

# **Louisiana Deer Report**

2017 - 2018

LDWF Wildlife Division

August 23, 2018

## **Introduction**

The Louisiana deer program is administered by the Office of Wildlife and implemented through 6 field offices where wildlife biologists and technicians perform year around research and management activities on public and private lands. Season dates and bag limits for private lands are set at the Deer Management Area (DMA) level. Louisiana is currently divided into 10 deer management areas (DMAs, Figure 1). In addition, Wildlife Management Areas (WMA) and other public lands within Louisiana have independent season dates and regulations.

Seasons are set according to general breeding periods, biological indices, habitat productivity, and landscape features. The statewide deer limit is 6 per season, not to exceed 3 antlered or 4 antlerless per season EXCEPT Deer Areas 4 and 10 with a 3 deer limit/season (not to exceed 2 antlered or 2 antlerless deer). Antlerless deer may be taken during the entire season in DMAs 1, 2, 3, 4, 7, 8 and 10. Antlerless hunting is limited to designated days in DMAs 5, 6, and 9. Daily bag limits are 1 antlered and 1 antlerless when legal.

All deer harvested in Louisiana must be reported through the license reporting system, wildlife management area (WMA) weigh stations (if required), or the Deer Management Assistance Program (DMAP). Harvest data is instrumental in the development of deer season regulations. The license reporting system provides male and female harvest rates at the parish and DMA levels. Additional harvest and participation data is gathered through the annual mail survey which is covered later in this report.

The biggest deer news in 2018 involved Mississippi when earlier in 2018, they became the 25<sup>th</sup> state to detect chronic wasting disease. The positive white-tailed deer was discovered 5 miles east of Louisiana, which set off a major response by both states. The response and findings will be covered in the Disease Section of this report.

## **Major Changes 2018-19**

Major changes for the 2018-19 season include shifting the boundary between DMA 4 and 6; along with an earlier opening and closing date for DMA 7 archery season. The boundary change between DMA 4 and 6 will move all of West Feliciana Parish into 6. Harvest and habitat data evaluated for lands east and west of Highway 61 in West Feliciana Parish revealed no significant difference. Furthermore, the data evaluated fit more closely with data collected from DMA 6 than 4. As a result, hunters in West Feliciana will return to a 6 deer limit during the 2018-19 season. Similarly, the shift in archery dates in Area 7 was based on the assessment of biological data. The earlier shift will bring the opening and closing dates for archery in line with DMAs 3, 8 and 10. All four areas with the earlier archery season share the earliest

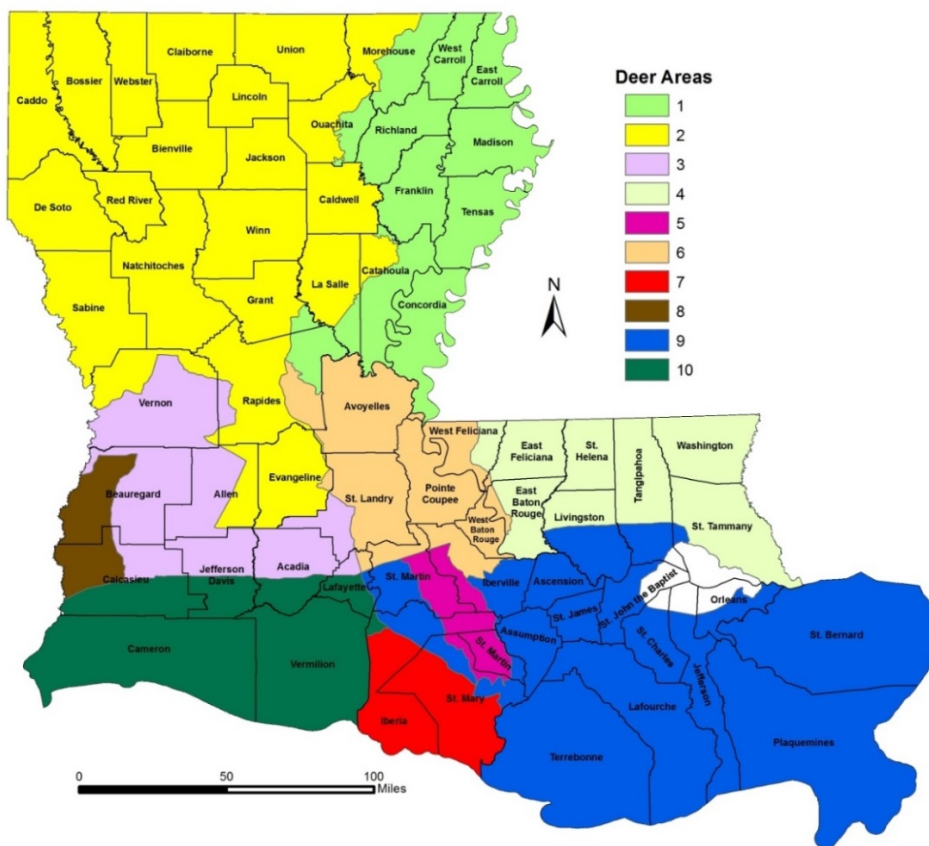
conception dates in the state. The shift will increase opportunity for hunters in advance of the peak of breeding. Both changes received favorable public comment during the season setting process.

