North Carolina Black Bear Annual Report
Updated with 2021 Data

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Funding for the Black Bear Program was partially provided through a Pittman-Robertson Wildlife Restoration Grant. The Federal Aid in Wildlife Restoration Act, popularly known as the Pittman-Robertson Act, was approved by Congress on September 2, 1937, and began functioning July 1, 1938. The purpose of this Act was to provide funding for the selection, restoration, rehabilitation and improvement of wildlife habitat, wildlife management research, and the distribution of information produced by the projects. The Act was amended October 23, 1970, to include funding for hunter training programs and the development, operation and maintenance of public target ranges.

Funds are derived from an 11 percent Federal excise tax on sporting arms, ammunition, and archery equipment, and a 10 percent tax on handguns. These funds are collected from the manufacturers by the Department of the Treasury and are apportioned each year to the States and Territorial areas (except Puerto Rico) by the Department of the Interior on the basis of formulas set forth in the Act. Funds for hunter education and target ranges are derived from one-half of the tax on handguns and archery equipment.

Each state's apportionment is determined by a formula which considers the total area of the state and the number of licensed hunters in the state. The program is a cost-reimbursement program, where the state covers the full amount of an approved project then applies for reimbursement through Federal Aid for up to 75 percent of the project expenses. The state must provide at least 25 percent of the project costs from a non-federal source.

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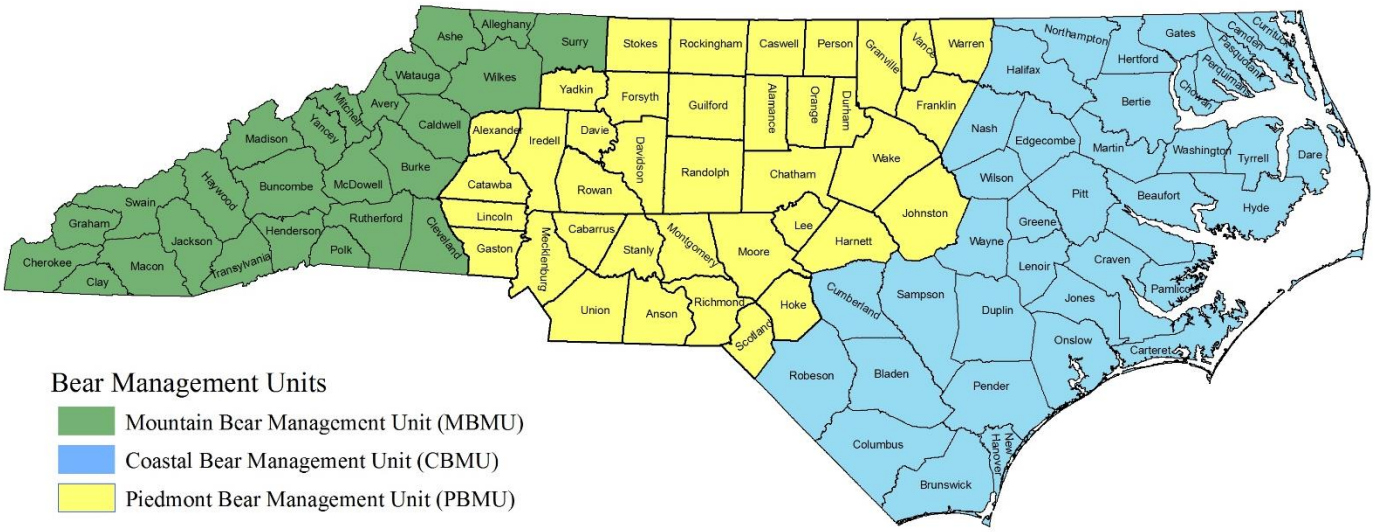
For more information on black bears in North Carolina, please visit our website at: www.ncwildlife.org/bear

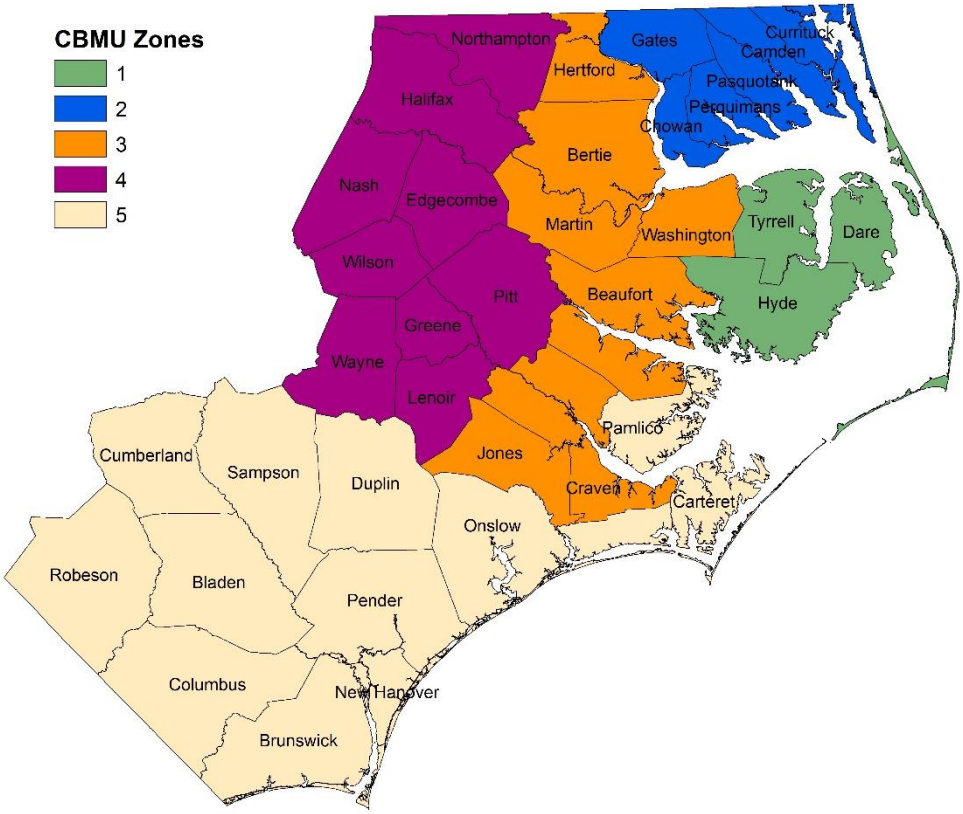
There you will find information on:

- NCWRC's 2012-2022 Black Bear Management Plan
- BearWise and how to prevent and resolve conflicts with bears.
- How to participate in the Black Bear Cooperator Program.
- Harvest Reports and Summaries

Black Bear Management Units



Coastal Bear Management Unit (CBMU) Zones



Statewide and Bear Management Unit Harvest

The 2021 bear hunting seasons and regulations can be found in Appendix A. The statewide reported harvest for 2021 was a harvest of 3,661 bears (Figure 1), an 2% decrease from the 2019 record harvest (N=3,748; Table 1). The 2021 season was the 7th year in a row in which harvest exceeded 3,000 bears and was the 2nd highest reported harvest since 1976 (Table 1). A record-breaking harvest total were recorded in the Coastal Bear Management Unit (CBMU; 2,374 bears; Figure 1, Table 2). The Mountain and Piedmont Bear Management Units (MBMU and PBMU) experienced 14% and 28% declines in harvest, respectively (Figure 1; Table 2). Male harvest increased 0.4% in 2021, while female harvest decreased 6% and comprised 40% of the reported harvest (Table 1).

Up until the late 1980's, the majority of bears harvested in North Carolina were in the Mountain BMU versus the CBMU, partly due to the closure of several coastal counties to bear hunting (Table 3; Figure 2). As coastal bear populations increased and bear hunting seasons expanded in the CBMU counties, bear harvest levels increased and started to exceed bear harvest levels in the MBMU. Since 1993, most bears harvested in North Carolina are from the CBMU (Table 3; Figure 2). During the 2021 season, 64.8% of bears harvested in North Carolina were from the CBMU, while 33.6% and 1.6% of bears were harvested in the MBMU and PBMU, respectively.

The composition of the statewide harvest that occurs in the mountains fluctuates annually, largely due to mast abundance and weather (Table 2 and 3). The decrease in the percent of bears harvested from the MBMU (-14%; Table 2) during the 2021 season was largely due to the higher mast production from the previous year, which makes bears less vulnerable to harvest, as they are not moving as much to find food and they are less attractive to unprocessed bait placed by hunters. The sex ratio of the CBMU harvest is increasingly biased towards females, with the sex ratio of the female harvest at or above 41% since the 2014 season, the year when unprocessed bait was allowed for all hunters (Table 4). In the Mountain BMU, the availability of hard mast influences the vulnerability of females; in low mast years, females comprise a higher portion of the MBMU harvest, as was the case in 2018 and 2020 (Table 4). Until 2005, there were no counties in the PBMU with a bear hunting season. Starting in 2014, all 100 counties in North Carolina have a regulated bear hunting season, though harvest is still concentrated on the fringes of the CBMU, MBMU, and Virginia (Figure 3). During the 2021 season, the highest number of bears harvested per square mile occured in the eastern portion of the CBMU (Jones, Tyrrell and Hyde counties; Figure 3). In some counties, the bears harvested per square mile is not necessarily reflective of the bear population, but rather limits on hunter access. For example, although Dare County has one of the densest bear populations in the United States, hunter access is very limited due to the amount of federal lands (i.e., Alligator River National Wildlife Refuge; Dare County Bombing Range) where bear hunting is restricted or prohibited (Figure 3).

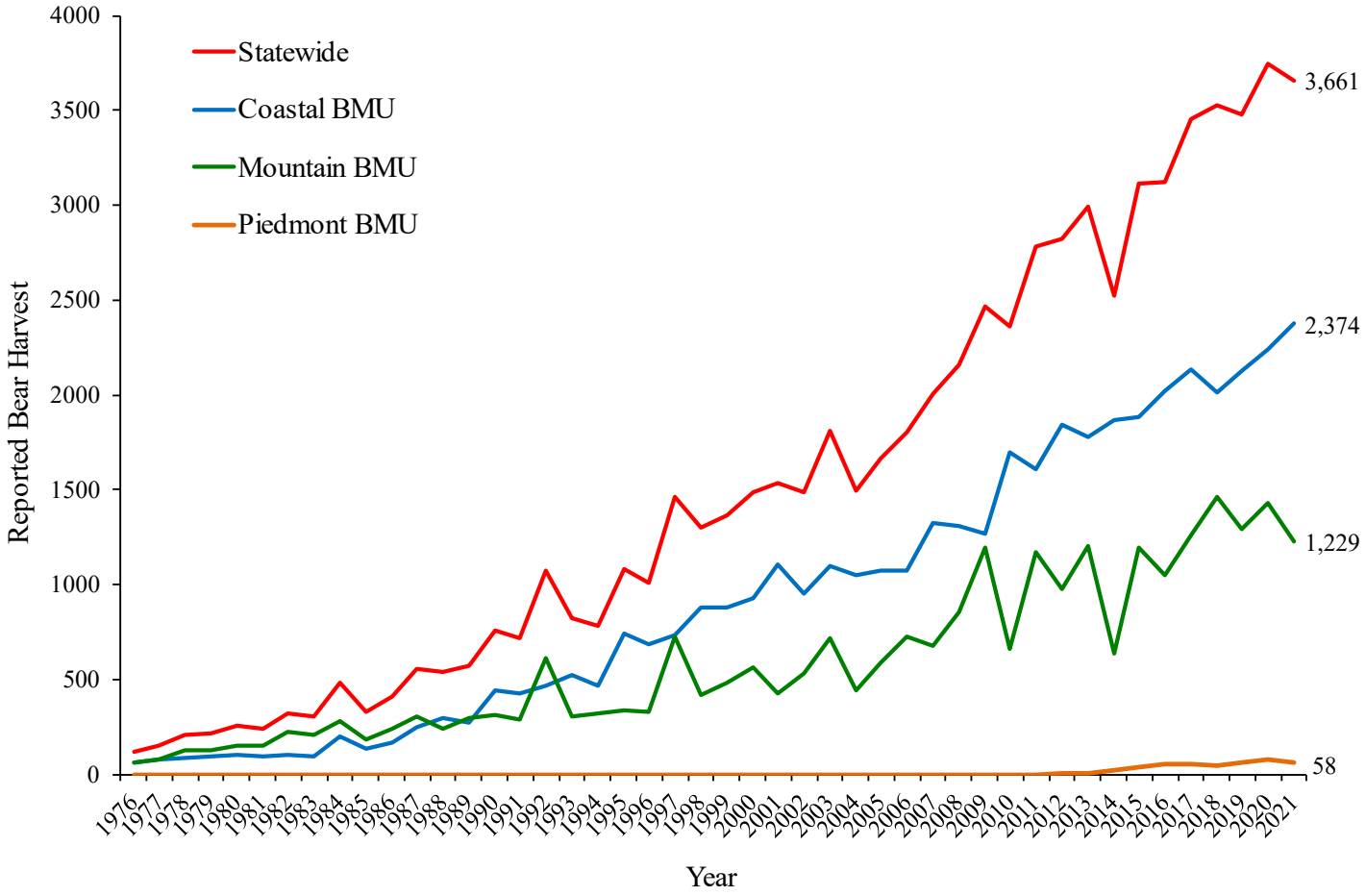


Figure 1. Statewide and regional harvest from 1976 through 2021.

Table 1. Statewide reported harvest of male and female bears from 1976 through 2021.

	Male		Female		All Bears	
Year	Harvest	Percent Change	Harvest	Percent Change	Total Harvest	Percent Change
1976	71	--	48	--	**121**	--
1977	84	18%	68	42%	**154**	**27%**
1978	144	71%	68	0.0%	**214**	**39%**
1979	124	-14%	93	37%	**219**	**3%**
1980	24	-81%	27	-71%	**254**	**16%**
1981	127	429%	79	193%	**250**	**-2%**
1982	178	40%	118	49%	**319**	**27%**
1983	189	6%	96	-19%	**305**	**-4%**
1984	323	71%	157	64%	**481**	**58%**
1985	198	-39%	124	-21%	**322**	**-33%**
1986	263	33%	144	16%	**409**	**27%**
1987	386	47%	167	16%	**554**	**35%**
1988	334	-14%	233	40%	**567**	**3%**
1989	310	-7%	237	2%	**547**	**-4%**
1990	455	47%	304	28%	**760**	**39%**
1991	416	-9%	294	-3%	**716**	**-6%**
1992	639	54%	420	43%	**1060**	**48%**
1993	505	-21%	316	-25%	**821**	**-23%**
1994	470	-7%	315	-0.3%	**785**	**-4%**
1995	657	40%	427	36%	**1,084**	**38%**
1996	593	-10%	417	-2%	**1,010**	**-7%**
1997	825	39%	638	53%	**1,464**	**45%**
1998	723	-12%	577	-10%	**1,300**	**-11%**
1999	820	13%	546	-5%	**1,366**	**5%**
2000	891	9%	599	10%	**1,490**	**9%**
2001	937	5%	596	-0.5%	**1,533**	**3%**
2002	939	0.2%	546	-8%	**1,485**	**-3%**
2003	1080	15%	732	34%	**1,812**	**22%**
2004	947	-12%	550	-25%	**1,497**	**-17%**
2005	1,024	8%	637	16%	**1,661**	**11%**
2006	1,142	12%	658	3%	**1,800**	**8%**
2007	1,198	5%	807	23%	**2,005**	**11%**
2008	1,323	10%	839	4%	**2,162**	**8%**
2009	1,537	16%	931	11%	**2,468**	**14%**
2010	1,481	-4%	882	-5%	**2,363**	**-4%**
2011	1,742	18%	1,033	17%	**2,779**	**18%**
2012	1,670	-4%	1,157	12%	**2,827**	**2%**

Year	Male Harvest	Male Percent Change	Female Harvest	Female Percent Change	All Bears Total Harvest	All Bears Percent Change
2013	1,788	7%	1,203	4%	**2,991**	**6%**
2014	1,490	-17%	1,030	-14%	**2,521**	**-16%**
2015	1,930	31%	1,185	15%	**3,118**	**24%**
2016	1,839	-5%	1,285	8%	**3,125**	**0.2%**
2017	2,159	17%	1,295	1%	**3,454**	**11%**
2018	2,069	-4%	1,461	13%	**3,530**	**2%**
2019	2,096	1%	1,380	-6%	**3,476**	**-2%**
2020	2,183	4%	1,565	13%	**3,748**	**8%**
2021	2,192	0.4%	1,469	-6%	**3,661**	**-2%**

Table 2. Harvest of registered black bears in the CBMU and MBMU and percent change in registered harvest from 1980-2021.

	CBMU						MBMU					
	Male		Female		Total[1]		Male		Female		Total[1]	
Year	Harvest	% change	Harvest	% change	Harvest	% change	Harvest	% change	Harvest	% change	Harvest	% change
1980	3	-94%	5	-88%	**104**	**11%**	21	-70%	22	-58%	**152**	**22%**
1981	42	1300%	26	420%	**92**	**-12%**	85	305%	53	141%	**152**	**0%**
1982	45	7%	46	77%	**97**	**5%**	133	56%	72	36%	**221**	**45%**
1983	55	22%	29	-37%	**96**	**-1%**	134	1%	67	-7%	**209**	**-5%**
1984	134	144%	65	124%	**199**	**107%**	189	41%	92	37%	**281**	**34%**
1985	80	-40%	57	-12%	**137**	**-31%**	118	-38%	67	-27%	**186**	**-34%**
1986	116	45%	51	-11%	**167**	**22%**	147	25%	93	39%	**242**	**30%**
1987	166	43%	80	57%	**246**	**47%**	220	50%	87	-6%	**307**	**27%**
1988	173	4%	126	58%	**299**	**22%**	161	-27%	107	23%	**268**	**-13%**
1989	147	-15%	128	2%	**275**	**-8%**	163	1%	109	2%	**272**	**1%**
1990	257	75%	187	46%	**444**	**61%**	198	21%	117	7%	**315**	**16%**
1991	242	-6%	187	0%	**429**	**-3%**	174	-12%	107	-9%	**287**	**-9%**
1992	281	16%	183	-2%	**464**	**8%**	358	106%	237	121%	**595**	**107%**
1993	304	8%	219	20%	**523**	**13%**	201	-44%	97	-59%	**298**	**-50%**
1994	286	-6%	177	-19%	**463**	**-11%**	184	-8%	138	42%	**322**	**8%**
1995	426	49%	319	80%	**745**	**61%**	231	26%	108	-22%	**339**	**5%**
1996	384	-10%	301	-6%	**685**	**-8%**	209	-10%	116	7%	**325**	**-4%**
1997	417	9%	320	6%	**737**	**8%**	408	95%	318	174%	**726**	**123%**
1998	457	10%	422	32%	**879**	**19%**	266	-35%	155	-51%	**421**	**-42%**

	CBMU						MBMU					
	Male		Female		Total[1]		Male		Female		Total[1]	
Year	Harvest	% change	Harvest	% change	Harvest	% change	Harvest	% change	Harvest	% change	Harvest	% change
1999	509	11%	372	-12%	**881**	**0%**	311	17%	174	12%	**485**	**15%**
2000	532	5%	397	7%	**929**	**5%**	359	15%	202	16%	**561**	**16%**
2001	667	25%	440	11%	**1,107**	**19%**	270	-25%	156	-23%	**426**	**-24%**
2002	594	-11%	361	-18%	**955**	**-14%**	345	28%	185	19%	**530**	**24%**
2003	656	10%	442	22%	**1,098**	**15%**	425	23%	292	58%	**717**	**35%**
2004	643	-2%	410	-7%	**1,053**	**-4%**	304	-28%	140	-52%	**444**	**-38%**
2005	655	2%	418	2%	**1,073**	**2%**	371	22%	219	56%	**590**	**33%**
2006	639	-2%	436	4%	**1,075**	**0%**	503	36%	222	1%	**725**	**23%**
2007	789	23%	538	23%	**1,327**	**23%**	409	-19%	269	21%	**678**	**-6%**
2008	757	-4%	548	2%	**1,305**	**-2%**	566	38%	291	8%	**857**	**26%**
2009	792	5%	478	-13%	**1,270**	**-3%**	745	32%	452	55%	**1,197**	**40%**
2010	1,060	34%	641	34%	**1,701**	**34%**	421	-43%	241	-47%	**662**	**-45%**
2011	987	-7%	620	-3%	**1,608**	**-5%**	755	79%	415	72%	**1,170**	**77%**
2012	1,082	10%	762	23%	**1,844**	**15%**	585	-23%	395	-5%	**980**	**-16%**
2013	1,089	1%	692	-9%	**1,781**	**-3%**	696	19%	510	29%	**1,206**	**23%**
2014	1,103	1%	764	10%	**1867**	**5%**	372	-47%	262	-49%	**634**	**-47%**
2015	1,115	1%	762	0%	**1880**	**1%**	784	111%	415	58%	**1199**	**89%**
2016	1,141	2%	882	16%	**2,024**	**8%**	666	-15%	385	-7%	**1051**	**-12%**
2017	1,252	10%	885	0.3%	**2,137**	**6%**	872	31%	392	2%	**1,264**	**20%**
2018	1,151	-8%	866	-2%	**2,017**	**-6%**	883	1%	583	49%	**1,466**	**16%**

	CBMU						MBMU					
	Male		Female		Total[1]		Male		Female		Total[1]	
Year	Harvest	% change	Harvest	% change	Harvest	% change	Harvest	% change	Harvest	% change	Harvest	% change
2019	1,222	6%	906	4.4%	**2,128**	**6%**	832	-6%	458	-22%	**1,290**	**-12%**
2020	1,264	3%	974	8%	**2,238**	**5%**	861	3%	568	24%	**1,429**	**11%**
2021	1,377	9%	997	2%	**2,374**	**6%**	774	-10%	455	-20%	**1,229**	**-14%**

[1] Total includes harvest of bears in which sex is unknown.

