



# NDA's DeerReport 2022

*An annual report on the status of wild deer | the foundation of the hunting industry in North America*

Compiled and Written by the National Deer Association Staff



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**INFORMATION & ASSISTANCE**

Members of the media who have questions about the Deer Report, need additional information, or need expert sources for stories on deer biology or management, can contact National Deer Association's Conservation staff at any time using the information below, or contact Customer Service at (800) 209-3337.



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## INTRODUCTION

BY KIP ADAMS

White-tailed deer are the most important game species in North America. More hunters pursue whitetails than any other species, and whitetail hunters contribute more financially than any other hunter segment. Collectively speaking, whitetails are the foundation of the entire hunting industry. However, there are other prominent deer species and subspecies worth mentioning too.

That is why I am so excited we can bring you this annual report on the status of deer hunting and management programs. It includes information on black-tailed, coues, Key, and mule deer, in addition to whitetails. We are in a unique position to gather data from state and provincial wildlife agencies, the nation's leading deer researchers, and other sources to provide a true "State of the Deer" address for hunters, landown-

ers, natural resource professionals and the media.

So, how are deer and deer hunters doing? There are some very positive trends occurring. In the whitetail world, yearling buck harvest rates are at the lowest ever recorded, and the percentage of 3½-year-old and older bucks in the harvest is 41% of the total antlered buck harvest, which is the highest percentage ever recorded. Hunters are clearly reaping the benefits of more naturally balanced age structures in herds across the whitetail's range.

In addition, the antlered buck (those 1½ years or older) harvest is at a record level, and last season's buck harvest was 6 percent above the previous 5-year average. Similarly, the antlerless harvest topped three million and was 11% above the previous 5-year average. Delaware hunters shot the most antlered bucks per square mile (PSM), and Pennsylvania hunters shot the most antlerless deer PSM.

With respect to mule deer, populations are stable or increasing in most states they inhabit. Montana reported harvesting the most antlered bucks PSM and the most antlerless deer PSM, while Nevada reported harvesting the most antlered bucks and antlerless deer per 100 deer hunters.

The biggest issues and trends include 63% of states and 50% of provinces reported their primary firearms season is held after the majority of yearling bucks in their jurisdiction have dispersed. The Midwest had the tightest range of velvet antler shedding while the Southeast had the largest window. Forty-two states reported over 9.5 million deer hunters, with over 7.7 million using firearms, over 3.5 million using archery

equipment, and nearly 1.5 million using muzzleloaders. At least 20 states and one province had some form of antler restrictions implemented in 2021. South Carolina had the lowest resident and nonresident antlerless license prices, while California had the highest resident and Oregon had the highest nonresident antlerless license prices. Twenty-two states had a deer management assistance program (DMAP) in 2021, and this was up from 14 states in 2013. North Dakota reported the highest average dressed weight for yearling bucks, and Texas reported the lowest. Eight states used earn-a-buck as a strategy to increase antlerless harvest in 2021. That was down from 10 states in 2011. Texas reported the most captive deer facilities, followed by Pennsylvania, Florida, and Alabama. Finally, at least 37 states are currently funding deer research projects. Top projects included deer movement studies, disease research, and survival/mortality studies. California allocated the highest amount at \$5 million for research.

All this information and much more is included in the following pages. I hope you enjoy the data, interpretations, and NDA's recommendations as you read this report. Each annual report is different as they cover the most pressing issues of that year so if you enjoy this one be sure to check out the other reports going back to 2009 at *Deer Reports - NDA* ([deerassociation.com](http://deerassociation.com)). Here's to a productive 2022 and a great deer season this fall.

Respectfully,

*Kip Adams*

### Outlook

#### for 2021-22 Deer Season

At the time of writing this *Deer Report*, many 2021-22 deer seasons were still underway, so the statistics highlighted in this report are all from the most recent hunting season that is complete (2020-21). However, some states have already issued press releases on the 2021-22 deer season and we have included five of the top headlines here as an outlook for the data you will see in next year's *Deer Report*. If the early results hold true for the other states, 2021 was an awesome year for Maine hunters, but a below average year for many other states' deer hunters.

#### Illinois

preliminary numbers for the firearm season deer harvest are down from 2020

#### Iowa

deer harvest down 6% from last year

#### Maine

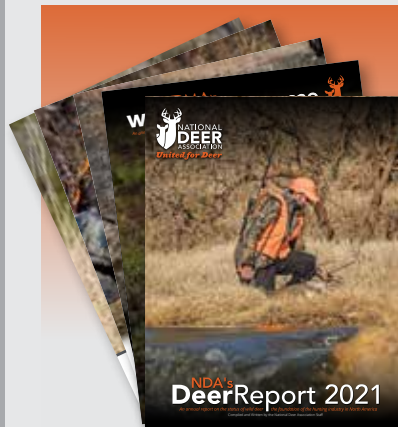
deer harvest highest in 53 years

#### Maryland

deer harvest in two-week firearms season down 10% from last year

#### Ohio

deer harvest numbers statewide below three-year average



## PREVIOUS EDITIONS OF THE DEER REPORT

In various sections of this report, you will find references to previous editions of the *Deer Report*, which has been published annually since 2009. Every edition of the *Deer Report* is available as a free PDF on [DeerAssociation.com](http://DeerAssociation.com) under the "About" menu.

## ABOUT THE DEER HARVEST DATA IN THIS REPORT

The 2021-22 deer season is closed or nearing so for states and provinces across the U.S. and Canada, and biologists will be crunching data in the coming months to assess the outcome of this past season. For the 2022 *Deer Report*, NDA compared harvest data from the three most recent seasons 2018-19, 2019-20, and 2020-21. We acquired some harvest data from 44 of 48 states in the contiguous U.S., and from four of eight Canadian provinces. To allow comparisons across years, we analyzed data from the 37 states in the Midwest, Northeast and Southeast, and also included data from the West and Canada in the harvest table. In future years we will also conduct analyses on data from these lat-

ter two regions as it becomes available. Finally, some western state's harvest data included both whitetails and mule deer. Therefore, we chose to separate harvest data from the West from the total of other regions.

The following data are from each state and provincial wildlife agency. Agencies use different techniques to collect this data, and some collect more data than others. Analyses among agencies may not always compare "apples to apples," but each provided their best possible data. Also, analyses across years should provide valid comparisons for individual agencies. An important note about the "per square mile" (PSM) figures presented in the fol-

lowing pages is that some jurisdictions use total area for these statistics while others use deer habitat (and some differ on what is included in deer habitat). Therefore, we calculated per square mile estimates using each state/province's total area excluding water bodies. This allows estimates to be very comparable across years for a given state/province, but not always across states or provinces.

## ANTLERED BUCK HARVEST

2020 was a record year for hunters. The total buck harvest was 3,041,544 and that marked the first time it has surpassed 3 million adult bucks since we began publishing annual *Deer Reports* in 2009. More antlered bucks (those 1½ years or older) were shot in 28 of 37 states (76%) in the 2020-21 deer season than during the 2019-20 season. Eight of 11 states in the Southeast, 10 of 13 states in the Northeast, and 10 of 13 states in the Midwest shot more bucks in 2020 than 2019.

Overall, Texas shot the most bucks (449,933) and Rhode Island shot the fewest (1,148). Delaware, Michigan and

Pennsylvania more than doubled the national average by each shooting 3.9 bucks PSM, while Nebraska and North Dakota shot the fewest (0.4 PSM).

Comparing the 2020 buck harvest to the previous five-year average shows hunters had a great year. Twenty-nine of 37 states (78%) shot more bucks in 2020 than their prior five-year average. The Southeast's 2020 buck harvest was 6% above its five-year average, the Northeast's was up 7%, and the Midwest's was 6% above its five-year average. Notably, Delaware shot 63% more bucks than its five-year average, five states averaged 3.0-3.9 bucks PSM, and the Southeast region dominated the buck-harvest-per-deer-hunter category with nearly half of its hunters bagging a buck during the 2020-21 season.



### DEER REPORT REGIONS



### Top States Antlered Buck Harvest

State	2020 Harvest
Texas	449,933
Michigan	219,387
Pennsylvania	174,780
Wisconsin	158,236
Missouri	140,855

### Top States Antlered Buck Harvest Per Square Mile

State	2020 Harvest PSM
Delaware	3.9
Michigan	3.9
Pennsylvania	3.9
South Carolina	3.2
Maryland	3.0

### Top States With Greatest Antlered Buck Harvest Increase

State	% Increase to 5yr Avg
Delaware	+63%
South Dakota	+30%
Alabama	+28%
Rhode Island	+26%
Mississippi	+23%

### Top States With Greatest Antlered Buck Harvest per 100 Deer Hunters

State	2020 Harvest
Mississippi	74
South Carolina	65
Louisiana	58
Texas	58
Georgia	55

ANTLERED BUCK HARVEST

State/Province	2018	2019	2020	% Change 2019-20	2020 Bucks PSM	2015-19 Average	% Change 2020 to 5yr Avg	2020 Buck Harvest/100 Deer Hunters
Alabama	73,000	88,896	116,514	31	2.3	90,860	28	51
Arkansas	97,607	89,411	103,973	16	2.0	93,218	12	32
Florida	48,250	48,724	43,643	-10	0.8	55,417	-21	41
Georgia	129,284	129,329	114,759	-11	2.0	134,970	-15	55
Louisiana	83,408	88,920	99,736	6	2.3	89,524	11	58
Mississippi	90,697	100,032	122,013	22	2.6	99,146	23	74
North Carolina	73,925	82,724	86,335	4	1.8	80,027	8	36
Oklahoma	69,851	64,364	72,874	13	1.1	62,607	16	16
South Carolina	109,208	95,974	97,690	2	3.2	100,171	-2	65
Tennessee	74,592	71,866	86,397	20	2.1	77,733	11	51
Texas	508,155	460,242	449,933	-2	1.7	433,057	4	58
<b>Southeast Total/Avg</b>	<b>1,357,977</b>	<b>1,320,482</b>	<b>1,393,867</b>	<b>5</b>	<b>1.8</b>	<b>1,316,730</b>	<b>6</b>	<b>47</b>
Connecticut	5,911	5,814	5,824	0	1.2	5,863	-1	23
Delaware	4,505	4,861	7,640	57	3.9	4,695	63	48
Maine	18,241	20,036	19,139	-4	0.6	17,630	9	9
Maryland	29,699	29,233	29,242	0	3.0	30,157	-3	51
Massachusetts	8,199	7,764	8,506	10	1.1	7,353	16	17
New Hampshire	8,029	7,870	7,986	1	0.9	7,278	10	14
New Jersey	21,545	18,852	21,675	15	2.9	18,212	19	23
New York	113,385	120,403	116,433	-3	2.5	109,635	6	20
Pennsylvania	147,750	163,240	174,780	7	3.9	152,356	15	26
Rhode Island	994	1,072	1,148	7	1.1	912	26	23
Vermont	10,028	10,058	9,256	-8	1.0	9,578	-3	11
Virginia	96,442	100,095	101,509	1	2.6	97,059	5	51
West Virginia	61,392	56,189	59,637	6	2.5	64,612	-8	30
<b>Northeast Total/Avg</b>	<b>526,120</b>	<b>545,487</b>	<b>562,775</b>	<b>3</b>	<b>2.4</b>	<b>525,340</b>	<b>7</b>	<b>25</b>
Illinois	69,777	71,186	75,415	6	1.4	68,401	10	32
Indiana	47,256	51,646	55,446	7	1.5	49,232	13	26
Iowa	46,198	44,093	49,662	13	0.9	46,210	7	29
Kansas	41,056	40,718	44,379	9	0.5	41,449	7	40
Kentucky	70,952	70,362	69,443	-1	1.8	71,014	-2	20
Michigan	211,754	211,228	219,387	4	3.9	207,496	6	39
Minnesota	94,594	97,960	100,558	3	1.3	98,607	2	21
Missouri	136,851	134,092	140,855	5	2.0	131,573	7	30
Nebraska	27,194	29,899	29,726	-1	0.4	28,325	5	31
North Dakota	22,657	24,000	25,400	6	0.4	22,494	13	24
Ohio	71,369	80,138	80,001	0	2.0	77,383	3	40
South Dakota	27,211	26,404	36,394	38	0.5	28,008	30	52
Wisconsin	160,075	138,297	158,236	14	2.9	153,361	3	25
<b>Midwest Total/Avg</b>	<b>1,026,944</b>	<b>1,020,022</b>	<b>1,084,902</b>	<b>6</b>	<b>1.4</b>	<b>1,023,552</b>	<b>6</b>	<b>29</b>
<b>3-Region Total/Avg</b>	<b>2,911,041</b>	<b>2,885,991</b>	<b>3,041,544</b>	<b>5</b>	<b>1.7</b>	<b>2,865,622</b>	<b>6</b>	<b>34</b>
Arizona	9,522	9,365	9,057	-3	0.1	10,448	-13	15
California	-	-	-	-	-	-	-	-
Colorado	30,114	28,310	30,411	7	0.3	28,658	6	35
Idaho	15,162	13,965	35,366	153	0.4	16,478	115	24
Montana	26,323	26,739	29,120	9	0.2	28,716	1	*
Nevada	-	-	-	-	-	-	-	-
New Mexico	10,568	10,544	11,151	6	0.1	10,745	4	29
Oregon	31,525	30,318	36,615	21	0.4	29,359	25	27
Utah	-	-	-	-	-	-	-	-
Washington	23,955	6,522	25,408	290	0.4	17,952	42	24
Wyoming	9,405	29,176	27,938	-4	0.3	13,143	113	44
<b>West Total/Avg</b>	<b>156,574</b>	<b>194,206</b>	<b>205,066</b>	<b>31</b>	<b>0.3</b>	<b>155,499</b>	<b>32</b>	<b>31</b>
Alberta	24,198	*	*	*	*	22,600	*	*
British Columbia	*	*	*	*	*	8,600	*	*
Manitoba	*	*	*	*	*	*	*	*
New Brunswick	5,094	6,025	6,182	3	0.2	5,007	23	16
Nova Scotia	7,204	*	*	*	*	6,522	*	*
Ontario	33,630	31,629	31,748	0	0.1	35,090	-10	17
Quebec	29,654	26,091	29,716	14	0.1	29,162	2	22
Saskatchewan	24,468	*	21,862	*	0.1	21,459	2	52
<b>Canada Total/Avg</b>	<b>124,248</b>	<b>63,745</b>	<b>89,508</b>	<b>40</b>	<b>0.0</b>	<b>109,270</b>	<b>4</b>	<b>22</b>

\*Data not provided/available  
 -These states contain no whitetail deer

## AGE STRUCTURE OF THE ANTLERED BUCK HARVEST



NDA Communications Managers Brian Grossman with a Georgia buck taken on a 15-acre tract. Brian's video series documenting his small-acreage strategies, "15-Acre Fixer-Upper," can be seen on NDA's YouTube channel.

### Top States With Lowest Percentage of Yearling Bucks in Buck Harvest

State	2020 %
Arkansas	6
Oklahoma	8
Louisiana	9
Mississippi	9
Alabama	12

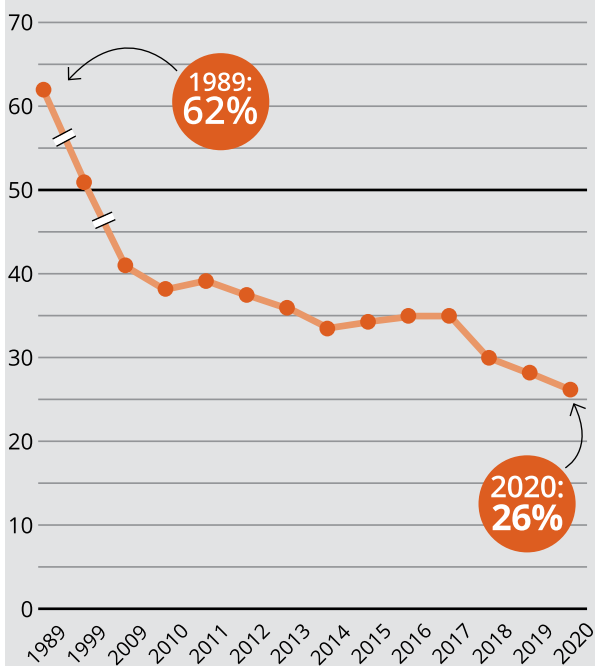
### Top States With Highest Percentage of Yearling Bucks in Buck Harvest

State	2020 %
Wisconsin	40
Ohio	39
New York	38
Illinois	37
Maine	37
New Hampshire	37

### Top States With Highest Percentage of 3½-Plus Bucks in Buck Harvest

State	2020 %
Oklahoma	83
Louisiana	82
Mississippi	79
Arkansas	76
Texas	71

### PERCENT YEARLING BUCKS (1½ YRS) IN THE U.S. ANTLERED HARVEST



The NDA also acquired the age structure of the buck harvest for most states. Twenty-six states reported the percentage of their antlered buck harvest that was 1½ years old, and 21 states reported the percentage that was also 2½ and 3½ years or older. Most states in the Northeast and Southeast collect age data, and about half of the states in the Midwest do. Conversely, few agencies in the West or Canada provide this data so these regions were excluded from the table.

In 2020, the average percentage of the antlered buck harvest that was 1½ years old was 26%. This is the lowest national percentage ever reported! The fact

that about one in four antlered bucks shot today is 1½ years old is amazing, and the line graph on this page shows how the yearling percentage of the antlered buck harvest in the U.S. has changed during the past 32 years.

In 2020, Arkansas averaged the fewest yearlings (6% of antlered buck harvest) and Wisconsin reported the most (40% of antlered buck harvest). Four Southeast states were in single digits, and every state in that region was below 25%. It's noteworthy that even the states with the highest percentage of yearlings in the harvest all do an outstanding job protecting the majority of this age class – a true cornerstone of QDM. As a region, the Southeast averaged the fewest yearlings (14%), followed by the Midwest (30%) and Northeast (33%). Wisconsin had the largest



PERCENTAGE OF ANTLERED BUCK HARVEST BY AGE CLASS

State	1½ Years Old			2½ Years Old			3½ Years and Older		
	2018	2019	2020	2018	2019	2020	2018	2019	2020
Alabama	15	14	12	28	26	29	57	59	59
Arkansas	9	7	6	19	22	18	72	70	76
Florida	11	14	14	46	46	48	44	40	38
Georgia	31	25	24	32	32	36	38	43	41
Louisiana	13	14	9	13	15	9	75	71	82
Mississippi	11	12	9	12	14	12	77	74	79
North Carolina	33	31	20	39	40	38	28	29	43
Oklahoma	18	18	8	16	19	9	66	64	83
South Carolina	36	36	*	29	29	*	35	35	*
Tennessee	29	26	23	46	46	45	25	28	31
Texas	18	16	16	17	14	13	65	70	71
<b>Southeast Average</b>	<b>20</b>	<b>19</b>	<b>14</b>	<b>27</b>	<b>28</b>	<b>26</b>	<b>53</b>	<b>53</b>	<b>60</b>
Connecticut	39	*	31	*	*	*	*	*	*
Delaware	*	*	*	*	*	*	*	*	*
Maine	39	31	37	*	35	34	*	34	29
Maryland	42	41	*	*	*	*	*	*	*
Massachusetts	41	41	*	28	28	*	31	31	*
New Hampshire	*	44	37	*	25	*	*	31	*
New Jersey	*	*	35	*	*	44	*	*	21
New York	41	37	38	39	41	40	20	22	22
Pennsylvania	36	34	36	*	*	*	*	*	*
Rhode Island	33	28	30	31	40	33	36	32	37
Vermont	*	10	19	*	53	46	*	37	35
Virginia	39	34	34	26	26	27	35	40	38
West Virginia	29	21	*	47	51	*	24	28	*
<b>Northeast Average</b>	<b>38</b>	<b>32</b>	<b>33</b>	<b>34</b>	<b>37</b>	<b>37</b>	<b>29</b>	<b>32</b>	<b>30</b>
Illinois	40	39	37	*	*	*	*	*	*
Indiana	18	22	25	40	40	34	42	38	41
Iowa	*	*	*	*	*	*	*	*	*
Kansas	*	*	*	*	*	*	*	*	*
Kentucky	22	22	22	43	44	44	35	35	34
Michigan	*	34	*	*	36	*	*	30	*
Minnesota	*	*	*	*	*	*	*	*	*
Missouri	37	25	24	41	46	47	22	29	29
Nebraska	23	23	22	40	37	*	37	40	*
North Dakota	*	*	*	*	*	*	*	*	*
Ohio	39	39	39	33	33	33	28	28	28
South Dakota	*	*	*	*	*	*	*	*	*
Wisconsin	53	52	40	31	31	31	16	17	29
<b>Midwest Average</b>	<b>33</b>	<b>32</b>	<b>30</b>	<b>38</b>	<b>38</b>	<b>38</b>	<b>30</b>	<b>31</b>	<b>32</b>
<b>3-Region Average</b>	<b>30</b>	<b>28</b>	<b>26</b>	<b>33</b>	<b>34</b>	<b>33</b>	<b>37</b>	<b>39</b>	<b>41</b>

\*Data not provided/available

year-to-year decline in harvest percentage by dropping from 52 to 40% yearling bucks. Amazingly, Vermont had the largest year-to-year rise in harvest percentage by increasing from only 10 to 19% yearling bucks!

Twenty-one of 26 states (81%) that we received age structure data from were able

to also provide the percentage of bucks 3½ years and older in the harvest; kudos to these states for their data collection efforts. **The average percentage of the antlered buck harvest that was 3½ years and older was 41% in 2020.** This is the highest percentage ever reported, and it's amazing to realize

that more than one of every three antlered bucks shot in the U.S. is at least 3½ years old. This is a testament to how far we've come as hunters and deer managers. This statistic ranged from 21% in New Jersey to 83% in Oklahoma.

## ANTLERLESS DEER HARVEST

Antlerless harvests vary widely among states and years due to differences in deer density, productivity, a state's goals (reducing, stabilizing, or increasing the deer population), weather, disease and other factors. However, we can learn much about an agency's management program by comparing the antlerless and antlered buck harvests. Continuing with the analysis of states in the Midwest, Northeast and Southeast, hunters from these regions harvested 3,207,937 antlerless deer in 2020. This is the first time the

antlerless harvest has topped three million since 2013, and it was 11% above the five-year average. Overall, Texas topped the list with 402,515 antlerless deer, Pennsylvania followed with 260,400, and Michigan was third with 191,252. Kudos to Michigan for increasing its antlerless harvest 25% from 2019.

The antlerless harvest increased 12% from 2019 in those three regions, and this is a difference of nearly 350,000 additional deer and 70 million venison meals. In fact, in 2020 hunters shot more antlerless deer than antlered bucks for the first time since 2017, and reversed a significant, declining 12-year national trend that experienced a 20% reduction in antlerless harvest between 2007 and 2019.

Pennsylvania harvested the most antlerless deer per square mile (PSM; 5.8), followed by Delaware and Maryland (5.1 each). These are astounding harvest rates! Regionally, the Northeast (2.9) averaged

shooting the most antlerless deer PSM, followed by the Southeast (1.8) and the Midwest (1.4).

Antlerless harvest was up in the Southeast (+11%), Midwest (+12%) and Northeast (+15%) in 2020 over 2019. In total, 31 of 37 states (84%) shot more antlerless deer in 2020 than the prior year, and 30 of 37 states (81%) shot more antlerless deer than their five-year average.

Seven of 13 (54%) Midwest states shot more antlerless deer than antlered bucks, seven of 13 (54%) Northeastern states shot more antlerless deer, and five of 11 (45%) Southeastern states shot more antlerless deer than antlered bucks in 2020.

Reduced antlerless harvests are necessary in areas where deer herds have been balanced with the habitat and/or when other mortality factors (such as predation or disease) are increasing. However, very few states should be harvesting more antlered bucks than antlerless deer on a regular basis.

### Top States Antlerless Harvest

State	2020 Harvest
Texas	402,515
Pennsylvania	260,400
Michigan	191,252
Wisconsin	181,665
Alabama	159,068

### Top States Antlerless Harvest Per Square Mile (PSM)

State	2020 Harvest PSM
Pennsylvania	5.8
Delaware	5.1
Maryland	5.1
New Jersey	4.5
Michigan	3.4
Wisconsin	3.4

### Top States With Greatest Antlerless Harvest Per 100 Deer Hunters

State	2020 Harvest PSM
Maryland	86
Mississippi	81
Georgia	74
Alabama	70
South Carolina	67

### Top States Antlerless Deer Per Antlered Buck Harvest

State	2020 Ratio
Maryland	1.7
Ohio	1.5
Pennsylvania	1.5
Alabama	1.4
Georgia	1.4



Jessica Sorrentino, right, poses with her first deer and mentor Kim Franceus at a Field to Fork event on the Meateater Back40 property in Michigan.