### **Reminders**

Louisiana implemented Cervid carcass import regulations in March 2017. The new regulation is aimed at reducing the potential for introduction of Chronic Wasting Disease (CWD) into Louisiana. The new regulation includes all members of the family *Cervidae* including but not limited to white-tailed deer, mule deer, elk, moose, caribou, fallow deer, axis deer, sika deer, red deer and reindeer. Exceptions include deboned meat, packaged meat, quarters without any part of the head or backbone, antlers, clean skull plates with antlers, cleaned skulls without tissue attached, capes, tanned hides, finished taxidermy mounts and cleaned cervid teeth. Please visit the LDWF website for additional information.

<http://www.wlf.louisiana.gov/hunting/deer> **Deer Management Areas**

Figure 1. Louisiana Deer Management Areas, 2017-18. Note: the map illustrates deer management areas for the previous season and does not reflect the changes in place for 2018-19.



## **Lactation**

DMAP lactation rates in 2015 were below 50% statewide in all but one physiographic region (Historic Longleaf). 2016 rates were back above 50% in 6 of the 8 physiographic regions but still below long term averages. The 2017-18 closely followed the recovery from the previous season with 7 of 8 physiographic regions above 50% lactation. Despite improvements in the overall average, harvest recommendations will be adjusted for DMAP cooperators with recruitment concerns. In addition, monitoring of regional productivity will continue to be considered when making future season recommendations.

Abundant and steady rainfall provides the soil moisture necessary for plant growth and good growing conditions for natural forages. The spring and summer months are critical to females due to the high nutritional demands of fetal development and lactation. Timely rainfall and adequate habitat provide the new plant growth needed to meet the high protein and energy requirements to raise fawns. We experienced abundant rainfall through the spring followed by timely rains over much of the state during the early summer of 2018.

## **Feral Hogs**

Feral hogs continue to be a primary concern. Hog populations affect deer numbers through direct competition for food resources, social stress, and disease transmission. Hogs carry infectious diseases such as Leptospirosis, brucellosis, and pseudo-rabies. Wildlife veterinarians are studying the impacts of these diseases on wildlife species. The mail survey hog harvest estimate was 216,900, which is significantly more than the recorded deer harvest.

