

# Louisiana Deer Report

2016 - 2017

LDWF Wildlife Division

August 16, 2017

## 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 round 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 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 2016-17 statewide deer limit was 2 antlered, 1 either sex, and 3 antlerless deer per year. Antlerless deer may be taken during the entire season in DMAs 1, 2, 3, 6, and 8. In DMAs 4, 5, 7, 9, and 10, antlerless hunting was allowed on designated days. All deer must be tagged prior to being moved from the harvest site.

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. Additional harvest and participation data is gathered through the annual mail survey.

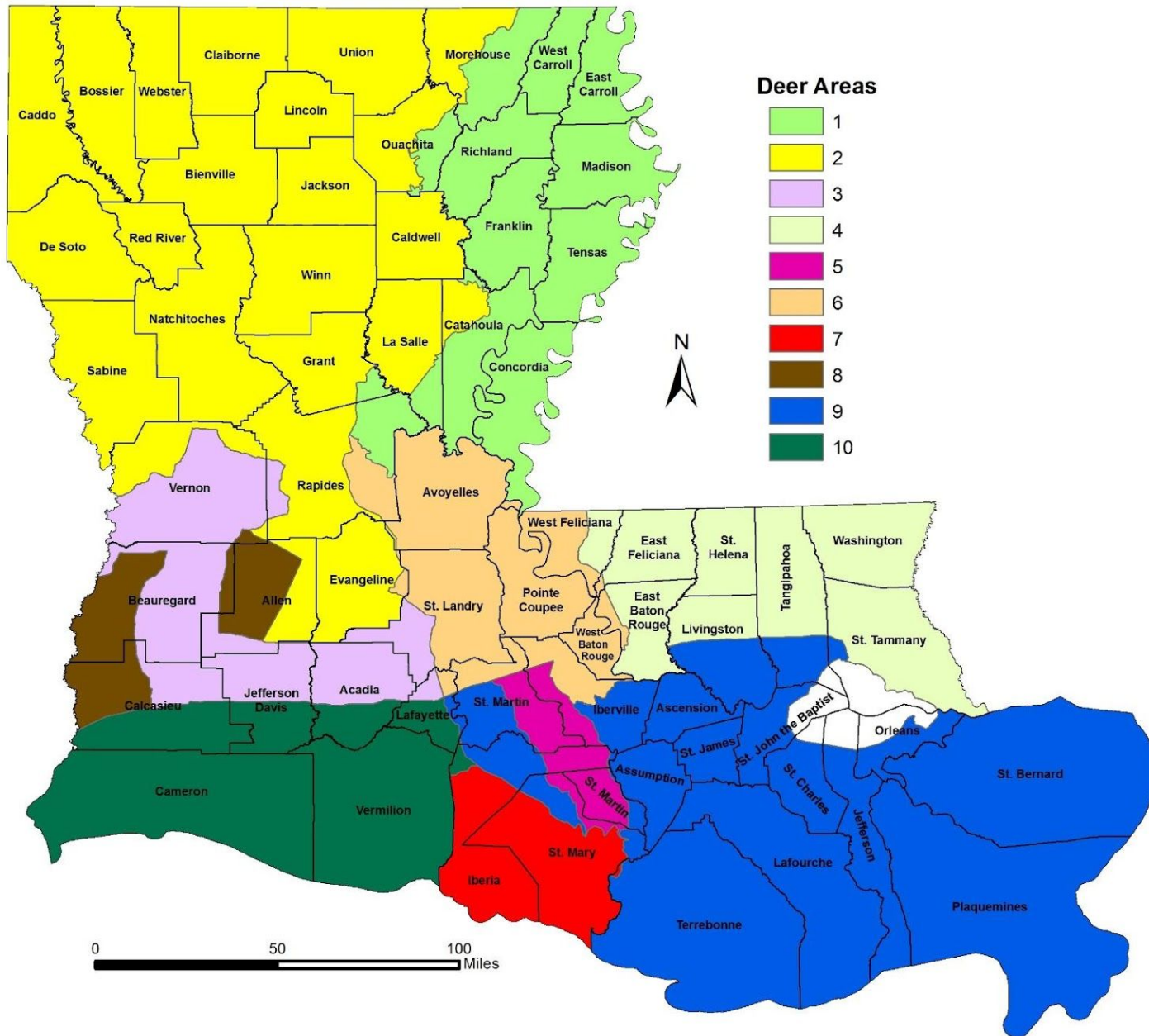
Major changes for the 2017-18 season include reducing limits in Deer Areas 4 and 10. This alternative will reduce the season limit while allowing hunters to once again harvest an antlerless deer any day of the season. The conservative measure is in response to long term declines in harvest and fawn production. The option selected was based on hunter input. Approximately 67% of Deer Area 4 and 10 hunters selected the reduced limit option over the limited buck only days previously provided. The second change reduces the deer tag validation window from 7 days to 72 hours. Also, the Deer Area 7 season was amended to allow for season long harvest of antlerless deer. The final change involves incorporating portions of Deer Area 8 in Allen and Vernon Parish into Deer Area 3. The season dates and activities allowed will remain the same. However, the designation will change with the consolidation.

