flatwoods Soil Resource Area (Summary of DMAP Data)						
	2017 Season	2016 Season	2015 Season	2014 Season	2013 Season	'13–17 Season
Acres	5,100	9,600	21,946	22,870	28,070	17,517
Total Deer	25	49	43	108	102	65
Bucks	12	27	24	52	51	33
Does	13	22	19	56	51	32
Acres/Deer	204.0	195.9	510.4	211.8	275.2	279.4
Bucks	425.0	355.6	914.4	439.8	550.4	537.0
3.5+ Bucks	2,550.0	685.7	4389.2	714.7	967.9	1,861.5
Does	392.3	436.4	1155.1	408.4	550.4	588.5
Avg. Age ALL Bucks	1.9	2.6	2.6	2.9	2.8	2.6
% 0.5 Yr. Bucks	8.3	11.1	4.2	3.8	2.0	5.9
Weight	50.0	50.3	52.0	54.0	50.0	51.3
% 1.5 Yr.	16.7	14.8	25.0	23.1	20.0	19.9
Weight	96.0	85.3	95.5	99.9	94.7	94.3
Points	2.0	3.0	2.5	2.1	2.3	2.4
Circumf.	2.3	1.6	3.1	1.9	1.6	2.1
Length	3.8	5.6	7.0	3.1	4.1	4.7
Spread	6.0	4.7	6.0	7.2	5.8	5.9
% 2.5 Yr.	58.3	22.2	12.5	11.5	20.0	24.9
Weight	139.6	126.5	130.7	126.3	147.6	134.1
Points	5.3	6.3	6.3	4.8	6.6	5.9
Circumf.	2.8	3.1	3.1	2.7	3.1	3.0
Length	11.7	12.8	13.6	12.8	14.3	13.0
Spread	9.6	10.0	12.8	10.4	11.2	10.8
% 3.5 Yr.	8.3	29.6	33.3	30.8	30.0	26.4
Weight	104.0	137.9	145.9	147.1	158.9	138.8
Points	5.0	6.9	7.4	7.9	7.8	7.0
Circumf.	2.3	3.4	3.4	3.8	3.5	3.3
Length	7.3	14.4	15.1	15.8	15.6	13.6
Spread	3.5	11.0	11.9	13.1	12.6	10.4
% 4.5+ Yr.	8.3	22.2	25.0	30.8	28.0	22.9
Weight	118.0	150.8	151.0	157.1	156.4	146.7
Points	6.0	7.8	7.2	7.9	7.4	7.3
Circumf.	4.3	3.8	4.0	4.2	3.9	4.0
Length	18.2	17.3	16.4	17.7	18.8	17.7
Spread	12.0	13.8	12.7	13.8	13.9	13.2
Doe Age Classes						
% 0.5 Yr.	12.5	9.5	12.5	7.1	5.7	9.5
% 1.5 Yr.	25.0	23.8	6.3	16.1	28.3	19.9
% 2.5 Yr.	33.3	4.8	50.0	23.2	22.6	26.8
% 3.5+ Yr.	33.3	61.9	31.3	53.6	43.4	44.7
Doe Weights						
0.5 Yr.	48.0	53.0	53.0	56.5	42.7	50.6
1.5 Yr.	86.0	82.2	75.0	87.9	90.3	84.3
2.5 Yr.	97.5	109.0	99.5	93.6	101.8	100.3
3.5+ Yr.	102.0	97.5	102.2	102.5	111.3	103.1
% Doe Lactation						
1.5 Yr.	0.0	0.0	0.0	44.4	33.3	15.5
2.5 Yr.	50.0	100.0	37.5	46.2	33.3	53.4
2.5+ Yr.	62.5	78.6	23.1	44.2	46.0	50.9
3.5+ Yr.	75.0	76.9	0.0	43.3	52.6	49.6

Table A12: Interior Flatwoods Soil Resource Area (Summary of DMAP Data)						
	2017 Season	2016 Season	2015 Season	2014 Season	2013 Season	'13–17 Season
Acres	43,398	33,252	35,824	37,064	34,832	36,874
Total Deer	535	297	378	672	386	454
Bucks	256	112	126	282	142	184
Does	279	185	252	389	244	270
Acres/Deer	81.1	112.0	94.8	55.2	90.2	86.6
Bucks	169.5	296.9	284.3	131.4	245.3	225.5
3.5+ Bucks	326.3	536.3	465.2	311.5	440.9	416.0
Does	155.5	179.7	142.2	95.3	142.8	143.1
Avg. Age ALL Bucks	2.7	2.6	2.8	2.7	2.9	2.7
% 0.5 Yr. Bucks	13.3	5.6	5.9	12.4	8.3	9.1
Weight	58.4	52.0	59.7	57.3	59.5	57.4
% 1.5 Yr.	11.1	16.8	12.6	13.3	18.8	14.5
Weight	103.2	93.7	91.9	100.2	96.3	97.1
Points	1.8	2.4	2.0	2.1	2.2	2.1
Circumf.	1.1	1.5	1.6	1.2	1.3	1.3
Length	4.9	3.5	2.9	4.0	4.0	3.9
Spread	6.0	4.6	3.9	4.6	5.2	4.9
% 2.5 Yr.	16.4	19.6	16.8	17.6	13.5	16.8
Weight	132.8	131.4	133.0	139.0	133.8	134.0
Points	5.8	6.3	5.6	6.4	5.5	5.9
Circumf.	3.1	3.1	3.1	3.3	3.1	3.1
Length	13.0	14.0	14.0	14.7	14.1	14.0
Spread	11.0	11.6	11.2	11.3	10.9	11.2
% 3.5 Yr.	28.4	33.6	37.0	26.7	18.0	28.7
Weight	153.8	150.5	148.5	146.9	135.0	146.9
Points	7.7	7.1	7.4	7.4	6.3	7.2
Circumf.	3.7	3.7	3.6	3.7	3.4	3.6
Length	16.3	15.3	16.7	16.5	13.4	15.6
Spread	13.8	12.2	13.2	13.0	11.0	12.6
% 4.5+ Yr.	30.7	24.3	27.7	30.0	41.4	30.8
Weight	168.1	159.0	159.0	165.1	170.7	164.4
Points	8.0	7.5	7.6	7.8	8.3	7.8
Circumf.	4.2	4.0	4.0	4.1	4.2	4.1
Length	18.1	17.7	17.6	18.0	18.6	18.0
Spread	14.9	14.3	13.8	14.4	14.9	14.5
Doe Age Classes						
% 0.5 Yr.	9.6	6.3	8.2	5.9	7.6	7.5
% 1.5 Yr.	18.8	20.7	23.8	18.9	16.0	19.6
% 2.5 Yr.	11.8	16.7	9.8	17.6	13.0	13.8
% 3.5+ Yr.	59.8	56.3	58.2	57.6	63.4	59.1
Doe Weights						
0.5 Yr.	61.3	53.0	53.7	58.4	58.2	56.9
1.5 Yr.	96.1	89.3	85.5	89.4	87.5	89.6
2.5 Yr.	103.7	100.5	100.9	101.5	102.9	101.9
3.5+ Yr.	109.5	108.1	107.1	108.8	111.0	108.9
% Doe Lactation						
1.5 Yr.	17.7	8.8	22.4	10.5	21.6	16.2
2.5 Yr.	43.8	37.9	47.8	41.1	67.7	47.7
2.5+ Yr.	67.0	57.7	58.7	57.7	70.0	62.2
3.5+ Yr.	71.6	63.8	60.6	62.8	70.5	65.9