## **Areas of Concern**

Areas of concerns for the statewide deer populations continue to be:

Lactation rates below long term averages

The growing threat of Chronic Wasting Disease

Feral hog transport and feral hog disease issues

Landscape scale factors:

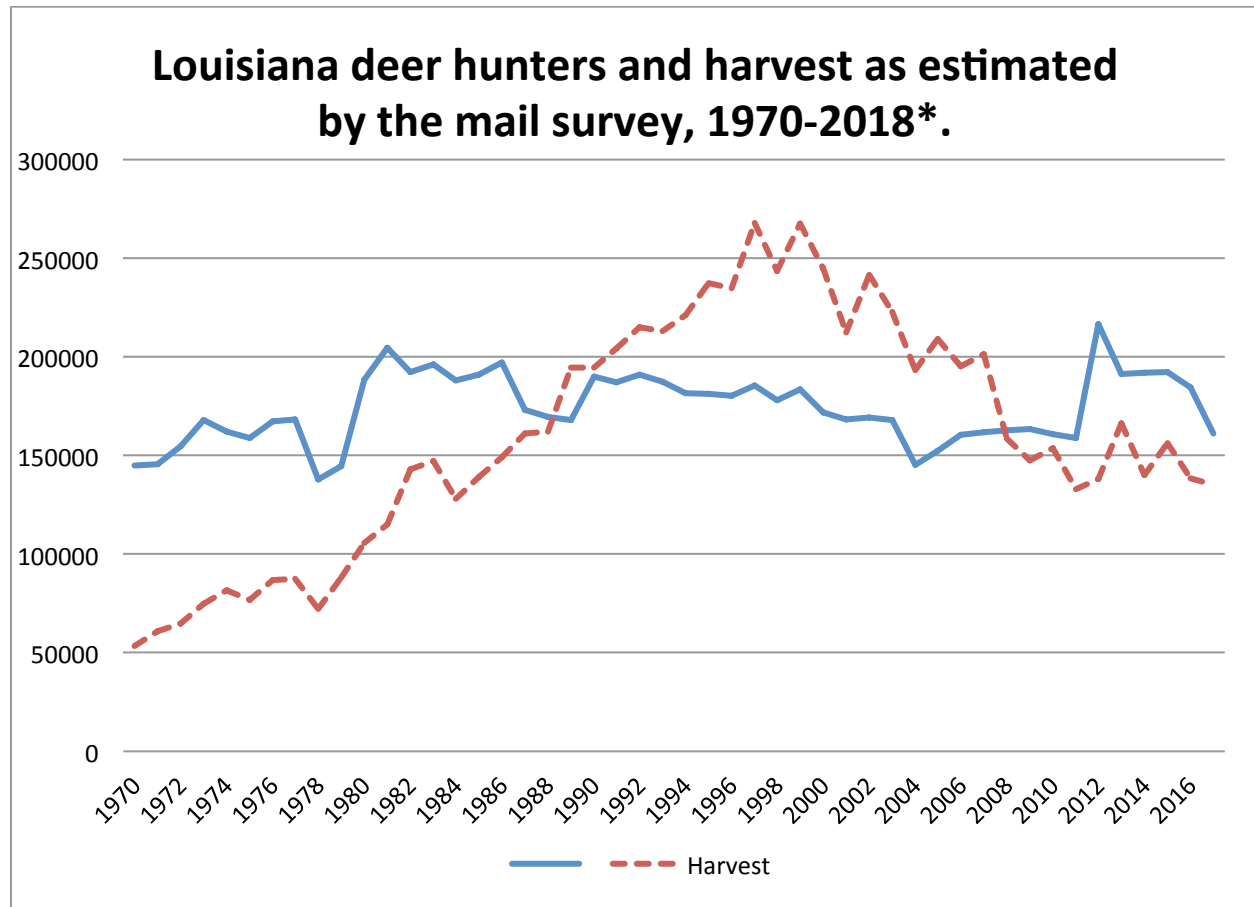
Residential, commercial, and energy development

Fragmentation/Exurbia

## **Mail survey**

A 6% sample of licensed hunters receives a harvest survey by mail. Participants return the survey and data is compiled. The mail survey index for hunters and harvest for the 2017/18 season is 161,200 (-12.6%) and 135,100 (-2%) respectively.