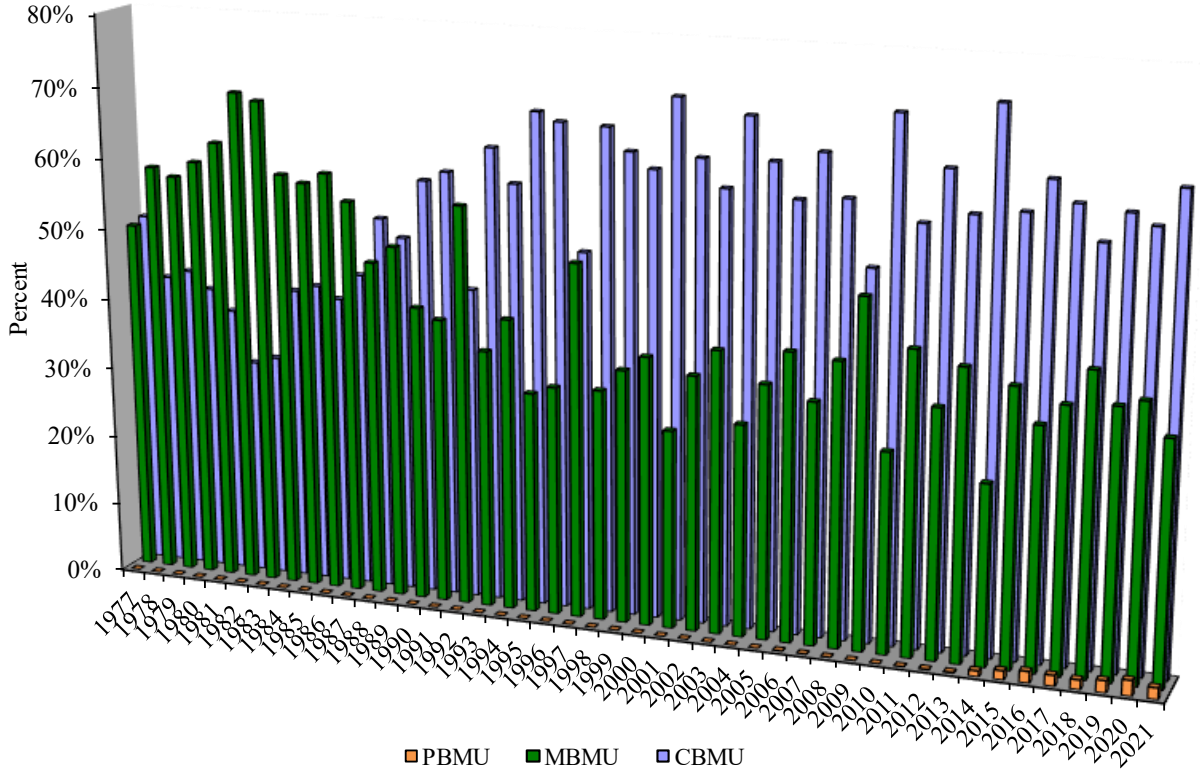


Figure 2. Percent of total reported bear harvest that occurs in the Piedmont BMU, Mountain BMU and Coastal BMU of North Carolina from 1977 through 2021.

Table 3. Percent (%) of total reported bear harvest that occurs in the CBMU, MBMU, and PBMU of North Carolina from 1987 through 2021.

Season	% of Total Harvest in CBMU Region	% of Total Harvest in MBMU Region	% of Total Harvest in PBMU Region
1987	44%	56%	NS
1988	53%	47%	NS
1989	50%	50%	NS
1990	58%	42%	NS
1991	60%	40%	NS
1992	44%	56%	NS
1993	64%	36%	NS
1994	59%	41%	NS
1995	69%	31%	NS
1996	68%	32%	NS
1997	50%	50%	NS
1998	68%	32%	NS
1999	64%	36%	NS
2000	62%	38%	NS
2001	72%	28%	NS
2002	64%	36%	NS
2003	60%	40%	NS
2004	70%	30%	NS
2005	65%	35%	0%
2006	60%	40%	0%
2007	66%	34%	0%
2008	60%	40%	0%
2009	51%	49%	0%
2010	72%	28%	0%
2011	58%	42%	0%
2012	65%	35%	0%
2013	60%	40%	0%
2014	74%	25%	1%
2015	60%	39%	1%
2016	65%	33%	2%
2017	62%	36%	2%
2018	57%	42%	1%
2019	61%	37%	2%
2020	60%	38%	2%
2021	65%	33%	2%

Table 4. Percentage of males and females that comprised the reported harvest in the three bear management units of North Carolina from 1976 through 2021.

	CBMU		MBMU		PBMU	
Year	% Female	% Male	% Female	% Male	% Female	% Male
1976	43%	57%	38%	62%	n/s	n/s
1977	47%	53%	42%	58%	n/s	n/s
1978	27%	73%	36%	64%	n/s	n/s
1979	44%	56%	42%	58%	n/s	n/s
1980	63%	38%	51%	49%	n/s	n/s
1981	38%	62%	38%	62%	n/s	n/s
1982	51%	49%	35%	65%	n/s	n/s
1983	35%	65%	33%	67%	n/s	n/s
1984	33%	67%	33%	67%	n/s	n/s
1985	42%	58%	36%	64%	n/s	n/s
1986	31%	69%	39%	61%	n/s	n/s
1987	33%	67%	28%	72%	n/s	n/s
1988	42%	58%	40%	60%	n/s	n/s
1989	47%	53%	40%	60%	n/s	n/s
1990	42%	58%	37%	63%	n/s	n/s
1991	44%	56%	38%	62%	n/s	n/s
1992	39%	61%	40%	60%	n/s	n/s
1993	42%	58%	33%	67%	n/s	n/s
1994	38%	62%	43%	57%	n/s	n/s
1995	43%	57%	32%	68%	n/s	n/s
1996	44%	56%	36%	64%	n/s	n/s
1997	43%	57%	44%	56%	n/s	n/s
1998	48%	52%	37%	63%	n/s	n/s
1999	42%	58%	36%	64%	n/s	n/s
2000	43%	57%	36%	64%	n/s	n/s
2001	40%	60%	37%	63%	n/s	n/s
2002	38%	62%	35%	65%	n/s	n/s
2003	40%	60%	41%	59%	n/s	n/s
2004	39%	61%	32%	68%	n/s	n/s
2005	39%	61%	37%	63%	0%	0%

	CBMU		MBMU		PBMU	
Year	% Female	% Male	% Female	% Male	% Female	% Male
2006	41%	59%	31%	69%	0%	100%
2007	41%	59%	40%	60%	100%	0%
2008	42%	58%	34%	66%	0%	100%
2009	38%	62%	38%	62%	100%	0%
2010	38%	62%	36%	64%	0%	0%
2011	39%	61%	35%	65%	0%	100%
2012	41%	59%	40%	60%	0%	100%
2013	39%	61%	42%	58%	25%	75%
2014	41%	59%	41%	59%	20%	80%
2015	41%	59%	35%	65%	21%	79%
2016	44%	56%	37%	63%	36%	64%
2017	41%	59%	31%	69%	37%	63%
2018	43%	57%	40%	60%	26%	74%
2019	43%	57%	36%	64%	28%	72%
2020	44%	56%	40%	60%	28%	72%
2021	42%	58%	37%	63%	69%	31%

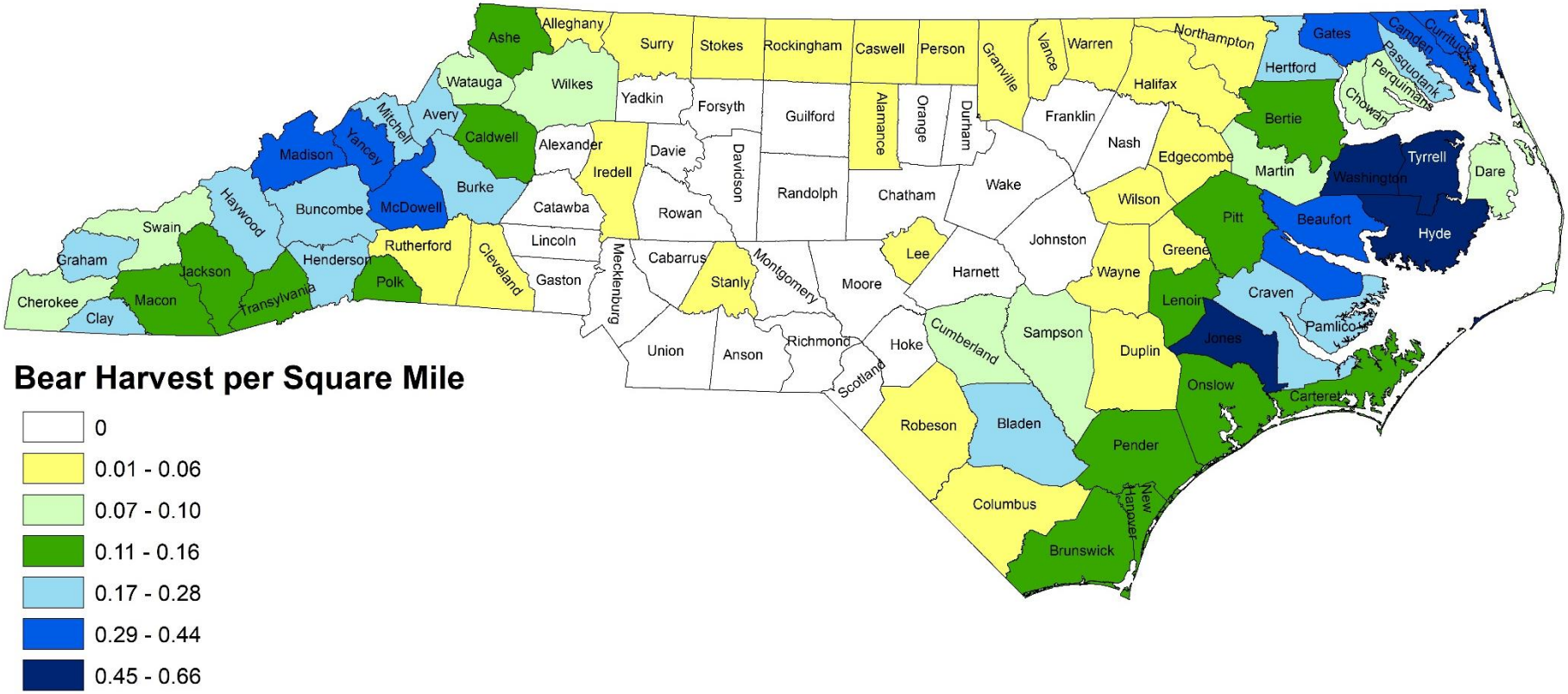
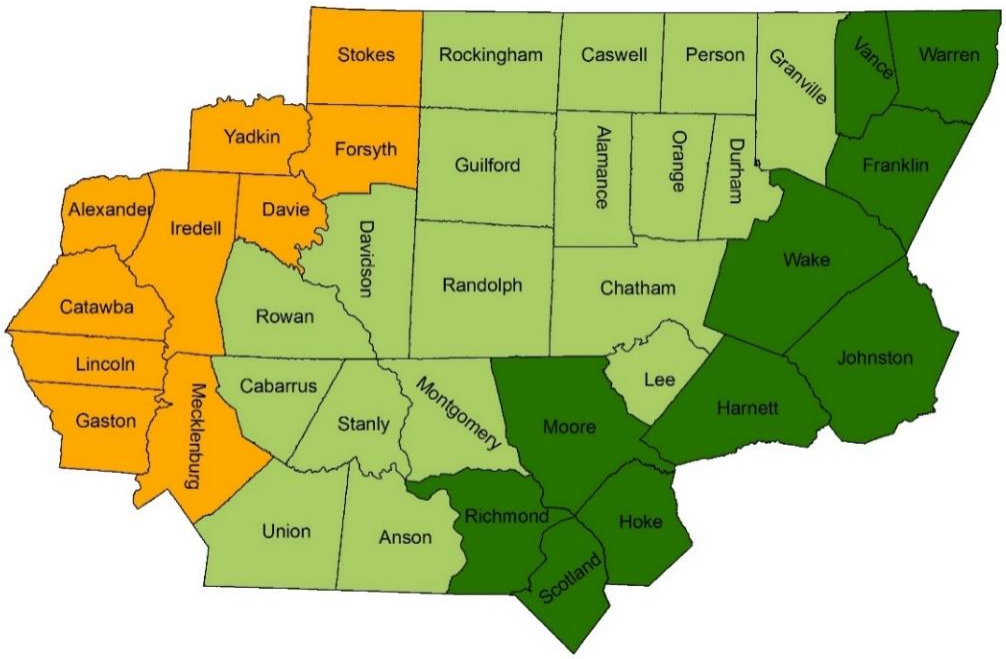


Figure 3. The 2021 reported harvest per square mile by county.

Piedmont Bear Management Unit (PBMU): In 2005, four counties in the PBMU were opened to bear hunting. In 2014, all 38 counties were opened for bear hunting opportunities in the PBMU in order to meet the 2012-2022 Black Bear Management Plan objective for this region, which is to limit the establishment of the bear population. There are 3 bear hunting seasons in the PBMU, which are open concurrent to the deer gun season for that county (Figure 4). While there are small, established bear populations in at least 9 counties of the PBMU that have a bear hunting season, harvest levels are low in comparisons to the CBMU and the MBMU, reflecting the lower number of bears. In 2021, 58 bears (41 males; 17 females) were harvested from the PBMU; this was a 26% decline from 2020 harvest (n=81 bears; Table 5 and 6), but is similar to harvest levels observed from previous seasons since 2016.

The majority of the harvest occurred in the northern PBMU counties that border Virginia, with Warren County having the highest bear harvest, followed by Stokes County (Table 5; Figure 3 and Figure 5). This is likely due to these northern counties being less developed than other areas of the PBMU, as well as Virginia serving as a source population for black bear. Of note is bears were harvested from Alamance and Stanley counties for the first time in decades; both were 1.75 male bears. The percent of females that comprised the 2021 reported harvest was similar to the previous 3 seasons (2018-2020; Table 6); females comprised 29% of the harvest. Only one female bear was harvested beyond the periphery of the PBMU, with a female bear harvested in Lee County (Table 4; Figure 6). Most bears, including female bears, were harvested in the first half of the PBMU seasons, with no female bears taken in the last half (Figure 7 and 8). Just over half of all bears (52%) were harvested on Fridays through Sundays.



Piedmont - Eastern	Piedmont - Central	Piedmont – Northwestern
Oct. 17, 2020-Jan. 1, 2021	Nov. 14, 2020-Jan. 1, 2021	Nov. 21, 2020-Jan. 1, 2021
10 counties	19 counties	9 counties

Figure 4. The 2020 PBMU bear hunting seasons, which are based on the deer gun seasons for these counties.

Table 5. Reported harvest results of black bears by county in the Piedmont BMU of North Carolina from 2006 through 2021 (n/s=no season).

County	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Alamance	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	1	**1**
Alexander	0	0	0	0	0	1	0	0	1	1	0	2	0	1	2	0	**8**
Anson	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	1	0	**1**
Cabarrus	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	0	**0**
Caswell	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	3	7	5	4	13	7	5	**44**
Catawba	1	1	1	1	0	0	0	0	1	1	0	1	0	0	1	0	**8**
Chatham	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	1	0	0	0	0	0	**1**
Davidson	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	1	0	**1**
Davie	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	1	0	**1**
Durham	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	1	0	0	0	0	0	0	**1**
Forsyth	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	0	**0**
Franklin	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	3	2	0	1	1	0	0	**7**
Gaston	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	1	0	0	**1**
Granville	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	1	4	3	4	6	7	12	9	**46**
Guilford	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	0	**0**
Harnett	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	1	0	0	1	0	0	0	**2**
Hoke	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	0	**0**
Iredell	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	**2**
Johnston	n/s	n/s	n/s	n/s	n/s	n/s	1	0	0	2	1	1	0	0	2	0	**7**
Lee	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	1	1	**2**
Lincoln	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	0	**0**
Mecklenburg	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	0	**0**
Montgomery	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	1	0	0	0	0	0	0	0	**1**
Moore	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	0	**0**
Orange	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	0	**0**

County	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
Person	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	8	7	9	7	4	5	9	9	**58**
Randolph	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	1	0	0	0	0	0	**1**
Richmond	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	0	**0**
Rockingham	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	2	3	5	4	5	3	10	3	**35**
Rowan	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	0	**0**
Scotland	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	0	**0**
Stanly	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	1	**1**
Stokes	n/s	n/s	n/s	n/s	n/s	n/s	1	2	2	8	6	19	8	8	15	13	**82**
Union	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	0	0	0	0	**0**
Vance	n/s	n/s	n/s	n/s	n/s	n/s	0	0	1	1	3	2	1	3	2	3	**16**
Wake	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	0	0	0	0	1	0	0	0	**1**
Warren	n/s	n/s	n/s	n/s	n/s	n/s	1	2	2	4	12	7	15	15	17	12	**87**
Yadkin	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	**2**
Total	**1**	**1**	**1**	**1**	**0**	**1**	**3**	**4**	**20**	**39**	**50**	**52**	**47**	**58**	**81**	**58**	**417**

Table 6. Total number of male and female bears harvested in the Piedmont BMU from 2005 through 2021.

	Male		Female		Total		Harvest Sex Ratio	
Year	Harvest	% change	Harvest	% change	Harvest	% change	% Female	% Male
2005	0		0		**0**			
2006	1	*100%*	0	*0%*	**1**	*100%*	0%	100%
2007	0	*-100%*	1	*100%*	**1**	***0%***	100%	0%
2008	1	*100%*	0	*-100%*	**1**	***0%***	0%	100%
2009	0	*-100%*	1	*100%*	**1**	***0%***	100%	0%
2010	0	*0%*	0	*-100%*	**0**	***-100%***	0%	0%
2011	1	*100%*	0	*0%*	**1**	*100%*	0%	100%
2012	3	*200%*	0	*0%*	**3**	***200%***	0%	100%
2013	3	*0%*	1	*100%*	**4**	***33%***	25%	75%
2014*	16	*433%*	4	*300%*	**20**	***400%***	20%	80%
2015	31	*94%*	8	*100%*	**39**	***95%***	21%	79%
2016	32	*3%*	18	*125%*	**50**	***28%***	36%	64%
2017	33	*3%*	19	*6%*	**52**	***4%***	37%	63%
2018	35	*6%*	12	*-37%*	**47**	***-10%***	26%	74%
2019	42	*20%*	16	*33%*	**58**	***23%***	28%	72%
2020	58	*38%*	23	*44%*	**81**	***40%***	28%	72%
2021	41	*-29%*	17	*-26%*	**58**	***-28%***	29%	71%

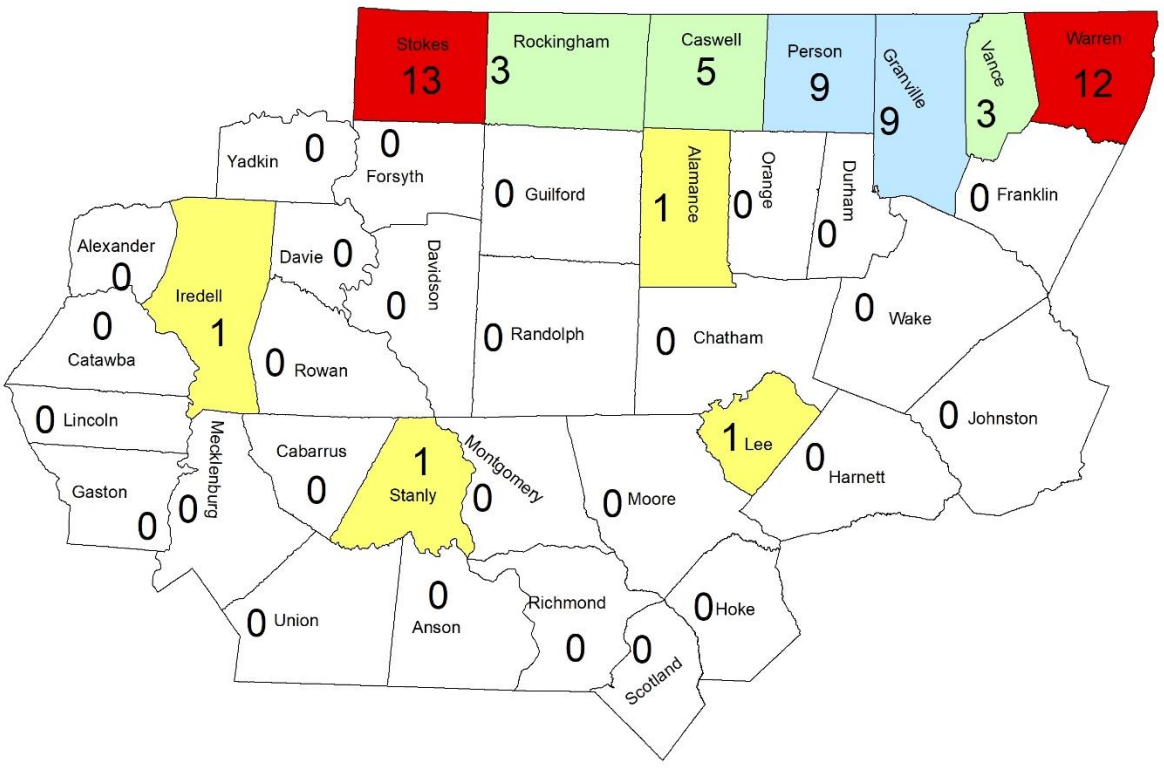


Figure 5. Reported harvest of black bears in the PBMU during the 2021 bear hunting season.

