

# Louisiana Deer Report

2015-2016

LDWF Wildlife Division

July 28, 2016

## 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. The state is presently divided into 10 deer management areas (DMAs, Figure 1).

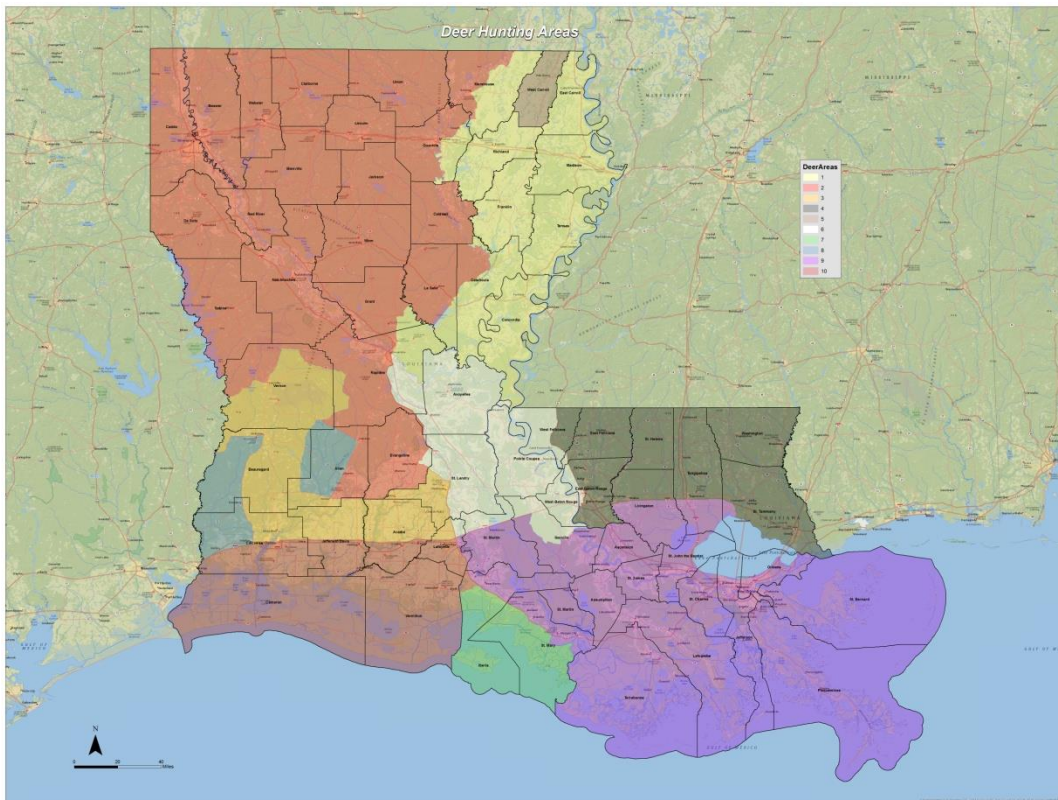
Seasons are set according to general breeding periods, habitat productivity, and landscape features. The statewide limit is 2 antlered, 1 either sex, and 3 antlerless deer per year. Antlerless deer may be taken during the entire season in DMAs 1, 2, 3, 6, and 8. In DMAs 4, 5, 7, 9, and 10, antlerless hunting will only be allowed on designated days. All deer must be tagged prior to being moved from the harvest site.

December and January flooding on the Mississippi, Atchafalaya and Red Rivers did impact deer and hunters during the 2015-16 season. A 20 day closure (Jan 10-29) was implemented within the Atchafalaya Protection levees of Area 9 due to water levels exceeding the benchmark closure level of 18.0' msl at Butte la Rose. The previous 18.0' level during deer season occurred 12 years earlier. In addition to the Atchafalaya Basin, emergency closures were implemented in Northeast Louisiana for one week in January. The closure area included lands east of Highway 65 in East Carroll, Madison, Tensas and Concordia Parishes north of Vidalia.