For the second year, the annual mail survey was accompanied by an email survey. The objective is a lower cost survey with an increased sample size. Similar to the mail survey, recipients are pre-selected at random. Initial reporting is encouraging. It appears at the least, sample size has greatly increased. In addition, the cost is substantially less due to the electronic format vs. the hard copy mailing. A comparison of the two survey systems and the cost of each will be compared in future reports. Figure 2. Mail survey estimate of Louisiana deer hunters and deer harvested, 1970-2018.



\*= 2012 mail survey forward estimates for hunters and harvest include senior hunters (hunters >60).

The harvest allocation by weapon type (Table 1.) reveals that modern weapons are still by far the most popular method for harvesting deer in Louisiana. The percentage of harvest by weapon type has been stable in recent years.

Weapon	Harvest	%
modern gun	109,500	81%
primitive	16,200	12%
bow	6,300	5%
crossbow	3,100	2%
Totals	135,100	

Internet/phone reporting results/total reported harvests

The total reported harvest of 86,779 (60% buck / 40% doe) was a 26% increase (33% increase from reporting system) from the previous season. Last season’s reported harvest was the highest reported harvest in the past 7 seasons. While, compliance is believed to be a factor in the initial decline, improved compliance could help explain last season’s increase. More analysis is needed to confirm the discrepancy between the mail and reported harvest. 2017/18 marked the 10<sup>th</sup> season for mandatory tagging and reporting.

Table 2. Combined reporting data from all sources.

Year	Private	Public	WMA managed	DMAP	Total
2008/09	87,237	8,481	2,877	17,976	116,571
2009/10	78,444	9,035	2,335	17,641	107,455
2010/11	74,346	9,742	3,004	17,740	104,832
2011/12	53,860	5,596	2,526	14,396	76,378
2012/13	46,814*	na	2,425	14,039	63,278
2013/14	51,319*	na	2,713	14,956	68,988
2014/15	41,563	6,735	2,655	14,128	65,081
2015/16	50,634	7,845	1,279	13,416	73,174
2016/17	46,237	6,952	2,544	13,096	68,639
2017/18	62,021	8,480	2,344	13,744	86,779

\*=combined public and private

In addition to the reported harvest, we have tracked the number of deer tags issued dating back to 2008. While the number is not representative of active deer hunters, it has shown a trend over the past ten years. More deer tags were issued in 2017-18 than for any other season. The number of tags per year is listed in Table 3 below.

Year	Tags		
2008-09	227,001		
2009-10	231,935		
2010-11	224,725		
2011-12	253,669		
2012-13	259,824		
2013-14	270,730		
2014-15	273,541		
2015-16	276,561		
2016-17	271,695		
2017-18	278,968		

**Mail survey vs. reporting system harvest**

The mail survey deer harvest index has been higher than the reporting system total harvest (Table 4). Unlike the previous 4 seasons, the total reported harvest and mail survey harvest did not complement one another in 2017-18 (Table 4). The total reported harvest consists of DMAP, WMA managed hunts and the license tag reporting system. While reported harvest was up, mail survey respondents reported a lower harvest than the previous season.

Both sources of data serve important and complimentary roles. The mail survey index is best used to monitor trends over time, since it utilizes a consistent format and sampling distribution. It provides statewide harvest and deer hunter numbers. However, it has limited application at the parish scale due to sample size. Conversely, the reporting system provides percent buck and doe at the parish level. In addition, the number of successful hunters harvesting between 1 and 6 deer can be determined for the first time. When used in combination, trends can be assessed at the state, parish and deer management area.

Table 4. Reporting system vs. mail survey index, 2008-2018

	(all sources*)	%Diff.	harvest index	%Diff.
2008/09	116,571	na	158,300	-21%
2009/10	107,455	-8%	147,300	-7%
2010/11	104,832	-2%	153,500	4%
2011/12	76,378	-27%	133,000	-13%
2012/13	63,278	-17%	138,031 **	4%
2013/14	68,988	9%	166,200	20%
2014/15	65,081	-6%	139,928	-16%
2015/16	73,174	12%	156,100	12%
2016/17	68,639	-6%	138,300	-11%
2017/18	86,779	26%	135,100	-2%
* = DMAP, WMA managed hunts, public and private reporting system total				
** = mail survey includes senior hunters for the first time				

Total harvest and harvest per acre at the parish level can be viewed in Tables 5 & 6.