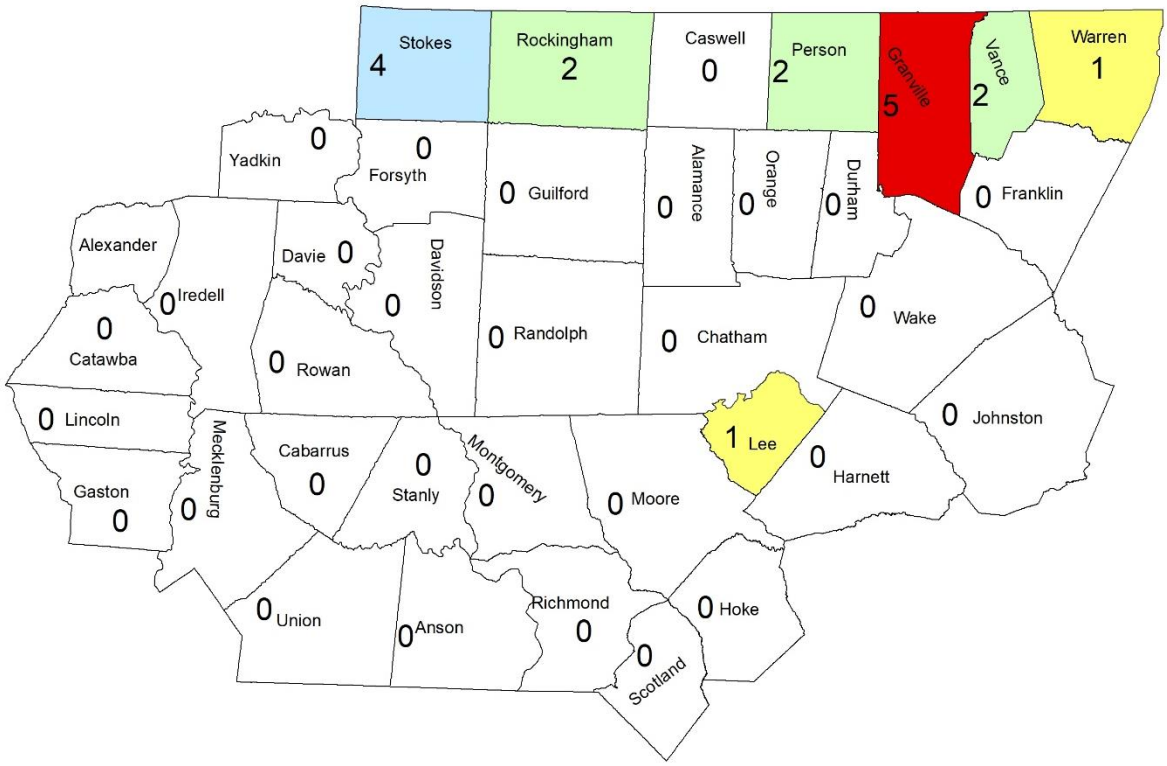


Figure 6. Reported harvest of female black bears in the PBMU during the 2021 black bear hunting season.

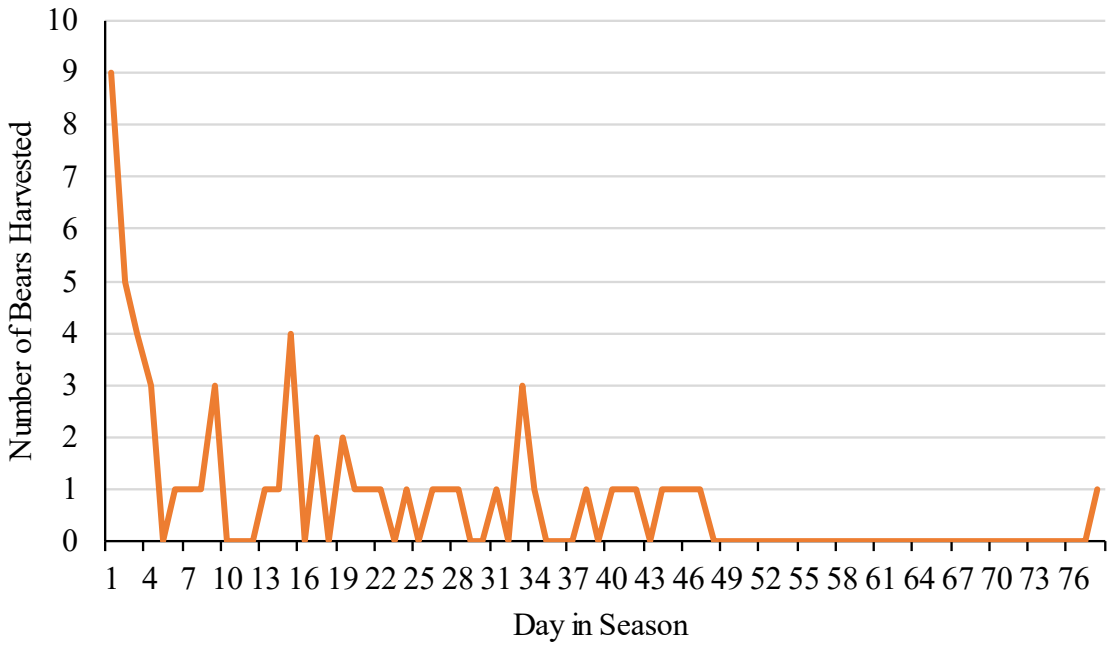


Figure 7. Number of bears harvested per day during the 2021 PBMU seasons.

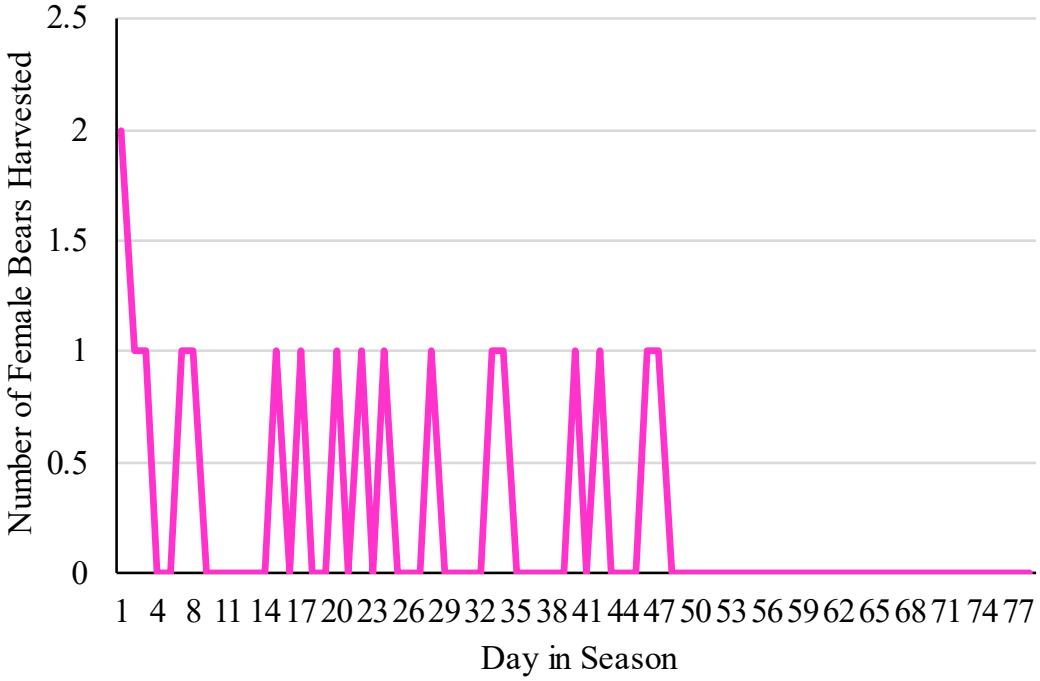


Figure 8. Number of female bears harvested per day during the 2021 PBMU seasons.

Coastal Bear Management Unit (CBMU): In 2021, the reported harvest increased 6% (n=2,374 bears; Table 2) from what occurred during the 2020 harvest (n=2,238 bears). The 2021 harvest season was the highest on record and the 6th year in a row that the harvest exceeded 2,000 bears. Historically, harvest in the CBMU could vary based on weather and hunter access (Figure 1 on page 4, Table 2 on page 7). A recent example occurred when many counties in the CBMU, especially in the southern portion, experienced high water due to the record rainfall from Hurricane Florence in September 2018. Hurricane Florence not only caused tremendous property damage, which likely resulted in some hunters having limited time to hunt, but flooded portions of the landscape, which limited access to huntable lands. However, despite the annual influence of weather, harvest rates in the CBMU have remained high in recent years, likely due to changes in season structures over the last six years, such as legalization of unprocessed bait all season, Sunday hunting on private lands, and the lengthening of many seasons in 2018(Table 7). Since the use of unprocessed bait was allowed in 2014, the CBMU has experienced only one season (2018) in which bear harvest declined from the previous season. Otherwise, unlike the harvest fluctuations observed from 1980 through 2013, the harvest has increased each season since 2014. In addition to higher hunter success rates due to the aid of unprocessed foods, hunters have many more days of opportunity after season changes took effect in 2018 (Table 7). In 2017, there were 1,022 bear hunting days in the CBMU and, after season changes that took effect in 2018, there were 1,318 hunting days in 2019. With a difference of almost 300 hunting days, hunters have more time to bear hunt if unsuccessful on their first outings, while bear hunting guides can accommodate more clients.

Table 7. Changes to CBMU bear hunting season structure from 2007 through 2019.

Year	Change	Note
2007	Release of dogs allowed in the vicinity of unprocessed bait	
2011	Sunday hunting with archery equipment allowed.	
2014	Use of unprocessed bait allowed for 1st six days of season	
2014	Robeson County opened to bear hunting.	
2016	Brunswick and Columbus counties changed from 3-week December season to 9-week Nov. to Jan. 1 season.	
2016	Sunday hunting with firearms allowed on private land	
2016	Use of unprocessed bait allowed entirety of CBMU seasons.	
2017	No changes.	35 CBMU counties had a total of 1,022 bear hunting days.
2018	CBMU seasons lengthened in all 37 CBMU counties, including Thanksgiving holiday weekend in 3 counties.	
2018	CBMU November seasons started 2 days earlier in 25 counties	Change from Monday opening day to Saturday opening day.
2018	CBMU December season started 2 days earlier in 16 counties	Change from Monday opening day to Saturday day
2018	Robeson County changed from 3-week December season to 9-week Nov. to Jan. 1 season.	
2019	No changes	37 CBMU counties had a total of 1,318 bear hunting days.

As in previous seasons dating back to 2016, the county with the highest reported harvest was Hyde County (n=296), followed by Beaufort (n=231), Tyrrell (n=208), Jones (n=195) and Bladen (n=143; Figure 9, Table 8). Record harvests occurred in 9 of 37 counties of the CBMU and include Beaufort, Bladen, Brunswick, Currituck, Halifax, Jones, New Hanover, Sampson and Wayne counties (Table 8). New Hanover, Wayne, and Brunswick counties experienced the largest increase in harvest, while Nash, Dare, and Bertie counties experienced the largest decline (Table 8).

In 2021, there was a 9% increase in the reported male harvest (n=1,377) and a 2% increase in the reported female harvest (n=997; Table 3; Figure 10). Since 2014, when unprocessed bait was legalized for bear hunting, the percentage of female black bears that comprise the reported CBMU harvest has stayed at or above 41% (average=42% from 2014 to 2021), compared to the previous 5-year period from 2009 to 2013 (average=39%; Table 4; Figure 11). In 2016 and in 2020, females comprised 44% of the black bears harvested in the CBMU. The 2016 and 2020 female sex ratio of the reported harvest is the maximum before we expect population declines. In 2021, female bears comprised 42% of the CBMU reported harvest.

The increase in the female sex ratio of the harvest, coupled with the record harvests of the past few years, likely explains the slowing growth of the bear population in the CBMU; population growth has declined and is now at 0-1‰ (page 841; Figure 55), which is in accordance with the objective ("stabilize the CBMU bear population") approved by the Commission in the 2012-2022 Black Bear Management Plan. Several changes have occurred in the season structures and methods allowed since 2007 that has resulted in the record harvests of the past few years (Table 7). The Commission will continue to closely monitor the harvest to determine how it is influencing the CBMU bear population. Similar to previous years, Beaufort, Hyde, Jones, and Tyrrell counties had the highest reported harvest of female bears, while two counties on the western periphery of the CBMU had no females harvested (Figure 12). The female sex ratio of the harvest was over 44% in 15 counties, with Wilson County having the most bias towards female harvest at 100% (n=5 female bears), followed by Dare (71%), New Hanover (70%), Pitt (58%), Northampton (57%), Onslow (52%), Bertie (51%), Hertford (50%), Lenoir (49%), Washington (47%), Duplin (46%), Craven (46%), and Bladen (45%) counties (Figure 13). Females comprised 44% of the harvest in Columbus and Currituck counties, while females comprised less than 44% of the harvest in the remaining 22 counties of the CBMU (Figure 13).

During the 2021 season, 45% of the reported CBMU harvest occurred in the first seven days of the season, similar to the previous three seasons (Figure 14). Since 2018, when many bear seasons in the CBMU were lengthened in November, a lower percent of the bear harvest occurs within the first seven days, compared to previous seasons. The longer season (Table 7) likely changed hunter effort and selectivity during the first seven days. Most of the reported harvest still occurs in November, while females comprised the reported harvest throughout the entirety of the season though there was an overall slight decline from November through December (Figures 15 and 16).

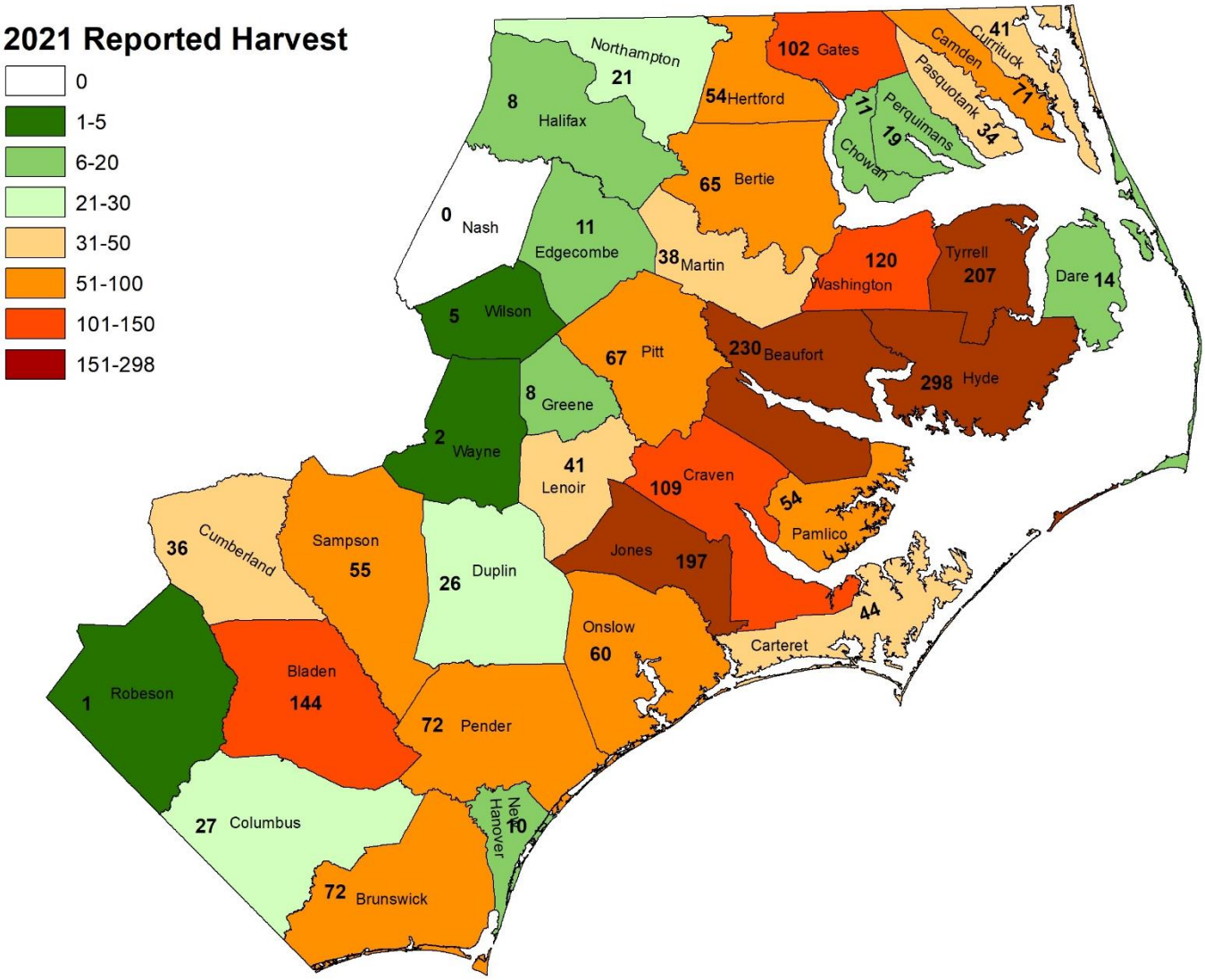


Figure 9. The 2021 reported harvest by county in the CBMU.

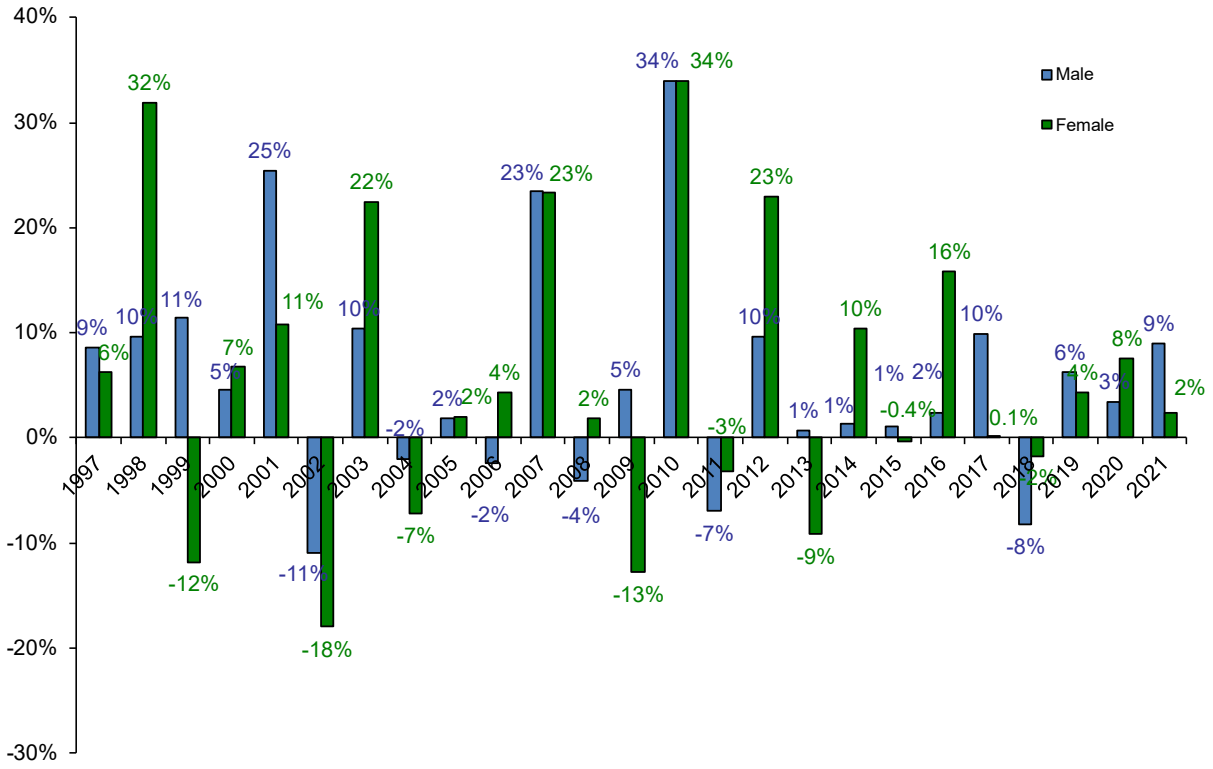


Figure 10. Annual percent change in male and female reported harvest in the CBMU from 1997 through 2021.