A couple of major changes will occur in 2016-17 regarding DMAs. The first will be the incorporation of former Deer Management Area 5 (West Carroll Parish) into Area 1. Expanding deer numbers and harvest were experienced in West Carroll Parish. Currently harvest per forested acre is 4<sup>th</sup> highest in the state (Table 5). The second change was the creation of a new Deer Management Area 5 within former Area 9. The new DMA 5 consists of lands located within the Atchafalaya River Protection Levees in Iberville, St. Martin, St. Mary and Iberia Parishes. Area 5 will have two benchmark closures based on Atchafalaya River levels at Butte La Rose. Portions of Area 5 below Alligator Bayou and Bayou Sorrel will close when levels reach 15.0' msl at Butte La Rose. Portions of Area 5 above will close once levels reach 18.0' msl.

All deer must be reported through the phone or internet system, a wildlife management area (WMA) weigh station, or the Deer Management Assistance Program (DMAP). This harvest information along with other data is used to develop deer seasons and regulations.

Figure 1. Louisiana Deer Management Areas, 2015-16.



### Harvest

The deer harvest increased during the 2015-16 season. Both, the total reported harvest and mail survey harvest increased by 12%. The total reported harvest includes DMAP reported harvest, WMA managed hunt totals and the license tag reporting system. Winter flooding along the Mississippi, Red, and Atchafalaya Rivers was the big story in 2015. Deer harvest along many of the river parishes was down but increased harvest across the remainder of the state offset regional declines.

Fawn recruitment was a major concern in 2015. DMAP lactation rates were below 50% statewide in all but one physiographic region (Historic Longleaf). Bottomland hardwood habitats recorded a lactation rate below 50% for the first time. Lactation rates will be followed closely moving forward. Harvest recommendations will be adjusted for DMAP cooperators with recruitment concerns. Regional declines in productivity will be considered when making future season recommendations if the trend continues.

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 have had abundant rainfall over much of the state during this growing season.

High mosquito populations can reduce fawn survival. Hunters should also remember that the 2009, 2011 and 2012 droughts could still be impacting deer populations through reduced cohorts and the lag effects of maternal stress.

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 172,300, which is higher than the recorded deer harvest.

The number of deer tags issued continues to trend up (Table 1.)

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		

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

Feral hog transport

Feral hog disease issues and population spread

Landscape scale factors:

Residential, commercial, and energy development

Intensive forest management practices

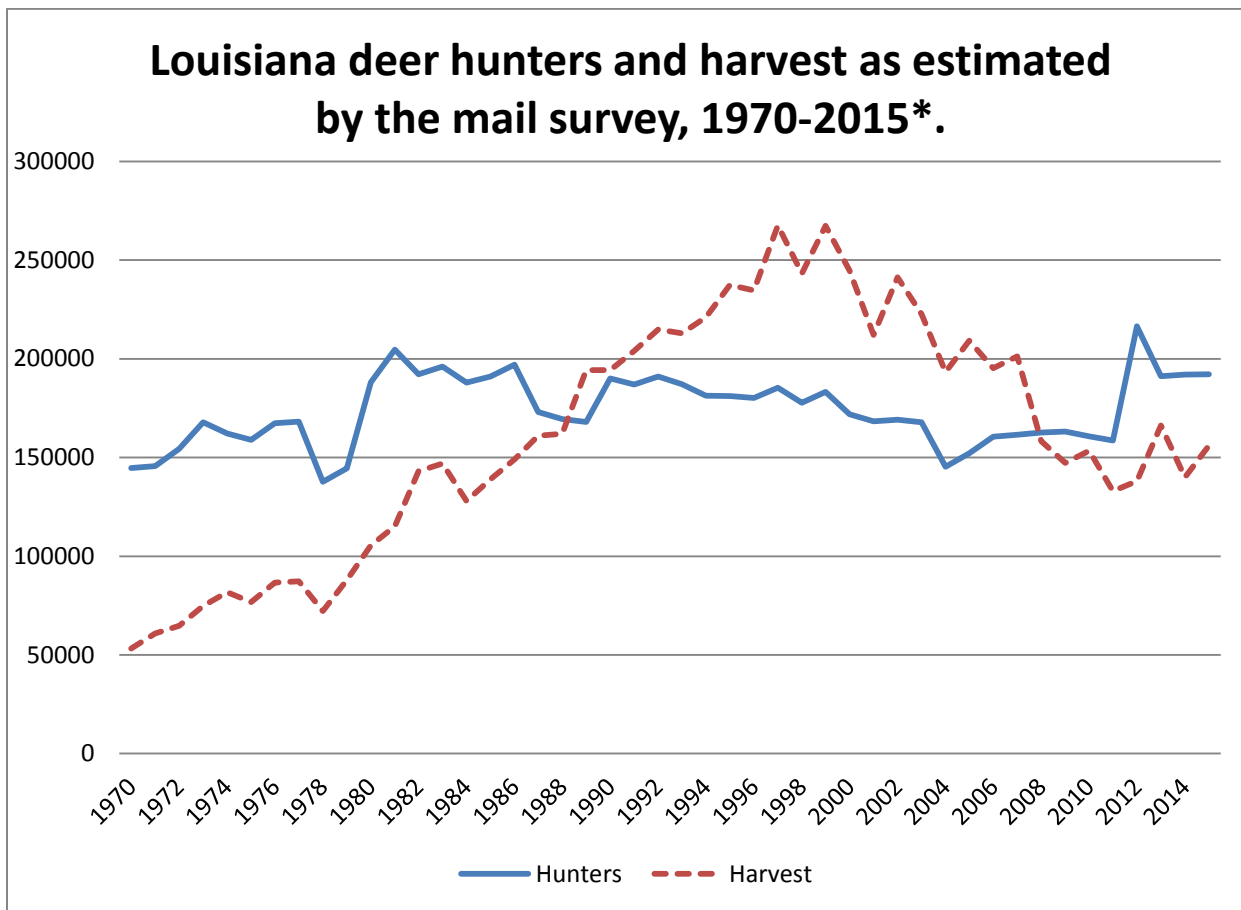
Fragmentation/Exurbia

#### Mail survey

A 6% sample of licensed hunters receives a harvest survey by mail. Participants return the survey and statistics are compiled. The mail survey index for hunters and harvest for the 2015/16 season is 192,200 and 156,100 respectively.

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Figure 2. Mail survey estimate of Louisiana deer hunters and deer harvested, 1970-2015.



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

The hunter number index has remained stable the past two years. The harvest sex ratio according to the 2015-16 mail survey was 56% male, 44% female. Total number of hunters that hunted deer last season was 192,200 compared to 192,600 the previous season.

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.

Weapon	Harvest	%
modern gun	126,800	81%
primitive	16,700	11%
bow	7,700	5%
crossbow	4,800	3%
Totals	156,000	

Internet/phone reporting results/total reported harvests

The 2015/16 reported harvest of 73,174 was a 12.4% increase from 2014-15. However, declines in reported harvests were observed in both DMAP and WMA lands across the state last season. Weather was a major factor in the WMA managed hunt harvest decline. The majority of WMA managed hunts occurred on Thanksgiving Weekend. Warm temperatures, strong winds and storms resulted in less than desirable hunting conditions. When total reported public land harvest is combined with the WMA managed harvest the decline was only 3%. In general, reported harvest has declined significantly from the initial year of mandatory deer tagging but has leveled off. The 2015/16 year marks the 8<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

The top 20 total harvest parishes are presented in Table 4. The top 20 harvest parishes by forested acres per deer are presented in Table 4.

Table 4. Top 20 harvest parishes in Louisiana derived from the reporting system through February 23, 2016.

Parish	Harvest	Parish	Harvest
Union	4124	Iberville	2005
Bienville	3167	Webster	1934
Vernon	3021	Avoyelles	1930
Claiborne	2971	Rapides	1830
Natchitoches	2519	Beauregard	1714
Tensas	2280	St. Landry	1602
Bossier	2110	Sabine	1577
Jackson	2104	Morehouse	1541
Madison	2062	DeSoto	1540
Winn	2030	Grant	1515

Table 5. Top 20 harvest parishes by forested acreage derived from the new reporting system through February 23, 2016.