Table 5. Top 20 harvest parishes in Louisiana derived from the total reported harvest 2017 - 2018.

Parish	Harvest	Parish	Harvest
Union	4177	Sabine	2414
Claiborne	3767	Rapides	2316
Bienville	3734	Madison	2293
Vernon	3716	Avoyelles	2191
Webster	2965	Morehouse	2049
Tensas	2846	DeSoto	1880
Bossier	2760	St. Landry	1874
Winn	2755	Caldwell	1869
Natchitoches	2749	Ouachita	1868
Jackson	2294	Iberville	1809

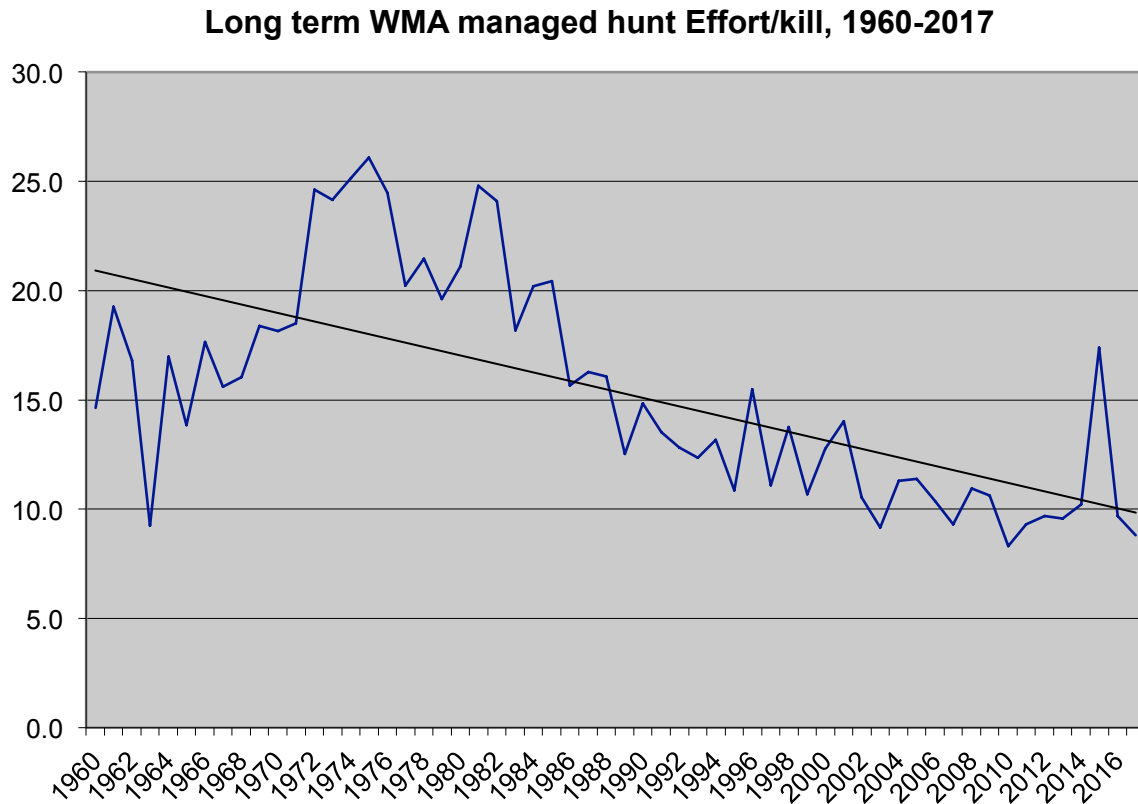
Table 6. Top 20 harvest parishes by forested acreage derived from the total reported harvest 2017 - 2018.