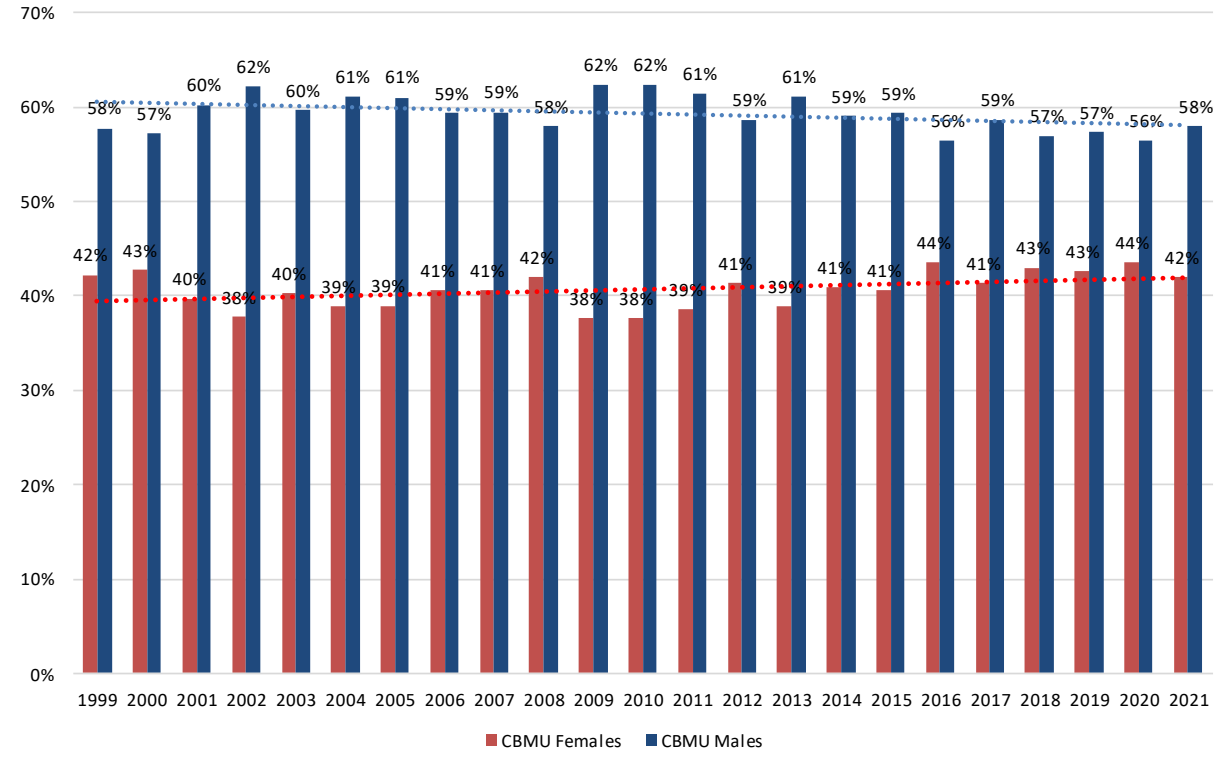


Figure 11. Percentage of male (red) and female (blue) bears in the reported CBMU harvest.

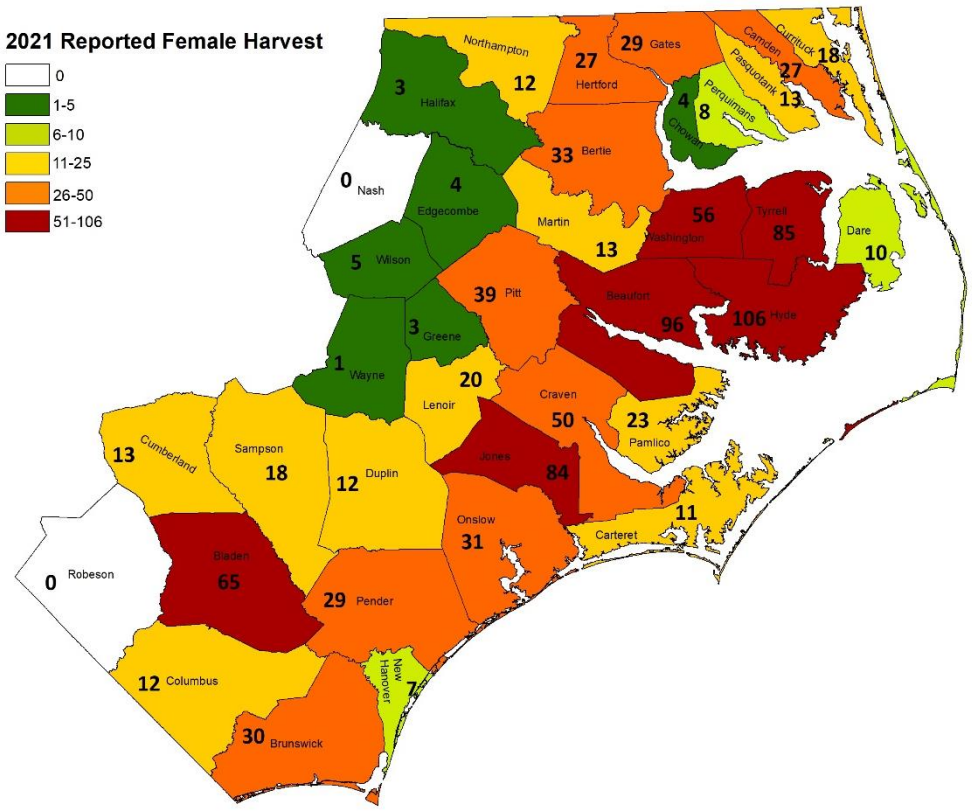


Figure 12. The 2021 reported female harvest by county in the CBMU.

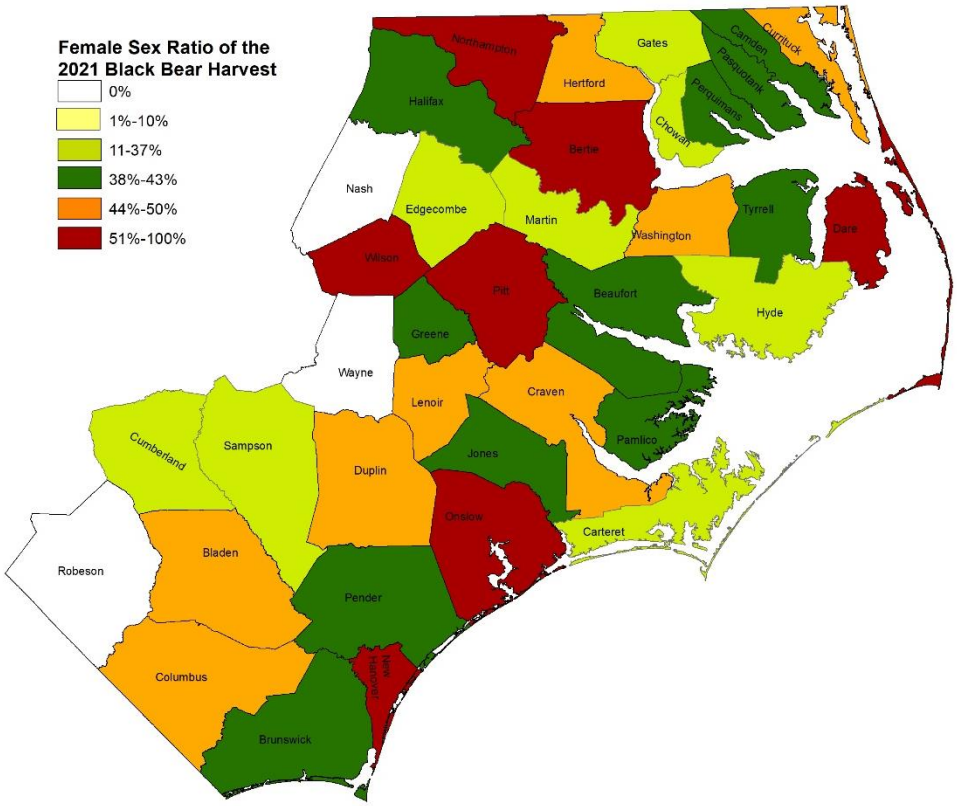


Figure 13. Percentage of the 2021 reported harvest comprised of female black bears in the CBMU.

Table 8. Reported harvest of black bears by county in the Coastal CBMU from 2008 to 2021.

County	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Totals	% change 2020 to 2021
Beaufort	124	151	184	183	169	181	200	201	189	228	194	201	224	231	**2660**	3%
Bertie	44	50	61	90	112	99	68	81	79	100	75	90	90	64	**1103**	-29%
Bladen	87	66	101	88	91	98	103	90	101	121	95	123	137	143	**1444**	4%
Brunswick	36	34	26	32	43	37	46	31	56	57	32	62	53	72	**617**	36%
Camden	59	62	71	64	78	63	43	63	79	77	63	66	70	71	**929**	1%
Carteret	23	23	25	31	32	15	28	36	29	45	35	33	30	44	**429**	47%
Chowan	16	8	9	7	17	15	16	13	6	12	7	8	8	11	**153**	38%
Columbus	30	17	25	21	32	25	14	9	25	23	15	27	22	27	**312**	23%
Craven	66	77	84	79	87	65	76	67	79	90	100	99	115	111	**1195**	-3%
Cumberland	15	15	9	16	33	20	25	36	22	27	23	43	45	36	**365**	-20%
Currituck	39	26	34	39	27	26	35	40	31	30	23	22	25	41	**438**	64%
Dare	3	7	4	5	3	3	10	2	11	18	9	10	25	14	**124**	-44%
Duplin	13	10	18	16	17	11	14	15	9	19	18	22	29	26	**237**	-10%
Edgecombe	n/s	n/s	n/s	n/s	12	10	7	9	8	13	11	9	5	11	**95**	120%
Gates	53	55	75	52	75	70	82	77	75	85	85	87	81	102	**1054**	26%
Greene	2	1	0	1	4	5	4	2	2	8	3	6	5	8	**51**	60%
Halifax	2	1	3	6	4	7	4	0	2	9	4	6	7	9	**64**	29%
Hertford	32	35	53	71	48	59	50	48	58	39	45	56	59	55	**708**	-7%
Hyde	159	163	215	180	210	216	253	233	260	269	262	241	258	296	**3215**	15%
Jones	111	96	154	129	108	159	134	116	134	158	159	176	181	195	**2010**	8%
Lenoir	19	13	13	22	32	29	18	26	30	39	40	46	44	42	**413**	-5%
Martin	33	28	53	48	50	64	61	56	43	43	47	31	32	38	**627**	19%
Nash	n/s	n/s	n/s	n/s	0	0	0	1	0	0	0	2	2	0	**5**	-100%
New Hanover	1	4	3	3	3	5	5	1	4	3	2	6	2	10	**52**	400%
Northampton	7	8	14	8	15	15	25	16	19	31	17	25	17	19	**236**	12%
Onslow	46	47	61	44	54	47	55	49	67	51	41	58	68	60	**748**	-12%
Pamlico	27	45	42	22	37	41	45	53	56	47	40	33	54	54	**596**	0%
Pasquotank	6	7	10	8	11	8	25	14	12	24	39	32	27	34	**257**	26%
Pender	49	46	73	66	45	48	56	53	51	76	60	62	79	72	**836**	-9%
Perquimans	2	3	15	5	17	10	11	10	24	20	14	19	18	19	**187**	6%

County	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Totals	% change 2020 to 2021
Pitt	12	20	36	40	51	77	61	38	60	57	49	57	49	66	**673**	35%
Robeson	n/s	n/s	n/s	n/s	n/s	n/s	0	2	0	0	0	0	1	1	**4**	0%
Sampson	13	12	14	17	25	19	28	20	37	31	26	41	54	56	**393**	4%
Tyrrell	113	90	150	137	216	151	156	264	231	185	258	221	217	208	**2597**	-4%
Washington	63	50	66	75	81	79	102	105	131	98	125	107	99	119	**1300**	20%
Wayne	n/s	n/s	n/s	n/s	0	0	1	0	0	1	1	0	1	2	**6**	100%
Wilson	n/s	n/s	n/s	n/s	5	3	6	3	4	4	0	1	5	5	**36**	0%
Totals	**1,305**	**1,270**	**1,701**	**1,605**	**1,844**	**1,780**	**1,867**	**1,880**	**2,024**	**2,138**	**2,017**	**2,128**	**2,238**	**2,372**	**26,169**	

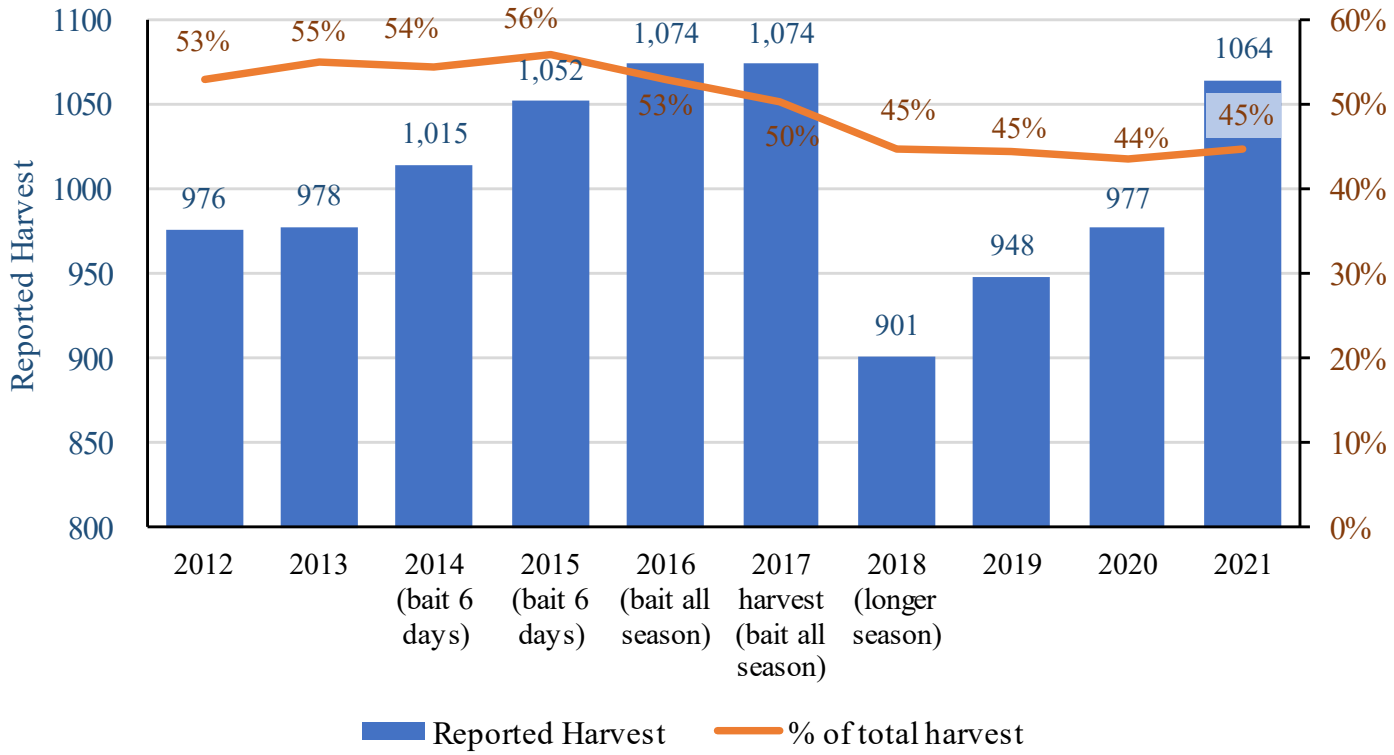


Figure 14. Reported harvest in first 7 days of CBMU season from 2012 through 2021.

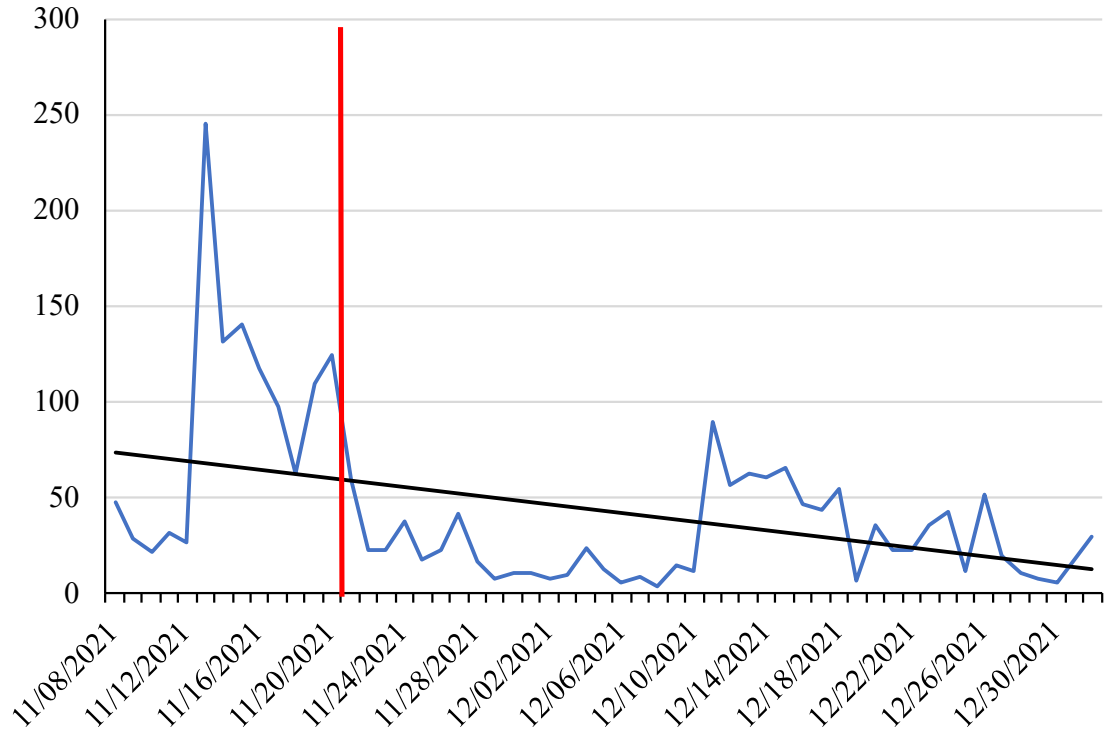


Figure 15. Number of reported bears harvested per date in the CBMU during the 2021 season. The red line indicates the split in the season for several counties.

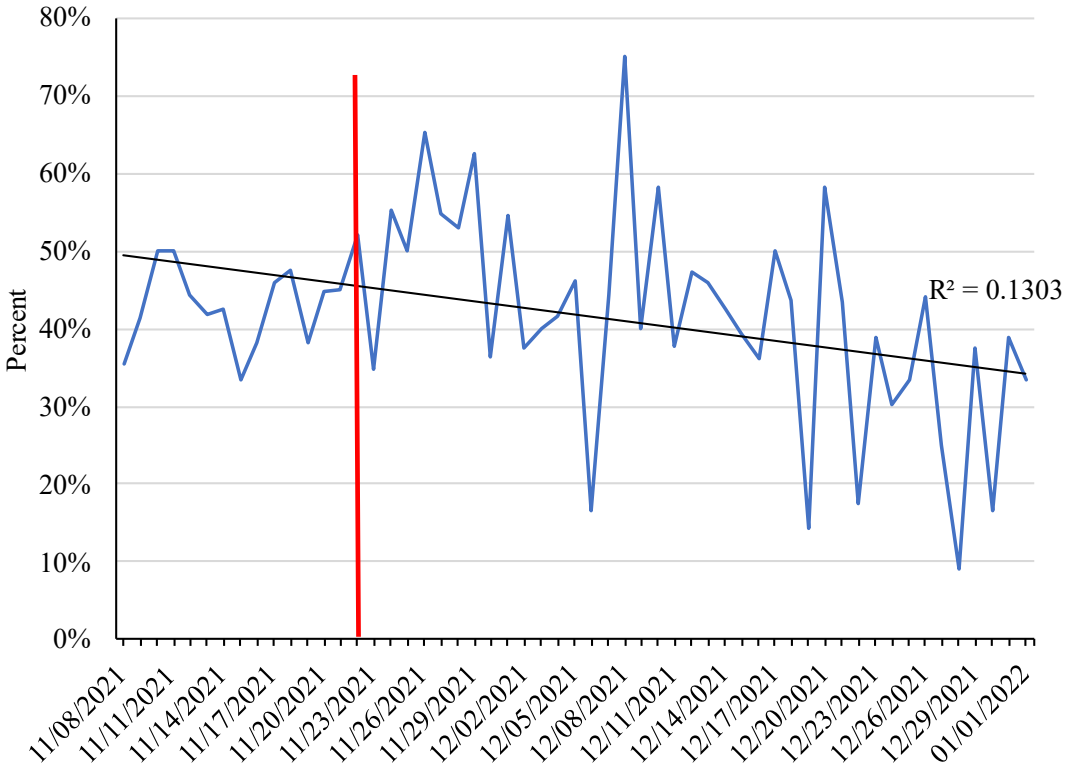
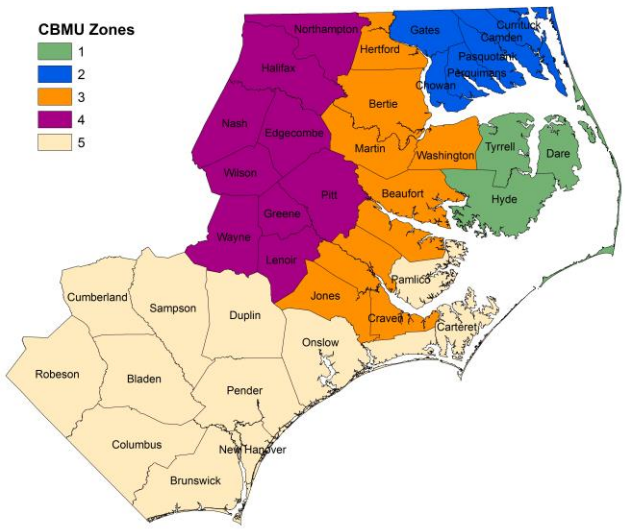


Figure 16. Percent of female bears that comprise the registered harvest during the 2021 season in the CBMU (trend indicated by black line). The red line indicates the split in the season for several counties.