## ANTLERLESS DEER HARVEST

State/Province	2018	2019	2020	% Change 2019-20	2015-19 Average	% Change 2020 to 5yr Avg	2020 Antlerless PSM	2020 Antlerless/ Antlered	2020 Antlerless/ 100 Deer Hunters
Alabama	130,040	129,462	159,068	23	149,908	6	3.1	1.4	70
Arkansas	112,458	98,740	112,862	14	110,483	2	2.2	1.1	35
Florida	26,724	23,513	21,933	-7	30,914	-29	0.4	0.5	21
Georgia	149,119	132,713	155,513	17	185,308	-16	2.7	1.4	74
Louisiana	76,992	82,080	92,064	20	77,756	18	2.1	0.9	54
Mississippi	106,200	119,199	134,658	13	122,797	10	2.9	1.1	81
North Carolina	69,606	79,217	83,638	6	75,912	10	1.7	1.0	35
Oklahoma	39,409	42,013	53,416	27	39,602	35	0.8	0.7	12
South Carolina	85,778	97,099	100,203	3	87,966	14	3.3	1.0	67
Tennessee	72,473	63,289	73,876	17	72,505	2	1.8	0.9	44
Texas	375,408	386,088	402,515	4	350,500	15	1.5	0.9	52
<b>Southeast Total/Avg</b>	<b>1,244,207</b>	<b>1,253,413</b>	<b>1,389,746</b>	<b>11</b>	<b>1,303,650</b>	<b>7</b>	<b>1.8</b>	<b>1.0</b>	<b>46</b>
Connecticut	5,434	5,094	5,057	-1	4,854	4	1.0	0.9	20
Delaware	10,378	12,108	9,982	-18	10,631	-6	5.1	1.3	62
Maine	14,210	8,287	14,020	69	8,716	61	0.5	0.7	6
Maryland	44,249	46,777	49,033	5	50,986	-4	5.1	1.7	86
Massachusetts	6,532	6,156	6,260	2	5,499	14	0.8	0.7	13
New Hampshire	6,084	4,436	5,058	14	4,782	6	0.6	0.6	9
New Jersey	29,316	26,798	33,305	24	28,017	19	4.5	0.6	35
New York	114,402	103,787	137,557	33	104,654	31	2.9	1.2	23
Pennsylvania	226,940	226,191	260,400	15	203,713	28	5.8	1.5	39
Rhode Island	1,131	1,213	1,200	-1	1,064	13	1.1	1.0	24
Vermont	8,983	6,492	9,735	50	6,525	49	1.0	1.1	11
Virginia	95,505	107,972	107,847	0	99,318	9	2.7	1.1	55
West Virginia	47,464	43,248	47,224	9	48,839	-3	2.0	0.8	24
<b>Northeast Total/Avg</b>	<b>610,628</b>	<b>598,559</b>	<b>686,678</b>	<b>15</b>	<b>577,597</b>	<b>19</b>	<b>2.9</b>	<b>1.2</b>	<b>30</b>
Illinois	81,932	81,988	87,337	7	82,024	6	1.6	1.2	38
Indiana	63,995	63,236	68,734	9	61,822	11	1.9	1.2	32
Iowa	61,659	55,906	59,882	7	57,836	4	1.1	1.2	35
Kansas	38,902	37,182	38,747	4	41,156	-6	0.5	0.9	35
Kentucky	74,793	78,023	72,182	-7	74,230	-3	1.8	1.0	21
Michigan	155,898	152,451	191,252	25	148,237	29	3.4	0.9	34
Minnesota	94,112	85,677	96,757	13	81,927	18	1.2	1.0	20
Missouri	153,373	151,781	156,359	3	148,643	5	2.3	1.1	33
Nebraska	19,375	19,191	21,101	10	19,173	10	0.3	0.7	22
North Dakota	14,124	12,500	17,100	37	13,034	31	0.2	0.7	16
Ohio	100,680	104,330	117,720	13	105,271	12	2.9	1.5	59
South Dakota	17,257	17,735	22,677	28	17,284	31	0.3	0.6	32
Wisconsin	175,168	152,726	181,665	19	161,602	12	3.4	1.1	29
<b>Midwest Total/Avg</b>	<b>1,051,913</b>	<b>1,012,726</b>	<b>1,131,513</b>	<b>12</b>	<b>1,012,743</b>	<b>12</b>	<b>1.4</b>	<b>1.0</b>	<b>31</b>
<b>3-Region Total/Avg</b>	<b>2,906,748</b>	<b>2,864,698</b>	<b>3,207,937</b>	<b>12</b>	<b>2,885,411</b>	<b>11</b>	<b>1.8</b>	<b>1.0</b>	<b>36</b>
Arizona	0	*	0	*	*	*	*	0.0	0
California	-	-	-	-	-	-	-	-	-
Colorado	7,574	8,079	8,488	5	7,875	8	0.1	0.3	10
Idaho	9,969	7,575	14,291	89	9,857	45	0.2	0.4	10
Montana	18,211	17,159	21,892	28	17,807	23	0.2	0.7	*
Nevada	-	-	-	-	-	-	-	-	-
New Mexico	133	117	205	75	125	64	0.0	0.0	1
Oregon	2,213	3,597	3,448	-4	2,881	20	0.0	0.1	3
Utah	-	-	-	-	-	-	-	-	-
Washington	4,092	1,045	4,027	285	3,879	4	0.1	0.2	4
Wyoming	9,733	12,985	13,336	3	9,563	39	0.1	0.5	21
<b>West Total/Avg</b>	<b>51,925</b>	<b>63,532</b>	<b>65,687</b>	<b>3</b>	<b>52,066</b>	<b>21</b>	<b>0.1</b>	<b>0.3</b>	<b>10</b>
Alberta	19,603	*	*	*	*	*	*	*	*
British Columbia	*	*	*	*	*	*	*	*	*
Manitoba	*	*	*	*	*	*	*	*	*
New Brunswick	1,129	1,278	1,594	25	934	71	0.1	0.3	4
Nova Scotia	2,490	*	*	*	*	*	*	*	*
Ontario	24,703	20,612	21,197	3	23,765	-11	0.1	0.7	11
Quebec	24,402	21,509	18,708	-13	22,001	-15	0.0	0.6	14
Saskatchewan	4,495	*	4,947	*	4,578	8	0.0	0.2	12
<b>Canada Total/Avg</b>	<b>76,822</b>	<b>43,399</b>	<b>46,446</b>	<b>7</b>	<b>66,614</b>	<b>13</b>	<b>0.0</b>	<b>0.5</b>	<b>11</b>

\*Data not provided/available  
-These states contain no whitetail deer

## AGE STRUCTURE OF THE ANTLERLESS HARVEST

### Top States

With Lowest Percentage of Fawns in Antlerless Harvest

State	2020 %
Texas	2
Kansas	4
Louisiana	8
Mississippi	8
Oklahoma	11
Wisconsin	11

### Top States

With Highest Percentage of Fawns in Antlerless Harvest

State	2020 %
Maine	37
Ohio	36
Missouri	32
Pennsylvania	32
Minnesota	29

### Top States

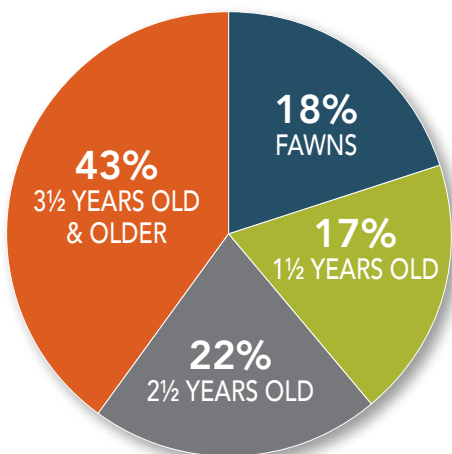
With Highest Percentage of 3½-Plus in Antlerless Harvest

State	2020 %
Texas	65
Louisiana	59
Mississippi	57
Oklahoma	57
Arkansas	54
Vermont	54



Evan Barrett (left) with his first deer, and the first ever taken on NDA's Back 40 property in Michigan since the land was gifted by MeatEater. Evan's mentor on the hunt was Mark Kenyon of Wired to Hunt.

### 2020 PERCENTAGE OF ANTLERLESS HARVEST BY AGE CLASS



The NDA also acquired the age structure of the antlerless harvest data for most states. Twenty-six states reported the percentage of their antlerless harvest that was 0.5 years old ("fawns"). Twenty-two states reported the percentage that was 1½ years, and 20 states reported the percentage that was 2½ and 3½ years or older. Since very few agencies in the West or Canada reported this data, those regions were excluded from the table. In 2020, the average antlerless harvest that was a fawn was 18%; thus, less than

one in five antlerless deer harvested was a fawn for the three main U.S. regions.

The Southeast averaged the lowest percentage of fawns (13%) while the Midwest (20%) and Northeast (24%) both averaged considerably more. Individually, Texas (2%) shot the fewest fawns and Maine (37%) shot the most. Texas historically shoots a very small percentage of fawns. Monitoring the percentage of fawns in the antlerless harvest is one method for estimating the fawn recruitment rate, and this statistic is

PERCENTAGE OF ANTLERLESS HARVEST BY AGE CLASS

State	Fawns			1½ Years Old			2½ Years Old			3½ Years and Older		
	2018	2019	2020	2018	2019	2020	2018	2019	2020	2018	2019	2020
Alabama	14	12	14	16	16	15	24	23	21	46	48	50
Arkansas	11	10	13	18	17	12	19	23	21	52	51	54
Florida	18	20	12	23	17	15	24	23	32	35	40	41
Georgia	37	18	14	18	25	21	23	23	33	23	34	33
Louisiana	7	6	8	20	20	14	20	20	19	54	54	59
Mississippi	7	9	8	21	19	15	18	18	20	54	54	57
North Carolina	20	20	17	19	18	17	27	25	28	34	37	38
Oklahoma	10	8	11	17	16	16	18	23	17	55	53	57
South Carolina	17	17	*	18	18	*	21	21	*	44	44	*
Tennessee	18	24	25	28	21	25	31	31	29	23	24	22
Texas	2	3	2	15	13	14	23	20	19	60	65	65
<b>Southeast Average</b>	<b>15</b>	<b>12</b>	<b>13</b>	<b>19</b>	<b>18</b>	<b>17</b>	<b>23</b>	<b>23</b>	<b>24</b>	<b>44</b>	<b>48</b>	<b>48</b>
Connecticut	*	*	12	*	*	*	*	*	*	*	*	*
Delaware	*	*	*	*	*	*	*	*	*	*	*	*
Maine	32	25	37	12	16	9	*	17	12	*	42	42
Maryland	26	27	*	26	22	*	*	*	*	*	*	*
Massachusetts	38	39	*	19	19	*	18	17	*	25	25	*
New Hampshire	*	16	*	*	21	*	*	16	*	*	46	*
New Jersey	*	*	25	*	*	25	*	*	22	*	*	28
New York	29	21	22	19	22	18	21	22	24	31	35	36
Pennsylvania	34	31	32	19	19	18	*	*	*	*	*	*
Rhode Island	25	21	18	12	17	18	17	32	26	46	30	38
Vermont	19	16	19	13	18	15	18	17	12	50	49	54
Virginia	34	36	25	18	16	20	18	16	20	30	32	35
West Virginia	10	14	*	25	35	*	21	21	*	44	30	*
<b>Northeast Average</b>	<b>27</b>	<b>25</b>	<b>24</b>	<b>18</b>	<b>21</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>19</b>	<b>35</b>	<b>36</b>	<b>39</b>
Illinois	31	28	27	*	*	*	*	*	*	*	*	*
Indiana	15	32	13	26	37	35	33	23	37	26	8	15
Iowa	*	*	*	*	*	*	*	*	*	*	*	*
Kansas	12	8	4	*	*	*	*	*	*	*	*	*
Kentucky	18	18	14	17	16	20	35	34	36	30	32	31
Michigan	21	21	*	19	17	*	22	21	*	38	41	*
Minnesota	30	29	29	*	*	*	*	*	*	*	*	*
Missouri	32	35	32	24	21	19	17	17	19	27	27	30
Nebraska	21	17	*	26	27	*	27	27	*	26	29	*
North Dakota	*	*	*	*	*	*	*	*	*	*	*	*
Ohio	41	36	36	19	19	19	*	*	*	*	*	*
South Dakota	*	*	*	*	*	*	*	*	*	*	*	*
Wisconsin	30	29	11	19	20	20	21	21	27	30	30	42
<b>Midwest Average</b>	<b>25</b>	<b>25</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>22</b>	<b>26</b>	<b>24</b>	<b>30</b>	<b>29</b>	<b>28</b>	<b>29</b>
<b>3-Region Average</b>	<b>21</b>	<b>19</b>	<b>18</b>	<b>18</b>	<b>19</b>	<b>17</b>	<b>21</b>	<b>21</b>	<b>22</b>	<b>41</b>	<b>41</b>	<b>43</b>

\*Data not provided/available

one of the most important pieces of data a deer manager needs when assessing a herd's growth potential and applying a prescribed antlerless harvest.

The accompanying table also includes a state-by-state look at the percentage of the antlerless harvest from 2018 to 2020 that was 1½, 2½ and 3½ years or older. Monitoring how these percentages change over time is valuable and that's especially true for the 3½ years and older age class.

This age class includes mature animals and they typically are also the most productive individuals and most successful mothers. Nationally, nearly half (43%) of the antlerless deer shot in 2020 reached the 3½ year and older age class. The Southeast leads the regions with 48% of antlerless deer in this age class, and Texas leads all states with 65% being 3½ years and older.

Age structure data is the backbone of deer management programs. Monitoring

the age structure of the harvest is key for managers to make wise management decisions including the appropriate number of antlerless deer to harvest annually in each management unit. Good age data helps managers from underharvesting and from overharvesting deer herds. Many hunters learn how to estimate the age of deer they harvest, and all hunters should provide every piece of data requested by their wildlife agency.

## DEER HARVEST BY WEAPON TYPE



NDA President & CEO Nick Pinizzotto with a Pennsylvania doe he killed with a compound bow. Pennsylvania's 37% harvest rate by archery hunters is well above the national average of 26%.

The average hunter today has much longer seasons and more weapon opportunities than he/she had in the past. To assess how hunters take advantage of these, we surveyed state wildlife agencies to determine the percentage of the total deer harvest taken with a bow/crossbow, rifle/shotgun, muzzleloader, or other weapon (pistol, etc.) during the 2018, 2019 and 2020 seasons. Earlier chapters did not include the West due to a lack of comparable data. However, the West provided ample data on harvest by weapon type so it is included in the text and table for this chapter.

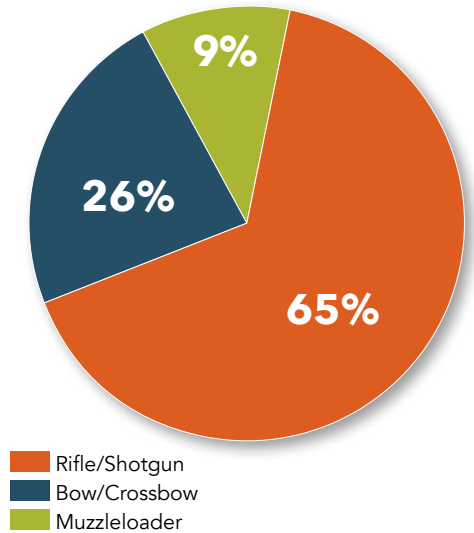
Nationally, muzzleloader hunters took 9% of the total deer harvest, bow/crossbow hunters took 26%, and firearm (rifle/shotgun) hunters took 65% of the total deer harvest in 2020.

Regionally, bowhunters averaged the highest percentage of the harvest in the Northeast (35%). Muzzleloader hunters also averaged their highest percentage in the Northeast (18%). Surprisingly, firearm hunters in the Northeast took just under half of the deer (47%). In the Southeast,

firearms reign supreme as three of four deer taken in 2020 (75%) were with a rifle or shotgun. Muzzleloading (8%) and bow hunting (16%) paled in comparison to the firearm harvest. The Midwest harvest was 5% muzzleloader, 28% bow, and 66% firearms. In the West, muzzleloading was least popular at only 3% of the harvest, and a firearm harvest of 88% was by far the highest in the country.

Individually, New Jersey leads the U.S. in the percentage of total harvest taken by archers (64%), Wyoming had the highest percentage taken by firearms hunters (94%), and Rhode Island tops the list with percentage taken by muzzleloader hunters (42%). More hunters take advantage of bows, crossbows and muzzleloaders today and that's great for the future of hunting (see page 20). More seasons to go afield help even "occasional" hunters stay engaged, and it greatly enhances the opportunities to mentor youth and new hunters. Finally, expanded opportunities help retain aging hunters, and every hunter is critically important to our wildlife management system.

### TOTAL 2020 DEER HARVEST BY WEAPON TYPE



Top States Percent of Harvest by Bow/Crossbow	
State	2020 %
New Jersey	64
Connecticut	58
Massachusetts	50
Ohio	48
Illinois	46

Top States Percentage of Harvest by Rifle/Shotgun	
State	2020 %
Wyoming	94
Montana	92
California	91
Idaho	91
South Carolina	89

Top States Percentage of Harvest by Muzzleloader	
State	2020 %
Rhode Island	42
New Hampshire	25
Vermont	24
Virginia	23
Massachusetts	21

PERCENTAGE OF HARVEST BY WEAPON TYPE

State	Bow/Crossbow			Rifle/Shotgun			Muzzleloader			Other		
	2018	2019	2020	2018	2019	2020	2018	2019	2020	2018	2019	2020
Alabama	23	19	20	73	78	77	4	3	3	0	0	0
Arkansas	14	14	17	75	75	72	12	11	11	0	0	0
Florida	29	25	25	63	68	67	8	7	8	0	0	0
Georgia	19	16	16	79	82	81	2	3	3	0	0	0
Louisiana	5	9	10	83	79	79	12	12	11	0	0	0
Mississippi	19	21	17	68	66	72	13	13	11	0	0	0
North Carolina	11	13	13	81	76	77	8	11	10	0	0	0
Oklahoma	26	29	28	61	56	58	13	16	14	0	0	0
South Carolina	9	8	9	89	90	89	2	2	2	<1	<1	0
Tennessee	10	13	12	70	64	70	19	23	18	0	0	0
Texas	9	10	11	90	90	88	1	1	1	0	<1	0
<b>Southeast Average</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>76</b>	<b>79</b>	<b>75</b>	<b>9</b>	<b>6</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>
Connecticut	47	53	58	38	6	35	6	33	7	9	9	0
Delaware	20	23	20	67	63	68	13	13	11	<1	1	0
Maine	8	8	10	86	88	85	6	4	5	0	0	0
Maryland	31	37	35	51	44	49	18	19	16	0	0	0
Massachusetts	40	48	50	39	31	29	21	21	21	0	0	0
New Hampshire	*	28	30	*	42	45	*	28	25	*	2	0
New Jersey	57	63	64	33	28	28	6	9	8	0	0	0
New York	23	22	30	68	64	61	9	8	8	<1	5	0
Pennsylvania	30	37	37	64	55	57	6	8	6	0	0	0
Rhode Island	36	39	44	18	13	14	46	48	42	0	0	0
Vermont	21	23	32	46	55	44	33	22	24	0	0	0
Virginia	14	15	14	63	59	63	23	26	23	0	0	0
West Virginia	24	30	30	71	65	65	5	5	5	0	0	0
<b>Northeast Average</b>	<b>29</b>	<b>33</b>	<b>35</b>	<b>54</b>	<b>47</b>	<b>47</b>	<b>16</b>	<b>18</b>	<b>18</b>	<b>1</b>	<b>1</b>	<b>0</b>
Illinois	41	44	46	50	49	52	9	2	2	1	5	0
Indiana	28	29	30	58	58	60	13	13	10	0	<1	0
Iowa	20	22	22	55	53	52	12	11	13	13	14	13
Kansas	37	41	40	60	57	57	3	3	3	0	0	0
Kentucky	15	11	22	75	74	69	10	8	9	0	7	0
Michigan	*	32	33	*	61	*	*	7	*	*	0	0
Minnesota	12	13	14	83	82	81	5	5	5	0	0	0
Missouri	18	22	23	77	74	72	4	4	5	0	0	0
Nebraska	6	13	14	90	80	79	4	6	7	0	0	0
North Dakota	21	22	22	69	77	77	1	1	1	8	0	0
Ohio	46	48	48	41	45	44	13	6	8	<1	1	0
South Dakota	15	17	18	83	81	80	2	2	2	0	0	0
Wisconsin	26	32	34	72	65	64	2	3	2	0	0	0
<b>Midwest Average</b>	<b>24</b>	<b>28</b>	<b>28</b>	<b>68</b>	<b>66</b>	<b>66</b>	<b>7</b>	<b>5</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>1</b>
Arizona	*	9	*	*	90	*	*	1	*	*	0	0
California	*	*	7	*	*	91	*	*	1	*	*	<1
Colorado	*	9	8	*	85	86	*	6	6	*	0	0
Idaho	4	5	6	94	94	91	2	1	3	0	0	0
Montana	*	7	8	*	93	92	*	0	0	*	0	0
Nevada	*	10	10	*	80	85	*	10	5	*	0	0
New Mexico	15	14	*	72	73	*	13	13	*	0	0	0
Oregon	*	14	13	*	84	85	*	3	2	*	0	0
Utah	*	10	*	*	15	*	*	15	*	*	*	0
Washington	*	14	14	*	6	80	*	6	6	*	*	0
Wyoming	7	5	6	93	*	94	*	0	*	*	*	0
<b>West Average</b>	<b>9</b>	<b>12</b>	<b>9</b>	<b>86</b>	<b>62</b>	<b>88</b>	<b>5</b>	<b>5</b>	<b>3</b>	<b>*</b>	<b>*</b>	<b>&lt;1</b>
<b>U.S. Average</b>	<b>24</b>	<b>25</b>	<b>26</b>	<b>64</b>	<b>65</b>	<b>65</b>	<b>11</b>	<b>9</b>	<b>9</b>	<b>1</b>	<b>1</b>	<b>0</b>

\*Data not provided/available

## 2021 DEER DISEASE UPDATE

Nearly every deer hunter has heard of chronic wasting disease (CWD), and unfortunately an increasing number of deer herds are being directly impacted by it every year. However, there are other disease threats to deer populations that you may or may not have heard of; below is a run-down of some of the biggest issues regarding wild deer diseases that hit the headlines in 2021, starting with hemorrhagic disease.

### Hemorrhagic Disease

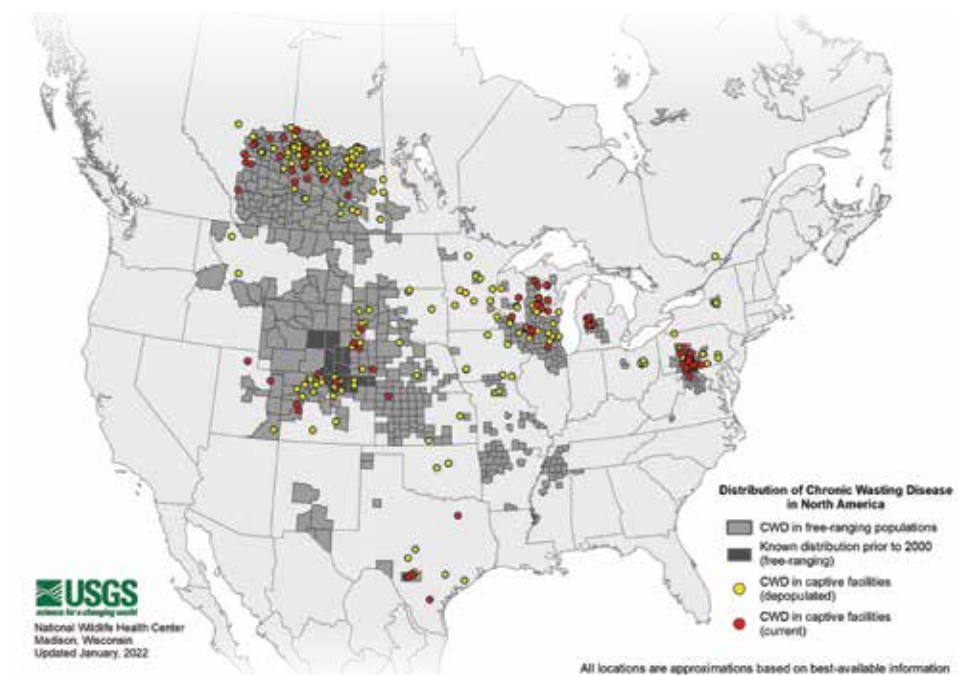
Hemorrhagic disease (HD) is an infectious, blood-borne disease of deer and elk that is transmitted by biting midges or flies; it is caused by either of two closely related viruses, epizootic hemorrhagic disease virus (EHDV) or bluetongue virus (BTV). Since the symptoms and disease features produced by both of these viruses are relatively indistinguishable, the general term “HD” is often used.

As of December 2021, the Southeastern Cooperative Wildlife Disease Study (SCWDS) confirmed HD in free-ranging white-tailed deer in 23 states. The majority of virus strains isolated were EHDV-2; however, EHDV-6 predominated in several locations in the northeast. Single isolations of BTV-11 and BTV-13 were also reported. SCWDS confirmed HD by virus isolation or PCR from white-tailed deer in Alabama, Florida, Georgia, Idaho, Indiana, Illinois, Kansas, Kentucky, Louisiana, Michigan, Missouri, Montana, New Jersey, New York, North Dakota, Nebraska, Oregon, Pennsylvania, Vermont, Wisconsin, and West Virginia. In addition, HD was also discovered in Minnesota and Ontario, Canada through other labs. BTV and EHDV cases were seen in other wildlife species (namely pronghorn, mule deer, bighorn, and elk) in several mid- and northwestern states.