Louisiana implemented Cervid carcass import regulations March 2017. The new regulation is aimed at reducing the introduction of Chronic Wasting Disease (CWD). 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>

An updated Deer Management Plan was completed by LDWF in 2017. The document provides broad guidance and direction for programmatic function, incorporating sound deer and wildlife habitat management principles, administration, and public input, to promote healthy, sustainable and balanced deer populations, while providing recreational hunting opportunity for Louisiana deer hunters.

Figure 1. Louisiana Deer Management Areas, 2016-17.



## Harvest

The total reported harvest and mail survey harvest decreased in 2016-17 (Table 6). The total reported harvest includes DMAP reported harvest, WMA managed hunt totals and the license tag reporting system.

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. Lactation rates will be followed closely moving forward. Harvest recommendations will be adjusted for DMAP cooperators with recruitment concerns. In addition, continued regional declines in productivity will 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 over much of the state during the 2016-17 growing season. The exception was the devastating flood experienced in August 2016 which led to unprecedented flooding in parts of southeast Louisiana. The reported lactation rate for the southeast pine hardwood physiographic region was 47% for the second straight year. Some localized fawn mortality may have been experienced but the regional average was in line with the previous year.

Hogs continue to be a primary concern. Research has shown that deer detection rates can be up to 49% less where hogs occur. Hog populations affect deer numbers through direct competition for food resources and fawn predation. 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 130,600, which is slightly less than the recorded deer harvest.

## Areas of Concern

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

Low lactation rates

The growing threat of Chronic Wasting Disease

Feral hog transport and feral hog disease issues

Landscape scale factors:

Residential, commercial, and energy development

Intensive forest management practices

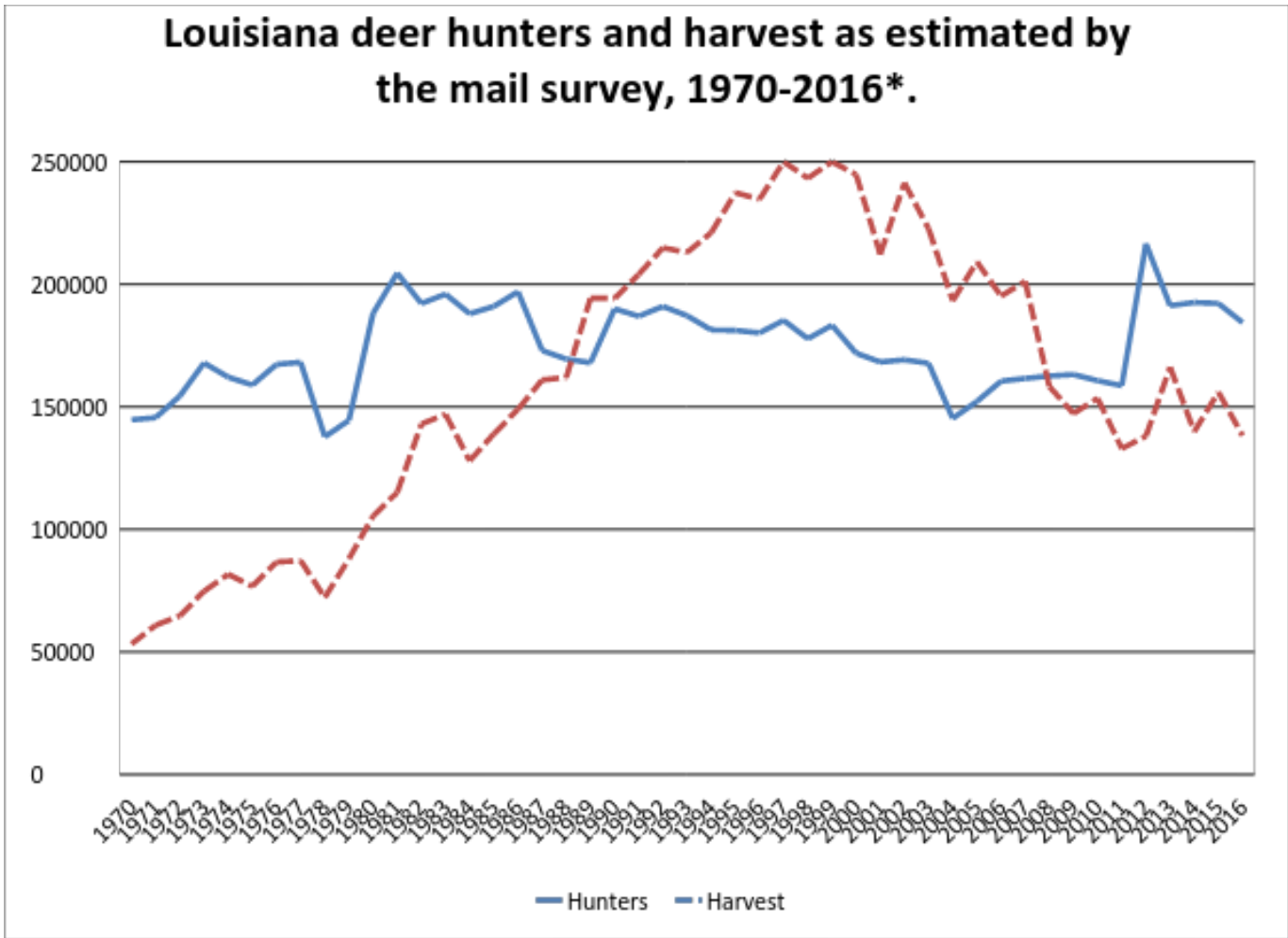
Fragmentation/Exurbia

### 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 2016/17 season is 184,400 (-4%) and 138,300 (-11%) respectively.

The annual mail survey was accompanied by an email survey in 2017. 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, 1970-2016.



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

The harvest allocation by weapon type (Table 2.) 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 stable in recent years.

Table 2. Louisiana deer harvest distributed by weapon type, based on the mail survey, 2016-17.

Weapon	Harvest	%
modern gun	110,400	80%
primitive	15,700	11%
bow	7,700	6%
crossbow	4,500	3%
Totals	138,300	

Internet/phone reporting results/total reported harvests

The 2016/17 reported harvest of 68,639 (59% buck, 41% doe) was a 6% decrease from the previous season. Reported harvest has declined significantly from the initial year of mandatory deer tagging but has leveled off. Compliance is believed to be a major factor in the initial decline. However, reporting system data is beginning to track more closely with annual mail survey data, providing valuable trend data at the parish and deer area scale. 2016/17 marks the 9<sup>th</sup> year of mandatory tagging and reporting.

Table 3.	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

Table 4. (Top 20 total harvest parishes 2016/17)

Parish	Harvest	Parish	Harvest
Vernon	3414	Webster	1834
Union	3085	Madison	1808
Tensas	2574	Sabine	1751
Bienville	2504	Beauregard	1750
Claiborne	2502	Iberville	1731
Winn	2256	Jackson	1651
Natchitoches	2239	St. Landry	1602
Bossier	2000	Grant	1463
Rapides	1849	Caldwell	1421
Avoyelles	1836	Ouachita	1397

Table 5. (Top 20 harvest/acre parishes 2016/17)

Parish	Acres/deer	Parish	Acres/deer
E. Carroll	34	Pt. Coupee	128
Tensas	44	Morehouse	140
Madison	58	Iberville	149
W. Carroll	71	Union	155
Franklin	93	Webster	156
Richland	93	Catahoula	168
W. Baton Rouge	96	Concordia	171
St. Landry	104	Claiborne	174
Avoyelles	107	Ouachita	179
W. Feliciana	127	Bienville	180

Mail survey vs. reporting system harvest

The mail survey deer harvest index has been higher than the reporting system total harvest (Table 6). 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 6. Reporting system vs. mail survey index, 2007-2016

	(all sources*)	%Diff.	harvest index	%Diff.
2007/08	na		201,000	
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%
*= DMAP, WMA managed hunts, public and private reporting system total				
**= mail survey includes senior hunters for the first time				

### Wildlife Management Areas

The Department manages over 1,500,000 acres that provide deer hunting opportunities. 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. Harvest rates are variable on the WMAs according to 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 means deer herds at or below maximum biological carrying capacity.

The recorded harvest for either-sex managed hunts was 2,357 deer on the WMAs this year (Table 7). Managed either-sex hunts had an average hunter success rate of 9.7 efforts per deer (Figure 3). The sex ratio of the managed either-sex hunt harvest was 53% male, 48% female. The total recorded WMA harvest, including self-clearing data (SCD) was 5,390 deer (+13%). The known sex ratio for the total recorded WMA harvest, including SCD, was 58% male, 42% female.