MDWFP began electronic tracking of citations in 1996. Twenty-three deer hunting violations were extracted from the database and summarized from 2008 to 2018 in Table A13 and Figure A7. These violations were chosen because they are commonly cited, or because they represent recent changes in Administrative Rules or policy. Some citations were combined into one category because they represent similar violations (i.e., "unlawful shot/weapon" includes hunting with restricted calibers and inappropriate weapons for the season). Citations for eight of the most common violations are summarized by county in Table A14 on page 68-69.

- A total of 2,222 citations were written during the 2017–2018 deer hunting season (Table A13 and Figure A7) representing a 50% increase from the 2016–2017 season.
- The increase in deer-related citations is likely due to increased capacity in the Law Enforcement Bureau as a result of increased efforts in recruiting, training, and retaining officers.
- Of note are increases in citations for violations of WMA regulations and hunting from the road as well as unlawfully holding deer in captivity (i.e., backyard pens).
- Hunters can assist our officers by reporting wildlife violations by calling 1-800-BE-SMART.



Enforcement of Deer Hunting-Related Citations 2017–2018

Table A13: Statewide Citations Summary for Most Frequent Deer-Related Violations By Season										
Violation	**'08–'09**	**'09–'10**	**'10–'11**	**'11–'12**	**'12–'13**	**'13–'14**	**'14–'15**	**'15–'16**	**'16–'17**	**'17–'18**
NO LICENSE - NON-RES	108	78	96	116	83	102	91	80	68	104
NO LICENSE - RESIDENT	337	354	346	275	308	272	266	289	258	347
BAITING	214	235	205	188	154	131	86	14	26	33
SUPPLEMENTAL FEED	NA	44	54	124	170	224	174	188	185	266
DUMPING WILDLIFE PARTS	6	5	7	4	8	12	3	16	13	23
EXCEEDING BAG LIMIT	12	10	11	6	14	11	11	8	6	7
HEADLIGHTING DEER	175	178	128	105	168	171	105	130	95	148
WILDLIFE HARRASSMENT (ILLEGAL SHINING)	36	37	26	23	29	17	18	68	19	42
GAME/FUR-BEARING ANIMALS IN CAPTIVITY	1	0	3	2	4	7	3	2	1	13
HUNTING AFTER HOURS	49	53	37	33	37	26	25	35	13	33
HUNTING CLOSED SEASON	56	84	63	43	76	78	32	44	18	33
HUNTING FROM PUBLIC ROAD/ MOTORIZED VEHICLE	47	31	18	34	34	35	17	25	186	301
HOMOCHITTO DOG LAW	NA	NA	1	8	4	8	11	2	5	9
KILLING DOE OUT OF SEASON	7	10	9	10	3	7	4	2	4	7
NO ARCHERY/ PRIMITIVE WEAPON	24	23	9	15	10	6	15	24	20	25
NO HUNTER ORANGE	266	231	225	204	242	217	190	160	162	254
WMA REGS	167	134	130	112	110	108	125	146	32	171
No WMA Permit	34	29	44	44	26	39	32	49	132	29
TRESPASSING	176	180	149	100	119	119	104	120	80	108
UNDERSIZED ANTLERS	41	30	28	29	34	26	47	57	21	69
UNLAWFUL POSSESSION	115	127	97	93	113	155	91	89	101	126
UNLAWFUL WEAPON/ SHOT SIZE	143	140	100	94	129	81	42	58	33	71
PROHIBITION OF IMPORTATION OF CERVID CARCASS	NA	NA	NA	NA	NA	NA	NA	NA	2	3
Totals	**2,014**	**2,013**	**1,786**	**1,662**	**1,875**	**1,852**	**1,492**	**1,606**	**1,480**	**2,222**

Paul T. Brown

Table A14: Citations Summary for Most Frequent and Total Deer-Related Violations By County During 2017–2018									
County	Headlighting Deer	Hunting from Public Road	No Hunt License - Non-Resident	No Hunter Orange	No Hunt License -Resident	Supplemental Feed	Trespassing	Undersized Antlers	Total
ADAMS	6	7	2	2	3	1	3	3	27
ALCORN	1	1	3	3	2	0	0	0	10
AMITE	1	1	1	1	1	1	1	1	8
ATTALA	14	7	3	11	14	18	2	4	73
BENTON	1	3	0	3	3	0	2	0	12
BOLIVAR	1	1	3	1	2	0	2	0	10
CALHOUN	2	4	0	2	2	2	1	1	14
CARROLL	3	2	1	1	2	1	0	1	11
CHICKASAW	0	4	0	7	6	1	1	4	23
CHOCTAW	3	6	0	3	5	0	1	2	20
CLAIBORNE	0	2	4	5	2	8	6	1	28
CLARKE	0	3	3	3	4	2	0	1	16
CLAY	0	5	1	0	6	1	1	0	14
COAHOMA	2	3	0	5	3	3	2	0	18
COPIAH	6	2	1	7	21	11	4	0	52
COVINGTON	0	0	0	4	1	0	0	0	5
DESOTO	1	0	0	0	1	2	0	0	4
FORREST	0	7	1	1	5	1	1	0	16
FRANKLIN	2	2	1	1	2	0	2	1	11
GEORGE	4	2	0	0	6	0	1	0	13
GREENE	4	5	0	3	3	0	0	3	18
GRENADA	2	2	2	0	4	3	0	1	14
HANCOCK	1	2	2	2	5	0	0	0	12
HARRISON	0	1	3	6	7	14	0	1	32
HINDS	0	2	0	0	5	4	2	0	13
HOLMES	7	7	2	12	11	14	0	2	55
HUMPHREYS	0	0	0	0	1	8	0	0	9
ISSAQUENA	1	1	1	0	0	1	0	0	4
ITAWAMBA	9	4	3	3	6	3	5	4	37
JACKSON	2	7	2	5	9	1	2	2	30
JASPER	0	0	0	1	3	4	0	0	8
JEFFERSON	1	1	13	20	1	20	0	0	56
JEFFERSON DAVIS	2	6	0	0	5	4	0	0	17
JONES	0	6	0	2	1	3	1	1	14
KEMPER	3	5	0	4	7	14	1	0	34
LAFAYETTE	2	2	0	1	3	0	1	0	9
LAMAR	0	0	0	2	2	0	0	0	4
LAUDERDALE	0	1	0	5	2	7	0	0	15
LAWRENCE	0	3	3	5	4	11	10	0	36
LEAKE	1	0	3	6	6	6	1	1	24
LEE	1	2	1	6	4	3	2	3	22
LEFLORE	2	1	0	8	5	2	0	2	20
LINCOLN	3	6	5	12	7	10	0	0	43
LOWNDES	0	0	0	0	2	2	0	0	4
MADISON	1	0	0	2	4	5	0	1	13
MARION	0	2	2	2	8	0	0	0	14
MARSHALL	5	7	0	1	4	2	2	2	23
MONROE	0	1	0	5	8	1	3	1	19
MONTGOMERY	0	0	0	1	1	0	0	0	2
NESHOBA	0	1	0	1	1	0	0	2	5