In 2021, newly published research reported the presence of low levels of maternal antibodies protects fawns against clinical HD and also reduces the level and duration of infection, suggesting that passive immunity is an important component of protection against HD in fawns.

### Bovine Tuberculosis

Bovine tuberculosis (bTB) is a bacterial infection of the respiratory system. Bovine TB is a chronic, progressive disease that can take years to develop. There is no vaccine. Prior to 1994, only eight wild white-tailed deer and mule deer were reported with bTB. Since then, it has been discovered in Indiana, Michigan, Minnesota, Montana and Wisconsin. With the exception of Michigan,



bTB appears to be eradicated in the other states. The key is quickly reduced/eliminating the reservoir or host (e.g., cattle or captive elk).

After testing numbers were down nearly 80% in 2020 when wildlife officials purposely scaled back the number of deer tested and reducing employee hours as a result of five Michigan Wildlife Disease Laboratory workers being diagnosed with a latent form of tuberculosis, testing efforts slightly increased this year. As of late December 2021, nearly 9,000 samples had been tested in Michigan with three additional new positives discovered, all in Alpena County. Although total samples tested are still down more than 50% compared to previous years, prevalence rates were nearly identical to the past. Even in the historical detection area that includes 13 counties in northeast Michigan, bTB continues to be rare in deer.

### Lungworm

Lab results from diagnostic testing conducted at the Indiana Animal Disease Diagnostic Lab at Purdue University identified that heavy lung worm parasite loads, combined with heavy snowfall, poor nutrition, and a prolonged cold snap in mid-February, were contributing factors to the localized deaths of 40 deer.

### SARS-CoV-2

The susceptibility of white-tailed deer to SARS-CoV-2 (the virus that causes COVID-19) infection was first demonstrated

early in 2021 through experimental infections conducted by the USDA Agricultural Research Service. In this work, deer-to-deer transmission of this virus was documented. Then, USDA Wildlife Services reported the detection of SARS-CoV-2 antibodies within wild deer sampled in Illinois, Michigan, Pennsylvania, and New York. These were the only states included in the study.

More recently, a new study in late 2021 found high rates of SARS-CoV-2 exposure and active infection (33-82%) among white-tailed deer tested across Iowa. The study used genome sequencing of the viral samples to learn that SARS-CoV-2 reached deer through multiple “spillover” events from humans, suggesting SARS-CoV-2 may be much more widespread in whitetails than previously thought and that deer are extremely susceptible to infection with the virus. Although deer become infected, there have not been reported clinical signs, and there is no evidence the infection is a serious health threat to deer. More study of the SARS-CoV-2 virus in deer is needed.

### Ticks and Tick-Borne Illnesses

Ticks and tick-borne illnesses are the second most important vector of human pathogens (after mosquitos) regarding the number and virulence of pathogens transmitted. Ticks are also important vectors of domestic and wild animal pathogens, including deer. Numerous well-known tick-borne pathogens have been recognized that cause human disease, including anaplasmo-



sis, babesiosis, ehrlichiosis, Lyme disease, Powassan disease, STARI, Rocky Mountain spotted fever, tularemia, as well as some newcomers like Heartland virus, Bourbon virus, and two *Borrelia* species, *B. miyamotoi* and *B. burgdorferi*, that share the same vector as *B. burgdorferi*, the causative agent of Lyme disease.

In November 2017 USDA Animal and Plant Health Inspection Service (APHIS) confirmed the identification of an exotic tick called the Asian Longhorned Tick (ALHT), *Haemaphysalis longicornis*. Today we now understand ALHT to be found in 17 states, including: Arkansas, Connecticut, Delaware, Georgia, Kentucky, Maryland, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, Tennessee, Virginia and West Virginia. SCWDS maintains a county-level web map that displays ALHT positive hosts and locations; three of the 17 above states were added last year.

### Eastern Equine Encephalitis

Eastern Equine Encephalitis (EEE) is an infectious, often fatal disease of horses, humans, and pigs. Wild ruminants like deer can also become infected. The virus is maintained in temperate areas by wild bird reservoirs and mosquito vectors. In 2021, EEE was only discovered in a single white-tailed deer in Michigan.

### Chronic Wasting Disease

Chronic Wasting Disease is an always fatal disease found in most deer species, including elk, reindeer, moose, mule, red and white-tailed deer, and CWD has now been identified in 27 U.S. states, five Canadian provinces (including the Toronto Zoo), Korea (from an elk imported from Canada in 1997), Norway (in free-ranging reindeer, moose and red deer), and Finland (free-ranging moose). Contagions spread through urine, feces, saliva, blood, semen, deer parts, and especially via live deer. Importantly, there is no vaccine or cure.

Research shows variances in infectivity among prion transport systems (for example, saliva may be 10 times as infectious as urine), that plants can bind, uptake and transport prions from infected soil, and hamsters that ate the plants contracted the disease. One study found that mineral licks can serve as reservoirs of CWD prions and thus facilitate disease transmission. CWD has also been shown to experimentally infect squirrel monkeys, pigs and laboratory mice that carry some human genes. There is currently conflicting evidence of potential infection (clinical,

pathological, or biochemical) to primates closely related to humans (macaque monkeys) when they consume infected venison.

In addition, CWD-positive deer are two to three times more likely to die and are considerably less active than deer that are negative, and adult does are 10 times more likely to be CWD-positive if they have a CWD-positive relative nearby.

CWD made numerous other headlines in 2021, and some of the biggest were:

#### Research

- National Institutes of Health (NIH) Rocky Mountain Laboratories infectious disease scientists reported a possible means to test for CWD from live deer using a sample of ear skin.

- University of Minnesota researchers reported the possible development of a novel, field-deployable test for CWD.

- Researchers showed that aerosol transmission of CWD is possible.

- Scientists at Case Western Reserve University and NIH used cryo-electron microscopy to generate the highest-ever resolution imaging of an infectious prion.

- Recent findings suggest that harvesting mule deer with sufficient hunting pressure might control CWD—especially when prevalence is low—but harvest prescriptions promoting an abundance of mature male deer contribute to the exponential growth of epidemics.

- A new study suggested promise that accurate genomic predictions are possible for CWD in white-tailed deer, and that both susceptibility and natural variation in disease progression are likely heritable among captive white-tailed deer.

#### Other

- CWD was discovered for the first time in Manitoba and Idaho in 2021.

- This past spring, after over a dozen CWD-positive deer were discovered at a captive facility in northern Minnesota, officials discovered the CWD-positive carcasses were subsequently dumped on nearby public land.

- CWD was detected at three facilities outside of Dallas and San Antonio, Texas, but only after those facilities shipped deer to more than 260 other sites across 95 different counties.

- Two CWD-positive captive deer discovered in early fall in Wisconsin prompted an investigation into one of the most extensive web of deer shipments from a CWD-positive facility on record—nearly 400 deer were sent to 40 facilities in seven states over the last

five years, including 18 Wisconsin counties as well as inter-state deals with captive cervid facilities in Illinois, Kansas, Minnesota, North Dakota, Oklahoma and Pennsylvania.

- The CWD Research and Management Act passed the House of Representatives in December.

To best view the incredibly wide breadth of new CWD cases, management implications and policy developments from this past year, type the phrase “CWD Round Up” in the search window at [www.deerassociation.com](http://www.deerassociation.com) to get our six 2021 bi-monthly reports from NDA staff.

### Not a disease, but noteworthy

In November 2021, the Maine Department of Inland Fisheries and Wildlife, in conjunction with the Maine Center for Disease Control and Prevention, announced detection of high levels of PFAS (Per- and Polyfluoroalkyl substances) in deer harvested in the greater Fairfield area, and issued a “do not eat” advisory for deer harvested in the area.

### NDA's Recommendations

Disease transmission among free-ranging and from captive to free-ranging deer is a major threat to the future of wildlife management and hunting in North America. One of the NDA's critical focus areas is deer diseases; therefore, we recommend a continued and strengthened effort by wildlife professionals to study, monitor and evaluate solutions for minimizing the spread of CWD, bTB and other communicable, preventable diseases.

The NDA also recommends maintaining or enhancing strict movement restrictions (like border closings, etc.) and testing protocols on captive deer, as well as returning/maintaining full authority over captive deer facilities and regulations with the state/provincial wildlife agencies. Currently, some state/provinces have this authority while the Department of Agriculture shares it or maintains sole possession in others (see page 28).

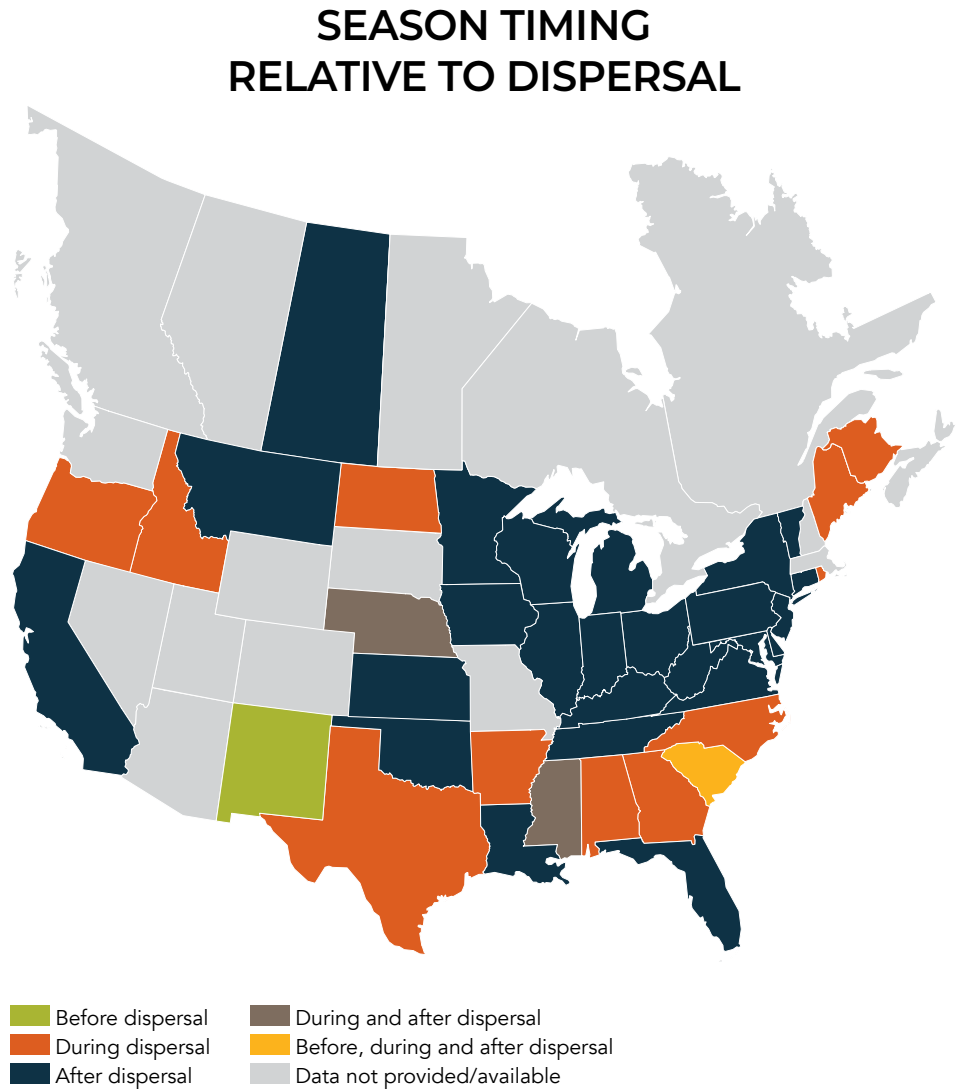
Regarding HD, although its national impact on deer populations was minor in 2021, it can be locally severe especially in areas where the disease is relatively new. The NDA recommends hunters who experience significant losses closely monitor population indicators to determine if reducing the local antlerless harvest is necessary; and, if any hunter identifies a sick or malnourished deer, to report it immediately to your state/provincial agency or to SCWDS.

## PRIMARY FIREARMS SEASON TIMING RELATIVE TO YEARLING BUCK DISPERSAL

Each fall, most yearling bucks strike out from the area in which they were born in search of a more permanent place to call home. This one-way trip into foreign territory is commonly called “dispersal” by biologists, is primarily done by bucks and almost always at age 1½ years. At this age, three out of every four bucks will perform a dispersal and factors such as deer density or management do not appear to affect the rate at which they leave. Yearling bucks tend to disperse in spring or fall, with most leaving in the fall. Spring dispersal is thought to be initiated by the buck’s mother as she prepares to bear new offspring. However, fall dispersal is thought to be initiated by the mother preparing to breed or rising competition among other bucks in the area. This behavior is critical in whitetail ecology, yet this long-distance movement event often leaves yearling bucks vulnerable as they arrive to what will be their new adult home range. It also is thought to be one of the primary, natural avenues of chronic wasting disease (CWD) spread. As yearling bucks depart from their original home range they have the potential to carry CWD or other communicable diseases with them to their new home.

The vast majority of states record the highest percentage of the total deer harvest during the firearms season, so to qualify these risks, the NDA surveyed state and provincial wildlife agencies to determine if their primary firearms season occurred before, during, or after the majority of yearling buck dispersal. Based on the data collected, only 14 of 38 states (37%) and one of two provinces reported primary firearms season occurring before or during this initial dispersal movement for yearling bucks within their jurisdiction. Thus, of the agencies that responded, 63% of states and 50% of provinces stated their primary firearm season is held after the majority of yearlings have already dispersed. Due to the high variability of rut timing across the Southeast, that region understandably displayed similar variability in their responses.

Chronic wasting disease is the single largest threat impacting the future of deer management and hunting. As deer managers struggle to limit disease spread, harvest



strategies are debated to determine location-specific regulations to best manage deer populations and reduce disease prevalence and spread. Some jurisdictions try to focus harvest efforts on yearling bucks prior to dispersal, but the following map shows most yearling bucks have already dispersed before the primary firearms season occurs.

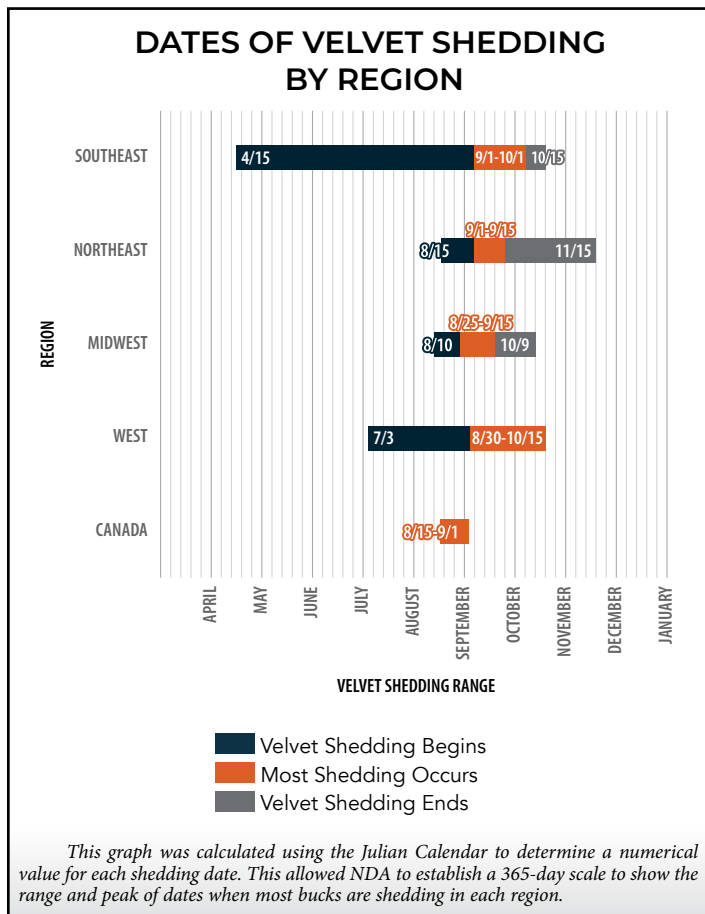
### NDA's Recommendations

NDA is encouraged by the number of states implementing strategies (educational and/or regulatory) to protect the majority of yearling bucks due to the biological benefits associated with providing a balanced and natural age structure. We also feel there are social benefits as hunters become more engaged in deer management pro-

grams. Engagement of hunters creates buy-in and allows for better collaboration between wildlife agencies and hunters, beyond manipulating age structure of the deer herd and even through management of other wildlife species.

However, we recognize that protecting yearling bucks may be counter to the goals of lowering/maintaining prevalence rates, reducing population density, and preventing spread in CWD management efforts, especially in the initial stages. Acceptance by and cooperation with hunters and landowners will determine the success of managing CWD once it occurs on the landscape. Thus, monitoring of CWD management programs and prompt communication of results to all stakeholders will be of paramount importance.

## WHEN BUCKS SHED THEIR VELVET



States With Earliest Velvet Shedding		States With Latest Velvet Shedding	
State	Earliest Shed	State	Latest Shed
Florida	April 15	New Jersey	November 15
California	July 3	New Mexico	October 15
Louisiana	August 1	Florida	October 15
Kansas	August 10	Alabama	October 15
Illinois	August 15	Wyoming	October 10
Maryland	August 15		
Virginia	August 15		
Wisconsin	August 15		

The antler velvet shedding process has intrigued deer hunters for centuries. Antler growth, mineralization, and casting (dropping antlers) is largely controlled by hormones and regulated by photoperiod (the amount of light per day). In brief, antlers generally grow during spring and summer and mineralize in August and September in response to increasing testosterone levels. This process is often referred to as a “drying out” and is what leads to rubs and velvet shedding.

However, not all deer shed their vel-

vet at the same time across the nation. We asked state and provincial wildlife agencies when the first bucks in their jurisdiction approximately began shedding velvet and when the majority of bucks had finished the velvet shedding process. The Midwest had the tightest range as velvet shedding of the overall deer population begins in mid-August and is finished by mid-October. This is not the case for other regions such as the Southeast. For example, in Florida, a state that is known for its unique rutting calendar, velvet shedding for deer has a wide range and

## ANTLER VELVET SHEDDING

State	Begin Shedding	Majority Have Shed
<b>Southeast</b>		
Alabama	September 15	October 15
Arkansas	August 28	September 11
Florida	April 15	October 15
Georgia	September 1	September 30
Louisiana	August 1	October 1
Mississippi	September 1	October 1
North Carolina	August 20	September 5
Oklahoma	August 25	September 10
South Carolina	August 23	September 7
Tennessee	August 28	September 17
Texas	September 1	October 1
<b>Northeast</b>		
Connecticut	August 20	September 30
Delaware	*	*
Maine	*	*
Maryland	August 15	September 7
Massachusetts	*	*
New Hampshire	*	*
New Jersey	September 1	November 15
New York	*	*
Pennsylvania	*	*
Rhode Island	September 1	September 15
Vermont	*	*
Virginia	August 15	September 15
West Virginia	September 1	September 22
<b>Midwest</b>		
Illinois	August 15	September 15
Indiana	*	September 15
Iowa	August 25	September 15
Kansas	August 10	September 15
Kentucky	August 29	October 9
Missouri	August 25	September 10
Nebraska	August 25	September 15
North Dakota	September 1	September 15
Ohio	August 25	September 10
South Dakota	*	*
Wisconsin	August 15	September 15
<b>West</b>		
Arizona	*	*
California	July 3	August 27
Colorado	September 10	September 15
Idaho	August 20	September 20
Montana	*	*
Nevada	September 1	September 10
New Mexico	September 25	October 15
Oregon	Late August	October
Utah	*	*
Washington	August 16	September 1
Wyoming	September 15	October 10

\*Data not provided/available

can even be seen as early as April and persist into October. The vast difference in the time range of velvet shedding depends on what area you are hunting.

### NDA's Recommendations

Velvet shedding is an exciting part of deer biology! It is a favorite indicator of many outdoorsmen and women that the hunting season is right around the corner. NDA recommends that hunters use this signal as time to get ready by scouting for sign left behind as deer begin to rub and shed their velvet.

## 2021 DEER HUNTER NUMBERS



Most sportsmen and women realize that hunters are the backbone of wildlife management programs and that they fund the lion's share of our state wildlife agencies. But few may realize just how popular deer hunting is compared to other game and the varying popularity of the different styles with which deer hunters go afield. For example, the wild turkey is the next most sought-after species, yet deer hunters outnumber turkey hunters nearly four to one. Moreover, although firearms are the most common implement used by deer hunters by far, recent data suggests other pursuits are increasing in popularity among new hunters. That's why it is so critical to keep very close tabs on deer hunter trends and recruitment efforts because it is where the stakes are greatest for conservation.

Thus, we asked state and provincial wildlife agencies how many total hunters there are today (2021) within their jurisdiction as well as the unique number of deer hunters compared to four years ago (2017). We also asked them to break that down by the number of hunters who pursued deer with bows/crossbows, firearms, and muzzleloaders during the most recent season available. Of the states reporting total hunting numbers from the Southeast, Northeast and Midwest, which is where most (97%) hunters reside, 81% were deer hunters; nationally, 77% of all hunters were deer hunters in 2021. This is in line with

national trend data collected by the US Fish & Wildlife Service who last reported (2016) roughly 79% of hunters pursued deer. In total, 42 of the lower 48 states responded with an estimate of just under 10 million deer hunters. The data in our report comes directly from the state and provincial wildlife agencies and is based on various estimates, including deer hunting license sales.

Multi-season participation was highest in the Northeast as this region had the highest percentage of its deer hunters partaking in the firearms (90%), archery (43%) and muzzleloading (26%) seasons. The West had the least participation in archery (17%) and muzzleloading (4%) seasons, while the Midwest had the lowest firearms participation (69% of deer hunters).

### NDA's Recommendations

Today, with fewer hunters afield, recruitment efforts like those we are initiating at NDA have never been more important. Deer hunters are the solution to reverse the trend of overall hunter loss by continuing to support recruitment programs. However, they alone won't be enough to curb hunter declines. It will also require existing hunters to recruit and mentor new hunters in more traditional one-on-one opportunities. The NDA strongly recommends that all active deer hunters should either 1) volunteer to take

### States With the Highest Deer Hunter Numbers

State	Number
Texas	770,717
Pennsylvania	663,000
Wisconsin	620,888
New York	588,054
Michigan	565,000

### States With the Lowest Deer Hunter Numbers

State	Number
Rhode Island	5,000
Nevada	12,700
Connecticut	25,693
New Mexico	37,878
Maryland	57,000

### States With Largest Increase in Deer Hunter Numbers in the Last 4 Years

State	%
Wyoming	130.1
North Dakota	75.3
Vermont	54.5
Oklahoma	24.3
New Jersey	2.8

### States With Largest Decrease in Deer Hunter Numbers in the Last 4 Years

State	%
Ohio	56.8
Connecticut	46.4
Tennessee	44.4
Rhode Island	44.4
Georgia	40.9

a new, un-related adult hunter out on their own and/or 2) participate as a volunteer mentor in one of the various learn-to-hunt efforts available from your wildlife agency or local non-profit conservation organization, such as NDA's critically acclaimed Field-to-Fork program.