Parish	Acres/deer	Parish	Acres/deer
E. Carroll	24	Webster	97
Tensas	40	W. Feliciana	107
Madison	46	St. Mary	111
W. Carroll	47	Union	114
Richland	70	Claiborne	116
Franklin	71	Catahoula	118
Morehouse	88	Bienville	121
St. Landry	89	Pt. Coupee	121
Avoyelles	90	Jackson	129
W. Baton Rouge	91	Bossier	132

### **Wildlife Management Areas**

LDWF manages and provides deer hunting opportunity on over 1,500,000 acres. Modern firearm, primitive firearm, and archery either-sex hunts are the primary methods for keeping deer numbers in balance with the habitat. Youth and handicapped hunts are also available on many areas. Bucks only seasons provide extended hunting opportunity and generally are held near or during the rut. WMA harvest rates vary by WMA depending on deer physiographic region, habitat conditions, and hunter efforts. In some years, WMA harvest rates equal or surpass intensively managed DMAP properties. On other WMAs, harvest rates are low due to habitat type, forest conditions, accessibility issues, or other management objectives. In general, WMA deer herds are managed in a way that helps ensure long term forest regeneration, diversity, sustainability, and a healthy deer herd. WMAs are not managed for maximum residual numbers, but rather maximum sustained harvest and recreational opportunity, which results in deer herds at or below maximum biological carrying capacity.

Figure 3. WMA managed hunt effort per deer harvested, 1960-2017.



Hunter success and harvest vary, sometimes substantially, from year to year. The 2015 season is an example of this variation. The long term trend for WMA hunter success illustrates fewer efforts needed to harvest a deer. Additionally, many exceptional deer are harvested on the WMAs.

The recorded harvest for either-sex managed hunts was 2,357 deer on the WMAs in 2017 (Table 7). Managed either-sex hunts had an average hunter success rate of 8.8 efforts per deer (Figure 3) which is better than the long-term average and the second best success rate recorded in the past ten seasons. The sex ratio for the WMA managed either-sex hunt harvest was 52% buck and 48% doe.



**Table 7.**  
**2017 WMA Managed Hunts**

WMA	Hunter efforts	Total harvest	Bucks	Does	Efforts per deer
Alexander State Forest (Oct.)	186	16	6	10	11.6
Alexander State Forest (Nov.)	115	9	5	4	12.8
Attakapas *	180	15	0	15	12.0
Bayou Macon**	193	34	16	18	5.7
Big Lake**	771	110	55	55	7.0
Bodcau	346	71	42	29	4.9
Boeuf**	1084	173	96	77	6.3
Buckhorn**	214	28	15	13	7.6
Camp Beauregard	335	77	39	38	4.4
Camp Beauregard (Dec.)	164	22	11	11	7.5
Clear Creek	581	29	16	13	20.0
Clear Creek (Oct.)	541	100	44	56	5.4
Dewey Wills	919	203	83	120	4.5
Fort Polk	1938	190	86	104	10.2
Fort Polk (Oct.)	1055	172	91	81	6.1
Elm Hall *	0	0	0	0	0.0
Grassy Lake **	331	54	34	20	6.1
JC Sonny Gilbert**	164	15	10	5	10.9
Joyce*	36	2	2	0	18.0
Loggy Bayou	285	97	52	45	2.9
Maurepas Swamp **	494	46	21	25	10.7
Pearl River *	373	9	4	5	41.4
Peason Ridge	1033	115	51	64	9.0
Peason Ridge (Oct.)	138	12	8	4	11.5
Pomme de Terre**	252	29	10	19	8.7
Russell Sage**	820	171	105	66	4.8
Sabine (Oct.)	98	11	6	5	8.9
Sandy Hollow *	124	6	3	3	20.7
Sherburne **	1616	110	47	63	14.7
Sherburne (Dec)	870	24	13	11	36.3
Spring Bayou *	321	27	3	24	11.9
Thistlethwaite	728	41	20	21	17.8
Thistlethwaite (Dec)	479	13	10	3	36.8
Tunica Hills **	159	11	3	8	14.5
West Bay	644	26	5	21	24.8
West Bay (Oct.)	692	139	77	62	5.0
Richard K. Yancey	2801	186	71	115	15.1
	21080	2393	1160	1233	8.8
2017 Managed Either Sex Deer Hunts	21080	2393	0.02		8.8
2016 Managed Either Sex Deer Hunts***	22862	2357	0.91		9.7
2015 Managed Either Sex Deer Hunts	22650	1233	-0.5		18.4
2014 Managed Either Sex Deer Hunts	25814	2473	-0.03		10.4
2013 Managed Either Sex Deer Hunts	24682	2542	0.13		9.7
10 year AVERAGE	23555	2282			10.3