Table A14 Contiinued: Citations Summary for Most Frequent and Total Deer-Related Violations By County During 2017–2018									
County	Headlighting Deer	Hunting from Public Road	No Hunt License - Non-Resident	No Hunter Orange	No Hunt License -Resident	Supplemental Feed	Trespassing	Undersized Antlers	Total
NEWTON	1	5	0	1	5	8	3	0	23
NOXUBEE	3	3	0	0	0	0	0	0	6
OKTIBBEHA	0	1	0	8	3	0	0	0	12
PANOLA	7	8	0	3	5	1	6	1	31
PEARL RIVER	3	7	4	2	5	0	0	1	22
PERRY	1	42	1	0	11	0	0	0	55
PIKE	1	3	0	4	4	1	2	0	15
PONTOTOC	0	2	0	3	8	3	1	1	18
PRENTISS	0	5	0	2	4	3	1	0	15
QUITMAN	13	10	1	4	6	7	12	2	55
RANKIN	0	2	0	3	4	2	2	0	13
SCOTT	0	2	0	7	6	6	1	2	24
SHARKEY	0	0	0	0	2	1	0	1	4
SIMPSON	2	6	0	1	1	0	0	0	10
SMITH	0	1	0	1	3	0	0	0	5
STONE	5	6	1	0	4	1	0	0	17
SUNFLOWER	0	2	0	1	3	0	1	0	7
TALLAHATCHIE	7	12	1	0	6	0	5	5	36
TATE	2	11	0	2	5	1	0	2	23
TIPPAH	5	4	1	5	4	0	8	4	31
TISHOMINGO	0	1	0	0	2	0	1	0	4
TUNICA	0	0	1	0	0	1	1	0	3
UNION	0	3	0	0	0	0	0	0	3
WALTHALL	2	2	3	8	4	11	0	0	30
WARREN	0	0	0	0	0	0	1	0	1
WASHINGTON	0	0	0	1	0	3	0	0	4
WAYNE	2	9	1	1	6	0	1	0	20
WEBSTER	0	0	0	0	4	4	2	0	10
WILKINSON	0	1	9	3	1	5	0	0	19
WINSTON	0	1	2	7	7	8	0	0	25
YALOBUSHA	0	1	1	2	2	0	1	4	11
YAZOO	0	0	2	1	5	0	0	1	9
Total	**148**	**287**	**94**	**245**	**340**	**260**	**109**	**69**	**1552**

For the purposes of this report, a hunting accident includes an injury to a person(s) by the discharge of a hunting weapon or during the maneuvering of a treestand while engaged in the activity of hunting. Unlike treestand accidents, firearm accidents require mandatory reporting, allowing MDWFP to monitor trends in firearm accidents. Due to the lack of mandatory reporting for treestand accidents, the numbers reported here for treestand accidents are likely underestimated.

There were 17 total hunting related accidents investigated in Mississippi during the 2017–2018 hunting season representing a slight decrease from the 2016–2017 hunting season.

Of the accidents occurring during the 2017–2018 season, 13 were firearm related, and 4 were treestand related (Figure A10). A majority of hunting accidents occurred while deer hunting (Figure A8).

Hunting accidents in Mississippi average about 10 injuries per 100,000 participants. For comparison, football averages around 3,500 injuries per 100,000 participants. Based on relative rates of injury, hunting may be considered a very safe sport.

Without question, the most important component of accident prevention is education. Volunteer instructors and Conservation Officers certified 8,917 sportsmen in Hunter Education during the 2017–2018 season (Figure A9). For more information about hunter safety and Hunter Education, including dates for classes in your area, visit www.mdwfp.com.

While treestand-related injuries appear to be on a declining trend, MDWFP urges outdoorsmen to remain cautious.

- Learn and use proper treestand safety.
- Always use a full-body harness.
- Maintain connection to the tree from the time you leave the ground until you return (life-lines are a great option for fixed-position stands).
- Read all instructions that come with any treestand or treestand related product.
- Watch the treestand safety video that comes with all Treestand Manufacturers Association (TMA) certified treestands/harnesses.
- Learn what the TMA does and how products are tested/certified.
- Remove all stands from the woods each year and store stands out of the weather.
- Inspect treestands and safety equipment each time they are used.
- Store harnesses indoors and out of the weather.
- Carry and know how to use the suspension relief device (SRD) supplied with every TMA certified harness.
- Practice suspending from a TMA certified harness at ground level (with another responsible adult supervising) and deploy the SRD to understand how it feels to be suspended and use the SRD.
- Make a plan before each hunt that includes letting someone know where you will be hunting.
- Be sure to carry an emergency signal device (cell phone or whistle attached to harness).
- Never use tree limbs to climb.
- Use a lineman's belt and the supplied tree strap while hanging a fixed-position stands.
- Always connect the bottom and top sections of a climbing stand and practice retrieving a lost bottom section (at ground level, with supervision, while wearing a harness).
- Be a good example for other hunters by always wearing a harness while hunting in an elevated position.