PERCENTAGE OF HUNTERS BY WEAPON TYPE

State/Province	Total Hunters		Deer Hunter Numbers & % Change				Bow/Crossbow		Firearms		Muzzleloader	
	2020	% That Are DH	2016	2020	# Difference	% Change	2020 #	% of DH Total	2020 #	% of DH Total	2020 #	% of DH Total
Alabama	*	*	190,000	228,015	38,015	20.0	89,664	39	201,464	88	21,627	9
Arkansas	350,000	92	350,000	322,000	-28,000	-8.0	171,000	53	280,000	87	148,000	46
Florida	192,205	56	98,577	106,926	8,349	8.5	65,545	61	96,020	90	35,606	33
Georgia	258,672	81	353,620	209,124	-144,496	-40.9	88,345	42	187,517	90	26,942	13
Louisiana	274,033	63	184,400	171,800	-12,600	-6.8	73,400	43	167,100	97	83,000	48
Mississippi	180,400	92	142,330	165,846	23,516	16.5	65,967	40	153,240	92	58,236	35
North Carolina	*	*	234,677	241,110	6,433	2.7	*	*	*	*	*	*
Oklahoma	*	*	367,311	456,726	89,415	24.3	141,172	31	218,548	48	97,006	21
South Carolina	208,355	72	138,997	150,163	11,166	8.0	45,368	30	163,350	109	15,258	10
Tennessee	*	*	302,415	168,088	-134,327	-44.4	66,564	40	153,352	91	91,648	55
Texas	1,196,221	64	738,713	770,717	32,004	4.3	175,954	23	717,152	93	23,969	3
<b>Southeast Total/Avg</b>	<b>2,659,886</b>	<b>74</b>	<b>3,116,363</b>	<b>2,990,612</b>	<b>-125,751</b>	<b>-4.0</b>	<b>982,979</b>	<b>33</b>	<b>2,337,743</b>	<b>78</b>	<b>601,292</b>	<b>20</b>
Connecticut	47,886	54	47,958	25,693	-22,265	-46.4	16,997	66	17,223	67	8,253	32
Delaware	*	*	16,000	*	*	*	*	*	*	*	*	*
Maine	227,000	97	215,000	220,000	5,000	2.3	14,000	6	208,000	95	14,000	6
Maryland	65,000	88	59,000	57,000	-2,000	-3.4	35,000	61	44,000	77	26,000	46
Massachusetts	*	*	50,000	*	*	*	*	*	*	*	*	*
New Hampshire	*	*	57,500	*	*	*	*	*	*	*	*	*
New Jersey	110,136	87	78,000	95,818	17,818	22.8	45,814	48	61,184	64	*	*
New York	*	*	574,606	588,054	13,448	2.3	251,182	43	588,054	100	253,662	43
Pennsylvania	700,000	95	700,000	663,000	-37,000	-5.3	334,000	50	576,000	87	81,000	12
Rhode Island	9,000	56	9,000	5,000	-4,000	-44.4	3,300	66	2,300	46	3,100	62
Vermont	86,000	99	55,000	85,000	30,000	54.5	35,000	41	85,000	100	28,000	33
Virginia	*	*	200,000	197,462	-2,538	-1.3	96,815	49	197,462	100	111,040	56
West Virginia	224,813	89	239,563	200,876	-38,687	-16.1	87,688	44	154,345	77	37,345	19
<b>Northeast Total/Avg</b>	<b>1,469,835</b>	<b>83</b>	<b>2,301,627</b>	<b>2,137,903</b>	<b>-163,724</b>	<b>-7.1</b>	<b>919,796</b>	<b>43</b>	<b>1,933,568</b>	<b>90</b>	<b>562,400</b>	<b>26</b>
Illinois	*	*	244,724	232,250	-12,474	-5.1	166,870	72	218,414	94	21,804	9
Indiana	*	*	190,300	212,000	21,700	11.4	*	*	*	*	*	*
Iowa	242,739	97	170,781	170,168	-613	-0.4	61,857	35	109,099	64	39,232	22
Kansas	279,410	40	115,635	110,411	-5,224	-4.5	59,298	54	64,422	58	6,522	6
Kentucky	350,000	100	350,000	350,000	0	0.0	77,000	22	241,500	69	31,500	9
Michigan	*	*	586,000	565,000	-21,000	-3.6	322,000	57	488,000	86	*	*
Minnesota	557,000	85	600,000	473,346	-126,654	-21.1	109,234	23	421,841	89	55,523	12
Missouri	558,899	85	501,576	476,030	-25,546	-5.1	207,044	43	444,621	93	*	*
Nebraska	*	*	135,440	95,000	-40,440	-29.9	*	*	*	*	*	*
North Dakota	*	*	60,000	105,201	45,201	75.3	30,336	29	67,670	64	1,206	1
Ohio	216,000	93	462,500	200,000	-262,500	-56.8	160,000	80	160,000	80	60,000	30
South Dakota	*	*	67,615	70,469	2,854	4.2	25,710	36	72,747	103	3,572	5
Wisconsin	670,000	93	642,517	620,888	-21,629	-3.4	309,501	50	570,852	92	74,452	12
<b>Midwest Total/Avg</b>	<b>2,874,048</b>	<b>85</b>	<b>4,127,088</b>	<b>3,680,763</b>	<b>-446,325</b>	<b>-10.8</b>	<b>1,528,850</b>	<b>37</b>	<b>2,859,166</b>	<b>69</b>	<b>293,811</b>	<b>7</b>
<b>3-Region Total/Avg</b>	<b>7,003,769</b>	<b>81</b>	<b>9,545,078</b>	<b>8,809,278</b>	<b>-735,800</b>	<b>-7.7</b>	<b>3,431,625</b>	<b>36</b>	<b>7,130,477</b>	<b>75</b>	<b>1,457,503</b>	<b>15</b>
Arizona	*	*	*	*	*	*	*	*	*	*	*	*
California	286,277	52	*	147,905	*	*	15,202	10	132,095	89	608	0
Colorado	*	*	81,253	87,536	6,283	7.7	11,983	14	66,460	76	7,485	9
Idaho	254,982	59	147,541	149,700	2,159	1.5	47,924	32	196,600	131	10,458	7
Montana	*	*	*	*	*	*	*	*	*	*	*	*
Nevada	25,500	50	18,000	12,700	-5,300	-29.4	2,900	23	13,214	104	800	6
New Mexico	37,878	100	31,000	37,878	6,878	22.2	*	*	*	*	*	*
Oregon	*	*	*	136,545	*	*	29,799	22	104,589	77	2,157	2
Utah	*	*	*	*	*	*	*	*	*	*	*	*
Washington	*	*	115,901	107,586	-8,315	-7.2	16,565	15	84,938	79	6,083	6
Wyoming	120,000	53	27,814	64,000	36,186	130.1	4,000	6	60,000	94	*	*
<b>West Total/Avg</b>	<b>724,637</b>	<b>63</b>	<b>421,509</b>	<b>743,850</b>	<b>322,341</b>	<b>76.5</b>	<b>128,373</b>	<b>17</b>	<b>657,896</b>	<b>88</b>	<b>27,591</b>	<b>4</b>
<b>U.S. Total/Avg</b>	<b>7,728,406</b>	<b>77</b>	<b>9,966,587</b>	<b>9,553,128</b>	<b>-413,459</b>	<b>-4.1</b>	<b>3,559,998</b>	<b>36</b>	<b>7,788,373</b>	<b>78</b>	<b>1,485,094</b>	<b>15</b>
Alberta	*	*	*	*	*	*	*	*	*	*	*	*
British Columbia	*	*	*	*	*	*	*	*	*	*	*	*
Manitoba	*	*	*	*	*	*	*	*	*	*	*	*
New Brunswick	*	*	40,350	38,200	-2,150	-5.3	3,700	10	34,200	1	300	1
Nova Scotia	*	*	*	*	*	*	*	*	*	*	*	*
Ontario	*	*	200,000	188,966	-11,034	-5.5	*	*	*	*	*	*
Quebec	298,598	46	142,865	136,344	-6,521	-4.6	*	*	*	*	*	*
Saskatchewan	77,000	55	*	42,000	*	*	*	*	*	*	*	*
<b>Canada Total/Avg</b>	<b>375,598</b>	<b>50</b>	<b>383,215</b>	<b>405,510</b>	<b>22,295</b>	<b>5.8</b>	<b>3,700</b>	<b>1%</b>	<b>34,200</b>	<b>8</b>	<b>300</b>	<b>0</b>

\*Data not provided/available  
DH Deer Hunters

## ANTLER RESTRICTIONS

Antler restrictions are a hot topic among deer hunters. Whether you love or hate them, you can be sure your state or provincial wildlife agency has discussed them. That is why we continue to periodically survey states/provinces to assess the status of their use across North America. In fact, at least 20 states and one province had some form of antler restrictions implemented in 2021. Antler restrictions are not synonymous with Quality Deer Management. Rather, antler restrictions are a strategy to protect a specific age class (generally yearlings) or classes of bucks. Many antler restrictions have been used including point, spread and beam length requirements as well as Boone & Crockett score. All restrictions have advantages and disadvantages. The key is to implement a strategy devised from local data, and then educate local sportsmen and women on the benefits of it.

Last year, seven states had statewide restrictions for at least one buck in the bag limit, while 13 states and Quebec used them in some wildlife management areas, units, regions and/or military bases. The most commonly-used restriction was the number of antler points. Fifteen states and the one province employ this technique, and depending on the state, the number varies from two to four points on a single antler.

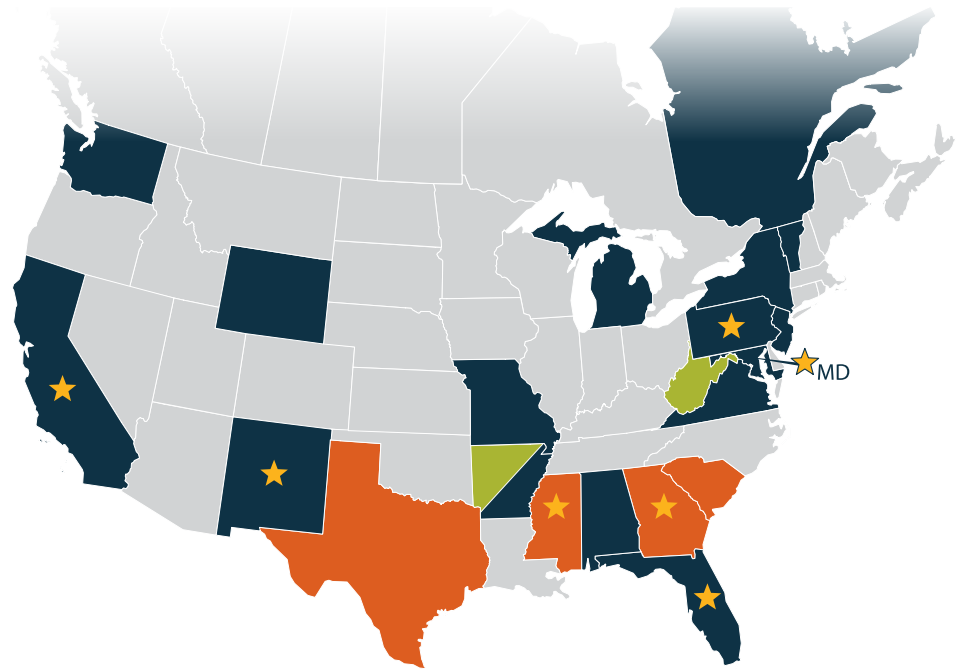
Arkansas and West Virginia use an antler spread restriction. Antler spread is a better predictor of whether a buck is 1½ or 2½ years or older, and is therefore a more biologically sound approach to protecting yearlings. Four states use a combination of antler points and spread, or antler points and main beam length, or antler spread and main beam length. The combination approaches allow hunters to harvest bucks that meet one of the two criteria. Combination approaches are generally more biologically sound, flexible, and preferred to single restriction strategies.

Modern-day deer management certainly differs from that of decades ago. Today's hunters are more knowledgeable than ever and are demanding more intensive management programs from their state and provincial wildlife agencies. This has proven to be very healthy for deer herds and for the future of deer hunting.

### NDA's Recommendations

In general, NDA prefers the voluntary passing of yearling bucks to mandatory ant-

## ANTLER RESTRICTION BY STATE/PROVINCE



ler regulations. However, we recognize that mandated antler restrictions may be justified in some situations to achieve specific deer management objectives. Regarding our position on specific antler restriction proposals, NDA examines each on a case-by-case basis and applies a three-part test.

First, is the restriction biologically sound? This means the proposed restriction will protect the majority of yearlings while allowing the majority of bucks 2½ years old and older to be eligible for harvest. This is always the goal of state-mandated restrictions, though voluntary antler restrictions on private lands may seek to protect some older age classes as well. In either case, the antler restriction criteria must be based on data collected from the affected deer population to ensure the correct bucks are protected.

Second, is it supported by the majority of affected hunters and landowners? Agencies considering an antler or harvest restriction should conduct surveys to determine support levels before enacting the restriction.

Finally, will it be objectively monitored to determine success or failure? Without monitoring, there is no way to know if

the restriction should be altered to improve success or possibly removed altogether if it doesn't work or is no longer needed. Many restrictions fail one or more of these criteria.

The NDA has supported some antler restrictions, opposed others, and taken a neutral stance on others. In the long term, NDA is optimistic that enough hunters will voluntarily pass young bucks that antler restrictions will become unnecessary and even cumbersome to more sophisticated management.

In addition, we recognize in some CWD areas, protecting yearling bucks can be counter to the goals of preventing spread of the disease. Strong educational campaigns are important to inform hunters on the importance of increased antlered and antlerless harvests in disease zones. Acceptance by hunters and landowners and cooperation with state wildlife agencies will determine the success of managing CWD once it occurs on the landscape. Thus, monitoring of CWD management programs and prompt communication of results to all stakeholders will be of paramount importance.

## ANTLERLESS LICENSE PRICES

Harvesting an adequate number of antlerless deer is a crucial aspect of most deer management programs. In fact, research suggests harvesting 20-30% of the adult does in a given population to stabilize the herd. For an affordable cost, you can not only fill your freezer with high-quality protein but take one step closer toward your management goals. In many cases, buying an additional antlerless tag (if available) allows you to help meet your wildlife agency's deer harvest goals, as well as extend your sea-

son, obtain more harvest or observation data, and further contribute to conservation efforts through Pittman-Robertson funds.

In our 2021 *Deer Report* (page 26), we answered the question of how much it costs residents and non-residents to simply hunt deer across North America. Since states and provinces differ considerably in what is included with your license, we decided to compare state, regional and provincial antlerless license prices only. To do this, we surveyed state and provincial agencies across the U.S. and Canada to determine the cost of a resident and non-resident **antlerless** deer license. Please note that states and provinces require other licenses/permits in addition to an antlerless license to hunt antlerless deer.

The Midwest region holds the crown for the cheapest average resident antlerless hunting license (\$22.04) while the Northeast is the cheapest for non-residents (\$94.07). On the contrary, the West notched the highest in cost for both resident (\$42.31) and non-resident antlerless hunting licenses (\$285.55). In Canada, Saskatchewan maintains the lowest antlerless license price for both residents (\$30) and non-residents (\$130), while Quebec comes in the highest for both (\$59.88 and \$321.06, respectively).

Across most of North America, the cost of resident antlerless licenses remains, on average, less than \$50 while non-resident licenses are under \$200. Each state or province has their own antlerless management goals and strategies that likely influence the cost of an antlerless license and how many you can purchase or apply for. There are also specialized programs such as DMAP (see page 24) and depredation permits that offer additional antlerless permits at a reduced cost, allowing for more site-specific management options.

### NDA's Recommendations

It is important to be aware that projects implemented by state and provincial agencies are funded greatly through license sales (see page 30), so every time you purchase a license you are contributing to the future of wild deer, wildlife habitat and hunting. If you are second guessing that extra tag or permit, remember that overall prices are reasonable, and your purchase supports the wildlife agency's ability to responsibly manage habitat and educate hunters. The NDA recommends all hunters contribute to deer population management by harvesting an appropriate number of antlerless deer to meet your wildlife agency's harvest goals. We also encourage wildlife agencies to invest in this by more actively marketing the benefits of antlerless deer harvest and hunting license sales.

## COST OF ANTLERLESS DEER LICENSE IN YOUR JURISDICTION

	Residents	Non-Residents
<b>State/Province</b>		
Alabama	\$28.50	\$329.70
Arkansas	\$10.50	\$125.00
Florida	\$22.00	\$156.50
Georgia	\$40.00	\$325.00
Louisiana	\$29.00	\$300.00
Mississippi	\$45.00	\$300.00
North Carolina	\$39.00	\$200.00
Oklahoma	\$20.00	\$300.00
South Carolina	\$5.00	\$10.00
Tennessee	\$25.00	\$25.00
Texas	\$25.00	\$315.00
<b>Southeast Avg</b>	<b>\$26.27</b>	<b>\$216.93</b>
Connecticut	\$19.00	\$68.00
Delaware	\$39.50	\$199.50
Maine	\$26.00	\$115.00
Maryland	\$24.50	\$130.00
Massachusetts	\$27.50	\$99.50
New Hampshire	\$32.00	\$113.00
New Jersey	\$27.50	\$135.50
New York	\$10.00	\$10.00
Pennsylvania	\$6.97	\$26.97
Rhode Island	\$13.00	\$26.50
Vermont	\$51.00	\$75.00
Virginia	\$46.00	\$197.00
West Virginia	\$10.00	\$27.00
<b>Northeast Avg</b>	<b>\$25.61</b>	<b>\$94.07</b>
Illinois	\$17.50	\$100.00
Indiana	\$24.00	\$150.00
Iowa	\$28.50	\$266.50
Kansas	\$22.50	\$52.50
Kentucky	\$35.00	\$185.00
Michigan	\$20.00	\$171.00
Minnesota	\$18.00	\$91.00
Missouri	\$7.00	\$25.00
Nebraska	\$37.00	\$82.00
North Dakota	\$30.00	\$250.00
Ohio	\$15.00	\$15.00
South Dakota	\$20.00	\$80.00
Wisconsin	\$12.00	\$20.00
<b>Midwest Avg</b>	<b>\$22.04</b>	<b>\$114.46</b>
<b>3-Region Avg</b>	<b>\$24.55</b>	<b>\$141.82</b>
Arizona	\$37.00	\$160.00
California	\$87.22	\$492.45
Colorado	\$41.00	\$413.00
Idaho	\$24.75	\$351.75
Montana	\$10.00	\$37.50
Nevada	\$30.00	\$140.00
New Mexico	\$41.00	\$283.00
Oregon	\$63.00	\$615.50
Utah	\$64.00	\$179.00
Washington	\$45.40	\$434.80
Wyoming	\$22.00	\$34.00
<b>West Avg</b>	<b>\$42.31</b>	<b>\$285.55</b>
<b>US Avg</b>	<b>\$28.62</b>	<b>\$177.15</b>
Alberta	\$39.95	\$132.24
British Columbia	\$47.00	\$200.00
Manitoba	\$45.75	\$175.25
New Brunswick	\$34.00	\$183.00
Nova Scotia	\$33.02	\$142.24
Ontario	\$43.86	\$244.38
Quebec	\$59.88	\$321.06
Saskatchewan	\$30.00	\$130.00
<b>Canada Avg</b>	<b>\$41.68</b>	<b>\$191.02</b>

### States

#### With Lowest Resident Antlerless License Price

State	License Price
South Carolina	\$5.00
Pennsylvania	\$6.97
Missouri	\$7.00
New York	\$10.00
West Virginia	\$10.00

### States

#### With Lowest Non-Resident Antlerless License Price

State	License Price
South Carolina	\$10.00
New York	\$10.00
Ohio	\$15.00
Wisconsin	\$20.00
Missouri	\$25.00
Tennessee	\$25.00

### States

#### With Highest Resident Antlerless License Price

State	License Price
California	\$87.22
Utah	\$64.00
Oregon	\$63.00
Vermont	\$51.00
Virginia	\$46.00

### States

#### With Highest Non-Resident Antlerless License Price

State	License Price
Oregon	\$615.50
California	\$492.45
Washington	\$434.80
Colorado	\$413.00
Idaho	\$351.75

## DEER MANAGEMENT ASSISTANCE PROGRAMS (DMAP)

Deer Management Assistance Programs (DMAP) are administered by some wildlife agencies to allow landowners more flexibility to conduct site specific deer management actions. In general, DMAPs provide additional antlerless tags/permits to meet site-specific density goals, and some DMAPs also require additional data collection and reporting efforts. To assess the use of DMAPs, we surveyed state and provincial wildlife agencies and asked whether their jurisdiction offered DMAP to landowners in 2021, and if so, what the minimum acreage was to be eligible for participation. We also asked if wildlife agencies offered DMAP in our 2014 *Whitetail Report* and offer a comparison of data here to show changes in the program over time.

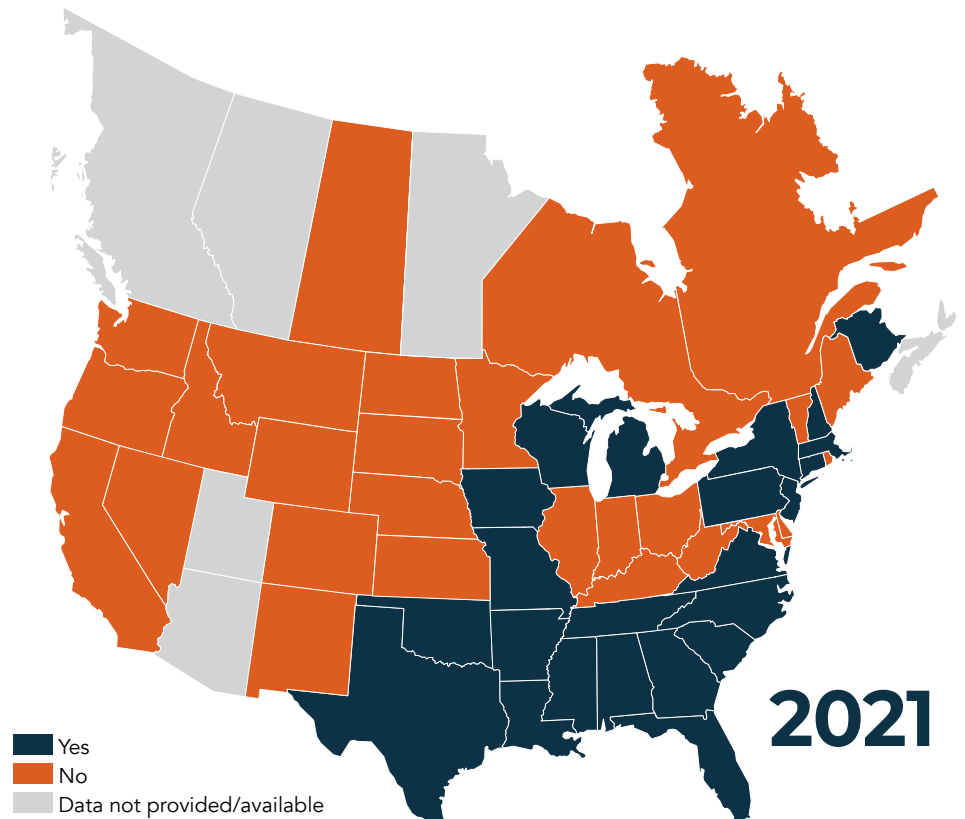
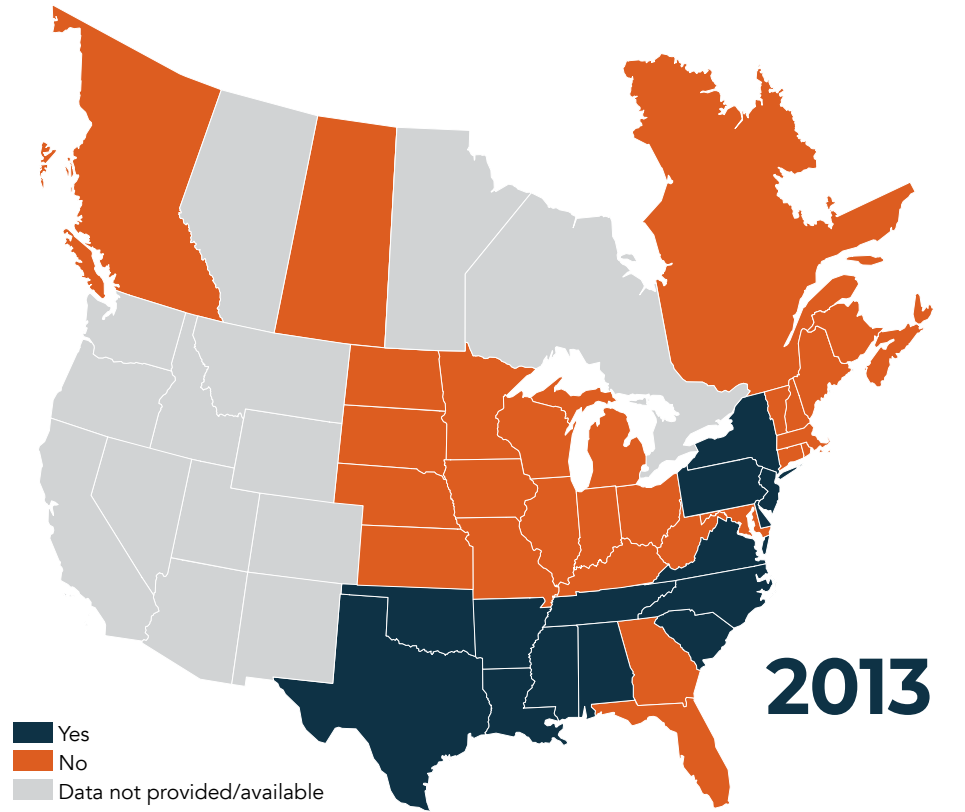
In 2013, only 14 of 37 states (38%) offered a DMAP, whereas 22 of 46 states (48%) had DMAP available during the 2021 deer season. Regionally, DMAP is most used in the Southeast as all 11 states (100%) employ this program. Seven of 13 states (54%) in the Northeast have DMAP, and they are all centered in the Mid-Atlantic region. Four of 13 states (31%) in the Midwest have DMAP whereas none of the Western states currently have DMAP.

The minimum acreage required for DMAP eligibility varied greatly from no minimum acreage to 1,000 acres needed to participate in the program. This was true for all states that provided data. In Canada, one of the four provinces (25%) that provided data have DMAP and that province only requires 1 acre or more to be eligible for the program.

### NDA's Recommendations

Deer Management Assistance Programs engage landowners and lessees with wildlife agency biologists, and they allow site-specific management options which can benefit deer herds and hunting opportunities. The NDA supports DMAPs and encourages states and provinces that do not have them to consider their use.