CBMU Zone Harvest



In August 2016, the Commission engaged with constituents through 7 public bear management forums across the State. These forums were to engage with citizens on bear management issues and to gain feedback on the development of distinct biological zones for the CBMU. As a result, five zones (Figure 17) were created in the CBMU based on bear land cover, harvest per huntable acre, and percent of sanctuary in a county, as well as expert opinion provided by Commission biological staff and input from constituents. Seventy-six percent of attendees at the forums felt the zones were reasonable. There was less agreement about whether the Commission should create biological zones in the MBMU (50% support). Many hunters who did not support zones in the MBMU indicated concern that by creating zones, different seasons would be developed, resulting in greater hunting pressure on the bear population if these seasons were not concurrent.

In 2018, the Commission approved changes to bear hunting seasons in the CBMU that aligned the season to the zone, added Saturday openers for the November and December seasons in zones 1 through 4, changed the November season start date and end date in Zone 4, and extended the November season in Zone 1 from 6 days to 16 days, which also added 3 weekends (Table 7).

Currently, we cannot currently extrapolate population growth trends, absolute population estimate, or density estimates at the CBMU zone level, but we can monitor harvest levels. However, after the 2023 bear season, we will have sufficient age structure data at the zone level, thanks to mandatory tooth submission, to be able to do so.

In 2021, reported harvest was highest in Zone 3 (n=813 bears) followed by Zone 5 (n=601 bears), while lowest in Zone 4 (n=162 bears; Figure 18 and 19). All zones experienced increases in harvest during 2021, with Zone 2 (21%) and Zone 4 (20%) having the highest increases (Figure 18). Zone 1 increased 4%, Zone 3 increased 2%, and Zone 5 increased 5% (Figure 18). When accounting for land area, 2021 harvest per square mile was highest in Zone 1, followed by Zone 3 (Figure 20), similar to the previous season. Harvest per square mile was lowest in Zone 4, which is expected, as this zone is at the periphery of occupied bear range in the CBMU (Figure 20). Hunters were more selective for male bears in Zones 2 (36% female) and 1 (38% female), and less selective in Zones 2, 3, and 5 (42% to 54% female; Figure 21).

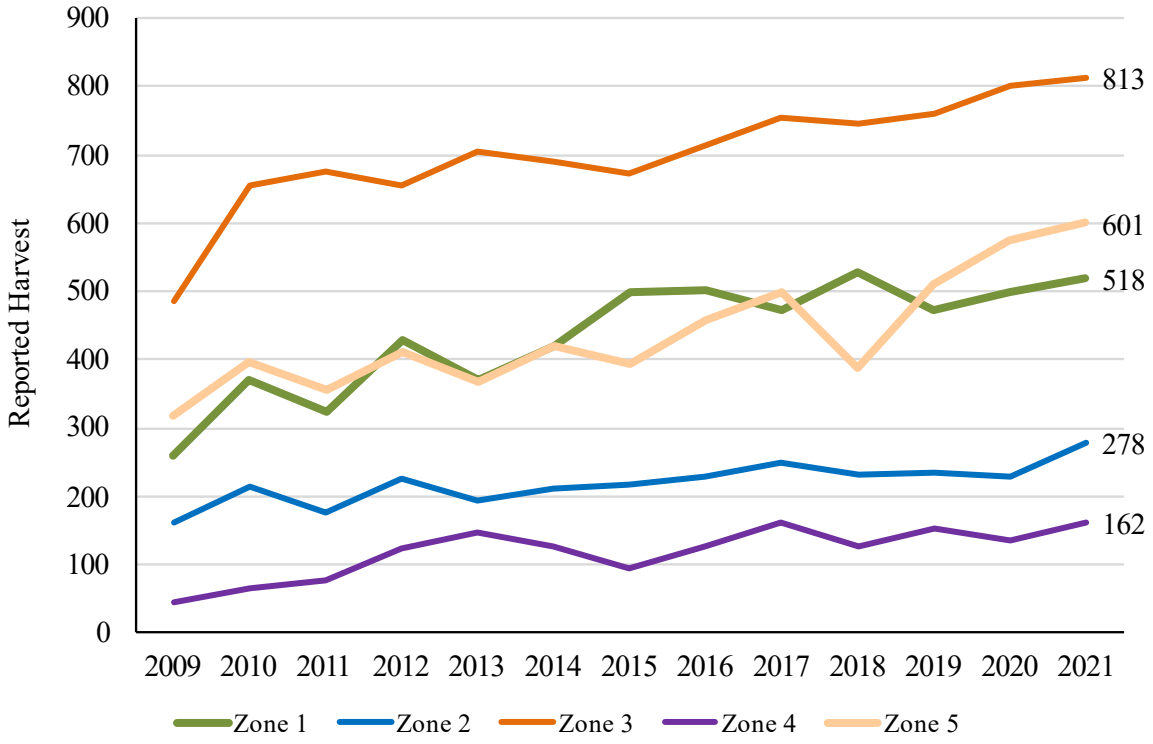


Figure 18. Reported harvest by CBMU zone from 2009 through 2021.

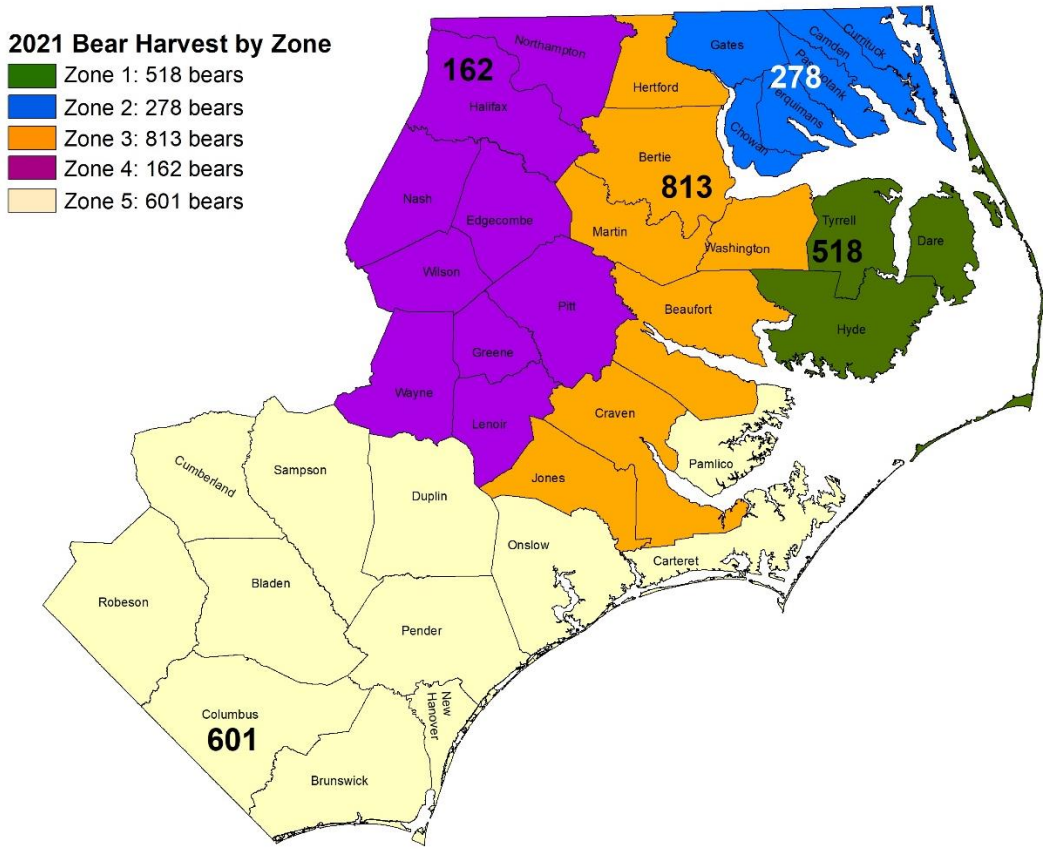


Figure 19. 2021 reported bear harvest by CBMU zone.

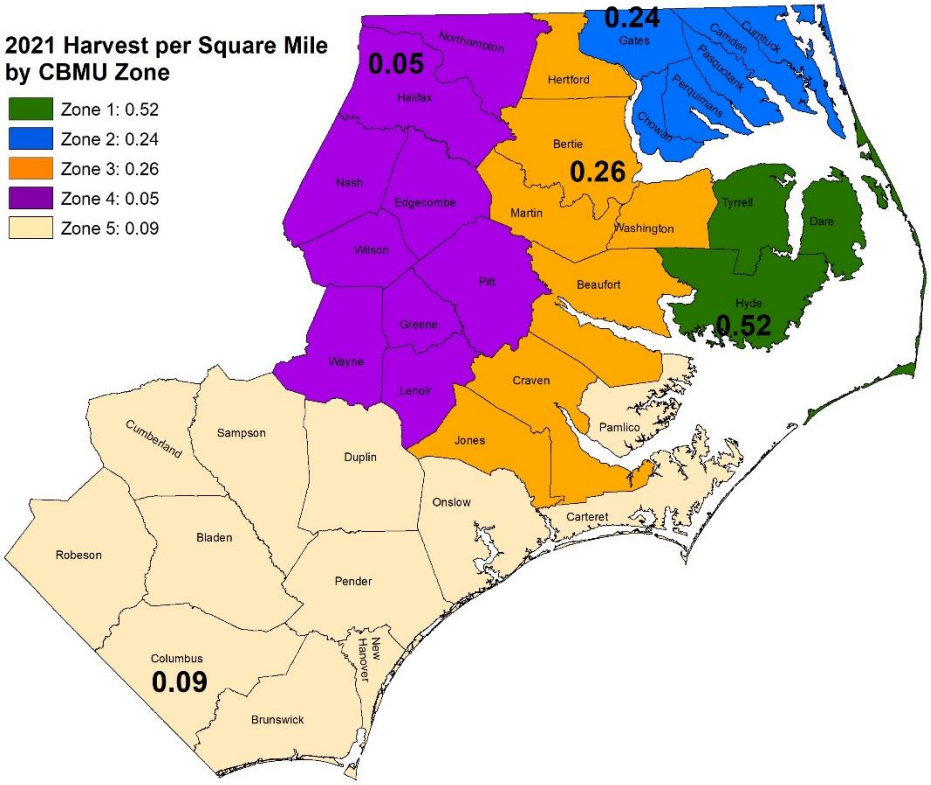


Figure 20. 2021 bear harvest per square mile by CBMU Zone.

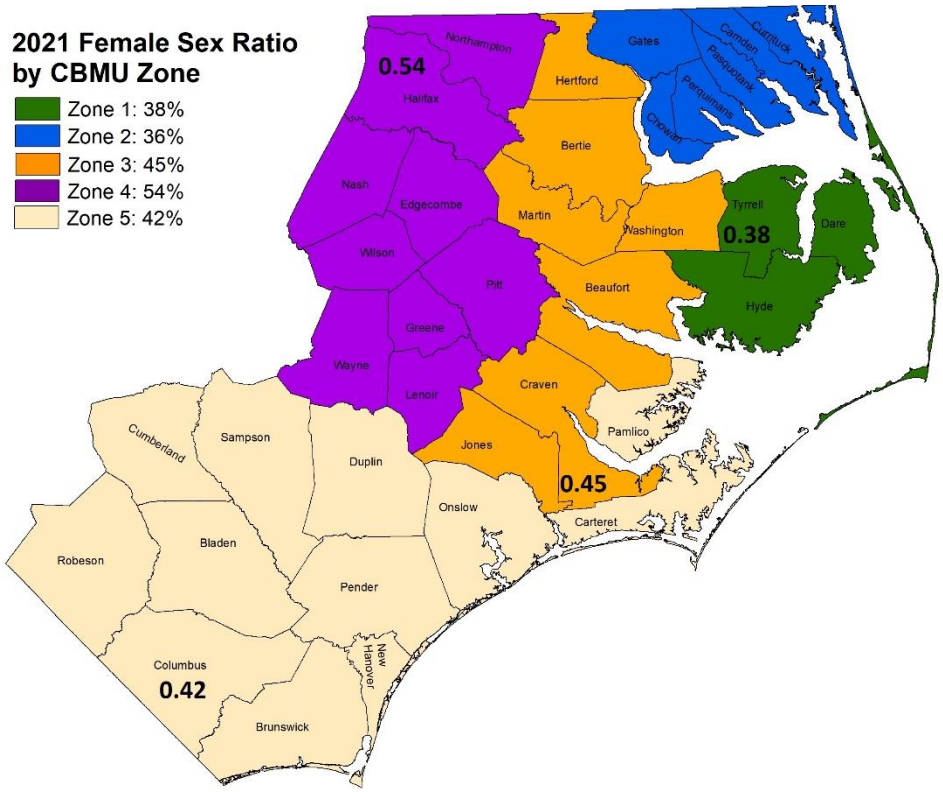


Figure 21. 2021 female sex ratio by CBMU zone.

Mountain Bear Management Unit (MBMU): The 2021 reported harvest (n=1,230 bears) in the MBMU declined by 14% compared to the 2019 season (n=1,429 bears; Table 3). The MBMU reported harvest was the seventh year in a row that harvest exceeded 1,000 bears; this trend started with the 2015 season. The MBMU harvest has exceeded 1,000 bears for 10 of the last 13 seasons. During the 2009 season, the reported bear harvest exceeded 1,000 bears for the first time since records were kept; the current record reported harvest was 1,466 bears in the 2018 season (Table 3).

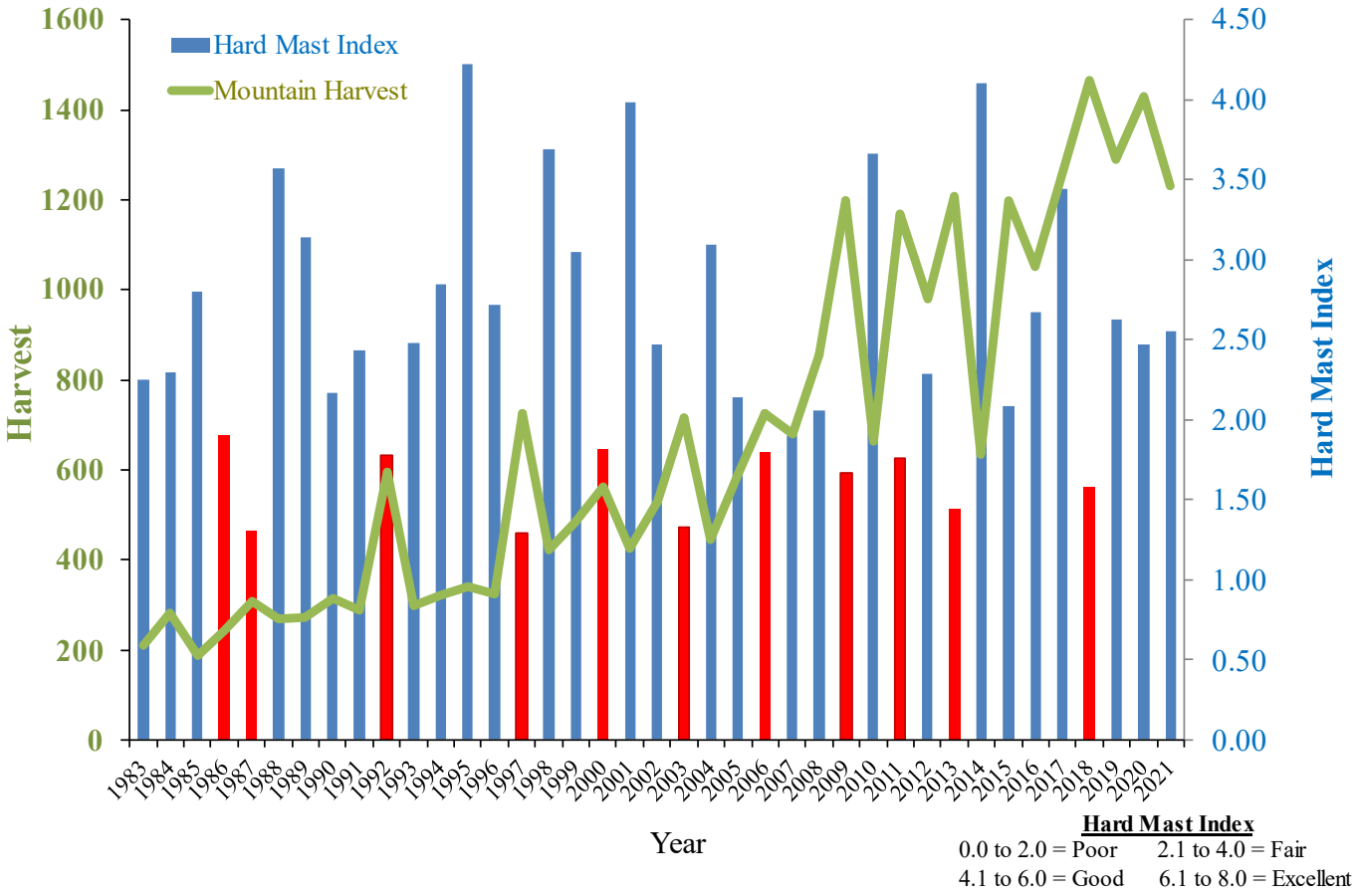


Figure 22. Registered bear harvest and hard mast index in the MBMU of North Carolina, 1983 through 2021, with increases in harvest corresponding with a poor hard mast index (indicated by the red bars).

As with the CBMU, the MBMU bear harvest is also tied to bear population size, number of hunters, weather, and changes in bear hunting season structure and hunting methods. However, the MBMU bear harvest is also closely tied to weather and the availability of hard and soft mast; harvest levels rise in years of poor natural food availability and drop in years of good natural food availability. When there is a lack of hard mast, bears are more attracted to unnatural food sources, such as bait piles, and look for food over larger unfamiliar areas, making them more accessible to hunters. During falls 2009, 2011 and 2013, the hard mast abundance was poor, which contributed to the record bear harvests that occurred in the MBMU in those years (Table 3; Figure 22). More recently, in 2016 the harvest declined 12% which corresponded with a fair hard mast crop and an improvement in hard mast production when compared to

2015 (Figure 22). However, the harvest in 2017 differed from the tradition pattern observed in the MBMU; despite an improvement in hard mast production from 2016, in 2017, there was a 20% harvest increase and a record harvest (Figure 24). While the fall hard mast index was higher in 2017 than in 2016, the 2017 hard mast production was uneven and extremely variable based on location, with some areas experiencing poor production while other areas experienced good to excellent production. For example, several areas experienced very poor production of white oaks. In addition, we suspect that hard mast productivity in 2016 was higher than what the index reflected. In 2018, hard mast abundance was poor, resulting in an increase in the reported harvest (+16%), as well as a record harvest (Figure 22). The hard mast abundance was improved in 2019 and 2021, which explains the 12% and 14% decline, respectively, in the reported harvest in the MBMU. During 2020, hard mast abundance declined from the previous year, and the harvest increased in response (Figure 22).

The county with the highest reported harvest was Haywood County (n=123), followed by Madison and McDowell counties; all reported >100 bears (Figure 23, Table 9). Record harvests occurred in 2 of 25 counties of the MBMU and include Cleveland and Polk counties (Table 9). Five counties experienced increases in harvest and 20 counties experienced declines in harvest (Table 9).

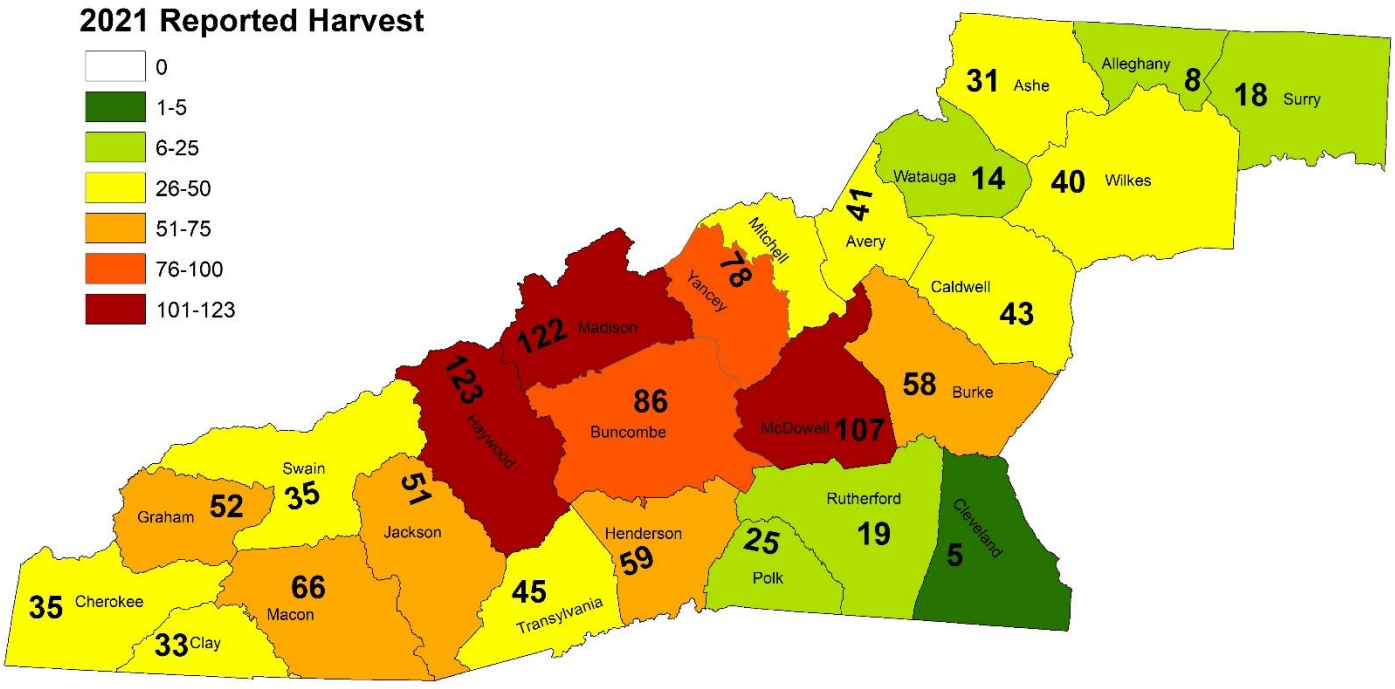


Figure 23. Reported harvest by county in the MBMU during the 2021 bear hunting season.