Parish	Acres/deer	Parish	Acres/deer
E. Carroll	32	Union	116
Tensas	50	Morehouse	117
Madison	51	Concordia	121
W. Carroll	76	Iberville	129
Richland	90	W. Feliciana	132
Franklin	92	Bienville	143
Avoyelles	102	Claiborne	147
W. Baton Rouge	104	Webster	148
St. Landry	104	Jackson	150
Point Coupee	111	Lincoln	160

Mail survey vs. reporting system harvest-

The mail survey deer harvest index has been higher than the reporting system total harvest (Table 6). The mail survey index is best used to monitor trends over time. The survey difference between the mail survey and reporting system has been consistent over the past 4 seasons. In addition, the increase in reported harvest equaled the 12% increase reported in the mail survey. The reporting system does provide the percentage of males and females harvested at the parish level. In addition, the number of successful hunters harvesting between 1 and 6 deer can be determined for the first time. Stabilized reporting when compared to the mail survey provide valuable trends at the parish and state level.

Table 6. Reporting system total vs. the mail survey harvest index, 2007-2015.

Year	Reporting system (all sources*)	%Diff.	Mail survey harvest index	%Diff.	Survey difference
2007/08	na		201,000		
2008/09	116,571	na	158,300	-21%	26%
2009/10	107,455	-8%	147,300	-7%	27%
2010/11	104,832	-2%	153,500	4%	32%
2011/12	76,378	-27%	133,000	-13%	43%
2012/13	63,278	-17%	138,031 **	4%	54%
2013/14	68,988	9%	166,200	20%	58%
2014/15	65,081	-6%	139,928	-16%	53%
2015/16	73,174	12%	156,100	12%	53%

\*= DMAP, WMA managed hunts, public and private reporting system total

## Wildlife Management Areas-

The Department manages over 1,000,000 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 some 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 1,332 deer on the WMAs this year (Table 7). Managed either-sex hunts had an average hunter success rate of 17.4 efforts per deer (Figure 3). The sex ratio of the managed either-sex hunt harvest was 52% male, 48% female. The total recorded WMA harvest, including self clearing data (SCD) was 4,759 deer (-22%). The minimum known harvest rate was 1 deer per 236 acres across all WMAs and habitat types. The known sex ratio for the total recorded WMA harvest, including SCD, was 57% male, 43% female.

Severe storms and flash floods created difficult hunting during the October 31 and November 1<sup>st</sup> hunts which impacted harvest totals for some of the larger West Louisiana WMAs. In addition, warm weather and strong winds were experienced during the Thanksgiving weekend managed hunts. Reduced WMA hunter success during the managed hunts may have impacted the annual WMA harvest. 52% of deer harvested on WMAs over the past ten years were harvested during managed either-sex deer hunts.

Table 7. 2015 WMA either sex hunt weekends<sup>1</sup>.