## DEER MANAGEMENT ASSISTANCE PROGRAM (DMAP) USE BY STATE/PROVINCE





## DEER MANAGEMENT ASSISTANCE PROGRAMS (DMAP)

State/Province	2013 DMAP	2021 DMAP	DMAP Minimum Acreage
Alabama	Yes	Yes	No minimum acreage
Arkansas	Yes	Yes	500
Florida	No	Yes	640
Georgia	No	Yes	None for participation, but there are minimums for extra tags or other harvest flexibility
Louisiana	Yes	Yes	40
Mississippi	Yes	Yes	No minimum acreage
North Carolina	Yes	Yes	500 in west/ 1,000 in east
Oklahoma	Yes	Yes	1,000
South Carolina	Yes	Yes	No minimum acreage
Tennessee	Yes	Yes	*
Texas	Yes	Yes	No minimum acreage
<b>Southeast Total</b>	<b>9 of 11</b>	<b>11 of 11</b>	<b>0 - 1,000</b>
Connecticut	No	Yes	No minimum acreage
Delaware	Yes	No	*
Maine	No	No	*
Maryland	No	No	*
Massachusetts	No	Yes	50 acres for farmers; 300 acres for landowners
New Hampshire	No	Yes	1 sq. mile (does not have to be contiguous)
New Jersey	Yes	Yes	No minimum acreage
New York	Yes	Yes	Varies by DMAP category <i>(could be a few acres for ag, &gt;50 acres for forestry, &gt;1,000 acres for custom deer management)</i>
Pennsylvania	Yes	Yes	5
Rhode Island	No	No	*
Vermont	No	No	*
Virginia	Yes	Yes	No minimum acreage
West Virginia	No	No	*
<b>Northeast Total</b>	<b>5 of 13</b>	<b>7 of 13</b>	<b>0 - 1,000</b>
Illinois	No	No	*
Indiana	No	No	*
Iowa	No	Yes	no minimum acreage
Kansas	No	No	*
Kentucky	No	No	*
Michigan	No	Yes	>0
Minnesota	No	No	*
Missouri	No	Yes	500 acres (40 acres within the boundary of a city or town)
Nebraska	No	No	*
North Dakota	No	No	*
Ohio	No	No	*
South Dakota	No	No	*
Wisconsin	No	Yes	160 ac for a site visit/plan
<b>Midwest Total</b>	<b>0 of 13</b>	<b>4 of 13</b>	<b>0 - 500</b>
<b>3-Region Total</b>	<b>14 of 37</b>	<b>22 of 37</b>	<b>0 - 1,000</b>
Arizona	*	*	*
California	*	No <sup>a</sup>	no minimum acreage
Colorado	*	No	*
Idaho	*	No	*
Montana	*	No	*
Nevada	*	No	*
New Mexico	*	No	*
Oregon	*	No	*
Utah	*	*	*
Washington	*	No	*
Wyoming	*	No	*
<b>West Total</b>	<b>*</b>	<b>0 of 9</b>	<b>*</b>
<b>U.S. Total</b>	<b>14 of 37</b>	<b>22 of 46</b>	<b>0 - 1,000</b>
Alberta	*	*	*
British Columbia	No	*	*
Manitoba	*	*	*
New Brunswick	No	Yes	1
Nova Scotia	No	*	*
Ontario	*	No	*
Quebec	No	No	*
Saskatchewan	No	No	*
<b>Canada Total</b>	<b>0 of 5</b>	<b>1 of 4</b>	<b>1</b>

\*Data not provided/available

<sup>a</sup> No DMAP but have a private lands wildlife habitat enhancement and management program which is very similar to DMAP, but not specific to deer

## FAWN AND YEARLING WEIGHTS

Herd monitoring is one of the principles of a successful QDM program, and collecting sufficient harvest data falls within that cornerstone. A jawbone is the most important piece of harvest data to collect as this allows all other data to be compared or analyzed by age class. Weights are also important as they are an index to herd and habitat health, especially for the youngest age classes, as well as a herd's reproductive potential with regard to doe fawn breeding rates. Looking at how this data changes over time provides an opportunity to see how these components change relative to your program goals and objectives.

To better understand this at a national scale, we surveyed state and provincial wildlife agencies in 2011 and again in 2021 and asked what the average weight of a fawn and 1½-year-old buck was in their state/province. In the past, fewer wildlife agencies collected this kind of data compared to today, and most states in the Southeast collected live weights whereas the other regions collected field-dressed weights. Field-dressed weights for harvest data collection is now being used across the board by most states and in a couple of provinces in Canada, so in our most recent survey we only requested dressed weight data. Weights by age classes are a good statistic to monitor herd health for long-term trends.

As seen in the table, few agencies provided comparable data over the past decade to see how

average weights have changed from 2011 for either fawns or yearling bucks. Of those that did, six of 14 (43%) saw an increase in average weight by category, six (43%) saw a decrease, and two (14%) saw no change.

According to 2021 data, the Southeast region maintains the smallest deer, with fawns averaging dressed weights of 47 pounds and yearling bucks at 80 pounds. This was followed by the Northeast at 59 and 104 pounds for fawns and yearling bucks, and the Midwest averaged the highest weights at 64 and 115 pounds. Based on data from the two provinces that responded to our survey, Canada's fawns averaged 65 pounds and their yearling bucks averaged 124 pounds field dressed.

## NDA's Recommendations

NDA recommends all hunters collect data from any deer they harvest. This allows comparisons to deer in your area as well as other regions and provides the necessary information for calculating (or fine tuning) the annual target antlerless harvest. This guards against harvesting too few or too many antlerless deer and alerts managers to changes in habitat quality, age structure, and fawn survival (and thus predation) rates. NDA also recommends that state and provincial wildlife agencies that aren't currently collecting average dressed weight data for fawn and yearling buck age classes begin to do so, as monitoring this statistic at both spatial and temporal scales can greatly assist in management efforts.

## FAWN AND YEARLING WEIGHTS (LBS)

State/Province	Fawns			Yearling		
	2011 Dressed	2021 Dressed	% Change	2011 Dressed	2021 Dressed	% Change
Alabama	*	40		*	75	
Arkansas	*	51		*	84	
Florida	*	51		*	71	
Georgia	41	43	5	80	80	0
Louisiana	*	54		*	88	
Mississippi	*	51		*	85	
North Carolina	*	44		*	*	
Oklahoma	*	*		*	*	
South Carolina	*	45		*	87	
Tennessee	*	*		*	*	
Texas	*	*		*	70	
<b>Southeast Average</b>	<b>41</b>	<b>47</b>		<b>80</b>	<b>80</b>	
Connecticut	61	*		112	*	
Delaware	*	*		*	*	
Maine	64	65	2	121	113	-7
Maryland	58	61	5	102	104	2
Massachusetts	57	*		108	*	
New Hampshire	60	*		117	*	
New Jersey	*	*		*	*	
New York	*	*		*	*	
Pennsylvania	*	*		*	*	
Rhode Island	54	60	11	103	102	-1
Vermont	60	60	0	118	117	-1
Virginia	49	47	-4	84	82	-2
West Virginia	54	*		98	*	
<b>Northeast Average</b>	<b>57</b>	<b>59</b>		<b>107</b>	<b>104</b>	
Illinois	*	83		*	136	
Indiana	*	75		*	125	
Iowa	*	50		*	90	
Kansas	*	*		*	*	
Kentucky	*	54		*	100	
Michigan	*	*		*	*	
Minnesota	*	60		*	115	
Missouri	*	*		*	*	
Nebraska	*	*		*	*	
North Dakota	*	62		*	140	
Ohio	*	*		*	*	
South Dakota	*	*		*	*	
Wisconsin	*	69		*	114	
<b>Midwest Average</b>	<b>*</b>	<b>64</b>		<b>*</b>	<b>117</b>	
<b>3-Region Average</b>		<b>56</b>			<b>100</b>	
Arizona	*	*		*	*	
California	*	45		*	80	
Colorado	*	*		*	*	
Idaho	*	*		*	*	
Montana	*	*		*	*	
Nevada	*	*		*	*	
New Mexico	*	*		*	*	
Oregon	*	*		*	*	
Utah	*	*		*	*	
Washington	*	*		*	*	
Wyoming	*	*		*	*	
<b>West Average</b>	<b>*</b>	<b>45</b>		<b>*</b>	<b>80</b>	
Alberta	*	*		*	*	
British Columbia	*	*		*	*	
Manitoba	*	*		*	*	
New Brunswick	66	67	2	129	125	
Nova Scotia	*	*		*	*	
Ontario	*	*		*	*	
Quebec	*	62		*	123	
Saskatchewan	*	*		*	*	
<b>Canada Average</b>	<b>66</b>	<b>65</b>		<b>129</b>	<b>124</b>	

States With Highest Yearling Buck Dressed Weights	
State	Pounds
North Dakota	140
Illinois	136
Indiana	125
Vermont	117
Minnesota	115

States With Lowest Yearling Buck Dressed Weights	
State	Pounds
Texas	70
Florida	71
Alabama	75
California	80
Georgia	80

States With Highest Fawn Dressed Weights	
State	Pounds
Illinois	83
Indiana	75
Wisconsin	69
Maine	65
North Dakota	62

## EARN-A-BUCK (EAB)

Earn-a-buck (EAB) regulations require hunters to tag at least one antlerless deer to “earn” the opportunity to shoot a buck. Earn-a-buck regulations are gener-

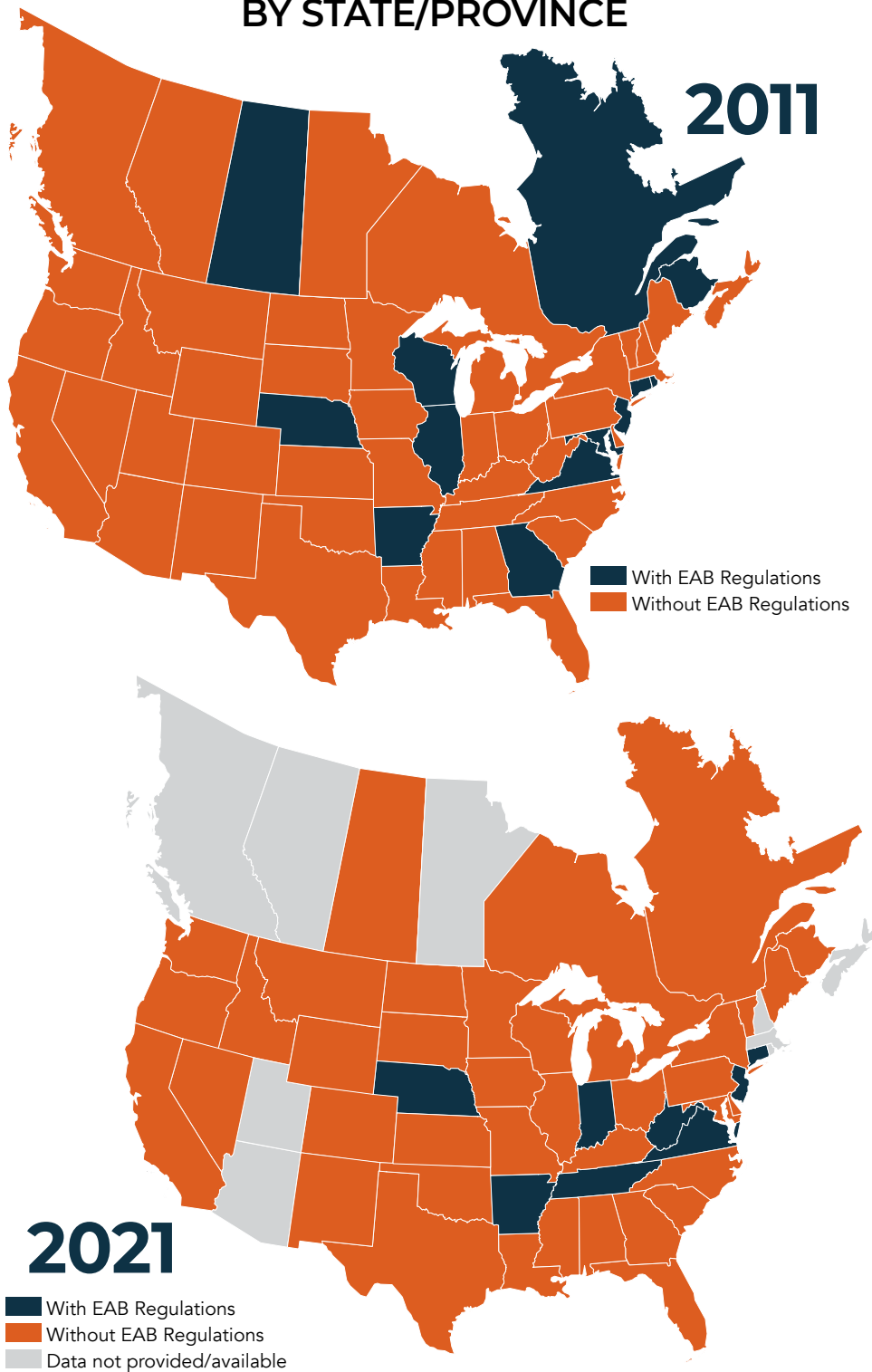
ally only used in areas with high deer densities or disease issues where hunters must be forced to shoot additional antlerless deer to reduce populations. Earn-a-buck

regulations are not a direct antlered deer management strategy, although they do protect some bucks as not all hunters will have the ability to shoot a buck after taking an antlerless deer.

As you can imagine, EAB regulations are often controversial and generally disliked by sportsmen and women. However, few strategies – if any – are more effective at increasing the antlerless deer harvest in an area. To better determine where EAB strategies are being used we surveyed state and provincial wildlife agencies in 2011 and again in 2021 and asked if they use an EAB program to increase antlerless harvest and, if so, whether or not it is employed state/province-wide.

In 2011, 10 states employed EAB regulations as did three provinces, and no state or province used the regulations statewide or province-wide. Rather, they used them in specific locations with deer abundance or disease issues. In 2021, only eight states and no provinces employed EAB regulations. Of the states that employ EAB regulations, none use them statewide.

### EARN-A-BUCK (EAB) USE BY STATE/PROVINCE



### NDA's Recommendations

NDA supports EAB regulations in situations where sportsmen and women are informed and a majority (more than 50%) support such regulations. Earn-a-buck regulations are highly effective at increasing antlerless harvests but are widely unpopular among hunters. Many hunters feel EAB is most widely used in areas with highly productive deer herds, but interestingly, many states that employ EAB have areas of overlap with high human populations and urban/suburban sprawl. Sportsmen and women should be well informed by their state/provincial agency on the annual target and achieved antlerless harvests and how they impact the agency's deer management program. Hunters should have the opportunity to provide input on their desired strategy for achieving the target antlerless harvest, and state/provincial agencies should accommodate these desires where appropriate. In situations where the target antlerless harvests are not being reached, state/provincial agencies should employ additional measures and/or strategies, such as EAB, to ensure deer herds are being managed at levels in balance with what the habitat can support.

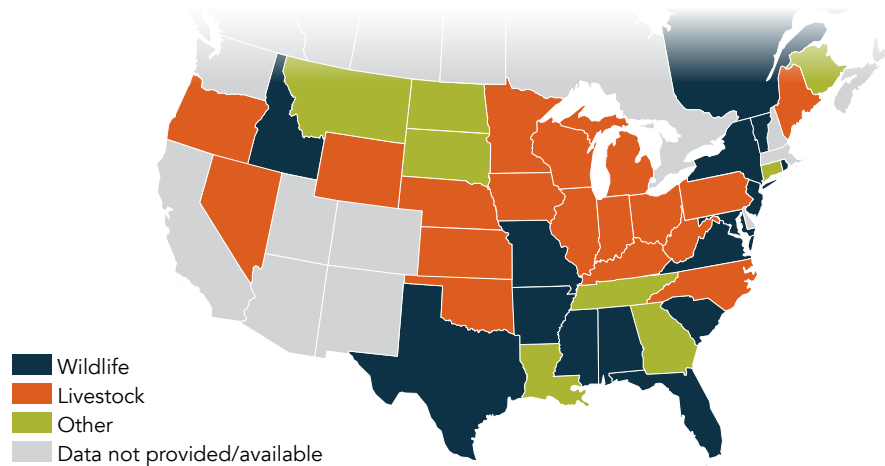
## CAPTIVE DEER AUTHORITY, CLASSIFICATION AND NUMBERS

The NDA supports the legal, ethical pursuit and taking of wild deer living in adequate native/naturalized habitat in a manner that does not give the hunter an unfair advantage and provides the hunted animals with a reasonable opportunity to escape the hunter. We do not oppose high-fence operations that meet those conditions. However, the NDA is well known for our concerns with several aspects of the captive deer industry, including artificially retaining, breeding and manipulating deer and the threats these activities place on animal welfare, human health/safety, disease, compliance with game laws and our overall hunting heritage (see the 2013 *Whitetail Report* for more info). In addition, policy and the regulations associated with cervids in captivity change constantly, so we like to track the legality of these practices, how they are classified and who oversees them. Thus, we asked state and provincial wildlife agencies how many facilities existed within their jurisdiction, who had authority over them and how captive deer are currently classified (wildlife, livestock or other). We also queried the State Animal Health Officer (SAHO) about how many captive deer facilities they had on record as well.

Eighteen of 40 states (45%) and one of four provinces (25%) presently grant jurisdiction over captive cervids to the state or provincial Department of Agriculture or Board of Animal Health. The wildlife agency has authority in 11 of 40 states (28%) and one of four provinces (25%). In the remaining 11 states and two Canadian provinces, captive cervid farms are jointly managed by both agencies. This is constantly changing. If you're interested in just how much this has changed since 2009, check out our 2017 *Whitetail Report*.

Regarding the number of captive deer facilities, because oversight is so often a shared responsibility, we've provided estimates from the two sources most commonly in charge of administration. It's important to note that some agencies reported exact numbers, some provided estimates and others reported that information was unknown. In some cases

### CAPTIVE DEER CLASSIFICATION BY STATE/PROVINCE



the numbers listed in the table are duplicative and in others they are additive; however, the opportunity to see both allows for comparison of what each has on record. Data in the attached table should be viewed as a minimum estimate for each state and province, and for a relative comparison how this has changed over time, download the 2013 *Whitetail Report*. In that report we learned there were at least 6,350 deer breeding facilities and/or shooting preserves in the three major regions of the U.S. Today, state agencies estimate a minimum of 5,216 facilities in those same three regions; the Southeast had the most facilities (2,111) followed closely by the Midwest (2,063) and distantly by the Northeast (1,003). When taking into account discrepancies between agency and SAHO estimates, it's possible there are now fewer than 6,000 captive deer facilities. If that is true, a reduction would be expected due to the number of facilities that have been closed and depopulated in that time due to the discovery of chronic wasting disease.

Overall, 39 states offered some form of classification, and four states (Delaware, South Carolina, Washington, and Wyoming) stated that either the industry didn't exist or it was illegal. Of the combined 48 states/provinces that responded to our survey, the category of livestock was used nearly 30% more than wildlife. Today, 18 of 39 states (46%) consider captive deer as livestock, and only 14 (36%) consider them wildlife. This is similar what we reported in our 2018 *Whitetail Report*, but vastly different from 2013. At that time 12 of 22 states (55%) providing data reported captive deer were wildlife, while only eight (36%) considered them livestock. Of the seven states and one province that categorized captive

deer in the "other" category, three (Georgia, Tennessee, and New Brunswick) noted that white-tailed deer are considered wildlife, but exotics or other captive cervids are labeled as livestock. Other terminology such as "captive wildlife", "alternative or non-traditional livestock" were used by Connecticut, Louisiana and North Dakota.

### NDA's Recommendations

In most cases, the regulatory matrix over captive deer is a direct result of lobbied and enacted law, with heavy efforts from special-interest groups to move captive deer to the livestock category. The largest problem is that inconsistency across state or provincial boundaries possibly creates missed opportunities for communication between agencies controlling and regulating captive deer facilities and certainly limits management efforts. There are also fundamental differences between wildlife and agricultural departments regarding captive deer issues and free-ranging wildlife populations, and when a public-trust resource like whitetails is legally considered livestock, ultimately control moves to the latter.

Given the potential for disease transmission and the threat to our \$37 billion wild deer hunting industry, NDA advocates for captive deer to be categorized as wildlife and that primary regulatory authority of captive deer facilities stay with state/provincial wildlife agencies. These agencies have more experience with wildlife species and have more at stake with wildlife disease issues, especially with regard to transmission to free-ranging populations.

#### Top States Estimated Number of Captive Deer Facilities in 2021

State	Facilities
Texas	858
Pennsylvania	686
Florida	441
Alabama	430
Ohio	335

## ESTIMATED NUMBER OF CAPTIVE DEER FACILITIES

State/Province	Authority	# of Facilities		Notes
		Wildlife Agency	State Animal Health Official	
Alabama	State/Prov Wild. Agency	430	*	Agency: Approx. 230 licensed deer breeders & 200+ hunting enclosures
Arkansas	State/Prov Wild. Agency	25	*	
Florida	Shared	359	441	SAHO: zoos, pet ownership, exhibition, hunting & breeding facilities
Georgia	Shared	80	8	SAHO # are only those regulated by DOA
Louisiana	Dept. of Ag.	8	315	306 breeding and shooting pens
Mississippi	Shared	319	*	Agency: 119 with white-tailed deer; approx. 200 more that contain exotics
North Carolina	Dept. of Ag.	4	28	
Oklahoma	Shared	*	166	SAHO: 114 DOA + 52 commercial hunt areas
South Carolina	State/Prov Wild. Agency	28	*	Agency: No com. industry; 28 registered high fences w/ native deer incidental to orig. constr. of fence
Tennessee	Dept. of Ag.	*	*	
Texas	State/Prov Wild. Agency	858	*	
<b>Southeast Total</b>		<b>2,111</b>	<b>958</b>	
Connecticut	Shared	1	11	
Delaware	*	0	4	
Maine	Dept. of Ag.	38	29	Agency: est. incl. 27 "farms" & 11 "hunt parks". SAHO: est. are all non-native deer
Maryland	State/Prov Wild. Agency	6	0	
Massachusetts	*	*	*	
New Hampshire	*	*	*	
New Jersey	State/Prov Wild. Agency	20	*	
New York	Shared	204	205	
Pennsylvania	Dept. of Ag.	686	*	
Rhode Island	State/Prov Wild. Agency	0	0	
Vermont	State/Prov Wild. Agency	0	*	
Virginia	State/Prov Wild. Agency	12	*	Agency: primarily zoos/exhibitors
West Virginia	Dept. of Ag.	36	*	
<b>Northeast Total</b>		<b>1,003</b>	<b>249</b>	
Illinois	Dept. of Ag	*	*	Agency: Unknown, regulated by DOA
Indiana	Board of Animal Health	318	293	
Iowa	Dept. of Ag.	11	73	
Kansas	Dept. of Ag.	85	*	
Kentucky	Shared	130	115	SAHO: 123 herds in 115 different facilities
Michigan	Dept. of Ag.	300	*	Agency: Minimum estimate
Minnesota	Shared	257	242	Agency: includes all cervid species, 172 white-tailed deer only
Missouri	State/Prov Wild. Agency	125	*	
Nebraska	Dept. of Ag.	55	30	SAHO: 30 w/ Nebraska DOA + few under USDA Animal Care Guidance & regulation as they exhibit cervids
North Dakota	Board of Animal Health	130	62	
Ohio	Dept. of Ag.	325	335	Agency: estimates 300-350
South Dakota	Dept. of Ag.	16	53	Agency: estimate from 2019; SAHO: 50 farms + 2 zoos + 1 wildlife exhibit
Wisconsin	Dept. of Ag.	311	281	SAHO: 281 registered with DOA
<b>Midwest Total</b>		<b>2,063</b>	<b>1,484</b>	
<b>3-Region Total</b>		<b>5,177</b>	<b>2,691</b>	
Arizona	*	*	*	
California	*	0	*	
Colorado	Dept. of Ag.	*	48	
Idaho	Shared	2	38	
Montana	Shared	29	16	SAHO: 16 licensed, 14 active
Nevada	Dept. of Ag.	0	*	
New Mexico	*	*	26	SAHO: 25-27
Oregon	State/Prov. Wild. Agency	8	*	SAHO: Unknown, regulated by fish and wildlife
Utah	*	*	*	
Washington	Shared	*	34	SAHO: 34 non-native (reindeer) + native cervids at AZA accredited research programs
Wyoming	*	0	Prohibited	
<b>West Total</b>		<b>39</b>	<b>162</b>	
<b>U.S. Total</b>		<b>5,216</b>	<b>2,853</b>	
Alberta	*	*	*	
British Columbia	*	*	*	
Manitoba	*	*	*	
New Brunswick	Shared	*	*	
Nova Scotia	*	*	*	
Ontario	Shared	*	*	
Quebec	State/Prov. Wild. Agency	118	*	
Saskatchewan	Dept. of Ag.	75	*	
<b>Canada Total</b>		<b>193</b>	<b>*</b>	

\*Data not provided/available

## RESEARCH FUNDING



Most hunters and outdoor enthusiasts are aware that revenue from their hunting and fishing licenses, gear, firearms and ammunition purchases contribute significantly to governmental wildlife agencies' operating budgets. These funds are crucial in allowing agencies to fund research projects, habitat improvement efforts and hunter education. The word "research" is synonymous with universities in many cases, but the vast majority of wildlife agencies use the aforementioned funds to support those very same research projects and initiatives.

We surveyed state and provincial wildlife agencies to find out how many agencies are funding deer research. Of the 44 states that responded to our survey, 37 (84%) indicated they are currently funding deer research projects. All nine states in the West that respond-

ed are currently funding studies, while only seven (64%) Northeastern states answered "yes". All but one (91%) Southeastern state and all but two (85%) Midwestern states are currently funding research.

If an agency answered "yes" to allocating funds, we asked them to select from up to six categories of research they're involved with. Of the states that responded, 59% are funding deer movement studies, 55% disease research, and 57% are funding survival/mortality studies. Across the board, fewer agencies are participating in habitat use (43%), productivity (27%), and food habit studies (1%). Many states also indicated they are participating in various studies that were not on our list and provided us with some examples (see table).