Table 9. Reported harvest results of black bears by county in the Mountain Bear Management Unit (MBMU) of North Carolina from 2008 through 2021.

County	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	% change from 2020 to 2021
Alleghany	9	15	2	8	6	6	2	8	11	11	14	13	23	8	-65%
Ashe	17	36	5	31	24	25	8	29	30	50	37	27	38	31	-18%
Avery	25	46	17	46	25	45	25	48	43	50	52	47	57	41	-28%
Buncombe	39	47	18	49	47	74	30	61	68	69	103	77	121	86	-29%
Burke	26	57	28	37	38	55	19	33	36	47	44	70	41	58	41%
Caldwell	25	39	15	36	23	31	15	51	40	48	45	49	46	43	-7%
Cherokee	51	75	51	85	71	58	32	65	44	64	60	52	47	35	-26%
Clay	53	27	49	25	40	37	25	29	27	32	40	43	38	34	-11%
Cleveland	0	1	0	0	3	3	1	0	0	0	0	2	0	5	500%
Graham	55	111	74	134	96	68	77	116	58	103	95	76	81	52	-36%
Haywood	76	96	41	127	75	102	54	117	92	99	142	104	139	123	-12%
Henderson	23	35	10	37	25	38	7	28	26	33	61	65	46	59	28%
Jackson	23	47	28	37	59	71	26	63	54	64	80	50	78	51	-35%
Macon	81	95	65	77	67	110	50	87	41	76	72	92	77	66	-14%
Madison	80	92	46	73	73	91	55	120	107	79	135	102	97	122	26%
McDowell	66	98	87	105	110	98	67	81	119	117	128	109	144	107	-26%
Mitchell	47	64	19	40	29	42	22	37	36	45	52	32	37	35	-5%
Polk	3	8	2	5	3	13	5	9	3	7	15	13	18	25	39%
Rutherford	15	29	8	6	10	25	7	14	13	16	24	29	23	19	-17%
Surry	2	11	2	15	11	15	6	8	21	18	6	17	23	18	-22%
Swain	16	22	15	43	24	23	14	24	23	33	52	13	42	35	-17%
Transylvania	20	36	26	43	42	52	18	33	25	42	45	55	53	45	-15%
Watauga	9	17	3	9	10	20	8	26	10	17	18	18	20	14	-30%
Wilkes	21	20	9	24	13	16	10	29	27	35	62	28	46	40	-13%
Yancey	74	73	42	78	56	89	51	83	97	109	84	107	94	78	-17%
Totals	**856**	**1,197**	**662**	**1,170**	**980**	**1,207**	**634**	**1,199**	**1,051**	**1,264**	**1,466**	**1,290**	**1,429**	**1,230**	**-14%**

During the 2021 harvest season, the number of females and males harvested in the MBMU decreased by 20% and 10%, respectively (Table 3; Figure 24). In the MBMU, the percentage of females that have comprised the total harvest has varied over the last 11 years (31% - 42%; Table 4; Figure 25). The 10-year average has been 38%; during the 2021 season females comprised 37% of the reported harvest. Typically, when hard mast abundance is fair to good, we see a decrease in the female sex ratio of the harvest, as they are less vulnerable to hunters. The overall trend in the MBMU shows slightly less selectivity against females (Figure 25). Unlike the 2018 and 2019 seasons, multiple counties exceeded a 44% female sex ratio in 2020 and 2021 (Figure 27); for sustainable bear harvests, in which the objective is to have continued positive bear population growth, the female sex ratio of the harvest should not exceed 44%. Eight counties exceeded 44% female sex ratio and one county was at 44% female sex ratio (Figure 27). Unlike the CBMU, where population growth is now at 0-1%, the MBMU is still at 3-5% population growth (page 87; Figures 55 and 56). The additional harvest pressure on females in some of these counties may help to achieve the bear population objective for the MBMU, which is to stabilize the population by reducing population growth to zero.

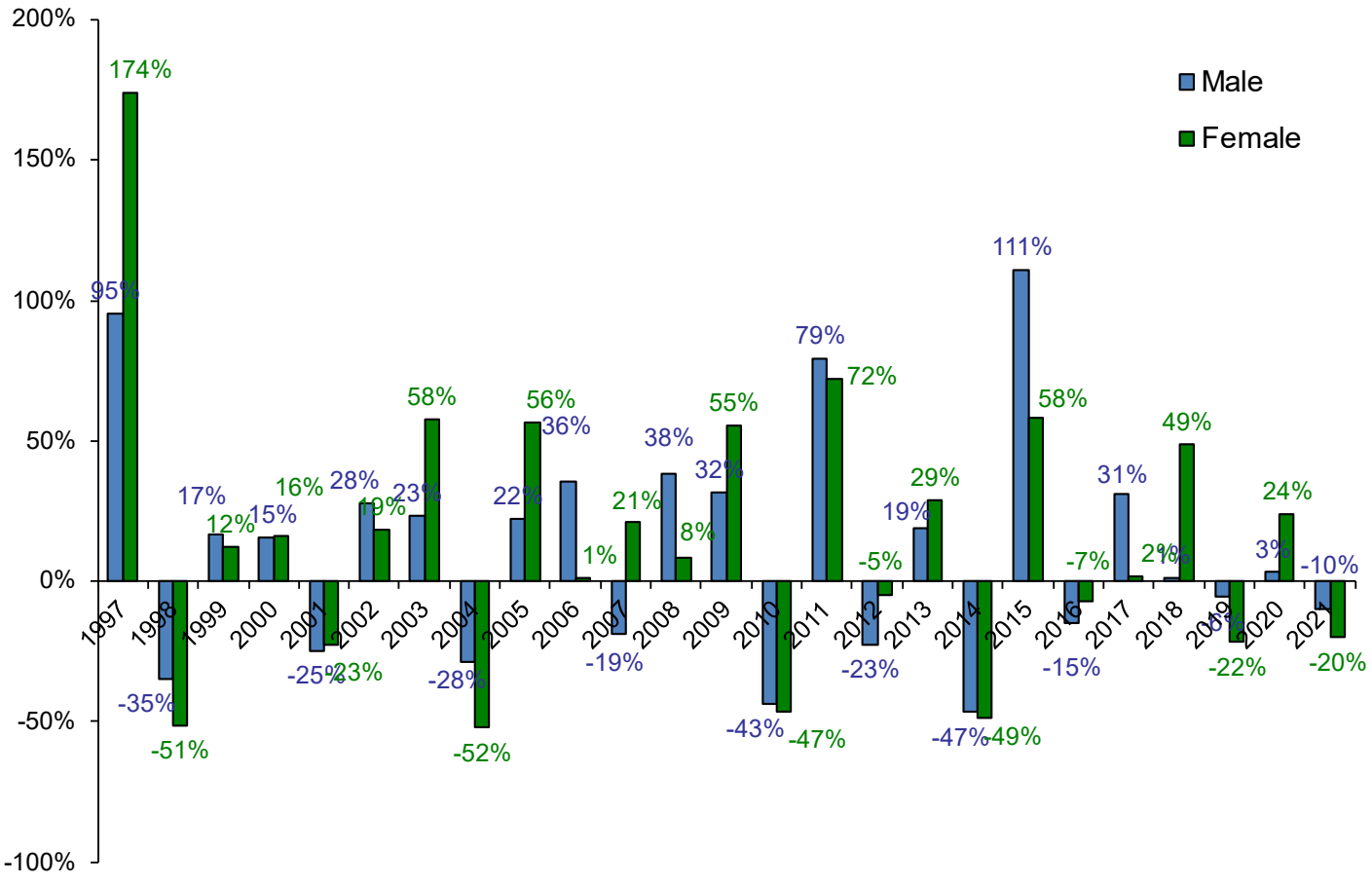


Figure 24. Annual percent change in male and female reported harvest in the MBMU from 1997 through 2021.

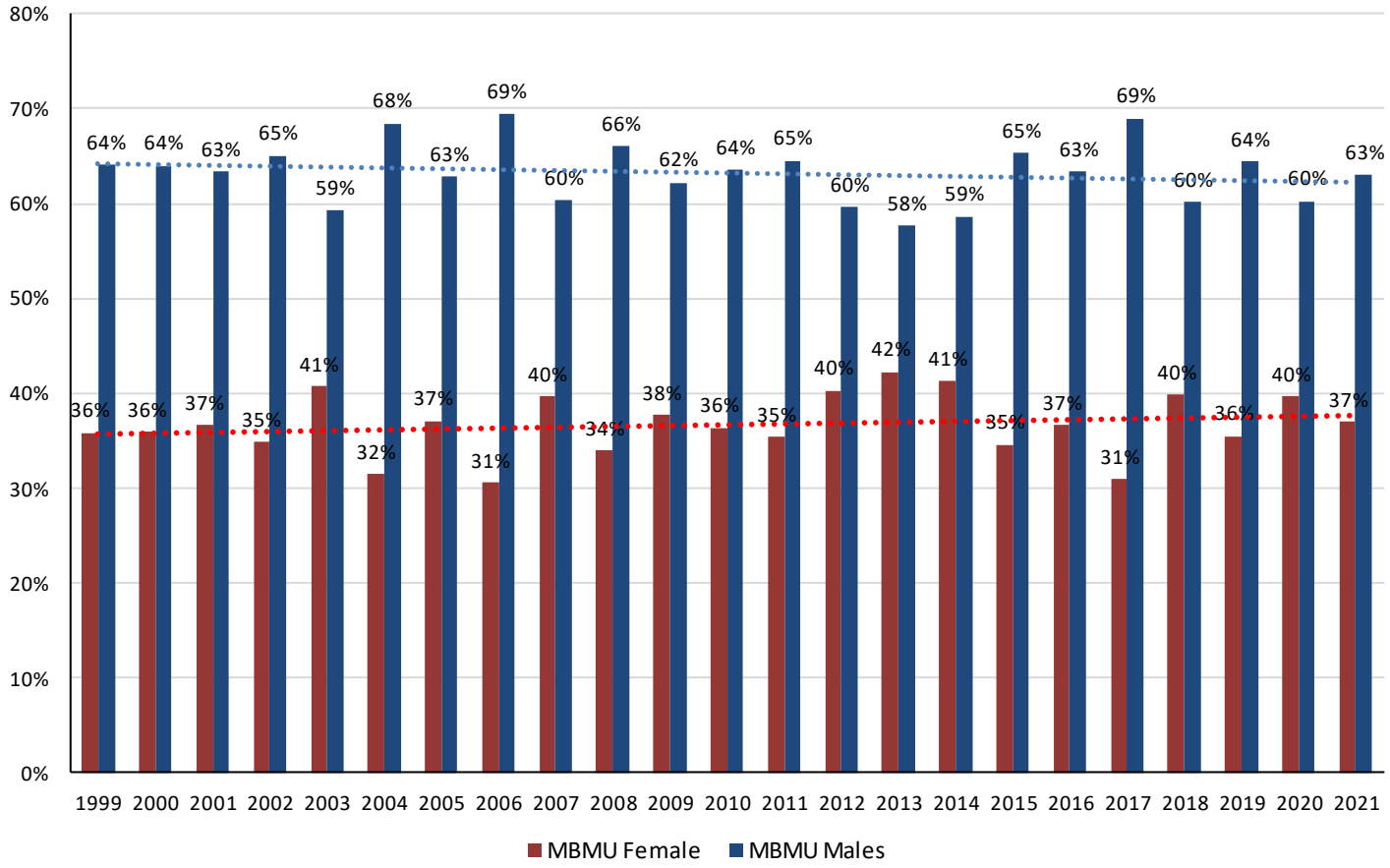


Figure 25. Percentage of male (red) and female (blue) bears in the reported MBMU harvest.

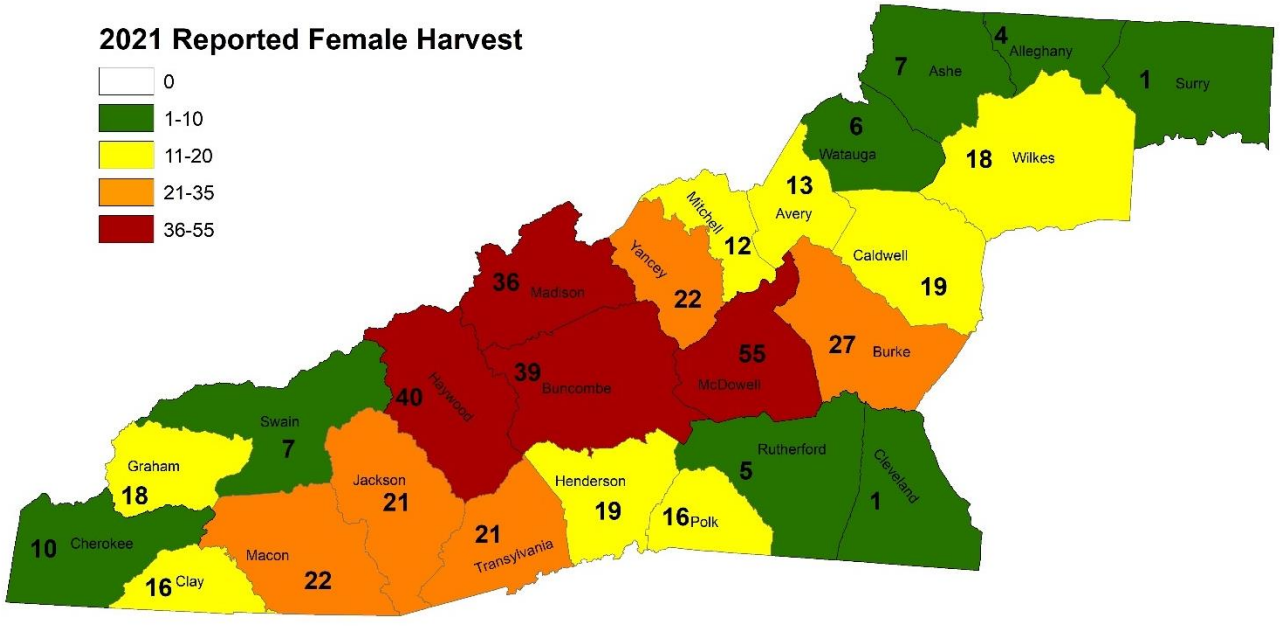


Figure 26. The 2021 reported female harvest by county in the MBMU.

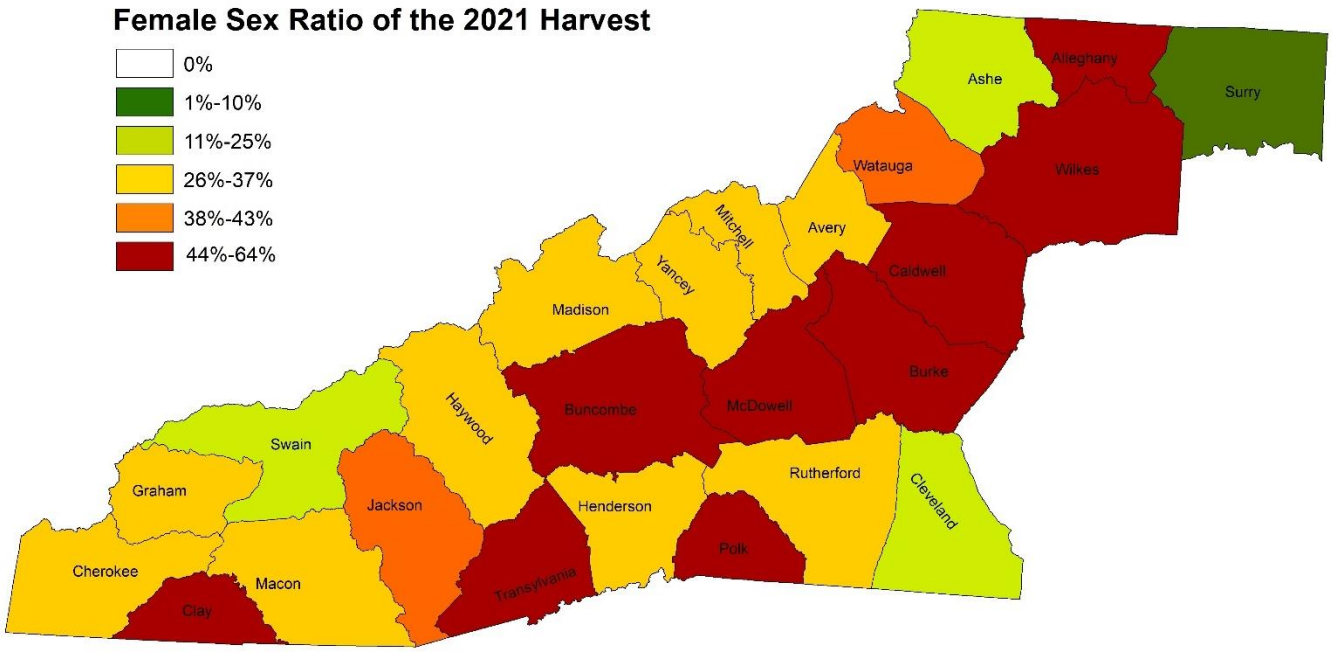


Figure 27. Percentage of the reported harvest comprised of female black bears in the MBMU during the 2021 bear hunting season.

As expected, and observed in previous seasons, reported harvest of all bears and female bears, declined throughout the season, with increases occurring on the last day of the split and last day of the season (Figures 28 and 29). The percent of females in the harvest showed a declining trend throughout the season (Figure 30).

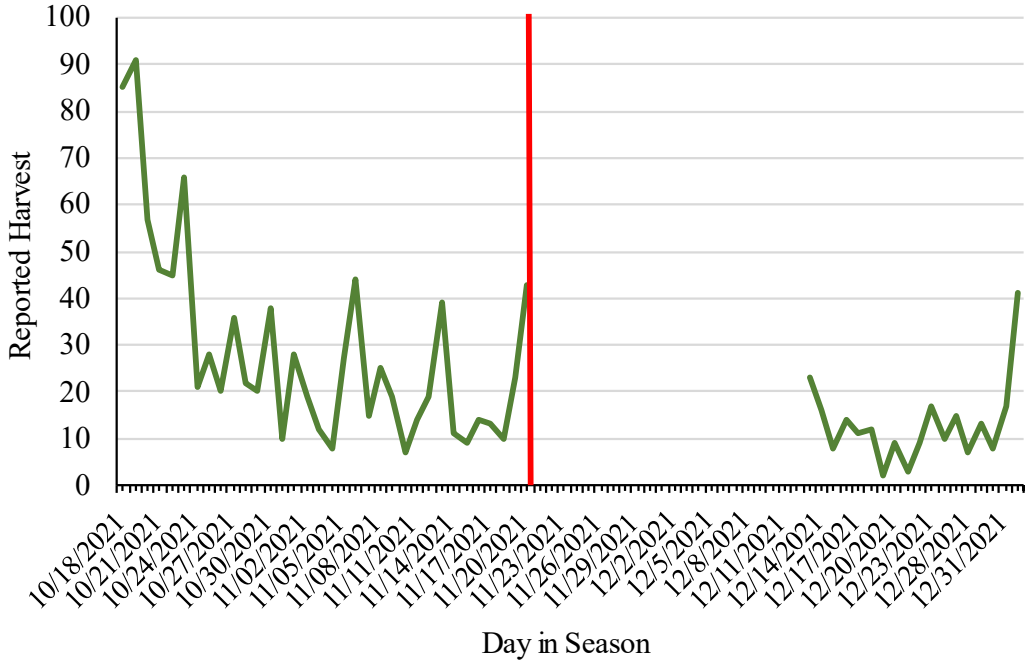


Figure 28. Reported bear harvest by day in the during the 2021 bears season in the MBMU season. Red line indicates the split in the season.

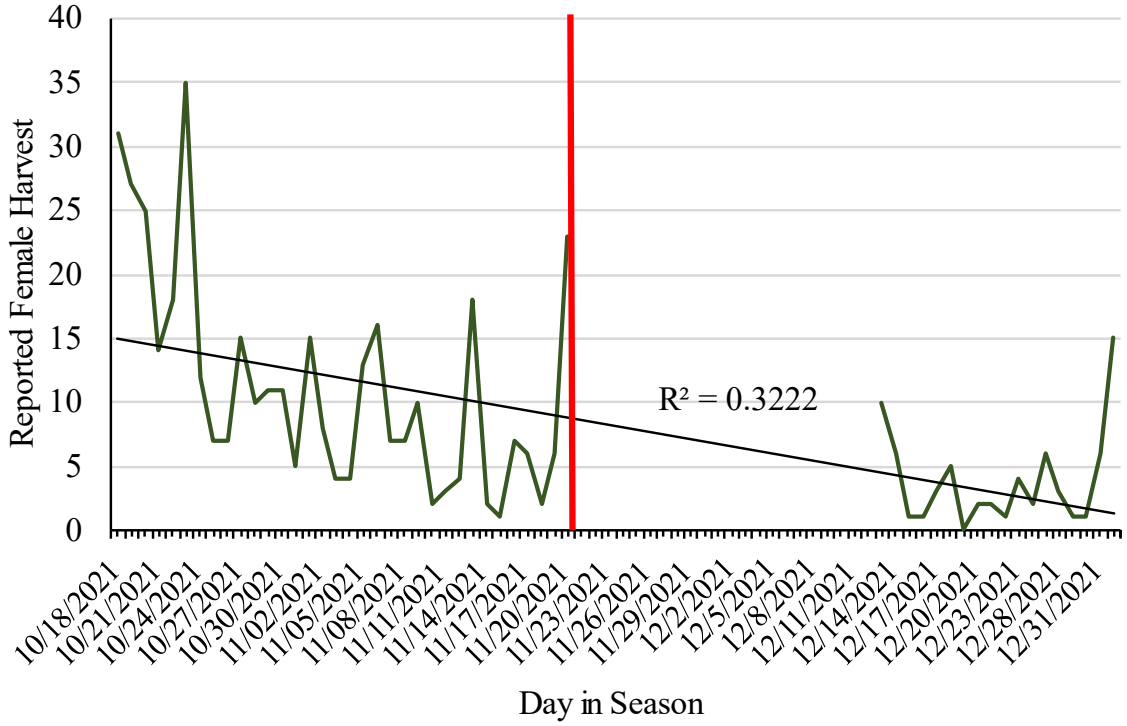


Figure 29. Reported harvest of female bears during the 2021 season in the MBMU (trend indicated by black line). The red line indicates the split in the season.