\*=self-clearing permit only

\*\*=combined mandatory check and self-clearing

## DMAP

The goal of the Deer Management Assistance Program (DMAP) is to offer interested hunters, landowners and land managers, in depth and professional level technical assistance in managing deer populations and their habitats. In addition, the program is designed to educate, inform and disseminate information to participants that promotes sound deer and wildlife habitat management principles across the state.

Tier 1 and 2 DMAP provide LDWF with age-specific biological data on all deer harvested on enrolled property. Tier 3 DMAP provides basic information that will supplement DMAP data and continue to offer increased harvest opportunity on smaller acreages. Tier 4 DMAP provides a mechanism to reduce deer numbers where nuisance deer issues exist, such as agricultural operations.

The purpose of the DMAP program is to gain detailed statewide harvest information to determine herd health and habitat conditions and help make management decisions such as season length and bag limit by parish, deer physiographic region and deer management area. Managing deer populations is vital for maintaining native plant diversity and viability, forest ecosystem health, public safety, and traditional cultural richness.

The objectives are defined by deer productivity and physiographic zone and delivered through the 6 Region offices of the Wildlife Division encompassing 9 deer physiographic regions and 10 deer management areas. Opportunity exists to improve the statewide deer database by increasing DMAP participation in some regions of the state and maintaining most of the participation in other regions that have high levels of interest and cooperation.

DMAP continues to be the most important source of biological information LDWF has on private lands and we encourage hunters and managers to continue their participation in this program. Efforts to increase site visits and other services for participants continues to be a priority. Technical assistance is available to anyone that requests it and we encourage hunters to collect herd health data including jaw bones for aging, antler measurements, weights and lactation data, whether in DMAP or not. Participants receive detailed reports on their specific habitat conditions and deer herd. Harvest data collected from participants greatly increases our ability to monitor deer and habitat conditions across the state while monitoring trends in deer quality and productivity on a local level. In addition, site visits and browse surveys allow biologists to set harvest recommendations for participants, tailored to current habitat conditions and herd densities.

Browse surveys were conducted on 80 DMAP and non-WMA public lands between July 1, 2017 and June 30, 2018. In 2017-18, there were 436 clubs (+6%) with 1,112,506 acres enrolled in DMAP Tiers 1 and 2 in which cooperators provided full harvest data to the Department. An additional 274 clubs (-10%) totaling 447,304 acres were enrolled in DMAP Tier 3. Tier 3 does not require the collection of age specific data. The 2017-18 DMAP harvest was 13,147 deer (+ 6%), with a harvest rate of 1 deer per 112 acres compared to 1 deer per 118 acres the previous season. The DMAP harvest sex ratio was 40% bucks and 60% does which was almost identical to the previous season (39% bucks, 61% does). The ratio has been

consistent in recent years. DMAP cooperators continue to harvest a high percentage (72%) of 3.5 year old and older age bucks. That number was good enough to be 3<sup>rd</sup> best in the nation in the most recent 2018 QDMA Whitetail Report.

## **Research**

### **Protocol Validation for Genetic Differentiation of Wild and Pen-raised White-tailed Deer -**

Development of a protocol for use in identification of deer with genetic lineages originating from breeding pens would allow state agencies to protect wild, native populations from being negatively affected by release of genetically-manipulated deer. Genetic sampling of free-ranging deer populations across the region would increase knowledge on the relative effectiveness of different populations of origin released during restoration of white-tailed deer within the Southeast (Demarais et al. 2015).