We also asked state and provincial wildlife agencies to provide an estimate of how

much money is allocated for these projects. Overall, the Southeast reported the most funds for deer research projects, with six states allocating just under \$10 million, while the four Northeast states spent about \$3 million, eight Midwest states spent just over \$9 million and three Western states spent over \$6 million on their projects. Combined, state wildlife agencies spent over \$28 million on various deer research projects and in the United States, funding allocations ranged anywhere between \$30,000 to \$5 million! It is important to keep in mind that many wildlife agencies work alongside universities and other entities to conduct research but may not directly fund the project itself.

### NDA's Recommendations

The NDA recognizes ongoing research as an incredibly important aspect of deer conservation. Wildlife agencies, universities, non-governmental organizations, and other entities working together on research is crucial to advance our collective knowledge of deer behavior, management strategies, habitat and nutrition, diseases, and much more. The NDA encourages all wildlife agencies to either allocate funding for research as part of their annual operating budget or participate in university and/or other collaboratively-funded projects. We also encourage wildlife agencies to engage the public in citizen science initiatives such as wildlife observation surveys, identifying and reporting invasive plant species and reporting sick deer.

### States With Highest Research Funding Budget

State	Dollars
California	\$5,000,000
Arkansas	\$4,500,000
Kansas	\$4,148,094
North Carolina	\$1,945,086
West Virginia	\$1,900,000

## CATEGORIES OF RESEARCH BEING FUNDED

State/Province	Y/N	\$ Amount Dedicated	Deer Movement	Disease	Survival/ Mortality	Habitat Use	Productivity	Food Habits	Other
Alabama	Yes	*	No	Yes	No	No	No	No	
Arkansas	Yes	\$4,500,000	Yes	Yes	Yes	Yes	Yes	No	
Florida	Yes	\$291,581	Yes	No	Yes	Yes	No	No	Florida: Impacts of dog hunting, population estimation
Georgia	Yes	\$1,500,000	Yes	No	Yes	No	No	No	Georgia: Urban
Louisiana	Yes	*	No	Yes	No	No	No	No	
Mississippi	Yes	\$300,000	Yes	Yes	Yes	Yes	No	yes	
North Carolina	Yes	\$1,945,086	Yes	No	Yes	Yes	Yes	No	
Oklahoma	No	*	No	No	No	No	No	No	
South Carolina	Yes	\$1,100,000	Yes	No	Yes	Yes	No	No	
Tennessee	Yes	*	No	Yes	No	No	No	No	
Texas	Yes	*	No	Yes	No	No	No	No	Texas: Nutrition
<b>Southeast Total</b>	<b>10 of 11</b>	<b>\$9,636,667</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>2</b>	<b>1</b>	
Connecticut	No	*	No	No	No	No	No	No	
Delaware	Yes	*	No	No	No	No	No	No	
Maine	No	*	No	No	No	No	No	No	
Maryland	Yes	\$100,000	No	No	No	No	No	No	Maryland: Social - hunter preferences
Massachusetts	*	*	*	*	*	*	*	*	
New Hampshire	*	*	*	*	*	*	*	*	
New Jersey	No	*	No	No	No	No	No	No	
New York	Yes	\$450,000	No	No	No	No	No	No	New York: Social science: attitudes & behaviors of hunters related to CWD risks; citizen science to assess deer impacts to forests (AVID monitoring)
Pennsylvania	Yes	*	Yes	Yes	Yes	yes	No	yes	Rhode Island: Population estimation and demographics
Rhode Island	Yes	*	No	No	Yes	No	No	No	
Vermont	No	*	No	No	No	No	No	No	
Virginia	Yes	\$549,353	Yes	No	Yes	No	Yes	No	Virginia: Baitless trail camera census
West Virginia	Yes	\$1,900,000	Yes	Yes	Yes	Yes	Yes	No	West Virginia: Genetics
<b>Northeast Total</b>	<b>7 of 11</b>	<b>\$2,999,353</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>1</b>	
Illinois	Yes	\$1,000,000	Yes	Yes	Yes	Yes	No	No	
Indiana	Yes	\$1,500,000	No	Yes	No	No	No	No	Indiana: CWD; Human Dimensions; population estimation; ecological effects
Iowa	Yes	\$30,000	No	Yes	No	No	Yes	No	
Kansas	Yes	\$4,148,094	Yes	Yes	Yes	Yes	Yes	No	
Kentucky	No	*	No	No	No	No	No	No	
Michigan	Yes	\$100,000	Yes	Yes	Yes	No	No	No	
Minnesota	Yes	*	Yes	Yes	Yes	Yes	No	No	Minnesota: Population estimation
Missouri	Yes	\$593,000	No	Yes	No	No	No	No	Missouri: Deer hunter & landowner human dimensions research
Nebraska	Yes	*	Yes	Yes	Yes	Yes	Yes	No	
North Dakota	Yes	\$400,000	No	No	No	No	No	No	North Dakota: Genetics
Ohio	No	*	No	vo	No	No	No	No	
South Dakota	Yes	*	Yes	No	Yes	Yes	No	No	
Wisconsin	Yes	\$1,550,000	Yes	Yes	Yes	Yes	Yes	No	
<b>Midwest Total</b>	<b>11 of 13</b>	<b>\$9,321,094</b>	<b>7</b>	<b>9</b>	<b>7</b>	<b>6</b>	<b>4</b>	<b>0</b>	
<b>3-Region Total</b>	<b>28 of 35</b>	<b>\$21,957,114</b>	<b>16</b>	<b>17</b>	<b>17</b>	<b>13</b>	<b>8</b>	<b>2</b>	
Arizona	*	*	*	*	*	*	*	*	
California	Yes	\$5,000,000	Yes	Yes	Yes	Yes	Yes	No	California: Predator/Prey interaction
Colorado	Yes	*	Yes	Yes	Yes	Yes	Yes	No	
Idaho	Yes	*	Yes	Yes	Yes	Yes	Yes	No	Idaho: Abundance and herd composition estimation techniques, predator/prey interactions, population modeling, buck vulnerability, seasonal range use and connectivity, deer use of agricultural crops
Montana	Yes	*	Yes	Yes	No	No	No	No	
Nevada	Yes	\$300,000	Yes	No	Yes	No	No	No	
New Mexico	Yes	*	Yes	Yes	Yes	No	No	No	
Oregon	Yes	\$750,000	Yes	Yes	Yes	Yes	Yes	yes	
Utah	*	*	*	*	*	*	*	*	
Washington	Yes	*	Yes	No	Yes	Yes	No	No	
Wyoming	Yes	*	Yes	Yes	Yes	Yes	No	yes	
<b>West Total</b>	<b>9 of 9</b>	<b>\$6,050,000</b>	<b>10</b>	<b>7</b>	<b>8</b>	<b>6</b>	<b>4</b>	<b>2</b>	
<b>U.S. Total</b>	<b>37 of 44</b>	<b>\$28,007,114</b>	<b>26</b>	<b>24</b>	<b>25</b>	<b>19</b>	<b>12</b>	<b>4</b>	
Alberta	*	*	*	*	*	*	*	*	
British Columbia	*	*	*	*	*	*	*	*	
Manitoba	*	*	*	*	*	*	*	*	
New Brunswick	No	*	No	No	No	No	No	No	
Nova Scotia	*	*	*	*	*	*	*	*	
Ontario	Yes	*	Yes	No	No	Yes	No	No	
Quebec	Yes	*	No	Yes	Yes	Yes	Yes	No	Quebec: Antler point restriction
Saskatchewan	Yes	\$10,000	Yes	Yes	No	Yes	No	No	
<b>Canada Total</b>	<b>3 of 4</b>	<b>\$10,000</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>0</b>	

\*Data not provided/available

## OTHER DEER SPECIES AND SUB-SPECIES

Although NDA's annual *Deer Report* focuses heavily on data relative to white-tailed deer (*Odocoileus virginianus*), the **National Deer Association** advocates for all deer species, so we are including information about other common deer species and sub-species in North America. In this section, you will find some general information about mule deer, black-tailed deer, Columbian white-tailed deer, Coues deer and Key deer.

### 2021 MAP OF OTHER DEER SPECIES AND SUB-SPECIES BY RANGE IN NORTH AMERICA







## MULE DEER (*Odocoileus hemionus*)

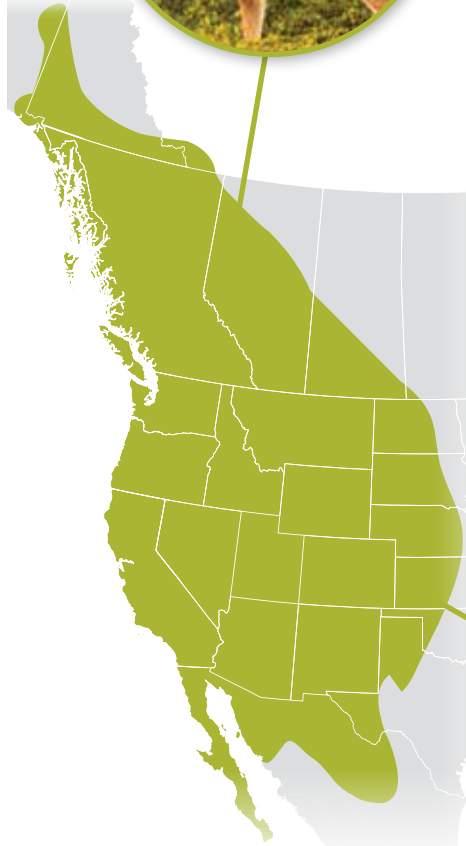
**Description:** Mule deer are another commonly hunted deer species in North America. Although closely related to whitetails, mule deer differ in size, looks and distribution. Mule deer are typically a little larger than whitetails, averaging just north of 200 pounds for mature bucks and 150 pounds for adult does, while whitetails average 150 and 100 pounds, respectively.

Mule deer, sometimes referred to as “muleys,” also differ from whitetails in that they don’t have the same iconic bushy bright-white tail that flags when alert. Mule deer rumps are also white but their thin, rope-like tails have a distinguishing black tip. Muleys have a stiff-legged, bounding hop and typically larger, forked antlers compared to whitetail bucks. Whitetails gallop or run and their antler tines grow parallel from the main beam.

**Range:** Although parts of their ranges overlap and both are native to North America, mule deer are found exclusively in the western half of the United States while whitetails can be found just about anywhere on the continent. The two species do hybridize, albeit rarely.

**Status:** Overall, mule deer are abundant and are classified as a species of least concern; meaning that their numbers are plentiful in the wild. In fact, they are managed through hunting in many places. According to the Mule Deer Working Group, over half of the member agencies in the Western Association of Fish and Wildlife Agencies report stable or increasing mule deer populations (see page 47 of our 2021 *Deer Report*). Despite their relative abundance, many states indicated the biggest threats to mule deer populations are habitat loss due to conversion, development, and wildfires, as well as the prevalence and spread of CWD. With the implementation of Secretarial Order 3362, habitat management activities for mule deer are on the rise including restoration of areas impacted by unauthorized vehicle use, invasive plants, restoration of native vegetation on public and private lands, and restoration of migration corridors.

For more in-depth information on mule deer, see page 36 of this report.



## BLACK-TAILED DEER (*Odocoileus hemionus columbianus*)

**Description:** Once considered its own species, black-tailed deer are now distinguished as a sub-species of mule deer. There are two forms of blacktails, Columbian and Sitka, but due to their geographic distribution we will focus on the Columbian blacktail for this publication.

Although similar in appearance to the more common mule deer, there are a few noticeable differences that set them apart. The blacktail receives its name from, you guessed it, a black tail that expresses that coloration from the tip all the way up to the rump. Antler shape is similar to mule deer, but black-tailed deer tend to have much smaller racks and are typically

smaller in body size as well. Adult blacktail bucks average up to 140 pounds, while adult does average around 90 pounds.

**Range:** Columbian black-tailed deer can be found in northern California, also ranging up into western Oregon and Washington. Columbian blacktails and Sitka deer begin to transition in British Columbia with the Sitka in the north and the Columbian maintaining the south. Black-tailed deer have also been introduced to Hawaii and offer ample hunting opportunities.

**Status:** According to the Mule Deer Working Group, black-tailed deer populations have been recovering to various degrees over the last decade or

so. In general, habitat loss due to human encroachment and development poses the most substantial threat to black-tailed deer populations, but habitat conservation activities as a result of Secretarial Order 3362 will provide positive benefits to big game populations, including black-tailed deer, and numerous other wildlife species. It can be difficult to effectively survey black-tailed deer populations, but most states, provinces and territories indicate that their populations are stable or increasing in many jurisdictions. Due to low hunter success rates in some locations, tags are fairly abundant, easy to come by and, because of that, allow for a liberal bag limit.

## OTHER DEER SPECIES AND SUB-SPECIES

# COLUMBIAN WHITE-TAILED DEER

*(Odocoileus virginianus leucurus)*

**Description:** The Columbian white-tailed deer is a much lesser-known subspecies of whitetail and is extremely geographically isolated. They are virtually identical in regard to their size, appearance and behavior to other whitetails, sporting the famous conspicuous white tail and large symmetrical antlers. They have been known to reach speeds of up to 36 miles per hour and can leap as far as 30 feet!

**Range:** They are the western-most subspecies of whitetail and earned their namesake from their distribution along the Columbia River in Washington and Oregon. They are separated into two distinct populations: one on the banks of the Columbia River in Washington and the other in the Umpqua River Valley in southern Oregon. The Umpqua River population is often referred to as the "Roseburg" population.

**Status:** The Columbian whitetail was listed as a federally endangered species in 1968, but thanks to extensive conservation efforts, the Umpqua River Valley population was removed from the endangered species list and reclassified as threatened in 2013. In more recent events, the Columbia River population was also delisted in 2016 as a result of establishing wildlife refuges and improved habitat. The Columbian White-tailed Deer National Wildlife Refuge located in southwestern Washington and northwestern Oregon is specifically dedicated to protecting this vulnerable species through extensive habitat management and cooperation with nearby private landowners.

According to the U.S. Fish and Wildlife Service (USFWS), the Umpqua River Valley population has increased to over 5,000 individuals while the Columbia River population remains lower at around 1,200. The Washington Department of Fish and Wildlife encourages anyone who observes this species to report the location of the sighting to assist with species conservation and management efforts. Despite their status, there are a few controlled hunts in the Umpqua River Basin region and tags are extremely limited.



## COUES DEER (*Odocoileus virginianus couesi*)



**Description:** Coues deer (pronounced “cows”), sometimes referred to as the Arizona whitetail, are a small subspecies of white-tailed deer first described by an Army physician named Elliot Coues in the 1860s. They are similar in appearance to other whitetails with the exception of much larger ears and tails in proportion to their body size, and a “salt and pepper” coloration. The Arizona Game and Fish Department describe them as much smaller than their eastern cousins - with mature bucks rarely weighing over 100 pounds and adult does averaging about 65 pounds.

**Range:** Coues deer are found abundantly in Arizona and the southwestern part of New Mexico, with their range extending south into the western Mexican states

of Sonora and Chihuahua. They are most abundant in the southeastern portion of Arizona, particularly in areas that receive predictable summer rain. They are widely hunted throughout their range, especially in Arizona and New Mexico.

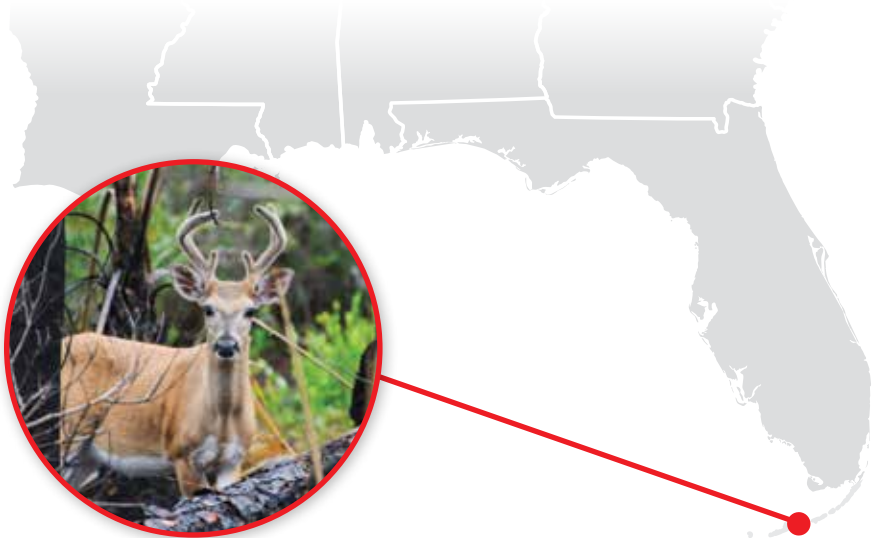
**Status:** Known to many as “the gray ghost of the desert,” Coues deer offer one of the most challenging deer hunting opportunities in North America due to their ability to vanish at a moment’s notice or avoid detection altogether. New Mexico and Arizona indicate that their Coues deer populations appear to be increasing over the last few years, offering hunters greater opportunities for successful hunts. In fact, Arizona reports that Coues deer account for over 40% of the state’s overall deer harvest. Predation, livestock grazing, and drought all pose a threat to Coues deer populations, but trends suggest that fawn recruitment and survival is increasing, and the adult sex ratio is well balanced, presenting hunters more chances to pursue and harvest the elusive gray ghost.

## KEY DEER (*Odocoileus virginianus clavium*)

**Description:** Perhaps one of the most interesting and unique of the 38 subspecies of whitetail is the Key deer. These deer resemble common whitetails almost exactly except for one distinguishing factor: their size. Key deer are significantly smaller than what most people are used to seeing, with mature bucks averaging only 75 pounds and adult does rarely exceeding 60 pounds. They are the smallest North American deer and fawns have often been compared to chihuahuas!

**Range:** Key deer live exclusively in the Florida Keys, predominately on Big Pine Key, but are often seen swimming from island to island. According to the USFWS they have adapted a distinct lack of fear of humans resulting in unhealthy feeding habits and increased car-deer collisions. These collisions alone kill roughly 5-15% of the total key deer population each year.

**Status:** A combination of habitat destruction, poaching and human interaction resulted in the addition of Key deer to the endangered species list in 1967 - where they still remain. There are less than an estimated 1,000 individuals in the population today and in 2017, Hurricane



Irma posed another serious threat to their survival as habitat and freshwater resources were significantly damaged or lost. Although their numbers are extremely low, the population appears to remain stable. Extensive conservation efforts such as development of the National Key Deer Refuge, elevated highway overpasses and

the Big Pine Key Habitat Conservation plan have been established in hopes of preserving this unique and remarkable animal. The USFWS encourages everyone in the Florida Keys to drive slowly, secure trash and yard waste and refrain from feeding Key deer.

## OTHER DEER SPECIES AND SUB-SPECIES

### ANTLERED MULE DEER HARVEST



Mule deer are hunted in two states in the Southeast, four in the Midwest, and all 11 states in the West. Those 17 states are included in the text and table below. We received data from 10 of the 17 states (59%), but only one province (Saskatchewan), so Canada was excluded from the table. In future *Deer Reports* we hope to have a complete dataset from all states.

2020 was an average year for mule deer hunters as half of the states reported elevated harvests from the prior year and half reported declines. For states that reported data for the past three seasons, the 2020 harvest was 6%

below the running two-year average.

Overall, Montana shot the most bucks (40,231) while Kansas reported the fewest (1,605). It should be noted that Oklahoma typically shoots the fewest but didn't report its 2020 harvest. Montana also harvested the most bucks per square mile (0.28), and Nevada shot the most (47 bucks) per 100 deer hunters. Saskatchewan shot 5,090 bucks which was nearly identical to its 2019 harvest.

States With Antlered Mule Deer Harvest	
State	2020 Harvest
Montana	40,231
California	25,862
Idaho	19,425
Wyoming	18,101
Oregon	16,363

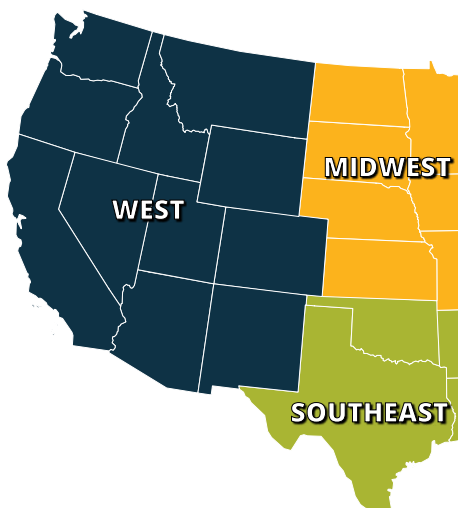
  

States With Antlered Mule Deer Harvest PSM	
State	2020 Harvest PSM
Montana	0.28
Idaho	0.23
Wyoming	0.19
California	0.17
Oregon	0.17

States With Antlered Mule Deer Harvest per 100 Deer Hunters	
State	2020 Deer Harvest
Nevada	47
Wyoming	28
California	17
Idaho	13
Oregon	12

#### MULE DEER REPORT REGIONS



### ANTLERED MULE DEER HARVEST

State/Province	2018	2019	2020	% Change 2019-20	2020 Bucks PSM	2018-20 Avg	% Change to 2yr Avg	2020 Buck Harvest/ 100 Deer Hunters
Oklahoma	222	252	*	*	*	237	*	*
Texas	11,052	11,562	9,820	-15	0.04	11,307	-13	1
<b>Southeast Total/Avg</b>	<b>11,274</b>	<b>11,814</b>	<b>9,820</b>	<b>*</b>	<b>*</b>	<b>11,544</b>	<b>-13</b>	<b>1</b>
Kansas	1,597	1,620	1,605	-1	0.02	1,609	0	1
Nebraska	9,250	8,548	7,236	-15	0.09	8,899	-19	8
North Dakota	*	*	*	*	*	*	*	*
South Dakota	5,947	5,239	5,904	13	0.08	5,593	6	8
<b>Midwest Total/Avg</b>	<b>16,794</b>	<b>15,407</b>	<b>14,745</b>	<b>*</b>	<b>*</b>	<b>16,101</b>	<b>-8</b>	<b>4</b>
Arizona	*	*	*	*	*	*	*	*
California	28,196	27,686	25,862	-7	0.17	27,941	-7	17
Colorado	*	*	*	*	*	*	*	*
Idaho	21,471	18,633	19,425	4	0.23	20,052	-3	13
Montana	39,285	39,267	40,231	2	0.28	39,276	2	*
Nevada	7,110	5,595	6,000	7	0.05	6,353	-6	47
New Mexico	*	*	*	*	*	*	*	*
Oregon	18,551	14,621	16,363	12	0.17	16,586	-1	12
Utah	*	*	*	*	*	*	*	*
Washington	*	*	*	*	*	*	*	*
Wyoming	22,671	20,423	18,101	-11	0.19	21,547	-16	28
<b>West Total/Avg</b>	<b>137,284</b>	<b>126,225</b>	<b>125,982</b>	<b>*</b>	<b>*</b>	<b>131,755</b>	<b>-4</b>	<b>16</b>
<b>U.S. Total/Avg</b>	<b>165,352</b>	<b>153,446</b>	<b>150,547</b>	<b>*</b>	<b>*</b>	<b>159,399</b>	<b>-6</b>	<b>6</b>

\*Data not provided/available

## ANTLERLESS MULE DEER HARVEST

Mule deer are hunted in two states in the Southeast, four in the Midwest, and all 11 states in the West. Those 17 states are included in the table. We received data from 10 of the 17 states (59%), but only one province (Saskatchewan), so Canada was excluded from the table. In future *Deer Reports* we hope to have a complete dataset from all states.

2020 was a good year for the majority of antlerless mule deer hunters as seven of 10 states (70%) reported elevated harvests from the prior year. For states that reported data for the past three seasons, the 2020 harvest was 1% above the running two-year average, and seven of 10 states (70%) surpassed their running average.

Overall, Montana shot the most antlerless deer (14,519) while Kansas reported the fewest (167). It should be noted that as with bucks, Oklahoma typically shoots the fewest, but didn't report its 2020 harvest. Montana also harvested the most antlerless deer per square mile (0.10), and Nevada shot the most (7.1 antlerless deer) per 100 deer hunters. Saskatchewan shot 5,925 antlerless deer which was greater than its 2020 buck harvest and 40% above its 2019 antlerless harvest.