Figure A8: Hunting Accidents by Species Hunted

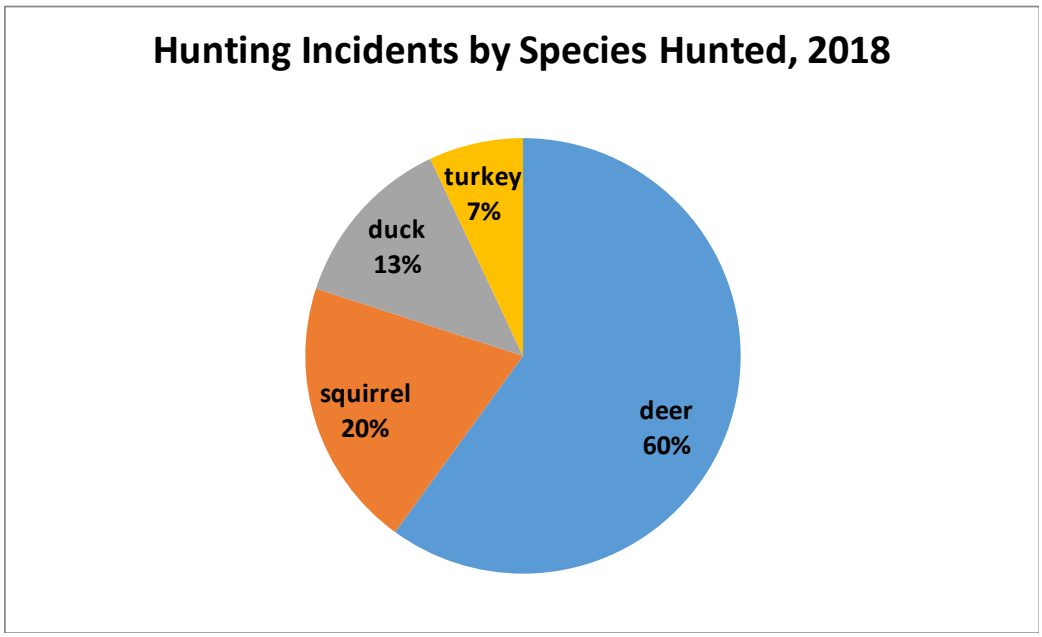
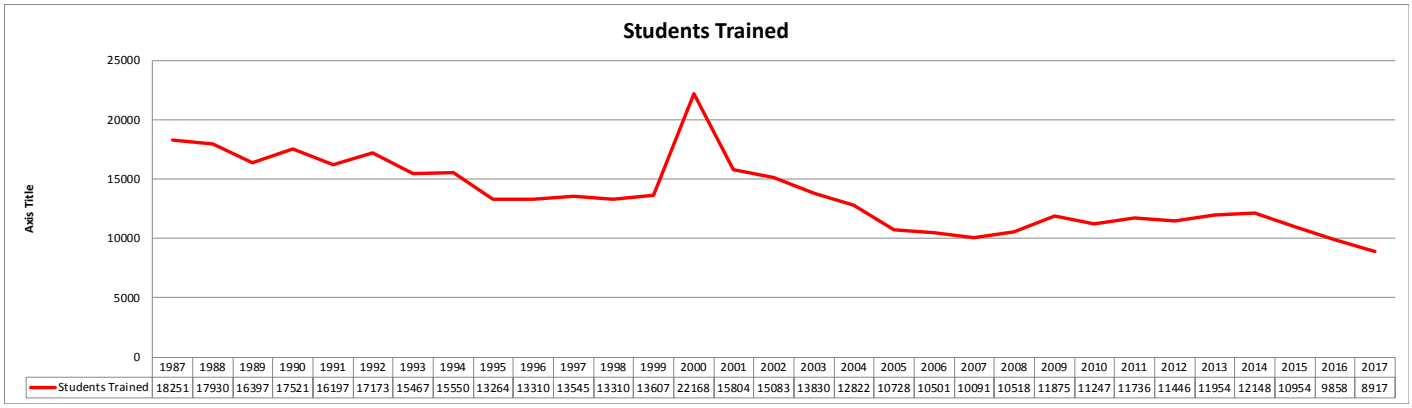
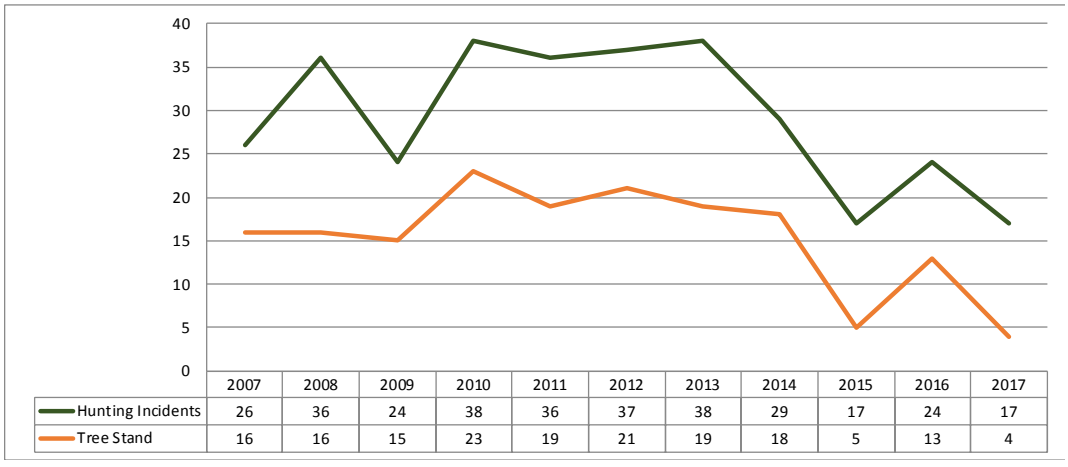


Figure A9: Students Trained



	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Students Trained	18251	17930	16397	17521	16197	17173	15467	15550	13264	13310	13545	13310	13607	22168	15804	15083	13830	12822	10728	10501	10091	10518	11875	11247	11736	11446	11954	12148	10954	9858	8917

Figure A10: Total Hunting Related Accidents-10 Year Trend



	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Hunting Incidents	26	36	24	38	36	37	38	29	17	24	17
Tree Stand	16	16	15	23	19	21	19	18	5	13	4

Movement Realities Explain What Happened to "Your Buck"

Ashley Jones, Colby Henderson,Steve Demarais, Garrett Street, Bronson Strickland, and William McKinley

Hunters often identify bucks and pattern their movements using trail cameras in the hopes of a future harvest. Your effort to harvest "your buck" may be frustrated when they never see him again or learn of his harvest some distance away. Using GPS collars on adult bucks, we are generating new knowledge about their bewildering movements. It turns out that shifts in location are a normal part of their annual cycle. Our data collection runs through February 2019, but results from 43 bucks that generated locations during the 2017–18 hunting season show some interesting patterns.

Bucks exhibit two major types of movement during hunting season. First, adult bucks express "personality" types in how they move—we call one a "sedentary personality" and the other a "mobile personality." About two thirds of adult bucks are "sedentary" and live within a sprawling single area—two examples are in Figure 1. The other third of adult bucks are "mobile" and live in two distinct areas separated by 1-3 miles; mobile bucks have two home ranges with a connecting pathway (Figure 2). Regardless of personality type, almost all bucks shift localized areas of use during the hunting season. Look at the color patterns in both figures and note the shift in the areas occupied from October (red) through January (blue).