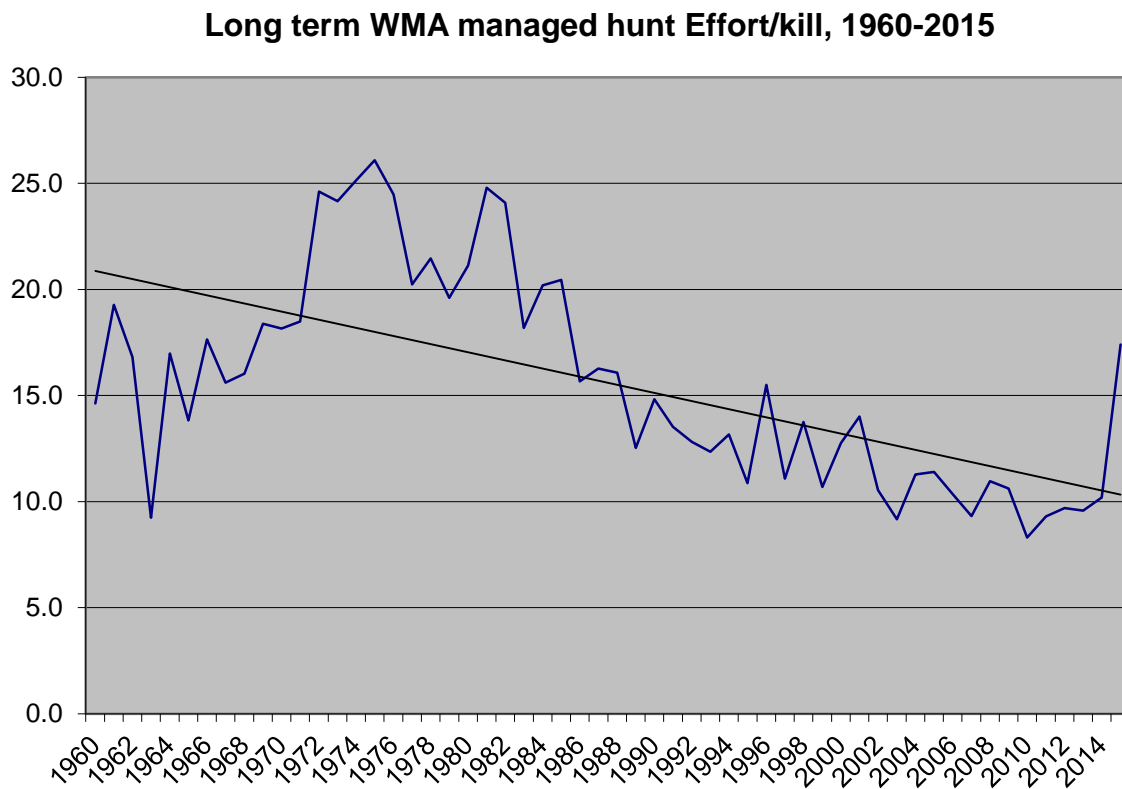
WMA	Hunter efforts	Total harvest	Bucks	Does	Efforts per deer
Alexander State Forest (10 - 11 Oct)	224	14	6	8	16.0
Alexander State Forest (7 - 8 Nov)	111	11	8	3	10.1
Attakapas *	236	13	6	7	18.2
Bayou Macon (21-22 Nov)	208	33	14	19	6.3
Big Lake**	642	29	11	18	22.1
Boeuf**	1,255	147	65	82	8.5
Buckhorn	346	9	5	4	38.4
Camp Beauregard	565	59	27	32	9.6
Camp Beauregard (13-14 Dec)	199	11	9	2	18.1
Clear Creek	639	17	10	7	37.6
Clear Creek(Oct 31- Nov 1)	515	45	25	20	11.4
Dewey Wills (13-14 Dec)	856	65	32	33	13.2
Fort Polk	1,954	135	60	75	14.5
Fort Polk (Oct 31- Nov 1)	228	19	10	9	12.0
Grassy Lake **	519	27	12	15	19.2
Jackson Bienville (21 - 22 Nov)	491	99	45	54	5.0
JC Sonny Gilbert**	151	10	6	4	15.1
Joyce*	0	0	0	0	0.0
Loggy Bayou	278	49	28	21	5.7
Maurepas Swamp *	574	42	21	21	13.7
Pearl River *	296	10	4	6	29.6
Peason Ridge	1,018	58	34	24	17.6
Peason Ridge (Oct 31 - Nov 1)	160	10	7	3	16.0
Pomme de Terre**	326	11	4	7	29.6
Russell Sage**	682	49	23	26	13.9
Sabine (24 - 25 Oct)	87	8	7	1	10.9
Sandy Hollow *	137	4	1	3	34.3
Sherburne **	2,016	38	16	22	53.1
Sherburne ( 6-8 Dec)	1,625	90	38	52	18.1
Spring Bayou *	364	17	3	14	21.4
Thistlethwaite	739	16	6	10	46.2
Thistlethwaite (6-7 Dec)	603	35	22	13	17.2
Tunica Hills **	205	2	2	0	102.5
West Bay (Oct 31 - Nov 1)	839	53	27	26	15.8
West Bay	602	11	6	5	54.7
Yancey**	3,451	86	46	40	40.1
	23,141	1,332	646	686	17.4
2015 Managed Either Sex Deer Hunts	23,141	1,332	-0.49		17.4
2014 Managed Either Sex Deer Hunts	26,545	2,603	-0.02		10.2
2013 Managed Either Sex Deer Hunts	25,401	2,654	0.09		9.6
2012 Managed Either Sex Deer Hunts	23,449	2,416	0.01		9.7
2011 Managed Either Sex Deer Hunts	22,144	2,378	-0.21		9.3
2010 Managed Either Sex Deer Hunts	24,925	3,019	0.16		8.3
2009 Managed Either Sex Deer Hunts	27,643	2,603	0.01		10.6
2008 Managed Either Sex Deer Hunts	28,363	2,589	-0.16		11
2007 Managed Either Sex Deer Hunts	28,813	3,094	-0.04		9.3
2006 Managed Either-Sex Deer Hunts	30,008	2,895	-0.02		10.4