The protocol and technique developed allowed for the differentiation of wild and pen-raised deer. Research findings show that breeding-pen populations can be distinguished from native deer using genetic assignment methodologies. In addition, wild deer were sampled across the state providing a bank of DNA for future comparison and analysis. The technique utilized tissues easily collected and stored for analysis. This has already aided LDWF in the development of protocols for DNA sampling. Standardized tissue collection and positive assignment of each sample has reduced the chance of inconclusive results. The ability to distinguish between pen-raised and wild deer will provide immediate application during current Chronic Wasting Disease surveillance efforts. In the event of a positive, it will be possible to distinguish between native wild deer and pen raised deer. This will shape the response and answer questions regarding origin of the disease.

## **Disease**

The Wildlife Disease Program is administered by the State Wildlife Veterinarian, Assistant State Wildlife Veterinarian, and Wildlife Disease Biologist. The program conducts disease investigations when sick, injured, or deceased animals are observed by Department personnel or reported by the public. Herd health collections and managed hunts provide samples for statewide serosurveillance of white-tailed deer. The program conducts diagnostic testing through six laboratories which include: 1) Southeastern Cooperative Wildlife Disease Study (SCWDS) at the University of Georgia, 2) Louisiana Animal Disease Diagnostic Laboratory (LADDL) at Louisiana State University School of Veterinary Medicine, 3) Texas A&M Veterinary Medical Diagnostic Laboratory (TVMDL), 4) Mississippi Veterinary Research and Diagnostic Laboratory (MVRDL) at Mississippi State University College of Veterinary Medicine, 5) USGS National Wildlife Health Center (NWHC), and 6) USDA APHIS National Veterinary Services Laboratory (NVSL).

### *Hemorrhagic Disease*

592 serological samples were collected statewide. Prevalence rates remain high for both EHD and BTE. More than 20 deer were submitted for necropsy in 2017 without a diagnosis. A wider array of tests and tissues are being collected in response. Those particular animals were in good body condition without any outward signs of disease. Reported EHD and BTE mortality was light.

### *Chronic Wasting Disease*

The recent discovery of CWD in Issaquena, MS has led to increased surveillance in northeast Louisiana. Cooperating landowners in East Carroll, Madison and Tensas parishes have provided access to their properties for the purpose of sampling in response to the CWD positive in Mississippi. Their cooperation and willingness to assist has been critical in assessing the extent of CWD in that region. Collection efforts began on March 12<sup>th</sup> and extended into May. During that time, LDWF sampled 300 deer within the 25 mile buffer zone, all of which were classified as "CWD not detected" by Texas A&M's diagnostic lab. The target number of 300 was based on the probability of detecting one positive at a 1% prevalence rate with 95% confidence. In addition to the 300 samples collected from northeast Louisiana, 422 statewide samples were collected for a total of 722 CWD samples in 2017-18 (9,000 since 2002). To date, CWD has not been detected in Louisiana.

Additional hunter harvested samples and roadkills will be collected in the fall of 2018 in an effort to expand the search. Hunters in northeast Louisiana may have their deer tested by contacting LDWF. In addition, coordinated sampling opportunities will be provided to landowners and hunters in East Carroll, Madison and Tensas parishes this hunting season. Surveillance efforts are necessary for early detection. Proactive measures such as recommended disposal practices as well as limiting the placement of bait on the landscape could help slow the spread.

### **Deer Pens**

Commercial deer pens are regulated by the Louisiana Department of Agriculture and Forestry (LDAF). There are 213 breeding facilities and 80 shooting preserves for a total of 293 LDAF licensed high fenced enclosures in 58 of 64 parishes. Importing cervids from other states is prohibited by LDWF due to wildlife disease concerns. Currently, LDAF has a moratorium preventing the importation of deer from outside of Louisiana. The measure is another layer of defense against potential wildlife diseases that threaten both captive and native wildlife.