This new knowledge helps explain why that buck you patterned so well during October suddenly disappeared. We hope to understand the why behind buck movements after data collection is complete in March 2019. In the meantime, realize that adult bucks make significant movements across the landscape and that your hunting success will require large amounts of effort and skill tempered with some luck! Mississippi Department of Wildlife, Fisheries, and Parks supports this research by the MSU Deer Lab using Federal Aid to Wildlife Restoration funds.

Figure 1. Hunting season locations of two "Sedentary Bucks"

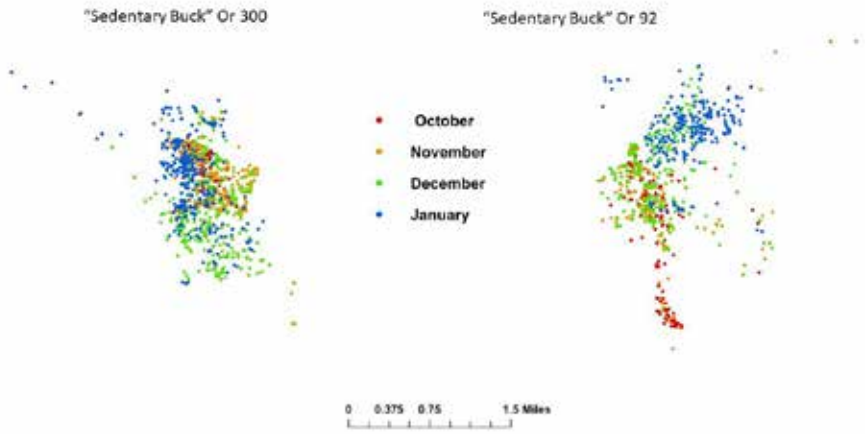
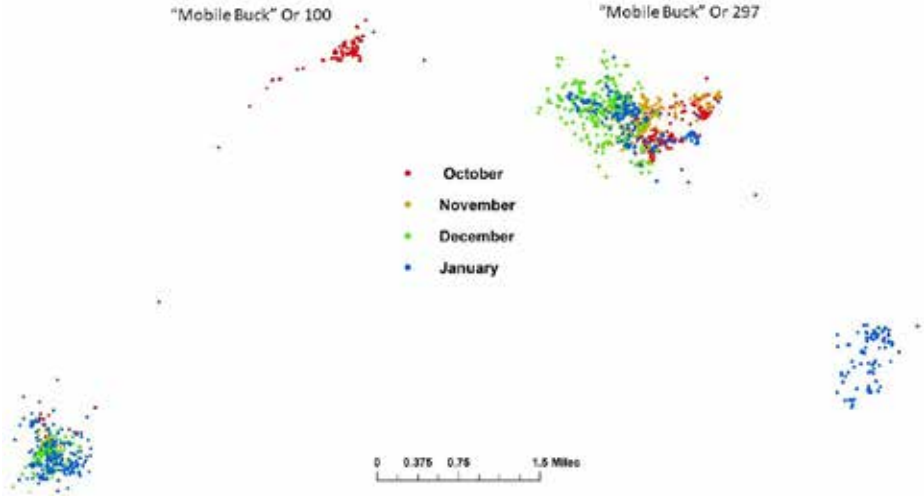


Figure 2. Hunting season locations of two "Mobile Bucks"



Determining the Genetic Origin of the CWD-Positive Buck

Jordan Youngmann, Steve Demarais, Randy DeYoung, Bronson Strickland, and William McKinley

One of the first questions asked about the buck that was positive for Chronic Wasting Disease was, "where did he come from?" To answer this question, we compared his DNA to several deer populations. We used DNA from 2 nearby free-ranging populations, one 20 miles away at Sunflower Wildlife Management Area in Sharkey County, MS and one 30 miles away at Tensas National Wildlife Refuge in Madison Parish, LA. We also included genetic material from a breeding pen population about 50 miles away in Louisiana. This facility was not suspected of being the origin of the CWD-positive buck but we included it to represent captive, genetically-manipulated deer. Finally, we included a free-range population from 375 miles away in Oklahoma to provide geographic scope to our analysis.

A complex statistical analysis of their DNA showed that each of the four populations were relatively unique, represented by different color codes: >95% blue for 30 deer from Oklahoma; 100% yellow for 33 deer from the breeding pen; about 95% green for 30 deer from Tensas NWR; and 90% red and 10% green for 20 deer from Sunflower WMA. The CWD-positive buck was 80% red and 15% green, which most closely matches deer from Sunflower WMA (Figure 1). These findings tell us two things: the CWD-positive buck was not a direct descendant from a breeding pen and it was generally similar in genetic makeup to deer from nearby Sunflower WMA.

This analysis does not allow us to determine where the CWD buck originated. Importantly, these results do not mean that the buck and CWD originated on Sunflower WMA! It just means that of the four populations used in the comparison, the buck's DNA most closely resembled deer from Sunflower WMA. We conclude that this buck originated within the lower Delta region, but we can't be more specific at this time. It could have originated near where it died, or it could have moved there from a birth area miles away. Additional sampling within the lower Delta region may allow us to determine the geographic source of the disease.

Our genetic analyses also do not allow us to determine how CWD arrived in Mississippi. We may never know that answer, but further sampling will determine if there are additional cases of CWD-positive animals. If additional positive animals are discovered, the MSU Deer Lab and partners will evaluate their genetic composition, which may inform management decisions. This cooperative effort by Mississippi Department of Wildlife, Fisheries, and Parks, Mississippi State University Deer Lab, and Texas A&M-Kingsville is supported by Federal Aid to Wildlife Restoration funds.

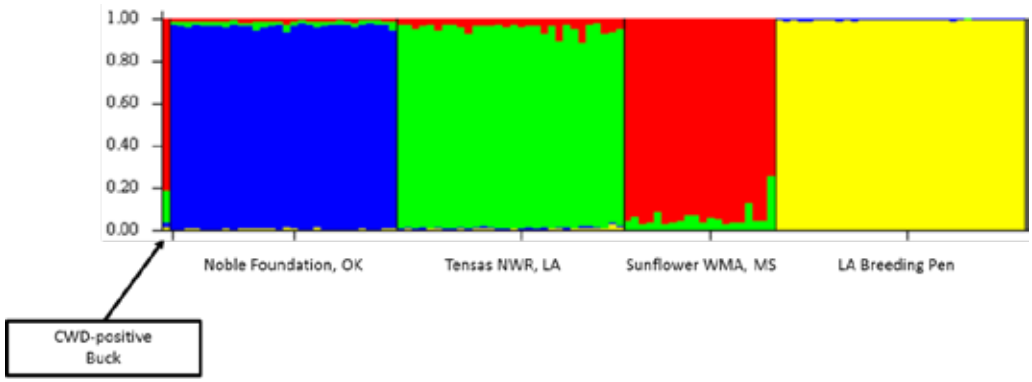


Figure 1. Statistical clustering showing relative genetic composition of 113 deer. The 4 populations are clearly different while the CWD-positive buck most closely matches deer from Sunflower WMA (green).