\*= self clearing

\*\*= combined mandatory check and self clearing



Figure 3. WMA managed hunt effort per deer harvested, 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.

### **Research**

Effects of Predation on White-tailed Deer Recruitment on Tensas NWR- The 3<sup>rd</sup> and final season of fawn capture and collaring wrapped up in summer 2015. Monitoring of fawns wrapped up during the fall of 2015. 98 mature females were captured, collared, and fitted with VITs during the three year study. In addition, 70 fawns were collared and 49 parturition sites were identified. For the first 2 years, there has been only about 30% survival of fawns with predation being the cause of most mortality. Primary predators are black bears, coyotes and bobcats. Results from the third year are being finalized. (University of Georgia)

Buck Disturbance Associated with Small Game Hunting with Dogs – Deer seasons in portions of Louisiana are very late to allow hunters the opportunity to hunt peak breeding periods. This can cause a conflict with small game hunters, and particularly rabbit hunters. Some managers or landowners will not allow any form of small game hunting to occur during the long deer season, reducing opportunity to small game hunt. This study is designed to determine if rabbit hunting with dogs impacts deer home range or movement patterns. (Louisiana State University)

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). (Mississippi State University)

### Disease

Disease monitoring is administered by the LDWF wildlife veterinarians and accomplished through necropsy efforts of sick or dead individuals when observed by Department personnel or when reported by the public. Herd health collections and managed hunts provide additional data and sampling opportunity. Biological samples are sent to the Southeastern Cooperative Wildlife Disease Study (SCWDS) at the University of Georgia, LSU's School of Veterinary Medicine, Texas Veterinary Medical Diagnostic Lab, Mississippi Veterinary Diagnostic Laboratory, or the National Veterinary Services Laboratory (NVSL) for diagnostic testing.

Eighty-six samples were submitted for serological analysis of exposure to various diseases as part of the LDWF herd health monitoring program. These samples are used to evaluate the health status of the Louisiana deer herd. These samples revealed 50% seroprevalence for Bluetongue Virus and 44% seroprevalence for Epizootic Hemorrhagic Disease Virus. The results indicate likely recent infection of those animals with either Bluetongue Virus or Epizootic Hemorrhagic Disease Virus or both. LDWF had 12 reported and confirmed cases of death due to hemorrhagic disease in wild white-tailed deer during the 2015-16 season.

Additionally, 95 samples were collected from "target" white-tailed deer for Chronic Wasting Disease analysis at SCWDS and NVSL. No samples tested positive. This brings the total number of wild white-tailed deer tested in Louisiana to 7,870 animals since the inception of the program in 2002.

White-tailed deer are being serologically evaluated for leptospirosis, a bacterial disease caused by multiple serovars of *Leptospira interrogans*. Leptospirosis may be contracted from feral hogs and other animals and can cause illness and abortions in deer. The exposure rate based on serological titers this year was 46.5%.

### 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 and other long term population threats. Tangipahoa (24), Calcasieu (20), Beauregard (14), Lafourche (13) and Livingston (13) have the highest pen densities by parish.