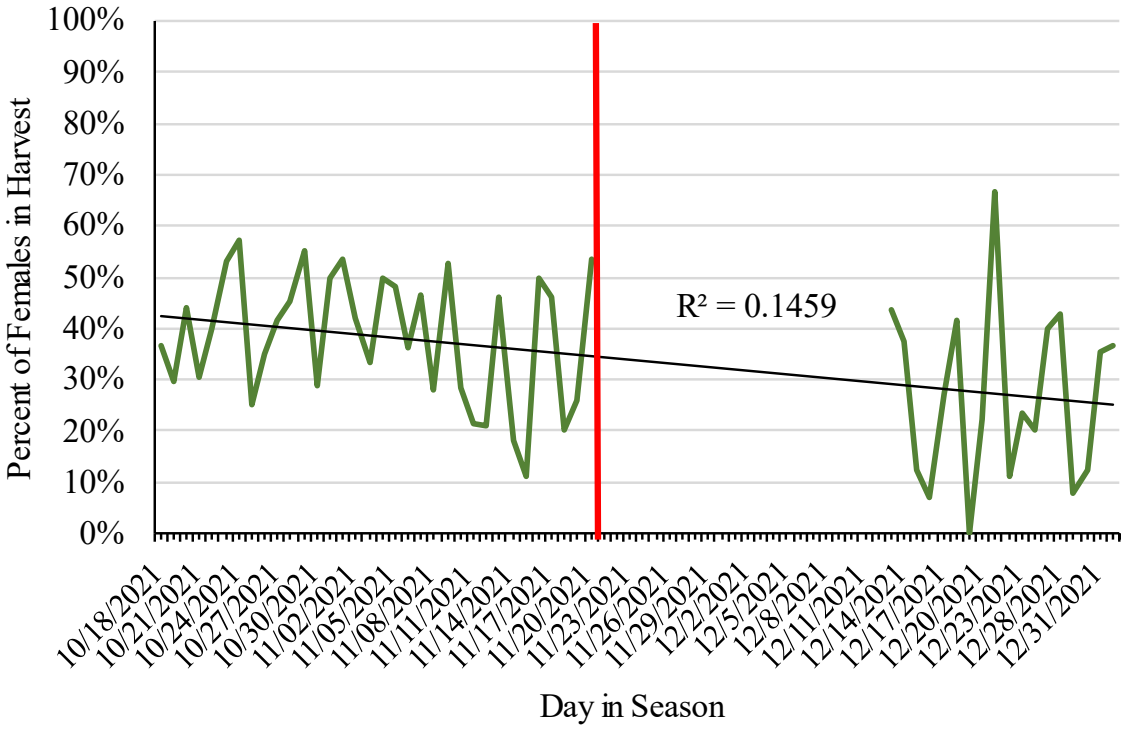


Figure 30. Percentage of female bears comprising the reported harvest during the 2021 season in the MBMU (trend indicated by black line). The red line indicates the split in the season.

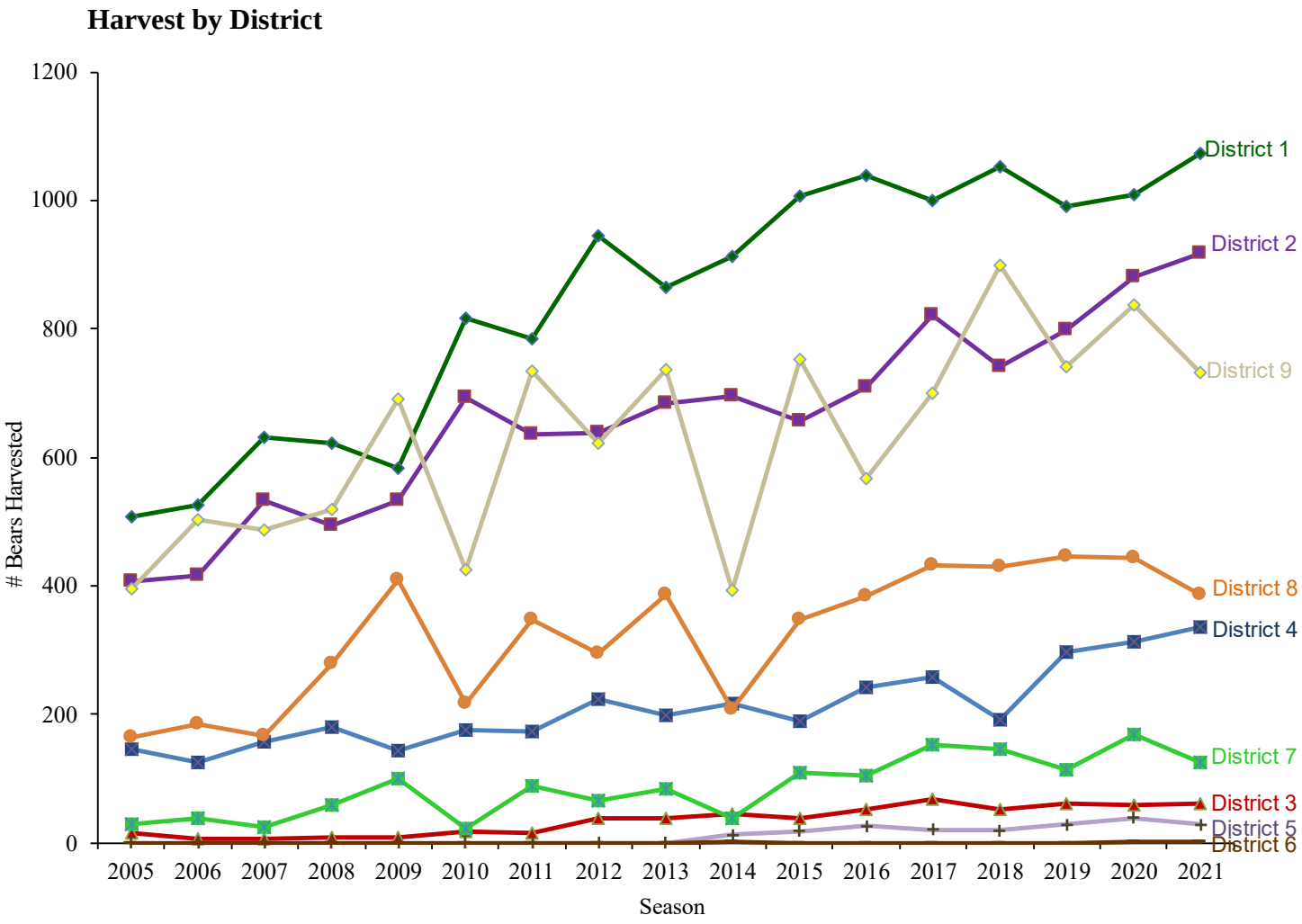


Figure 31. The reported harvest of black bears by district from 2005 through 2021.

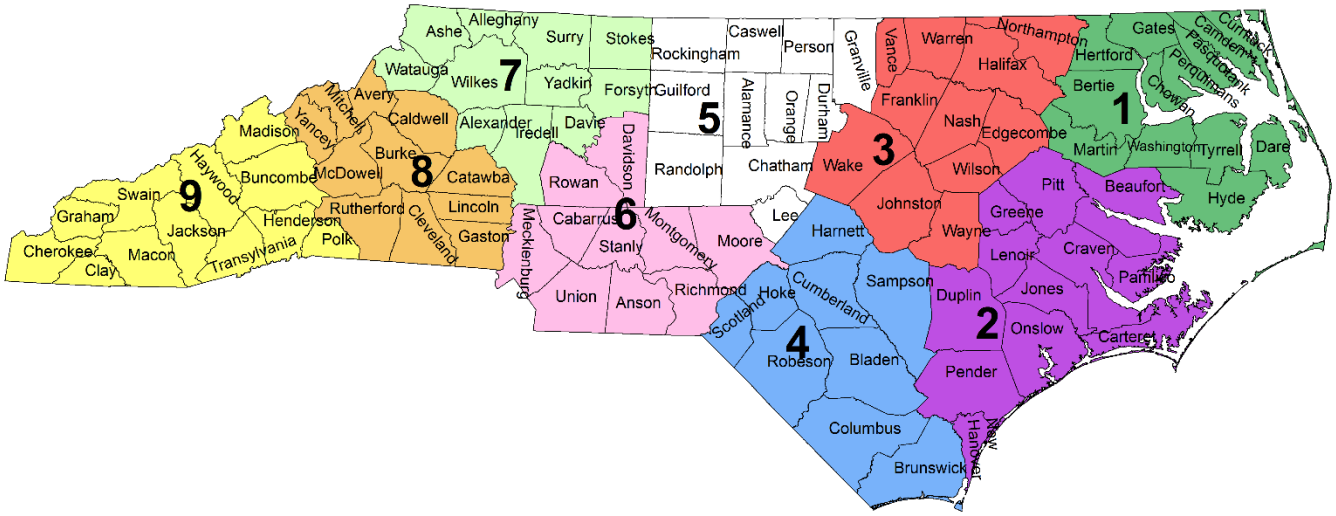


Figure 32. The nine wildlife districts of the North Carolina Wildlife Resources Commission.

Table 10. The reported harvest of black bears by district from 1977 through 2021.

	District								
Season	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1977	0	58	0	16	0	0	0	23	56
1978	0	57	0	28	0	0	1	45	78
1979	0	57	0	36	0	0	2	29	93
1980	0	74	0	30	0	0	2	49	101
1981	0	62	0	30	0	0	1	32	118
1982	0	73	0	26	0	0	0	56	168
1983	0	71	0	26	0	0	0	54	157
1984	0	120	0	81	0	0	2	45	234
1985	0	103	0	35	0	0	0	34	153
1986	48	86	0	33	0	0	1	76	163
1987	94	93	0	58	0	0	1	68	238
1988	98	136	0	62	0	0	0	53	187
1989	83	146	0	46	0	0	2	59	239
1990	194	192	0	58	0	0	4	81	231
1991	187	185	0	57	0	0	1	75	210
1992	222	186	0	56	0	0	2	130	478
1993	239	206	0	78	0	0	4	65	232
1994	194	192	0	77	0	0	5	102	215
1995	389	281	0	75	0	0	6	74	254
1996	392	204	0	89	0	0	3	91	231
1997	359	296	0	82	0	0	12	197	517
1998	467	336	15	61	0	0	9	119	293
1999	447	312	16	106	0	0	10	107	368
2000	461	355	9	104	0	0	20	139	402
2001	469	520	15	103	0	0	14	110	302
2002	429	410	16	100	0	0	30	170	330
2003	557	423	1	117	0	0	22	227	468
2004	480	401	13	159	0	0	15	99	330
2005	507	406	15	145	0	0	30	165	395
2006	527	416	7	125	0	0	37	185	503
2007	631	533	6	157	0	0	24	167	487
2008	622	493	9	181	0	0	58	279	520
2009	584	533	9	144	0	0	99	408	691
2010	816	693	17	175	0	0	21	216	425
2011	784	636	14	174	0	0	88	348	735
2012	945	639	38	224	0	0	65	294	622
2013	864	683	37	199	0	0	84	387	737
2014	912	696	46	216	12	1	38	207	393
2015	1,006	657	39	189	18	0	109	348	752
2016	1,040	710	51	241	26	0	105	384	568
2017	1,000	821	68	259	20	0	152	433	701
2018	1,052	741	51	192	19	0	146	429	900
2019	990	799	62	296	28	0	113	446	742
2020	1,009	880	58	312	39	2	168	443	837
2021	1,074	918	62	335	28	1	125	386	732
Percent of 2021 Harvest by District	**29%**	**25%**	**2%**	**9%**	**1%**	**0%**	**3%**	**11%**	**20%**

Bear Permit Hunt Harvest

Prior to 2009, information on bear harvest that occurred on three of the bear permit hunts was obtained through the voluntary permit hunt surveys and voluntary tooth submission. However, hunter response to the permit surveys was low; in 2008, average response rate to the permit surveys was 10%. The exception to this is the Dare Bombing Range Bear Permit hunt, which is well monitored by NCWRC staff, due to the limited number of permit hunt days and the ability to have an established stationary check station; there is only one entrance and exit to the permit hunt. In order to improve our ability to monitor harvest on Mt. Mitchell and Daniel Boone Bear Sanctuaries, which are within Pisgah Game Land, questions were added to the big game registration system, enabling permit hunters to provide the sanctuaries as the location of their bear harvest.

In 2021, 21 bears were harvested during bear permit hunts (Table 11). Despite mandatory tooth submission, NCWRC received tooth submissions from 62% of these bears, however tooth submission statistics rely on the hunter recording the permit hunt on the tooth envelope, which some may not have done. There was a 3% decline in reported harvest on permit hunts compared to the 2020 season. Submission rates from bears taken on Mt. Mitchell (22%) was the lowest of all permit hunts, while highest on Danile Boone (100%), Pond Mountain (100%), and Dare Bombing Range (83%). While harvest estimates for the Holly Shelter Bear Garden Tract are unknown, several permit houndsmen parties initiate the start of their bear hunt on the tract, with the remainder of the chase occurring off the tract within Holly Shelter Game Land.

Table 11. Reported bear harvest for bear permit hunts from 2009 through 2021.

Permit Hunt/Sanctuary	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Carteret County GL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0	0
Dare Bombing Range[1]	4	3	3	1	2	9	1	8	15	1	1	5	6
Daniel Boone Bear Sanctuary[2]	5	3	2	5	3	1	7	4	8	6	11	5	5
Holly Shelter Bear Garden Tract[3]	0	0	0	1	1	NA	NA	NA	NA	NA	NA	NA	NA
Mt. Mitchell Bear Sanctuary[4]	2	3	3	16	3	7	16	13	11	4	13	11	9
Pond Mountain[2]	NS	NS	1	0	0	0	2	1	0	0	6	3	1
Texas Plantation[2]	NS	NS	NS	NS	NS	NS	0	0	0	0	0	1	0
Total Registered Harvest	**11**	**9**	**9**	**23**	**9**	**17**	**27**	**26**	**34**	**11**	**31**	**25**	**21**

[1]Harvest based on check station

[2]Harvest based on reported harvest to big game registration system

[3]Harvest based on permit surveys which was discontinued in 2014

[4]From 2007-2008, harvest based on permit surveys; after 2009, harvest based on big game registration system

[5]Harvest based on reported harvest to big game registration system

Mean weight and age of bears harvested on permit hunts can be seen in Table 12. Bears harvested on the permit hunts tend to be older than bears harvested on other lands in the applicable BMU. Male and female bears harvested on the Dare Bombing Range permit hunt tend to be older and weigh less than the 10-year average observed for bears harvested in the CBMU (Table 12 and Table 36 on page 75). For example, male bears taken on the Dare Bombing Range permit hunt weigh ~167 lbs. lower than male bears harvested the CBMU (Table 12 and Table 36). Male and female bears harvested on Daniel Boone Bear Sanctuary were older and heavier than male bears harvested in the MBMU (Table 12 and Table 36). The pattern observed on Mt. Mitchell Bear Sanctuary is similar to that observed on Dare Bombing Range; male and female bears are older and weigh slightly less than bears harvested in the remaining MBMU. Sample size is low on Pond Mountain, but based on sampled bears, male bears are older and heavier than other male bears in the MBMU, while female bears are older than female bears sampled in the MBMU (Table 12 and Table 36).

Table 12. Mean age (years), mean weight (lbs.) and samples sizes (n) of bears sampled on bear permit hunts (2006 through 2021).

	Age		Weight	
Permit Hunt	**Male**	**Female**	**Male**	**Female**
Dare Bombing Range	5.2 (n=21)	8.5 (n=37)	171 (n=21)	166 (n=37)
Daniel Boone	4.2 (n=28)	6.5 (n=14)	256 (n=85)	213 (n=14)
Mt. Mitchell	4.4 (n=34)	5.7 (n=28)	221 (n=34)	176 (n=28)
Pond Mountain	3.9 (n=7)	6.4 (n=3)	263 (n=7)	N/A

Harvest on Game Lands

Until 2008, the majority of the MBMU bear harvest occurred on game lands, but since that season, the majority of the MBMU bear harvest typically occurs on private lands, with the exception of 2010, 2012, and 2014 (Table 13; Figure 33). However, compared to the other BMUs, game lands still comprise a significant source for harvested bears in the MBMU (39% of harvest in 2021). In the CBMU, harvest by land type has been more stable and in the 2021 season, 95% of the CBMU bear harvest occurred on private lands. A vast majority of bears harvested in the PBMU were taken on private lands (97%; Table 13; Figure 33). One reason for the regional difference is that in the MBMU there is a large amount of public lands (e.g. Pisgah National Forest, Nantahala National Forest), as well as private properties that are smaller than what is observed in the coast. In the CBMU, private properties tend to have a large amount of acreage (e.g. Weyerhaeuser, agricultural operations) that is more conductive to bear hunting with hounds. The declining percent of bears harvested off of game lands in the MBMU is likely due to the increase in the still hunted harvest aided by bait since 2015 (Table 26 on page 59). However, with human populations projected to increase in North Carolina and the increasing cost of leasing private lands, NCWRC game lands will become increasingly important in maintaining and providing bear hunting opportunities.

Table 13. Percentage of North Carolina's registered bear harvest occurring on game lands, 1998 through 2020.

	CBMU		MBMU		PBMU		Statewide	
Year	Game land	Other	Game land	Other	Game land	Other	Game land	Other
1998	3%	97%	67%	33%			24%	76%
1999	6%	94%	67%	33%			27%	73%
2000	3%	97%	50%	50%			21%	79%
2001	6%	94%	63%	37%			22%	78%
2002	5%	95%	54%	46%			22%	78%
2003	5%	95%	56%	44%			25%	75%
2004	5%	95%	67%	33%			24%	76%
2005	6%	94%	55%	45%			23%	77%
2006	6%	94%	52%	48%			25%	75%
2007	8%	92%	61%	39%			26%	74%
2008	6%	94%	50%	50%			24%	76%
2009	6%	94%	43%	57%			24%	76%
2010	6%	94%	65%	35%			23%	77%
2011	6%	94%	48%	52%			24%	76%
2012	6%	94%	53%	47%	0%	100%	22%	78%
2013	3%	97%	42%	58%	0%	100%	19%	81%
2014	5%	95%	56%	44%	10%	90%	18%	82%
2015	5%	95%	44%	56%	0%	100%	20%	80%
2016	4%	96%	43%	57%	6%	94%	17%	83%
2017	5%	95%	46%	54%	0%	100%	20%	80%
2018	3%	97%	31%	69%	6%	94%	15%	85%
2019	4%	96%	43%	57%	7%	93%	19%	81%
2020	4%	96%	39%	61%	1%	99%	17%	83%
2021	5%	95%	39%	61%	3%	97%	16%	84%

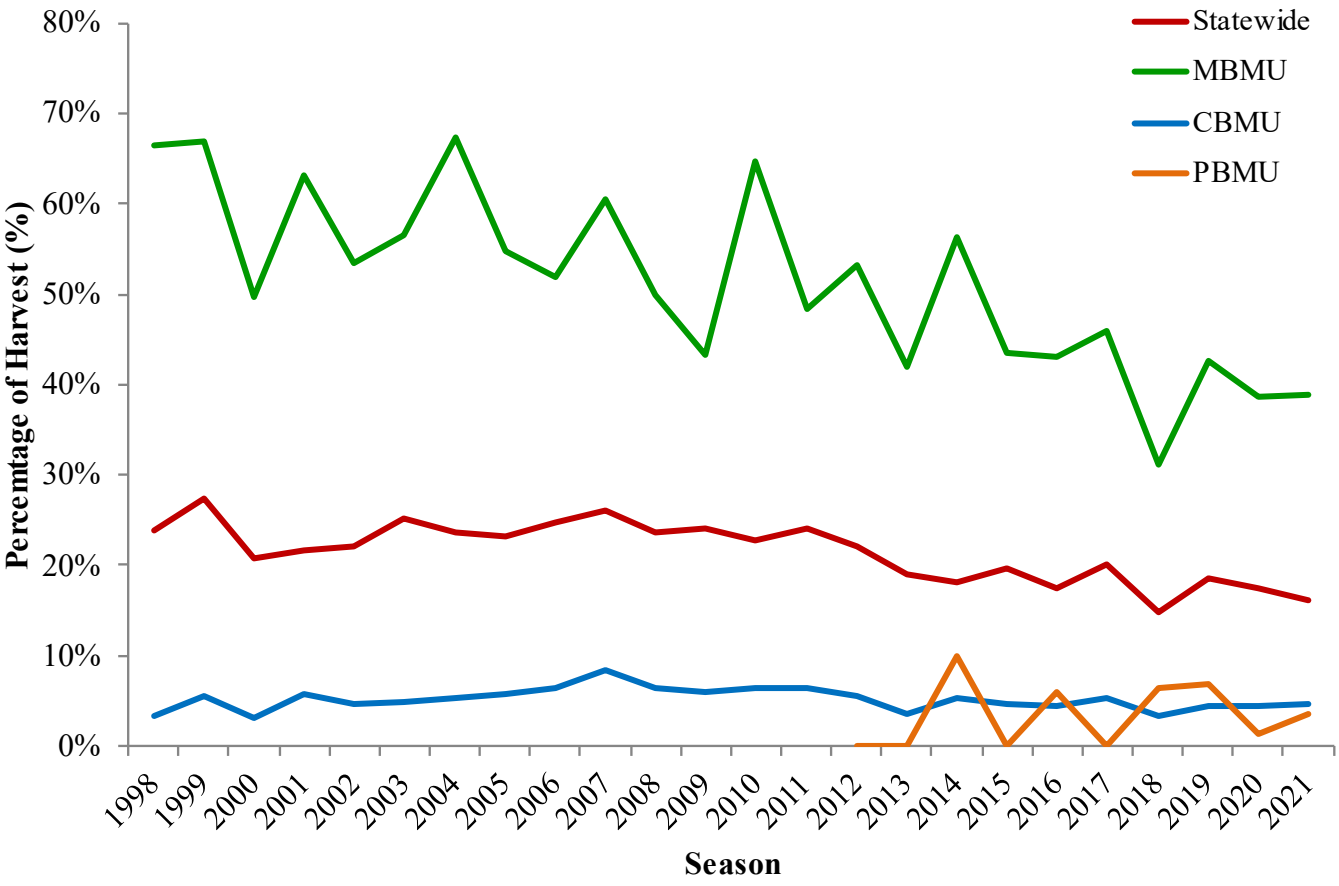


Figure 33. Percentage of registered bear harvest occurring on game lands, 1998 through 2021.