Development of Deer Management Support Tools and Outputs

Phil Jones, Steve Demarais, Bronson Strickland, and William McKinley

Mississippi is a leader in deer management because we develop new management tools and target research to address important topics. We are currently addressing two such deer management topics related to annual variations in drought across the state and regional flooding along the Mississippi River. Understanding how drought and flood variations affect deer populations will inform deer management decisions in the years to come.

Drought severity can vary greatly from year to year, and even across regions within the state (Figure 1). Drought-related changes to habitat quality may affect herd health, which may require adjustment to harvest recommendations. However, first we need to quantify how drought timing, length, and severity affect deer body and antler size and fawn recruitment. To address this need we will use over 30 years of DMAP data collected on hundreds of properties across the state. Understanding drought-related changes in herd characteristics will allow managers to make appropriate adjustments in harvest recommendations.

Figure 1: **Drought Severity**

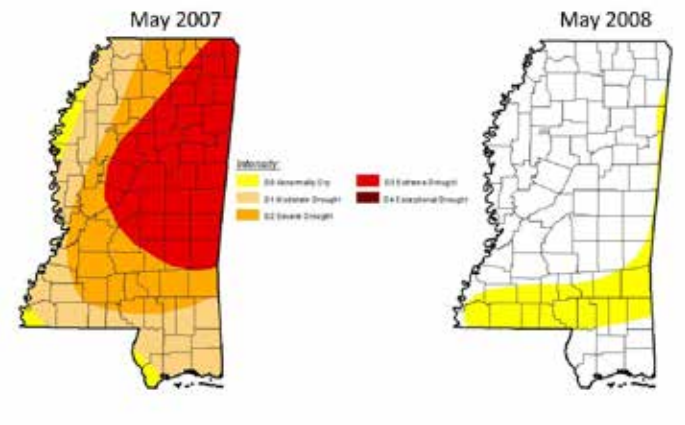


Figure 1. Drought severity varies across the state and between years, as exemplified by these drought severity maps from 2007 and 2008.

Flooding along the Lower Mississippi River Valley varies dramatically from year to year and appears to have increased in frequency in recent years (Figure 2). The "Batture region," the land between the levees on each side of the river, is highly productive deer habitat but we need to understand how deer populations respond to variations in flooding intensity. To address this need, we are analyzing 61 Batture properties in MS, LA, and AR. Using 30 years of DMAP data, we will determine how the timing and duration of flooding, weather, and crop availability affect deer body weight, reproduction, and antler development. Our results will help managers to predict impacts on Batture herds and communicate expectations to hunters, allowing accurate and precise adjustments to management recommendations.

Figure 2: **Springtime Flooding Intensity**

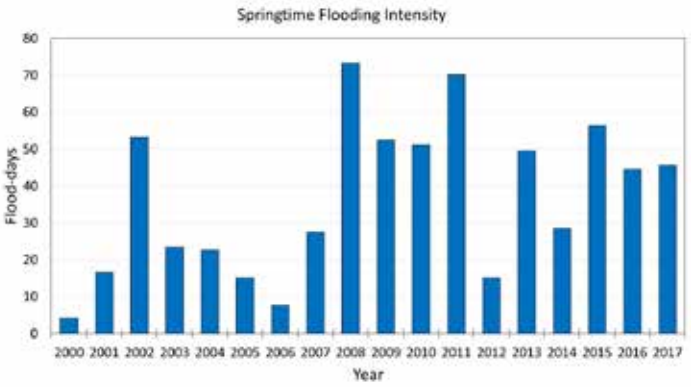


Figure 2. Flooding intensity along the Mississippi River varies substantially across years. Variation in spring flooding intensity strongly influences both reproductive success and antler growth.

Our flooding analysis is a cooperative venture by the state wildlife agencies in Mississippi, Louisiana and Arkansas, Delta Wildlife, and Mississippi State University Deer Lab. These and the drought analyses are supported by Federal Aid in Wildlife Restoration Funds.

Effects of Prescribed Fire Timing on Deer and Turkey Habitat

Rainer Nichols, Steve Demarais, Marcus Lashley, Rick Hamrick, John Gruchy, and Bronson Strickland

Land managers have traditionally conducted prescribed burning between the end of deer season and the beginning of turkey season, which we call "dormant" or "cool season" burning. Such burning within thinned pine stands dramatically improves habitat quality for deer and turkey. However, significant declines in deer forage quality during the summer combined with increasing nutritional requirements for fawn production and antler growth creates a "seasonal mismatch." Nature's historical fire season occurs during summer thunderstorms when lightening strikes were most frequent. This type of fire is called a "growing season" burn fire and occurred after turkey nests were hatched so there was no potential damage to poult survival. Subsequent regrowth of plants resulted in high quality deer forages produced at the same time as increasing deer nutritional needs, which may explain why fawning dates are so late in the Southeast.

We think a combination of dormant season and growing season burns will optimize habitat quality for deer and turkey. We will test our theory about when best to conduct prescribed burning during 2018–2020. We will compare deer and turkey habitat quality within nine thinned pine stands where we left 1/3 unburned, burned 1/3 during the dormant season (February to mid-March), and burned 1/3 during the growing season (June). Mississippi Department of Wildlife, Fisheries, and Parks supports this research using Federal Aid to Wildlife Restoration Funds.

Rick Small

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2017–2018 Phone Survey Data

Each year MDWFP conducts a phone survey through Responsive Management. The survey provides the agency with metrics about hunter participation and success. Information from the survey allows the agency to gauge trends in hunting pressure as well as hunter success within each season. Results of the survey can be separated by resident or non-resident, weapon category, county, and species hunted.

Resident Hunter Survey Results

Tables 24 & 25 display the deer harvest results from the 2017 and 2018 Survey of Mississippi Resident and Non-resident Hunters.

Total resident deer hunters by user group (gun, archery, and primitive weapons) are shown in Figure A11. Archery, primitive weapons, and gun hunter numbers decreased. The overall number of hunters decreased by 15%.

Deer hunting man-days by user group are shown in Figure A12. A long-term evaluation of hunter man-days reveals a declining trend from the mid-1980s till around 2009. The 2017–2018, demonstrated man-day declines of 12%, 14%, and 11% for archery, primitive weapons, and gun hunters, respectively.

Total resident deer harvest for the 2017–2018 season is depicted in Figure A13. This graph includes the combined harvest of bucks and does from archery, primitive weapon, and gun deer seasons. Total resident deer harvest in the 2017–2018 season decreased by 53,445 (i.e., 24%) compared to the 2016–2017 season (Table 26). The percentage of successful hunters declined from 65% to 62.9%. The average seasonal harvest dropped slightly from 1.79 to 1.6 deer per hunter.