ANTLERLESS MULE DEER HARVEST								
State/Province	2018	2019	2020	% Change 2019-20	2018-19 Avg	'20% Change to 2yr Avg	2020 a/o PSM	'20 Antlerless Harvest/ 100 Deer Hunters
Oklahoma	1	1	*	*	1	*	*	*
Texas	1,887	3,639	710	-80	2,763	-74	0.00	0.1
<b>Southeast Total/Avg</b>	<b>1,888</b>	<b>3,640</b>	<b>710</b>	<b>-80</b>	<b>2,764</b>	<b>-74</b>	<b>0.00</b>	<b>0.1</b>
Kansas	214	112	167	49	163	2	0.00	0.2
Nebraska	2,529	2,672	2,202	-18	2,601	-15	0.03	2.3
North Dakota	*	*	*	*	*	*	*	*
South Dakota	1,511	1,360	1,530	13	1,436	7	0.02	2.2
<b>Midwest Total/Avg</b>	<b>4,254</b>	<b>4,144</b>	<b>3,899</b>	<b>-6</b>	<b>4,199</b>	<b>-7</b>	<b>0.01</b>	<b>1.0</b>
Arizona	*	*	*	*	*	*	*	*
California	486	357	463	30	422	10	0.00	0.3
Colorado	*	*	*	*	*	*	*	*
Idaho	5,506	5,046	5,383	7	5,276	2	0.06	3.6
Montana	12,957	12,974	14,519	12	12,966	12	0.10	*
Nevada	860	812	900	11	836	8	0.01	7.1
New Mexico	*	*	*	*	*	*	*	*
Oregon	*	2,519	2,645	5	2,519	5	0.03	1.9
Utah	*	*	*	*	*	*	*	*
Washington	*	*	*	*	*	*	*	*
Wyoming	3,470	3,755	3,269	-13	3,613	-10	0.03	5.1
<b>West Total/Avg</b>	<b>23,279</b>	<b>25,106</b>	<b>26,716</b>	<b>6</b>	<b>24,193</b>	<b>10</b>	<b>0.02</b>	<b>3.3</b>
<b>U.S. Total/Avg</b>	<b>29,421</b>	<b>32,890</b>	<b>31,325</b>	<b>-5</b>	<b>31,156</b>	<b>1</b>	<b>0.02</b>	<b>4.4</b>

\*Data not provided/available

### States With Antlerless Mule Deer Harvest

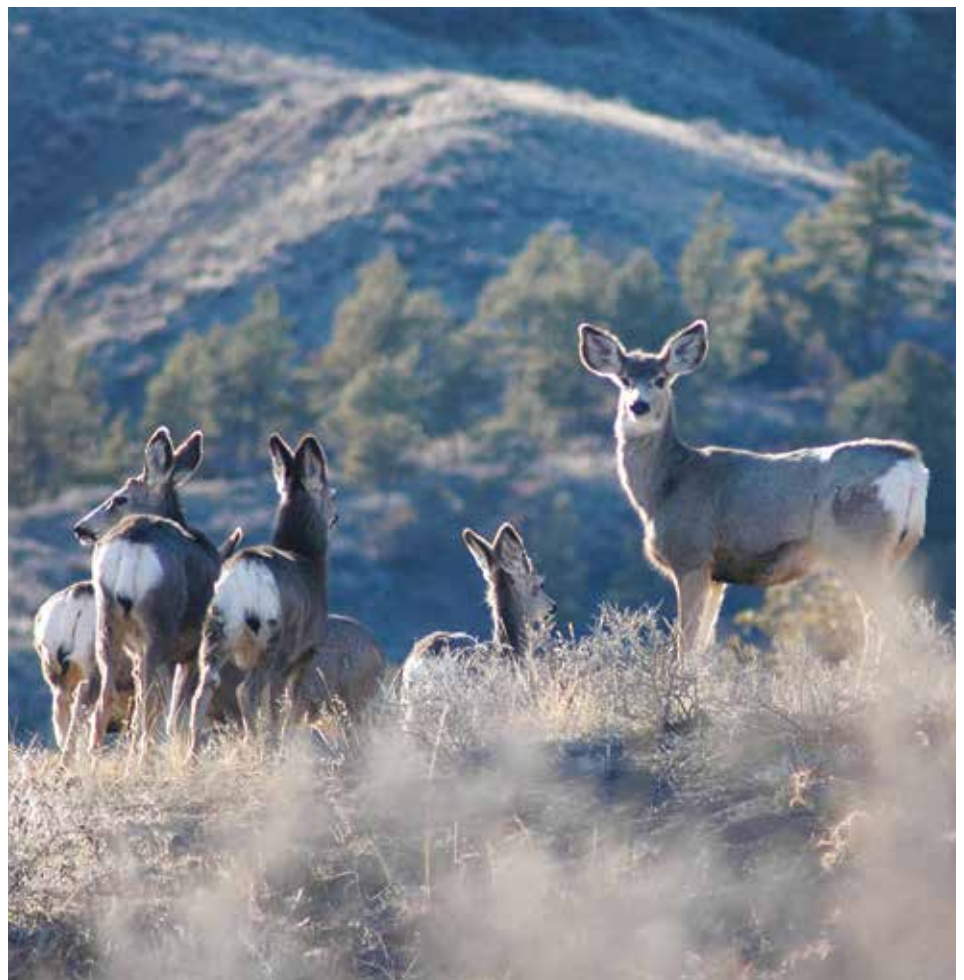
State	2020 Harvest
Montana	14,519
Idaho	5,383
Wyoming	3,269
Oregon	2,645
Nebraska	2,202

### States With Antlerless Mule Deer Harvest PSM

State	2020 Harvest PSM
Montana	0.10
Idaho	0.06
Nebraska	0.03
Oregon	0.03
Wyoming	0.03

### States With Antlerless Mule Deer Harvest per 100 Deer Hunters

State	2020 Deer Harvest
Nevada	7.1
Wyoming	5.1
Idaho	3.6
Nebraska	2.3
South Dakota	2.2



## EDUCATION, OUTREACH AND COMMUNICATIONS

2021 was a great year on the education/outreach front for NDA. We started the year by producing and publishing our 13th annual *Deer Report* and hosting the 44th annual Southeast Deer Study Group. This is the largest annual conference on deer biology, research and management, and it was the first time anyone other than a state wildlife agency hosted the meeting. With the continued impact of the pandemic on in-person meetings, we will be hosting it again in February 2022. Spring brought our conservation seed program, and our 24 participating Branches sold more than 200,000 pounds of corn and soybeans that planted approximately 6,300 acres for wildlife.

Organizationally, we updated all NDA position statements and made them available on our website. We extended our contract with the Missouri Department of Conservation for three more years, and this provides us with two full time Deer Outreach Specialists. Our Deer Outreach Specialist contract position in Alabama became a full time Conservation Coordinator position.

### Southeast Deer Partnership

Additionally, we chaired the Southeast Deer Partnership project. The Southeast Deer Partnership is comprised of state and federal governmental agencies, non-governmental organizations (NGO) and private sector entities that have vested interests in the future of deer hunting, wildlife management and conservation. Its mission is to increase awareness of the role and benefits of deer hunting and hunters throughout the Southeast. The project consists of 3 phases – 1 is the research phase, 2 is developing PR messaging based on the research from phase 1, and 3 is implementation of the PR campaign. In 2021 we nearly completed phase 1, and we will provide a full report in early 2022.

### Improving Access, Habitat and Hunting on Public Lands

One of our most exciting items was announcing our official “Improving Access, Habitat and Deer Hunting on Public Lands” initiative with a goal to improve access, habitat and deer hunting on 1 million acres of public land by 2026. This national initiative leverages the needs of hunters on public lands with NDA’s experience and conservation partners.

In 2021, we engaged with the U.S. Forest Service in 11 states: Alabama, Arkansas, Georgia, Idaho, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Texas and Virginia. We currently have project agreements in place on the Daniel Boone National Forest (Cumberland and London Ranger Districts) in Kentucky and the Bienville and DeSoto (Chickasawhay and DeSoto Ranger Districts) National Forests

in Mississippi that will conservatively impact 55,000 to 65,000 acres. Our first timber sale was slated to happen in October 2021 in the DeSoto National Forest but a bout of COVID within the logging contractor team combined with over 100 inches of rain there locally throughout the summer put it off until early 2022. We are on track to have projects start in five to six additional states (Alabama, Georgia, Idaho, North Carolina, South Carolina and Tennessee) totaling 175,000 to 265,000 acres in 2022. To help with this, we accepted donations of \$180,000 from a private donor (committed) and \$150,000 from the Bass Pro Shops/Cabela’s Outdoor Fund (acquired) to help support the project. NDA currently holds Master Stewardship Agreements (MSA) in Regions 8 and 9, and we closed 2021 in the process of negotiating our third MSA to address potential work in northern Idaho, where CWD was recently discovered and to address wildfire risk.

### Communications

In our strategic plan for 2021, NDA set a goal to increase communication in a handful of specific areas.

Video communication was one of those primary areas. By the end of 2021, NDA staff produced 34 new educational videos and posted them to YouTube, far exceeding any previous year in total video output. In addition to those 34 new videos, 11 pre-recorded Deer & Beer webinars were posted to NDA’s Youtube channel, along with 11 other pre-recorded webinars and hearings focused on chronic wasting disease (CWD) education.

This increased emphasis on video communications led to more than 700,000 video views on YouTube alone in 2021, far exceeding the pre-

vious highest year of 458,000 views set in 2020. This helped NDA pass another milestone of two million all-time views on YouTube.

Podcasting was another new area of emphasis in 2021, with a goal of launching NDA’s first-ever podcast series. In fact, two permanent podcasts were launched in 2021: *NDA’s Coffee & Deer* podcast, and the *Deer Season 365* podcast. NDA staff produced 12 episodes of each podcast in 2021, and both continue into the new year, reaching larger and new audiences through audio content for the first time in NDA history.

National press releases were a third area of increased strategic emphasis for 2021. NDA produced and distributed 48 national press releases in 2021, far and away the most in any year in the organization’s history.

Meanwhile, emphasis on other communications channels continued. More than 1.6 million people visited the NDA website for educational and mission-oriented content in 2021. NDA staff and other contributors posted 71 new educational blogs in 2021, and these were promoted through 50 editions of the weekly NDA e-newsletter that is free to the nearly 200,000 subscribers who receive it.

NDA sent more than 245 other e-blasts to support local events, Branch education and fundraising, and important action alerts on deer policy and regulations.

Don’t forget hundreds of social media posts on Facebook, Instagram and Twitter to share educational content and messages, mission achievements, policy alerts, and much more.

Finally, NDA produced and mailed four issues of *Quality Whitetails* magazine to supporting members. Objectively measured, 2021 was by far most productive year in NDA communications in the history of the organization.



## 2021 NDA ADVOCACY UPDATE



Calendar year 2021 served as the first full year that the National Deer Association (NDA) existed as a completely-merged organization after the Quality Deer Management Association (QDMA) and the National Deer Alliance (the Alliance) came together in November of 2020. While the QDMA and the Alliance worked hand-in-hand on many deer policy issues as separate organizations, the two organizations really began collaborating in unison in mid-2020. That work, followed by the formal merger in late 2020, resulted in incredible momentum at all levels of advocacy as we entered 2021. So, it's no surprise that we had an incredibly effective and efficient year engaging in deer policy at the local, state and federal levels.

In 2021, the NDA engaged in over 200 legislative, regulatory and policy issues and initiatives. These issues and initiatives included 75 Action Alerts, averaging one Alert every four to five days, engagement on 45 pieces of state and federal legislation, and authoring or signing over 100 policy letters to local, state and federal agencies and lawmakers. Below is just a small sample of some of the issues and initiatives that the NDA tackled in 2021.

- Joined conservation partners in filing an amicus brief in the U.S. District Court, Southern District of Indiana in support of the Houston South Vegetation Management and Restoration Project proposed by the U.S. Forest Service within the Hoosier National Forest in southern Indiana.

- Advocated for the role of hunting and fishing in biodiversity conservation and 30 by 30 solutions that allow hunters and anglers to continue our proud conservation legacy. A federal

report released in spring 2021, Conserving and Restoring America the Beautiful, included many of the priorities and suggestions provided by the NDA and the hunting and fishing communities.

- Supported a U.S. Fish and Wildlife Service (USFWS) proposal (and ultimately, rule promulgation) for new and expanded hunting and fishing opportunities for game species across 2.1 million acres at 90 national wildlife refuges. This move is the largest expansion in recent history of hunting and fishing opportunities on national wildlife refuges and national fish hatcheries, opening acreage about one and a half times the size of the state of Delaware.

- Attended the 20th meeting of the American Wildlife Conservation Partnership (AWCP) at the Boone and Crockett Headquarters in Missoula, Montana in August. The NDA is proud to be an AWCP Partner, and we're pleased to announce that NDA was elected to fill a seat on the Partnership's Steering Committee through 2023.

- Led an initiative to allow New York youths ages 12 and 13 to hunt deer with a firearm. Most New York counties are eligible to participate in the youth hunt program, but each county must pass a local law opting-in to the youth hunt. We helped connect our members with county legislators to encourage the passage of such local laws, and all but two eligible counties opted-in in time for fall hunts.

- Endorsed and provided input on the Chronic Wasting Disease Research and Management Act. Introduced in October 2021 and passed by the House of Representatives in December, the Act will support management efforts and research to combat chronic wast-

ing disease (CWD) through authorized annual funding for research and management of the disease.

- Joined a coalition to gather support for and pass the North American Grasslands Conservation Act. Fighting to reverse the precipitous declines of iconic grassland birds (53%) and pollinators (80%), the Act creates a clear vision for the future of fish & wildlife, public lands, agricultural & ranching communities, climate resiliency, and ecosystem health. The NDA recognizes the importance of these ecosystems to deer and other big game species.

Our dedicated members have served as the driving force for many deer advocacy victories in 2021. Now with strong baseline engagement data, we expect that effort to only grow stronger. To ensure that we're even more effective and efficient in 2022, we have invested in new advocacy software, which will result in more engagement options, better issue tracking and an easier user experience for our supporters. We encourage our members to reach out with questions or to make us aware of emerging issues in their states or provinces. Please contact the NDA's Director of Policy, Torin Miller, with your questions or comments.

No other deer organization fights as hard for deer and deer hunters as the NDA. We need your help to increase the NDA's effectiveness and efficiency at fighting for wild deer, so please consider becoming a new member or renewing your membership today. At the very least, sign-up for our weekly newsletter to stay up-to-date on deer advocacy issues, including issues and initiatives tailored to your state.

## HUNTER RECRUITMENT UPDATE

### Field to Fork Program

After having to social distance from many organized events in 2020, Field to Fork hit an all-time high in 2021 with 43 events in 17 states. We successfully ran our first “Back40 to Fork” community-based program around the 64-acre land donation by MeatEater in Michigan. We helped with two industry events this year with Vortex Optics

and American Outdoor Brands. We also hosted a program in New York for Hunters of Color with Backcountry Hunters and Anglers, The Nature Conservancy and the New York Department of Environmental Conservation where we took eight Black, Indigenous and People of Color (BIPOC) on their first hunts.



*Top Left:* Forrest Waggoner with his first deer taken on the Back40 with mentor Mark Kenyon. *Top Right:* With NDA's help, Vortex Optics hosted a Field to Fork program for employees at their headquarters and new Edge facility in Wisconsin, where new hunters were trained with Mission Crossbows. *Middle Right:* Mark Kenyon helps the new hunters get comfortable with field dressing on the Back40 property. *Bottom:* Participants of the New York Field to Fork gather for a group photo from our Field to Fork in New York hosted for Hunters of Color with The Nature Conservancy, Backcountry Hunters and Anglers and the NYDEC.

### Educational Resources

We were founded to share educational information to create better deer and better deer hunting. We pride ourselves in the great educational resources we have for deer hunters and managers and we haven't overlooked new and aspiring deer hunters. In fact, we recently compiled the information below for a flyer detailing our free and paid educational resources for new and aspiring deer hunters. Our free resources include our Guide to Successful Deer Hunting eBook, Deer Hunting 101 Blog, a YouTube video series of the same title, and our How to Hunt Deer podcast hosted on Sportsman's Nation. We also have our Today's Hunter Deer Hunting 101 online course created in partnership with Kalkomey for a small fee.



Here are some great **FREE & paid resources** for aspiring deer hunters:



› **NDA's Deer Hunting 101**  
[deerassociation.com/hunt/deer-hunting-101/](https://deerassociation.com/hunt/deer-hunting-101/)



› **Deer Hunting 101**  
**YouTube Video Series**  
[youtube.com/deerassociation](https://youtube.com/deerassociation)



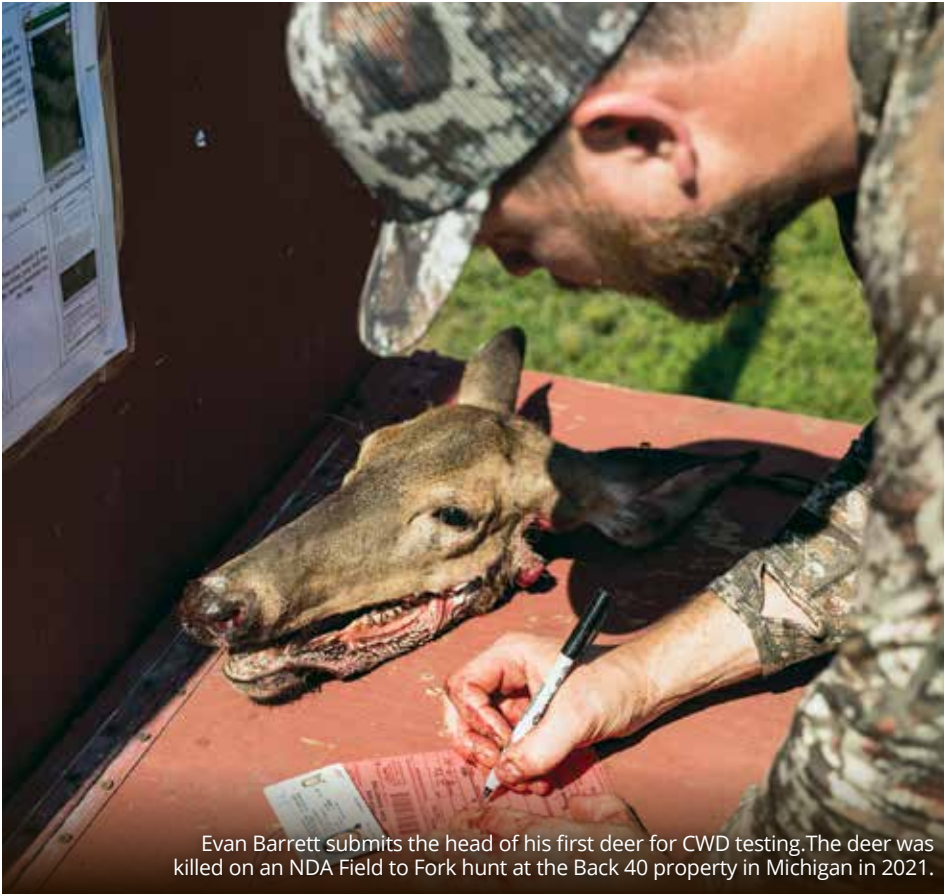
› **How To Hunt Deer Podcast**  
[deerassociation.com/podcast/](https://deerassociation.com/podcast/)



› **NDA/Today's Hunter Deer**  
**Hunting 101 Online Course**  
[todayshunter.com/deer101/](https://todayshunter.com/deer101/)



## HERD HEALTH UPDATE



Evan Barrett submits the head of his first deer for CWD testing. The deer was killed on an NDA Field to Fork hunt at the Back 40 property in Michigan in 2021.

The National Deer Association (NDA) set the stage in 2021 as the national leader in the effort to raise awareness about critical deer diseases, particularly chronic wasting disease (CWD) and epizootic hemorrhagic disease (EHD), as well as the role of deer to human and veterinary health issues, such as Lyme disease.

Under the guidance of a new strategic plan which named deer herd health as one of our core mission areas, NDA advocated for coordinated efforts to manage such diseases, including working closely with state and federal wildlife managers and other key partners to advance important initiatives both within policy and population management; lobbying for additional disease research funding; and facilitating interaction among researchers, managers, agencies, industry, hunters, and major conservation organizations to advance disease management. Below is just a small sample of the deer herd health issues and initiatives that NDA tackled in 2021:

- Compiled and published NDA's annual, national Deer Disease Update – a comprehensive look at herd health issues impacting deer (see page 16)
- Coordinated and moderated a CWD

dashboard demonstration meeting for 62 attendees from at least 19 state wildlife agencies

- Implemented a CWD communications plan to include print, digital and social media channels. In 2021 NDA addressed CWD in our weekly e-newsletter, monthly webinar, quarterly magazine and volunteer policy updates, numerous podcasts, advocacy alerts, and more
- Released numerous deer herd health videos on NDA's YouTube channel directed at practical information for hunters, including topics such as targeted removal to manage CWD, how to debone a deer for transportation, common symptoms to look for related to EHD, how agencies manage deer populations, and many more
- Hosted and facilitated a bi-monthly "CWD Coalition" meeting with representatives from more than a dozen conservation partners, providing an opportunity for attendees to hear and/or present about the latest CWD information
- Assembled a bi-monthly "CWD Roundup" that included every new discovery of CWD presence, spread, change in management and research finding

- Kept members and followers abreast of information regarding news that deer can carry and spread SARS-CoV-2 (the virus that causes COVID-19). In 2021 antibodies were detected within deer in some states, as well as some were discovered to have an active infection and spreading the virus through deer-to-deer transmission

- Worked with onX Hunt to overhaul the first nationwide database of CWD information for hunters. The new layer still allows the user to visualize CWD distribution within the application, but with the new update, the CWD layer now also shows testing locations, carcass disposal sites and regulations for each CWD management zone. This information, along with relevant links to all state CWD resources and regulations, empowers hunters to fight CWD and become part of the solution

- In cooperation with the Pennsylvania Game Commission (PGC), NDA hosted a series of seven virtual, regional public meetings to discuss the threats CWD in the state

- Submitted comments to Texas and Mississippi regarding proposed rule changes addressing CWD

- Endorsed the Chronic Wasting Disease Research and Management Act. The bill authorizes \$70 million annually from Fiscal Year 2022 through Fiscal Year 2028 for research and management of CWD, with the money to be split evenly between research and management. The United States Department of Agriculture (USDA) will administer the funds through cooperative agreements. The bill also includes authorization for USDA and state and tribal agencies to develop educational materials to inform the public on CWD and directs USDA to review its herd certification program (HCP) within 18 months of the bill's passage

- Co-authored a letter to USDA Secretary Vilsack encouraging him to take immediate action to curb the spread of CWD

- Served as a steering committee member and key partner in Pennsylvania with UPenn's Wildlife Futures team

A number of diseases, most notably the always-fatal CWD, continue to present serious threats to the future of all deer species and deer hunting traditions. No other deer organization fights as hard for deer and deer hunters as NDA. That is why NDA has been focused and will continue to work on building a coalition of hunters, wildlife agencies and scientific experts to answer these threats.

## FINANCIAL STATEMENT

The National Deer Association came out of the pandemic stronger than ever, but we could not do that without making some tough decisions. We completely changed our business model to become a more efficient organization. We sold our headquarters located in Bogart, Ga. and all of our employees are now working remotely. This allowed the organization to put those resources back into our mission. We reduced our workforce but not our

service to each of you. With the reduced staff, we were still able to service over 1,000 volunteers and conduct fundraisers through other mediums rather than in-person. The prior year was tough, but we made it because of loyal supporters like you!

NDA continues to experience sustained growth while maintaining its reputation as one of the leanest and most efficient nonprofit wildlife conservation organizations in the

United States. The Internal Revenue Service has ruled that NDA qualifies under the provisions of Section 501(c)(3) of the Internal Revenue Code as an organization created for charitable, educational, and scientific purposes and therefore is exempt from federal income taxes. Donations to NDA are deductible by the donor as charitable contributions for federal income tax purposes. NDA Federal Identification Number is 57-0941892.

STATEMENT OF FINANCIAL POSITION		
Assets	12/31/2019	12/31/2020
Cash Accounts	\$ 241,027	\$ 490,812
Accounts Receivable	\$ 461,090	\$ 524,525
Inventory	\$ 226,525	\$ 62,963
Prepaid Expenses	\$ 325	\$ 18,323
Investments	\$ 67,675	\$ 98,572
<b>Total Current Assets</b>	<b>\$ 996,642</b>	<b>\$ 1,195,195</b>
Property & Equipment	\$ 5,701,404	\$ 2,832,821
Net of Accumulated Depreciation	\$ (831,277)	\$ (288,667)
Total Property & Equipment	\$ 4,870,127	\$ 2,544,154
<b>Total Assets</b>	<b>\$ 5,866,769</b>	<b>\$ 3,739,349</b>
<b>Liabilities &amp; Net Assets</b>		
Current Liabilities	\$ 384,189	\$ 818,513
Accounts Payable	\$ 491,893	\$ 55,760
Accrued Expenses	\$ 170,732	\$ 101,996
Other Long Term Liabilities	\$ 739,550	\$ -
<b>Total Liabilities</b>	<b>\$ 1,786,364</b>	<b>\$ 976,269</b>
<b>Net Assets</b>		
Unrestricted Net Assets	\$ 3,989,910	\$ 2,419,571
Restricted Net Assets	\$ 90,495	\$ 343,509
<b>Total Net Assets</b>	<b>\$ 4,080,405</b>	<b>\$ 2,763,080</b>
<b>Total Assets &amp; Liabilities</b>	<b>\$ 5,866,769</b>	<b>\$ 3,739,349</b>

Note: Financial statements for year ending December 31, 2020 were audited by Rhodes, Young, Black, & Duncan, CPA.

## WHERE DOES YOUR MONEY GO?

NDA received the coveted Charity Navigator 4-star rating for the fifth year in a row. This is the highest possible rating and indicates that our organization adheres to the sector best practices and executes its mission in a financially efficient way. Obtaining a 4-star rating verifies that National Deer Association exceeds industry standards and outperforms most charities in our line of work. Only 20% of the charities evaluated have received at least four consecutive 4-star evaluations, indicating that National Deer Association outperforms most other charities in America.