Table 7.

2016 WMA Managed Hunts					
WMA	Hunter efforts	Total harvest	Bucks	Does	Efforts per deer
Alexander State Forest (8 - 9 Oct)	251	17	5	12	14.8
Alexander State Forest (5 - 6 Nov)	120	11	7	4	10.9
Attakapas *	187	2	0	2	93.5
Bayou Macon (19 - 20 Nov)***	212	63	35	28	3.4
Big Lake***	731	89	51	38	8.2
Boeuf***	1456	315	179	136	4.6
Buckhorn***	375	36	14	22	10.4
Camp Beauregard	467	87	54	33	5.4
Camp Beauregard (10 - 11 Dec)	181	13	6	7	13.9
Clear Creek	623	34	10	24	18.3
Clear Creek (29 - 30 Oct)	670	77	45	32	8.7
Dewey Wills (10 - 11 Dec)***	1511	244	124	120	6.2
Fort Polk	1822	133	56	77	13.7
Fort Polk (29 - 30 Oct)	1037	156	100	56	6.6
Elm Hall *	13	0	0	0	0.0
Grassy Lake ***	626	65	23	42	9.6
JC Sonny Gilbert**	193	35	21	14	5.5
Joyce*	37	2	1	1	18.5

Loggy Bayou	340	67	38	29	5.1
Maurepas Swamp **	458	40	23	17	11.5
Pearl River *	208	4	3	1	52.0
Peason Ridge	957	88	42	46	10.9
Peason Ridge (29 - 30 Oct)	296	37	19	18	8.0
Pomme de Terre***	291	22	6	16	13.2
Russell Sage**	896	157	102	55	5.7
Sabine	19	2	1	1	9.5
Sabine (22 - 23 Oct)	156	21	9	12	7.4
Sandy Hollow *	135	8	5	3	16.9
Sherburne ***	1846	108	50	58	17.1
Sherburne (2 - 9 Dec)(2&3 daily permit)	1048	64	46	18	16.4
Spring Bayou *	346	15	8	7	23.1
Thistlethwaite	800	46	15	31	17.4
Thistlethwaite (3 - 4 Dec)	299	15	6	9	19.9
Tunica Hills **	274	14	4	10	19.6
West Bay	687	21	7	14	32.7
West Bay (29 - 30 Oct.)	969	68	45	23	14.3
Yancey***	2325	181	81	100	12.8
Total	22862	2357	1241	1116	9.7
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