Archery and primitive weapon hunters harvested 32% of total harvest and 38% of total doe harvest. Archery and primitive weapon hunters, on average, harvested 1.6 does per buck. On average it took archery hunters 21.6 days, primitive weapons hunters 21.2 days, and gun hunters 17.7 days to harvest a deer. These averages all increased from the 2016–2017 season.

Non-Resident Hunter Survey Results

Total non-resident hunter numbers increased by 28% from the 2016–2017 to the 2017–2018 season (Table 26, Figure A14). Buck harvest increased by 14% and doe harvest increased by 11% (Figure A15). Man-days decreased for archery and primitive seasons and increased for gun season (Figure A16). Non-resident success rates decreased as a whole from the 2016–2017 season.

2017–2018 Summary (Resident and Non-Resident Combined)

The total number of deer harvested decreased by 49,820 deer from the 2016–2017 season. Last season was the lowest deer harvest since MDWFP began surveying hunters in 1976. A total of 132,112 deer hunters spent 3,310,774 man-days deer hunting and harvested 95,111 bucks and 99,449 does, for a total of 194,560 deer. It took an average of 17 man-days per deer harvested. Hunters spent an average of 18 days gun hunting, 9.6 days primitive weapons hunting, and 15 days archery hunting during the season.

Table 24: 2017–2018

	Total Harvest			Total Hunters			Average Seasonal Harvest		Total Mandays			Percent Successful Hunters		DPH
	R	NR	Total	R	NR	Total	R	NR	R	NR	Total	R	NR	
Total Deer	171,839	23,136	194,975	108,797	23,315	132,112	1.60	1.00	2,967,320	343,454	3,310,774	62.9	51.5	1.49
Buck	84,470	10,642	95,112									43.9	33.1	
Doe	86,954	12,495	99,449									46.3	33.1	
Archery Total	31,780	3,647	35,427	45,755	6,457	52,212	0.70	0.60	686,215	65,283	751,498	39.8	30.6	0.69
Buck	11,905	1,853	13,758									16.3	15.7	
Doe	19,668	1,793	21,461									31.4	17.6	
Primitive Total	22,463	2,511	24,974	43,891	5,799	49,690	0.50	0.40	432,702	44,359	477,061	32.8	27.8	0.49
Buck	9,317	897	10,214									15.6	12.4	
Doe	13,043	1,614	14,657									22.4	18.6	
Gun Total	117,596	16,978	134,574	95,546	20,207	115,753	1.20	0.80	1,848,403	233,812	2,082,215	57.1	48.5	1.13
Buck	63,249	7,891	71,140									40.2	30.2	
Doe	54,243	9,087	63,330									35.9	29.6	

R: Resident *NR: Non-Resident* *DPH: Deer Per Hunter*

Table 25: 2016–2017

	Total Harvest			Total Hunters			Average Seasonal Harvest		Total Mandays			Percent Successful Hunters		DPH
	R	NR	Total	R	NR	Total	R	NR	R	NR	Total	R	NR	
Total Deer	225,284	19,511	244,795	125,591	16,739	142,330	1.79	1.16	3,360,357	339,936	3,700,293	65.0	56.6	1.72
Buck	91,321	8,837	100,158				0.73	0.50				42.1	35.4	
Doe	133,498	11,124	144,622				1.06	0.66				50.0	37.7	
Archery Total	41,825	3,228	45,053	50,305	6,352	56,657	0.82	0.50	781,849	75,237	857,086	39.2	26.0	0.78
Buck	11,574	1,193	12,767				0.23	0.19				15.2	13.9	
Doe	29,679	1,965	31,644				0.59	0.31				32.8	16.6	
Primitive Total	31,856	2,176	34,032	49,961	5,685	55,646	0.63	0.40	500,759	46,778	547,537	36.2	24.7	0.61
Buck	10,772	632	11,404				0.22	0.10				13.7	9.9	
Doe	20,626	1,544	22,170				0.41	0.30				26.6	19.1	
Gun Total	153,322	14,318	167,640	109,548	14,353	123,901	1.39	0.98	2,077,749	217,921	2,295,670	58.7	51.6	1.34
Buck	68,983	6,562	75,545				0.63	0.45				42.1	31.3	
Doe	83,192	7,615	90,807				0.76	0.53				40.0	31.5	

R: Resident *NR: Non-Resident* *DPH: Deer Per Hunter*

2017–2018 Phone Survey Data

Table A17: Change from 2016–2017 season to 2017–2018 season														
	Total Harvest			Total Hunters			Average Seasonal Harvest		Total Mandays			Percent Successful Hunters		DPH
	R	NR	Total	R	NR	Total	R	NR	R	NR	Total	R	NR	
Total Deer	-53,445	3,625	-49,820	-16,794	6,576	-10,218	-0.19	-0.16	-393,037	3,518	-389,519	-2.1	-5.1	-0.22
Buck	-6,851	1,805	-5,046				-0.73	-0.50				1.8	-2.3	
Doe	-46,544	1,371	-45,173				-1.06	-0.66				-3.7	-4.6	
Archery Total	-10,045	419	-9,626	-4,550	105	-4,445	-0.12	0.10	-95,634	-9,954	-105,588	0.6	4.6	-0.10
Buck	331	660	991				-0.23	-0.19				1.1	1.8	
Doe	-10,011	-172	-10,183				-0.59	-0.31				-1.4	1.0	
Primitive Total	-9,393	335	-9,058	-6,070	114	-5,956	-0.13	0.00	-68,057	-2,419	-70,476	-3.4	3.1	-0.12
Buck	-1,455	265	-1,190				-0.22	-0.10				1.9	2.5	
Doe	-7,583	70	-7,513				-0.41	-0.30				-4.2	-0.5	
Gun Total	-35,726	2,660	-33,066	-14,002	5,854	-8,148	-0.19	-0.18	-229,346	15,891	-213,455	-1.6	-3.1	-0.21
Buck	-5,734	1,329	-4,405				-0.63	-0.45				-1.9	-1.1	
Doe	-28,949	1,472	-27,477				-0.76	-0.53				-4.1	-1.9	