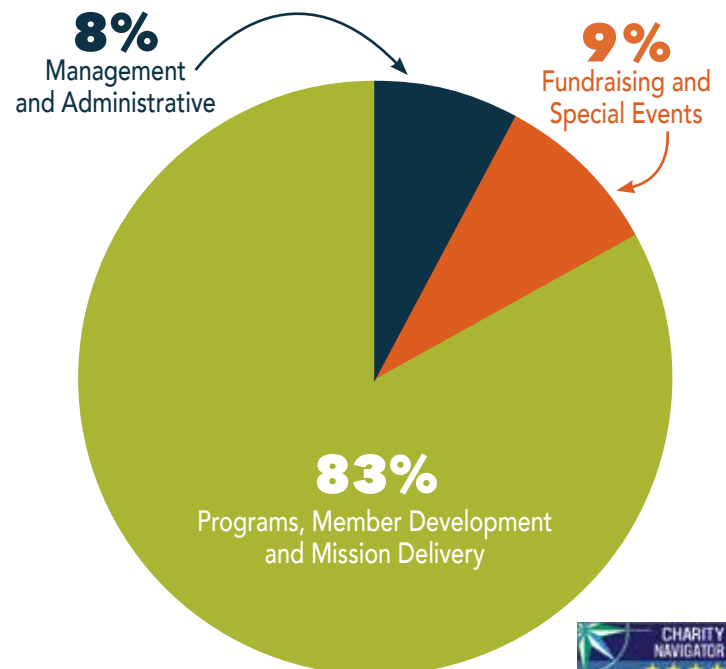
NDA allocates over 90% of our operating expenses toward mission delivery and fundraising. This included advocating for sound deer management in policy and regulation, working to secure our hunting heritage, support practical deer research to advance our hunting knowledge, and improving deer management and hunter education at the grassroots level throughout North America.

When you donate to NDA your support will help ensure the future of wild deer, wildlife habitat and hunting. Consider a donation today!

STATEMENT OF FINANCIAL ACTIVITIES		
Revenues	12/31/2019	12/31/2020
Program Services	\$ 2,223,692	\$ 1,269,603
Membership & Sponsor Contributions	\$ 1,683,153	\$ 990,389
Contribution & Grant Income	\$ 454,321	\$ 904,159
Other Revenue	\$ 107,088	\$ 964,666
Unrealized & Realized Gain on Investments	\$ 16,295	\$ 11,645
<b>Total Revenue</b>	<b>\$ 4,484,549</b>	<b>\$ 4,140,462</b>
<b>Expenses</b>		
Total Programmatic Expenses	\$ 3,763,259	\$ 2,648,787
Total Fundraising Expenses	\$ 478,013	\$ 285,184
Total Administration Expenses	\$ 223,646	\$ 240,049
<b>Total Expenses</b>	<b>\$ 4,464,918</b>	<b>\$ 3,174,020</b>
<b>Increase (Decrease) in Net Assets</b>	<b>\$ 19,631</b>	<b>\$ 966,442</b>
<b>Net Assets at End of Year</b>	<b>\$ 4,080,405</b>	<b>\$ 5,046,847</b>

Note: Financial statements for year ending December 31, 2020 were audited by Rhodes, Young, Black, & Duncan, CPA.

## HOW DONATIONS TO NDA ARE DISTRIBUTED



## CERTIFICATION PROGRAMS UPDATE



### Deer Steward Program

The Deer Steward Certification program is a unique educational experience designed to offer landowners, hunters, sportsmen and women, and natural resource professionals an opportunity to learn from the Nation's top experts about deer management. The first two Levels are educational courses, while Level 3 is an award recognizing the applicants dedication to the NDA and wild deer conservation. All three Levels need to be taken in succession. By completing Levels 1 and 2, graduates are able to design and implement their very own personal comprehensive property-specific deer management plan. Level 3 is an honor earned after giving back to the resource over a long period of time, rather than something you can learn in a course.

To date, over 3,000 individuals have completed the Deer Steward program, with 2,715

Level 1, 829 Level 2, and 64 Level 3 graduates, representing 48 states and the Nation's capital, seven Canadian provinces, one of the U.S. Virgin Islands, Puerto Rico, Japan, and Australia. Each year, the Deer Steward program impacts hundreds of thousands of acres by equipping landowners and managers with the tools necessary to

improve wildlife habitat and overall herd health. Nearly 200,000 acres were directly impacted in 2021 by our in-person graduates alone!

Since the program's inception in 2006, the NDA has held 23 Level 1 classes and 26 Level 2 classes in the following states: Alabama, Arkansas, Delaware, Florida, Georgia, Iowa, Illinois, Indiana, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, Mississippi, North Carolina, Ohio, New York, Pennsylvania, South Carolina, Tennessee, and Texas, as well as in the province of Quebec. In 2022, a public Deer Steward 2 course will be held in Wisconsin for the first time ever!

To expand on our traditional delivery methods of education, we launched a new, more concentrated, topic-specific training to our members and interested pupils in 2015. This new series is called the Deer Steward

Modules, and it addresses only one aspect or management technique of QDM, instead of all Four Cornerstones that we cover in Deer Steward Level 1 and 2. Its available both online and in-person as well. In 2021, we offered in-person Modules on Habitat Enhancement and Hunting Property Evaluation in Pennsylvania and Missouri, respectively. This year, we will be hosting a new and innovative Urban Bowhunting Module in Virginia. We also offer a series of online modules covering everything from food plots to rutting bucks and much more.

### Land Certification Program

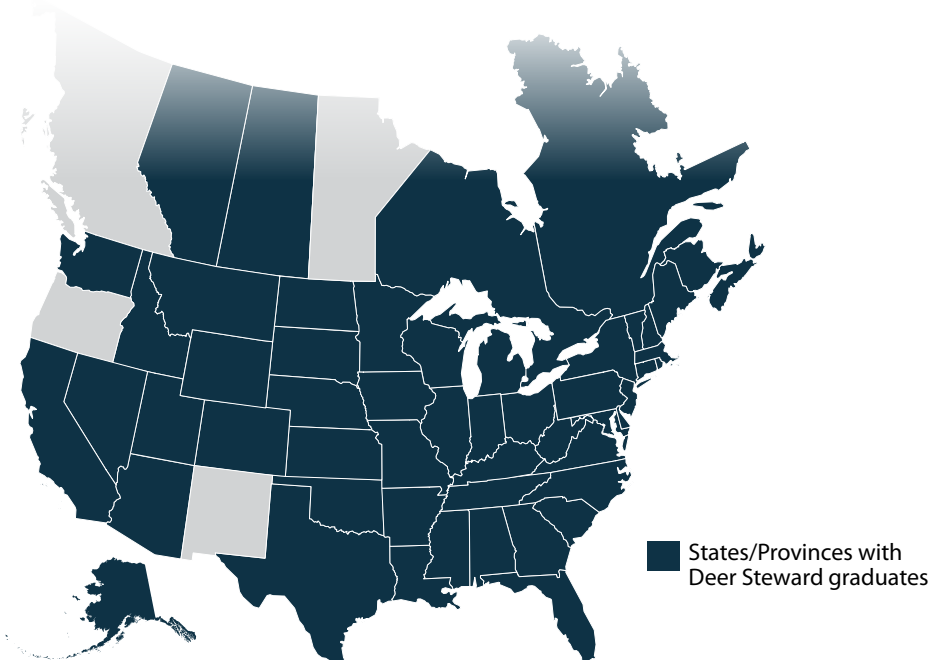
In 2011 NDA launched the Land Certification Program (LCP). The LCP was developed to recognize the accomplishments of landowners and sportsmen and women implementing the Four Cornerstones of QDM throughout North America, as well as those committed to ethics, conservation, and biodiversity through land stewardship. The LCP will also encourage management practices on participating lands that will enhance deer and other wildlife species, habitat conditions, and hunting experiences by providing incentives and/or assistance.

The LCP is a multi-level, voluntary process which evaluates one or more properties against an established list of standards. Three categories of achievement are outlined in the program, including Pledged Lands, Certified Lands and Legacy Lands. Criteria are established for each level of achievement. The LCP is currently undergoing various improvements and upgrades that will help revitalize the program in 2022.

Numerous half-day training courses to qualify LCP property inspectors were also conducted over the last several years in the states of Georgia, Louisiana, Kentucky, Michigan, Minnesota, Missouri, New York, Pennsylvania, Tennessee, South Carolina and in New Brunswick, Canada. Six of those (Kentucky, Missouri, Minnesota, New York, and South Carolina) were held in cooperation with American Tree Farm System inspector trainings; and one of those was at the Association of Consulting Foresters national convention in 2014 (Georgia). To date, nearly 44,000 total acres have been enrolled in LCP, and over 200 LCP inspectors are available to NDA members across North America to inspect their land.

To learn more about either the Deer Steward or Land Certification Programs, or about registering for an upcoming course in 2022, visit [www.deerassociation.com](http://www.deerassociation.com) and look under the "Conserve" menu heading.

### NDA DEER STEWARD GRADUATES BY STATE/PROVINCE



## 2021 NDA BRANCH HIGHLIGHTS

2021 treated us all pretty much like 2020 did with the pandemic slowing our Grassroots efforts but not stopping them. In fact, in 2021 we saw double the number of fundraisers and mission related projects across the country. Our Branches dug in and created plans to continue the momentum that we have had for over 30 years. We are all about the mission of ensuring the future of wild deer, wildlife habitat and hunting and here are a few examples of our Branches good work during a challenging 2021.

### South Region

#### Derby City Branch Hosts Seminar

On Saturday, May 22, the Derby City Branch hosted a free food plot seminar at the beautiful Jefferson County Sportsman's Club in Louisville. The event was open to the public and promoted via social media, email, and an appearance on a statewide outdoors radio show. A classroom setting was used from 8 a.m. until noon, with donuts and coffee provided by the Branch. Branch President Steve Daniels opened the day with an explanation of the transition from QDMA to NDA and encouraged anyone attending who was not already a member of NDA to join. Applications and past editions of Quality Whitetails magazine were distributed among the 30-plus attendees. Ed Morris, chairman of the event, then opened the seminar before turning it over to Jacob Stewart, the Private Lands Biologist Coordinator for the Kentucky Department of Fish & Wildlife Resources

(KDFWR). Jacob provided a very well-prepared and knowledgeable program on all facets of food plots, from soil samples to herbicides, fertilizers, seed types, and more. Jacob also discussed other areas of proper deer management beyond just food plots. Items such as clearing, hinge-cutting, fruit trees, and native warm-season grasses were all covered. There was ample time for lots of questions and comments. After a 30-minute break for lunch on the grounds, the event moved to the field where a food plot was installed on the club property. Shane Butler, co-owner of Wildlife Habitat Solutions, provided the instructions with attendees getting hands on experience. The Branch received a lot of positive feedback from attendees via email and social media. Thanks to Jacob, Shane, the Jefferson County Sportsman's Club, and the KDFWR who had several representatives attend to support the event.

#### South Carolina Branches Support Military Appreciation Hunt

The South Carolina Forestry Commission (SCFC) hosted the S.C. Military Appreciation Hunt at Niederhof Seed Orchard in Tillman October 27-29. South Carolina NDA Branches partner with the SCFC and host members of the South Carolina National Guard for the Military Appreciation Hunt. Four SC National Guard soldiers and two NDA auction winners and their guests had the opportunity to hunt on the property. The hunters saw 166 deer and

harvested 12 deer and 2 hogs during the hunt. NDA Branches assisted in the hunt providing all meals, food plot seed, corn, shirts, hats, deer processing and memberships to NDA. The hunters were able to donate 6 deer to the SC Family Readiness Program Food Bank. Thanks to the following Branches for their donations to make this event successful: Foothills, Lake Murray, Lowcountry, Mid Carolina, Midlands, Sea Islands and the SC State Advisory Council.

#### Lakelands Branch Supports Youth Deer Camp

In September the Connie Maxwell Children's Ministries in Greenwood, South Carolina, hosted a three-day event called Deer Camp for several of their students. These young hunters participated in three crossbow hunts in Greenwood County and McCormick County. During this Field-to-Fork-type event, participants ate several venison dishes including fried backstrap, sausage biscuits and taco soup. The young hunters also learned to make venison hobo stew, which they cooked after the second hunt. The event included crossbow shooting and safety training, a review of hunter education, and the hunters learned how to skin and quarter a deer. Congratulations to Bryson Rowe for getting his first deer. Connie Maxwell is very grateful to the NDA and the Lakelands Branch for supporting these young hunters.

### Northwest Region

#### Cadillac Branch Annual Veterans Pheasant Hunt

The Cadillac Area Branch of Michigan sponsored, and volunteered, at an annual veterans Pheasant hunt at Tails-A-Waggin' Acres in Marion. It is a free hunt for active-duty military and military veterans. It is also free for policemen/policewomen, EMTs, and firefighters. The event was a huge success with almost 400 hunters taking part.

#### Coulee County Branch Food Plot Seed Sale

The Coulee Country Branch of Wisconsin held its annual Food Plot Seed Sale, partnered with the WI DNR in hosting a Deer Management Assistance Program (DMAP) habitat workshop and property tour on a branch member's farm, sponsored a dumpster for disposing of deer carcasses to help slow the spread of CWD, and finally,



Attendees gather for a free food plot seminar hosted by the Derby City Branch at the beautiful Jefferson County Sportsman's Club in Louisville, Kentucky.

they started a deer donation program connecting Branch hunters with local food banks and non-hunters in need.

### River Valley Whitetails Branch Fourth Annual Buck Bash Golf Scramble

The River Valley Whitetails Branch, Minnesota, held their Fourth Annual Buck Bash Golf Scramble. It was a fun, laid-back, four-person scramble featuring: decoys, ground blinds and other hunting-related obstacles scattered throughout the course! There were various hole prizes as well as a few door prizes followed by a great meal. Attendees always have a blast, and this year was no exception!



Attendees enjoy another successful Buck Bash Golf Scramble held by Minnesota's River Valley Whitetails Branch.

### Cowanesque Valley Branch Annual Youth Field Day

The Cowanesque Valley Branch held their annual youth field day on June 13. This free event was open to youths 6-17 years and parents were welcomed to stay and participate. The attendees moved through four stations and had opportunities to shoot a .22, 20-gauge shotgun, and bow. The final station included a trapping demonstration. The event also included an exciting bird dog field trial, prizes and a free dinner. Nearly 50 kids participated and everyone left with a smile and a full belly.



The Upper Hudson River Valley Branch of New York graciously donated \$2,500 towards the non-profit Capital District Sportsman's Center, with a mission to facilitate outdoor and conservation education for the state's capital region's youth.

### Upper Hudson River Valley Branch Holds Multiple Outreach Events and Community Donations

During local fairs this past August and September, the Upper Hudson River Valley Branch set up QDM-focused educational outreach booths, along with displays with locally harvested deer mounts of various age classes. They also kicked off this season's local Field to Fork effort with two appearances at the Saratoga Farmer's Market. Finally, the Branch donated \$2,500 towards the non-profit Capital District Sportsman Center, with a mission to facilitate outdoor and conservation education for the New York state capital region's youth. The Branch also donated \$500 to a local venison donation program maintained by the Agricultural Stewardship Association.

### Central New York Branch Holds Habitat Day

In August the Central New York Branch held its first event since 2019. The Branch had 19 people join them for a property tour

at the educational Central New York Habitat Campus Inc. in Pompey with 300 acres for deer habitat and other wildlife. Much of the land has been reclaimed from farming and developed into bedding and cover, along with extensive food plots. The educational event focused on three key areas: invasive species eradication; how to build a road-frontage screen and bedding areas with larch; and food plot and stand placement with directional/seasonal winds. The Branch capped off the day with a great pulled-pork lunch. Thanks to all who came out in the sweltering heat of August. The participation was terrific.

### Appalachian Foothills Branch Spring Clean-up

The Appalachian Foothills Branch hosted a spring clean-up day on May 23, 2021 at Pennsylvania's State Gamelands 232 in Claysville. The Branch picked up lots of trash and enjoyed getting some exercise with like-minded people on a beautiful day.



The Appalachian Foothills Branch hosted a spring clean-up day at Pennsylvania's State Gamelands in Claysville. Pictured above are Branch Vice President Cam Zappi (right) and Treasurer Blake Abel.

## 2021 BRANCH ACHIEVEMENT AWARDS

### South Carolina



▲ 2021 has proved to be a successful year for Ashley Smith Willis, the **NDA Branch President of the Year** of South Carolina's Lowcountry Branch, also awarded **NDA Community Engagement Branch of the Year**. Ashley is an instrumental part of the Lowcountry Branch and has organized and coordinated many successful events including the Slickhead Slam, a Tower Shoot, staffing two tents with seminars at the Southeastern Wildlife Exposition (SEWE), hosting branch meetings, involving the branch in youth and Field to Fork hunts, as well as other community events and local projects. The Community Engagement Branch award is a newly designated award and the Lowcountry Branch epitomizes this recognition by continually engaging its members through many different events across the entire year, and has earned the title as one of the best all-around branches in the nation.

▲ The South Carolina NDA Youth Hunt, awarded the **NDA Event of the Year** is a two-day event that partners with the Forestry Commission, Department of Natural Resources, Outdoor Dreams Foundation and Bitter-end Plantation. Youth hunters from DNR's Take One Make One (TOMO) program and the Outdoor Dreams Foundation are instructed on ODM and shooting techniques, and then led on an evening mentored hunt. Participants enjoy an overnight stay, meals, t-shirts and hats provided by NDA State Advisory Council and branch donations. Several different organizations join together to host this outstanding youth hunt.

### Mississippi



◀ The **NDA Volunteer of the Year** award went to Brad Bounds of Mississippi's Neshoba Branch, which was also awarded the **NDA Branch of the Year**. Brad has been a volunteer with the Neshoba Branch since its inception and now serves as the Co-Chairman. He was instrumental in getting the Neshoba Branch chartered. Brad personally practices QDM and has always had an interest in growing the community's knowledge of those practices to enhance and protect our natural resources. Brad has worked with NDA leadership regarding policy issues on multiple legislative matters affecting whitetails in Mississippi.

The Neshoba Branch supported multiple organizations this year including special needs youth hunts, special needs sports league, the local park systems bow range, MSU Deer lab, the Mississippi Dept of Wildlife Fisheries and Parks law enforcement divisions, as well as their biology division in the fight against CWD. With Brad's determination, the Neshoba Branch hit their best grossing and net Banquet in 2021.

### New York

▶ The **NDA New Branch of the Year** award went to New York's Upper Genesee River Branch. The Upper Genesee River Branch was formed just before the pandemic hit, but nothing could stop this group's determination to forge ahead on behalf of NDA. The Branch was pivotal in assisting the NYSAC gun raffles held in July and November of 2020, as well as the 2021 Conservation Seed Program. They didn't stop there, however. Knowing an outside event would be the way to go, they planned an archery shoot and fundraiser that was held on May 22, 2021. The event hosted 150 people, where roughly one-third participated in various styles of archery competition. The non-traditional day received rave reviews and over \$15,000 for their first in-person event.



## 2021 CONSERVATION AWARDS



▲ NDA's presented its **Hunting Heritage Award** to First Lite, manufacturers of a complete apparel system for hunters who also constantly demonstrate their commitment to conservation and hunting. First Lite became an official sponsor of NDA in 2020. With the launch of First Lite's new Specter whitetail pattern and the Camo for Conservation initiative, every time someone purchases apparel printed in the new Specter pattern a portion of the proceeds is passed to NDA. First Lite is also the title sponsor of NDA's Field to Fork adult hunter recruitment program. In addition, First Lite's parent company, MeatEater Inc., donated the Michigan "Back40" property to NDA for a Field to Fork community recruitment project.



▲ NDA recognized the New York Department of Environmental Conservation (NYDEC) as its **2021 Agency of the Year**. In the last year, NYDEC adopted a new 10-year deer management plan; worked with the state legislature to change the law to reduce the minimum age for deer hunting with a firearm from 14 to 12; expanded deer hunting hours to 30 minutes before sunrise and 30 minutes after sunset; markedly increased their public outreach efforts through social media and bi-weekly email newsletters; and addressed suburban hunting limitations by opening/expanding access on numerous State Parks.



▲ Dr. Krysten Schuler of New York is NDA's **2021 Professional Deer Manager of the Year**. Schuler is a wildlife disease ecologist and assistant research professor at Cornell University's Wildlife Health Lab, and she serves on NDA's Science and Research Advisory Committee. Schuler's work on New York State's Risk Minimization Plan and the Surveillance Optimization Project for Chronic Wasting Disease (SOP4CWD) has received national acclaim. In 2021 the SOP4CWD project has brought together 23 states and one province in eastern North America to allow data sharing, visualization, and modeling to inform deer managers.



▲ Dr. Craig Harper of the University of Tennessee received the **2021 NDA Joe Hamilton Lifetime Achievement Award** for his decades of deer research, contributions to habitat management knowledge, and unwavering support for NDA. Dr. Harper is a professor of wildlife management and the Extension Wildlife Specialist at the University of Tennessee. His publications, programs and research efforts have concentrated on applied wildlife management, especially as related to forest management, early succession management, prescribed fire effects, herbicide applications, QDM, and food plot management. He is a contributor to NDA's *Quality Whitetails* magazine and also contributed to NDA's book *Quality Food Plots*, and he is an instructor at NDA's Deer Steward courses.



▲ NDA named Mike Hinkle of Flower Mound, Texas, as its **2021 NDA Deer Manager of the Year Award**, an award presented to an amateur deer manager who demonstrates outstanding commitment to sound management of deer habitat and populations. Hinkle has been managing his 400-acre family farm in Missouri under Quality Deer Management (QDM) guidelines for eight years. He has also been actively managing a farm in Texas under the same principles. In Missouri, he partnered with the Missouri Department of Conservation and private consulting firm Land & Legacy to shape quality whitetail habitat. Mike is also an active coordinator of an NDA wildlife cooperative, the Blackbird Creek Cooperative, which spans several hundred acres in northern Missouri.



▲ NDA presented its **2021 Signpost Communicator of the Year Award** to Josh Honeycutt of Kentucky. Honeycutt is the owner of Honeycutt Creative LLC and a prolific outdoor writer who has produced hunting content for more than 50 different outlets including magazines, newspapers and websites over the past 12 years. He's also a hunting show and podcast presenter, photographer, and videographer. Since 2012, he has managed or assisted in producing content for Realtree's website as a freelance editor and writer. He focuses on whitetail content, especially do-it-yourself hunting and management tips for hardcore deer hunters and stories of hunting success that involve some of the largest whitetails killed each year. He also informs the Realtree audience about deer science and important issues like chronic wasting disease (CWD).

## CONTACT AN NDA BRANCH NEAR YOU



Branch Name	State	Branch Contact	Phone	Email
Blackbelt Branch	Alabama	Mike O'Malley	(334) 462-1300	omalley@mtb-group.com
Conecuh River Branch	Alabama	Clayton Wood	(334) 313-9113	bushhogbowhunter@yahoo.com
Heart of Dixie Branch	Alabama	Chris Guest	(205) 540-6633	chrislguest1979@gmail.com
Post Oak Branch	Alabama	Hunter Smith	(334) 391-2008	hunter@collegiateoutdoors.com
Timber Belt Branch	Alabama	Russ Sims	(251) 509-9313	rsims@nationalland.com
University of Montevallo Branch	Alabama	Garret Deavers	(205) 389-7538	garretdeavers256@gmail.com
Weevil Creek Branch	Alabama	Cary Coles	(334) 464-5427	colespressurewashing@gmail.com
Northeast Arkansas Branch	Arkansas	Zack Yancey	(870) 595-4060	zack.yancey@agfc.ar.gov
The Connecticut Branch	Connecticut	Shawn Polke	(757) 633-1767	polke23@yahoo.com
Delaware Branch	Delaware	Scott Hudson	(302) 841-0111	shudson900@hotmail.com
Delaware State Chapter Branch	Delaware	Chip West	(302) 238-0137	deqdma@gmail.com
Central Florida Branch	Florida	Tami Locklear	(352) 816-5755	greyrose12363@aol.com
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## Part 3: NDA MISSION & ANNUAL REPORT

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Derby City Branch	Kentucky	Steve Daniels	(502) 548-8517	steve@tcky.biz
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The County Branch of NDA	Maine	Chuck Ainsworth	(207) 999-1795	chuckainsworth@hotmail.com
Mountain Maryland Branch	Maryland	A.J. Fleming	(301) 387-5465	a.j.qdmwildlifephotography@gmail.com
Barry County Branch	Michigan	Mike Flohr	(269) 838-6268	mikeflohr@hotmail.com
Cadillac Area NDA Branch	Michigan	Mike Pemberton	(231) 388-5599	beaverhouse69@gmail.com
Capital Area Branch	Michigan	Dick Seehase	(803) 582-9654	dseehase@partsplacenapa.com
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Eaton County Branch	Michigan	David Yeomans	(269) 838-3532	david.yeomans@miqdma.com
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Shiawassee River Branch	Michigan	Jake Glass	(517) 749-0445	shiawasseeiverqdma@gmail.com
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West Shore Branch	Michigan	Don Schwass	(231) 794-8447	dschwass87@gmail.com
Farm Country Whitetails Branch	Minnesota	Scott Lehmann	(507) 330-1214	backwoodsdesignsllc@gmail.com
Frosty Tines Branch	Minnesota	Patrick Barry	(218) 686-8459	patrickbarry10@gmail.com

## CONTACT AN NDA BRANCH NEAR YOU

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# NDA's **Deer Report 2022**