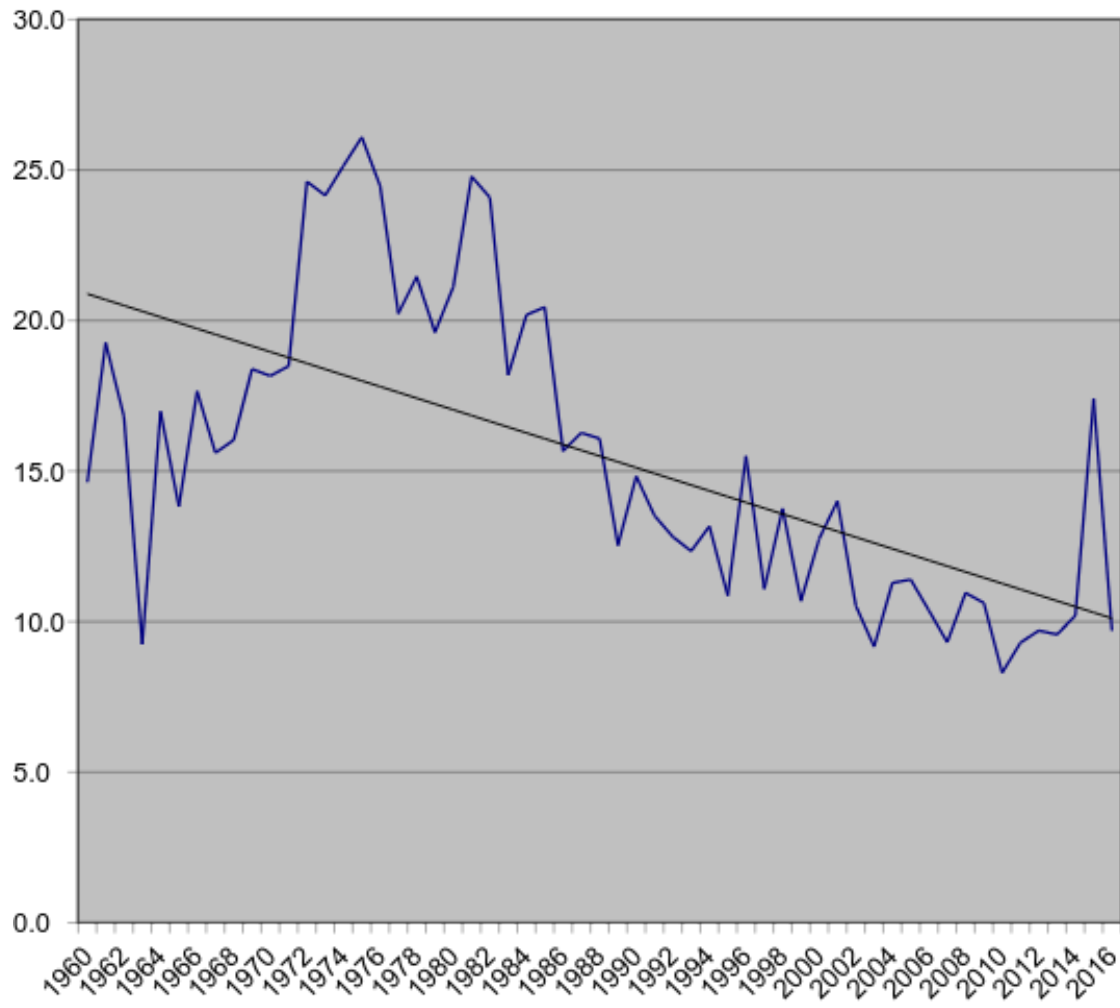
\*= self-clearing

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

\*\*\*=daily permit day 1, estimated participation day 2 and SCP day 3.

Figure 3. WMA managed hunt effort per deer harvested, 1960-2016.

Long term WMA managed hunt Effort/kill, 1960-2015



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.

### 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.

A total of 95 browse surveys were conducted in 33 parishes covering 266,096 acres between July 1, 2016 and June 30, 2017. In 2016-17, there were 412 clubs with 1,060,133 acres enrolled in DMAP Tiers 1 and 2 in which cooperators provided full harvest data to the Department. An additional 303 clubs totaling 494,008 acres were enrolled in DMAP Tier 3. Tier 3 does not require the collection of age specific data. The 2016-17 DMAP harvest was 13,147 deer (2.7% decrease), with a harvest rate of 1 deer per 118 acres compared to 1 deer per 122 acres the previous season. The DMAP harvest sex ratio was 39% bucks and 61% does which was almost identical to the previous season (38% bucks, 62% does). The ratio has been consistent in recent years. During the past 10 years, the DMAP upland hardwood habitat type has recorded the highest average deer harvest per acre with a 10-year mean of 1 deer per 58 acres. DMAP cooperators continue to harvest a greater percentage (67%) of 3.5 year old and older age bucks. That number is good enough to be tied for 2<sup>nd</sup> in the nation in 3.5 year and older buck harvest.

### Research

**Deer Disturbance Associated with Small Game Hunting with Dogs** – The Small Game Hunting with Dogs Disturbance project will provide managers with movement and dispersal data for deer being disturbed by dogs and hunters engaged in small game hunting. GPS locations from deer previously disturbed were assessed. Hunters and landowners will be aided with research data in making decisions on allowing the simultaneous recreation of deer hunting and small game hunting with dogs.

**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. Further, genetic sampling of free-ranging deer population across a 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).

## 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).

Two hundred forty-two samples were submitted for serological analysis of epizootic hemorrhagic disease (EHD), blue tongue disease virus (BTV), and leptospirosis as part of the LDWF herd health monitoring program. Sixty-seven percent were positive for EHD, 61 percent were positive for BTV, and 15 percent were positive for leptospirosis. Additionally, 360 samples were collected for Chronic Wasting Disease (CWD) surveillance. Samples were submitted from all regions of the TVMDL. No samples tested positive. This brings the total number of wild white-tailed deer tested in Louisiana to 8,230 animals since the inception of the program in 2002.

## Deer Pens

Commercial deer pens are regulated by the Louisiana Department of Agriculture and Forestry. There are 214 breeding facilities and 78 shooting preserves for a total of 292 LDAF licensed high fenced enclosures in 58 of 64 parishes (Figure 4). Importing cervids from other states is prohibited by LDWF due to disease concerns.

Figure 4. Louisiana Department of Agriculture and Forestry licensed deer pens by parish, 2016.