R: Resident *NR: Non-Resident* *DPH: Deer Per Hunter*

Figure A11: Total Deer Hunters - Resident

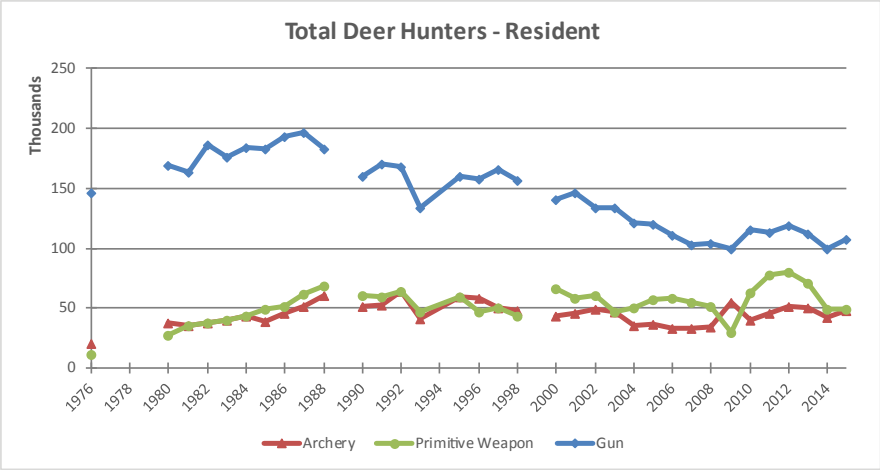

Figure A12: Total Man-Days - Resident

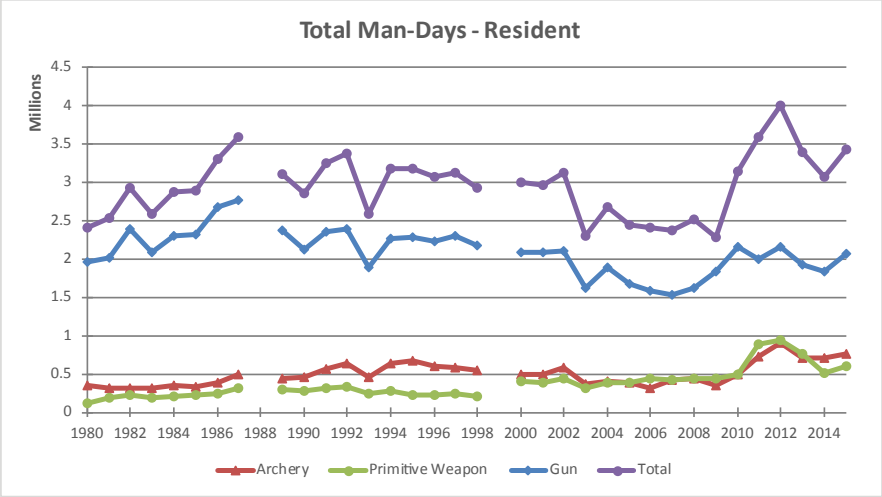

Figure A13: Total Deer Harvest - Resident

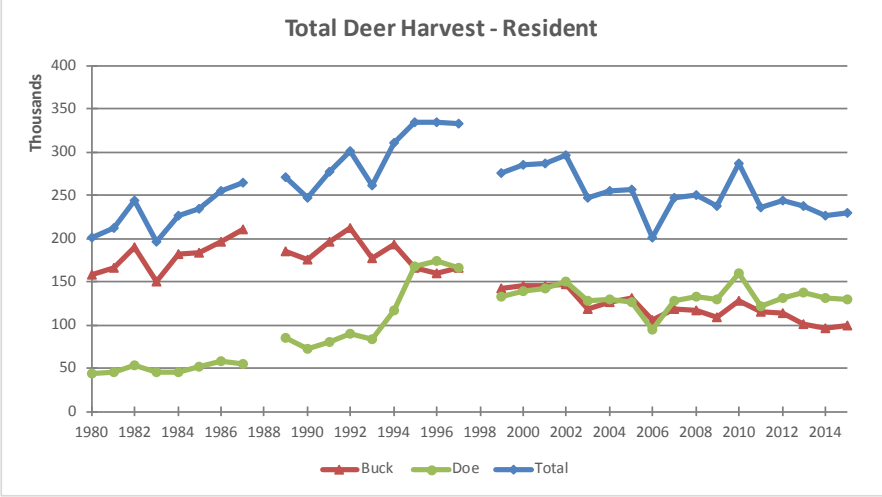

Figure A14: Total Deer Hunters - Non-Resident

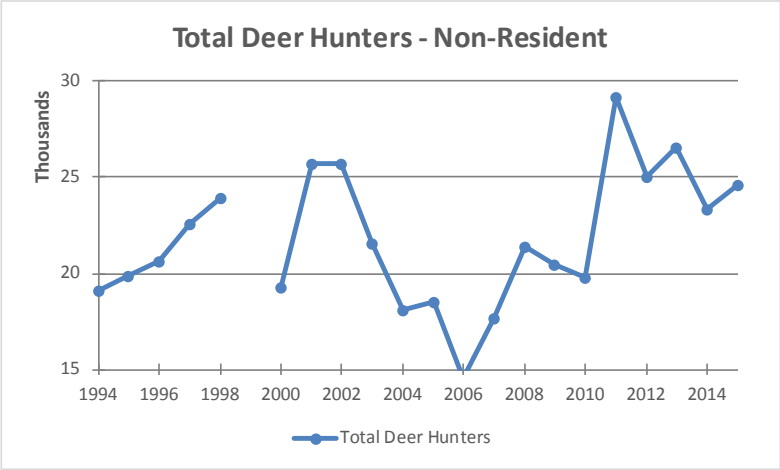

Figure A15: Total Deer Harvest - Non-Resident

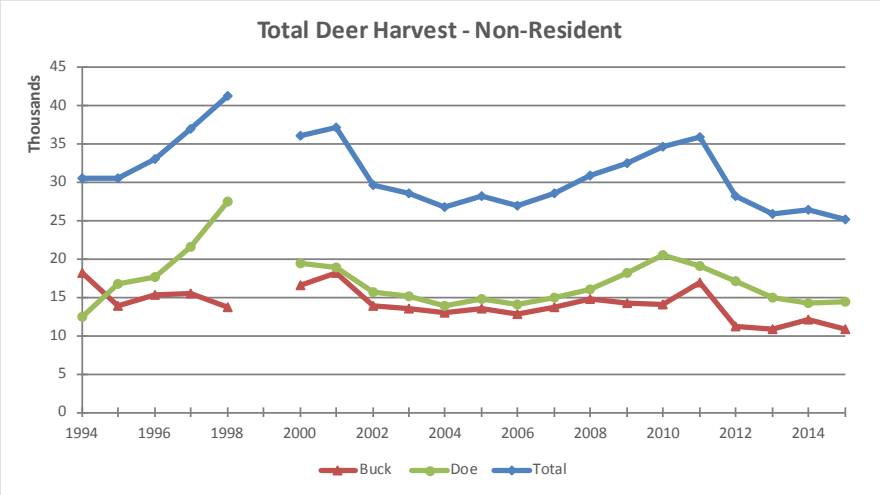

Figure A16: Total Man-Days - Non-Resident