In the CBMU, a majority (56%) of the game land harvest occurs on four game lands: Croatan National Forest (22%), Buckridge (16%), Bladen Lakes State Forest (9%), and Alligator River (9%; Table 14). During the 2021 bear season, 23 bears were harvested on Croatan National Forest, followed by Buckridge Game Land (n=19), Alligator River Game Land (n=10), and Lantern Acres Game Land (n=10; Table 14). In the MBMU, 93% of the game land harvest occurs on Nantahala National Forest (52%) and Pisgah National Forest (43%; Table 14). These two national forests comprise just over one million acres total and are the largest public lands in the mountain region in which bear hunting is allowed. Pisgah National Forest (n=250), followed by Nantahala (n=206) had the highest bear harvest on game lands, followed by Cold Mountain (n=9). Five bears were harvested off of Daniel Boone Bear Sanctuary and nine bears were harvested off of Mt. Mitchell Bear Sanctuary (Table 14). In the PBMU, one bear was harvested on Butner-Falls of Neuse and 1 bear harvested off of Lee Game Land during the 2021 bear season (Table 14).

Table 14. Registered harvest on game lands in the CBMU, MBMU, and PBMU of North Carolina, 2015 through 2021. Note: The total column reflects total harvest from 2008-2021.

Region	Game Land	2015	2016	2017	2018	2019	2020	2021	Total	% of Total Harvest by Game Land within BMU
CBMU	Alligator River	14	10	4	3	8	6	10	113	9%
	Angola Bay	3	1	8	7	7	8	3	62	5%
	Bachelor Bay	0	0	0	0	0	0	0	1	0.1%
	Bertie County[1]	0	1	1	1	0	3	1	12	1%
	Bladen Lakes State Forest	16	6	10	4	7	9	8	116	9%
	Buckridge	18	11	19	4	14	21	19	205	16%
	Cape Fear River Wetlands	0	0	0	0	0	0	0	2	0%
	Carteret County[1]	1	1	0	1	1	3	0	15	1%
	Chowan Swamp	3	2	5	4	6	8	8	71	6%
	Columbus County	0	1	0	1	0	1	1	9	1%
	Croatan	11	23	26	8	25	12	23	273	22%
	Dare	2	8	15	1	1	5	6	62	5%
	Dover Bay	0	0	0	0	0	0	0	2	0.2%
	Goose Creek	0	0	4	1	0	5	0	17	1%
	Green Swamp	1	0	1	0	0	0	1	4	0.3%
	Gull Rock	3	5	2	3	4	4	4	40	3%
	Holly Shelter	6	4	1	2	4	0	2	41	3%
	Juniper Creek	1	1	2	5	1	0	6	37	3%
	Lantern Acres	6	6	7	10	12	3	10	83	7%
	Light Ground Pocosin	0	0	0	0	0	0	0	1	0.1%
	Neuse River	0	0	0	0	0	1	0	3	0.2%
	New Lake	1	2	0	3	0	1	0	7	1%
	North River	0	3	1	0	0	1	0	5	0.4%
	Northwest River Marsh	0	0	0	0	1	0	0	1	0.1%
	Pungo River	1	0	0	0	1	0	1	4	0.3%
	Sampson	0	0	0	0	0	0	1	1	0.1%
	Stones Creek	0	0	0	0	0	0	0	1	0.1%
	Texas Plantation	0	0	0	0	0	1	0	1	0.1%
	Van Swamp	1	3	8	7	1	6	5	65	5%
	White Oak River	0	0	0	0	1	0	1	5	0.4%
MBMU	Buffalo Cove	2	3	2	3	4	3	0	22	0.3%
	Cold Mountain	10	4	14	4	13	12	9	116	1.8%
	Daniel Boone Bear Sanctuary	7	4	8	6	11	5	5	65	1.0%

Region	Game Land	2015	2016	2017	2018	2019	2020	2021	Total	% of Total Harvest by Game Land within BMU
	Green River	3	1	0	4	2	1	4	22	0.3%
	Headwaters	0	0	0	1	1	2	1	5	0.1%
	Mitchell River	0	0	0	0	0	0	0	2	0.0%
	Mt. Mitchell Bear Sanctuary	16	13	11	4	13	10	9	110	1.7%
	Nantahala	298	206	287	239	251	260	206	3,453	52.3%
	Needmore	2	1	7	6	4	3	1	57	0.9%
	Pisgah	179	216	241	184	236	240	250	2,822	42.7%
	Pond Mountain	2	1	2	0	6	3	1	16	0.2%
	Sandy Mush	2	1	1	0	0	3	0	14	0.2%
	South Mountains	1	1	2	2	6	4	1	30	0.5%
	Three Top Mountain	1	1	2	0	0	0	0	8	0.1%
	Toxaway	0	0	3	2	2	4	5	31	0.5%
	William H. Silver	0	0	0	1	1	3	1	6	0.1%
PBMU	Butner-Falls of Neuse	0	0	0	0	0	0	1	1	6.3%
	Harris	0	0	0	1	0	0	0	1	6.3%
	Mayo	2	2	0	0	1	1	0	6	37.5%
	Lee	0	0	0	0	0	0	1	1	6.3%
	R.Wayne Bailey-Caswell	1	1	0	1	3	0	0	6	37.5%
	Sandy Creek	0	0	0	1	0	0	0	1	6.3%

[1] Possibly an error in reporting from hunters equating game land to county of harvest.

Harvest by Weapon Type

Since 1981, the requirement to report the weapon used for taking bears has changed throughout the years (Table 15). As of 2010, when a hunter registers a bear, s/he must indicate if a gun, bow, muzzleloader or crossbow was used. A majority of bears are harvested by use of gun (93%), followed by bow (3%), muzzleloaders (2%), then crossbow (1%).

Table 15. Composition of registered bear harvest by weapon from 1984 through 2021.

Year	Statewide Harvest	Gun	Muzzleloader	Bow	Crossbow	Unknown
1984	482	95%	N/A	N/A	N/A	5%
1985	325	90%	N/A	N/A	N/A	10%
1986	407	100%	N/A	N/A	N/A	0%
1987	552	99%	N/A	N/A	N/A	1%
1988	536	100%	N/A	N/A	N/A	0%
1989	575	98%	N/A	N/A	N/A	2%
1990	760	99%	N/A	1%	N/A	0%
1991	715	95%	N/A	1%	N/A	4%
1992[1]	1,074	96%	0.1%	2%	N/A	3%
1993[2]	824	55%	0.0%	0%	N/A	45%
1994	785	60%	0.1%	1%	N/A	39%
1995	1,079	55%	0.0%	0%	N/A	45%
1996	1,010	57%	0.1%	0%	N/A	42%
1997	1,463	51%	0.0%	1%	N/A	48%
1998	1,300	52%	0.0%	0.1%	N/A	48%
1999	1,366	46%	0.3%	0.1%	N/A	53%
2000	1,490	41%	0.1%	0.3%	N/A	58%
2001	1,533	44%	0.1%	0.2%	N/A	56%
2002	1,485	43%	0.0%	1%	N/A	56%
2003	1,812	47%	0.1%	0.3%	N/A	52%
2004	1,497	43%	0.1%	0.3%	N/A	56%
2005	1,661	37%	0.2%	0.2%	N/A	62%
2006	1,800	41%	0.1%	0.1%	N/A	59%
2007	2,006	44%	0.1%	0.2%	N/A	56%
2008	2,162	58%	1%	3%	N/A	38%
2009[3]	2,468	93%	1%	5%	N/A	1%
2010	2,363	96%	1%	2%	0.30%	0.30%
2011	2,779	95%	1%	4%	0.54%	0.04%
2012	2,827	95%	1%	3%	0.81%	0%
2013	2,521	97%	1%	2%	0.40%	10%
2014	3,118	95%	1%	3%	0.61%	0.1%
2015	2,521	97%	1%	2%	0.40%	10%
2016	3,125	94%	2%	3%	0.74%	0.1%
2017	3,454	94%	2%	3%	1%	0%
2018	3,530	92%	2%	4%	2%	0%
2019	3,476	93%	1%	3%	1%	0%
2020	3,748	94%	2%	3%	1%	0%
2021	3,659	94%	2%	3%	1%	0%
5- yr. Average		**93%**	**2%**	**3%**	**1%**	**0%**

[1]From 1981-1992, weapon reported when hunters registered their bear.

[2] Weapon used based on sampled harvest.

[3] Type of weapon required when registering by all registration methods (i.e. big game harvest sheet, on-line and phone).

Non-Resident (NR) Bear Harvest

Until Oct. 1, 2011, determining the annual number of NR bear hunters was difficult. Prior to Oct. 1, 2011, non-residents (NRs) were required to obtain a NR bear/wild boar license prior to hunting bear. Because the NR bear license was combined with wild boar, not all NRs who purchased the NR bear/wild boar license were hunting bear. Another difficulty in determining the number of NR bear hunters was that NRs who purchased a NR lifetime sportsman license prior to May 24th, 1994 are exempt from purchasing a NR bear license. In 2011, these exempt lifetime NRs comprised 7% of the non-resident registered bear harvest. Lastly, during 2011, 26% of successful NR bear hunters who registered their harvested bear did not purchase the NR bear license. Some of these successful NRs may have been exempt from having to purchase the separate bear license, while other NRs were illegally hunting without the required NR bear license.

After Oct. 1, 2011, wild boars were reclassified as feral hogs and non-resident hog hunters were no longer required to purchase the separate license. This improved our efforts to estimate the number of NR bear hunters. However, due to NR lifetime license exemptions, other exemptions, and illegal activity, we continued to underestimate the number of NR bear hunters in North Carolina.

In July 1, 2014 the bear e-stamp was created and is required for all hunters before taking any bear within North Carolina. For NR hunters, they must have the bear e-stamp if they hunt bears, even if they are exempt from purchasing the NR bear license. The bear e-stamp will provide a more accurate estimate of NR hunters who hunt bears in North Carolina. In addition, the NC General Assembly increased the NR bear license from $125 to $225 in 2015.

In 2021, there was a 9% increase in bear e-stamps issued (n=3,640) to NRs compared to the previous year; 51% of NRs were required to purchase the bear e-stamp ($11); 49% of NRs were exempt from purchasing the bear e-stamp due to their lifetime license (Table 16). There was a 11% increase in the number of NR bear hunting licenses (n=1,366; $239) sold compared to 2020. Only 38% of NRs who were issued a bear e-stamp were also issued a NR bear hunting license. If a NR purchased a resident or non-resident lifetime license prior to May 24, 1994, they do not have to purchase the non-resident bear hunting license.

During 2021, a majority of NR bear hunters were from Virginia (26%), South Carolina (16%), and Tennessee (16%), which matches trends seen in previous seasons. NR bear hunters came from 49 of 50 states and 3 countries (Armed Forces Europe, South Africa, and the Virgin Islands). It is estimated that successful NR bear hunters comprised 17% of the registered bear harvest, the highest percentage since the Commission started tracking NR harvest (Table 16; Figure 34).

While statewide and resident harvest declined 2% and 6% respectively, NR harvest increased 17% (Table 1 and 16). For the second season in a row, a majority of NR bear hunters (53%) successfully harvested a bear by still/stand hunting in the CBMU, whereas 40% of the reported harvest from residents were by still/stand hunters (Table 17). In the MBMU, the majority of the reported NR harvest was with the assistance of hounds (71%; Table 17). The percent of NRs that successfully harvested a bear by still/stand hunting has increased in the MBMU and CBMU since 2016, likely due to the legalization of unprocessed bait, resulting in higher success rates, as well as the increase in guide services offered in the CBMU (Table 17). NR bear hunters showed less selectivity for male bears in all three BMUs during the 2021 season then residents (Table 17).

Table 16. Non-resident (NR) bear license sales, NR bear e-stamps, and harvest from 2001 through 2020.

	License/E-stamp Issuance							
Year	NR Bear Licenses Issued	Bear E-Stamps Issued to NR	NRs paid for Bear E-stamp[1]	NR[2] Male Harvest	NR Female Harvest	Total NR Harvest	NR Composition of Statewide Harvest	NR Change in Harvest
2001	698	NA	NA	45	37	82	5%	
2002	1,075	NA	NA	39	17	56	4%	-32%
2003	1,126	NA	NA	91	51	142	8%	154%
2004	1,123	NA	NA	73	36	109	7%	-23%
2005	695	NA	NA	93	49	142	9%	30%
2006	1,124	NA	NA	90	71	161	9%	13%
2007	1,201	NA	NA	115	79	194	10%	20%
2008	1,107	NA	NA	81	59	140	6%	-28%
2009	1,080	NA	NA	93	39	132	5%	-6%
2010	1,071	NA	NA	123	67	190	8%	44%
2011[3]	1,127	NA	NA	150	106	256	9%	35%
2012	1,194	NA	NA	179	126	305	11%	19%
2013	1,216	NA	NA	159	114	273	9%	-10%
2014	1,149	2,490	974	175	107	282	11%	3%
2015	991	2,702	1,041	239	134	373	12%	32%
2016	1,224	2,723	1,122	207	184	391	13%	5%
2017	1,430	3,033	1,339	310	169	479	14%	23%
2018	1,577	3,045	1,359	286	175	462	13%	-4%
2019	1,198	3,227	1,532	335	194	529	15%	15%
2020	1,230	3,329	1,570	337	201	538	14%	2%
2021	1,366	3.640	1,844	361	268	629	17%	17%
Total	**22,636**	**20,549**	**7,367**	**3,220**	**2,015**	**5,235**		

[1]All NRs are required to have bear e-stamp, but NRs with lifetime licenses prior to July 1, 2014 receive it free upon request.
[2] Male and female reported harvest includes NRs who were exempt from purchasing a NR bear license.
[3] In October 2011, license changed to non-resident bear license, as wild boar was reclassified to feral hog.

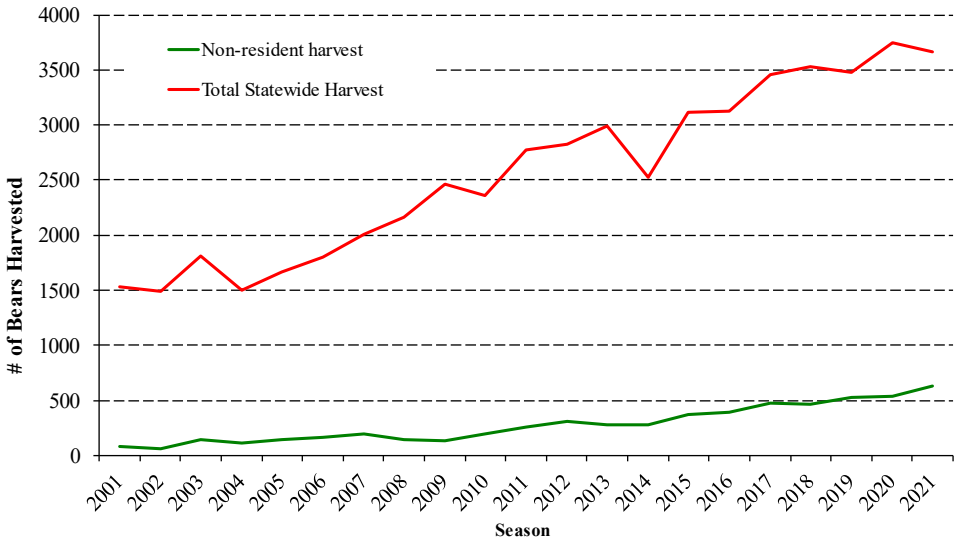


Figure 34. Number of bears harvested by non-residents and total number of bears harvested statewide from 2001 through 2021.

Table 17. Sex ratio and method of harvest of successful non-resident bear hunters who registered a bear, 2002 through 2021.

	CBMU		MBMU		PBMU		CBMU		MBMU		PBMU	
Year	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Still**	**Dog**	**Still**	**Dog**	**Still**	**Dog**
2002	68%	32%	72%	28%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2003	65%	35%	61%	39%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2004	64%	36%	74%	26%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2005	61%	39%	78%	23%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2006	53%	47%	61%	39%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2007	60%	40%	57%	43%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2008	57%	43%	58%	42%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2009	67%	33%	77%	23%	N/A	N/A	47%	53%	5%	95%	N/A	N/A
2010	64%	36%	67%	33%	N/A	N/A	31%	69%	6%	94%	N/A	N/A
2011	56%	44%	63%	37%	N/A	N/A	22%	78%	14%	86%	N/A	N/A
2012	58%	42%	60%	40%	N/A	N/A	38%	62%	8%	92%	N/A	N/A
2013	58%	42%	59%	41%	N/A	N/A	36%	64%	16%	84%	N/A	N/A
2014	62%	38%	62%	38%	67%	33%	38%	62%	14%	86%	33%	67%
2015	62%	38%	70%	30%	67%	33%	43%	58%	10%	90%	67%	33%
2016	52%	48%	59%	41%	50%	50%	44%	56%	11%	89%	75%	25%
2017	64%	36%	68%	32%	100%	0%	47%	53%	20%	80%	100%	0%
2018	64%	36%	58%	42%	50%	50%	47%	53%	35%	65%	50%	50%
2019	65%	35%	58%	42%	67%	33%	47%	53%	30%	70%	33%	67%
2020	64%	36%	58%	42%	100%	0%	52%	48%	31%	69%	100%	0%
2021	57%	43%	59%	41%	0%	100%	53%	47%	29%	71%	100%	0%
2021 (Resident)	**58%**	**42%**	**63%**	**37%**	**72%**	**28%**	**40%**	**60%**	**32%**	**68%**	**79%**	**21%**

During the 2021 season, 21%, 11%, and 2% of the reported harvest in the CBMU, MBMU, and PBMU, respectively, were by non-residents (Table 18). While the percent of residents that comprise the reported MBMU bear harvest has remained stable since 2010 (89-93%), there is a decreasing trend in resident hunters that comprise the reported CBMU bear harvest (89% to 79%; Table 18). In the CBMU, Zone 1 (38%) had the highest percentage of the reported harvest in that zone comprised by non-residents, followed by Zone 2 (22%; Table 19). The majority of bears taken by non-residents in the CBMU occurred in Zone 3 (34%), followed by Zone 5 (25%; Table 19).

Table 18. Percent of reported harvest in the CBMU and MBMU that is comprised of resident and non-resident hunters from 2010 through 2021.

	CBMU		MBMU		PBMU	
Year	**Resident**	**Non-resident**	**Resident**	**Non-resident**	**Resident**	**Non-resident**
2010	89%	11%	92%	8%	100%	0%
2011	89%	11%	93%	7%	1%	0%
2012	87%	13%	93%	7%	100%	0%
2013	89%	11%	93%	7%	100%	0%
2014	88%	12%	91%	9%	85%	15%
2015	88%	12%	92%	8%	92%	8%
2016	84%	16%	93%	7%	92%	8%
2017	83%	17%	91%	9%	96%	4%
2018	83%	17%	92%	8%	96%	4%
2019	81%	19%	90%	10%	95%	5%
2020	82%	18%	91%	9%	99%	1%
2021	79%	21%	89%	11%	98%	2%

Table 19. Non-resident reported harvest by Coastal BMU Zone for 2021 hunting season.

Coastal BMU Zone	NR Harvest	% of Harvest by NR in each Zone	Total Harvest	% of CBMU Harvest by NR by Zone
Coastal BMU Zone 1	198	38%	519	22%
Coastal BMU Zone 2	61	22%	278	12%
Coastal BMU Zone 3	157	19%	813	34%
Coastal BMU Zone 4	21	13%	163	7%
Coastal BMU Zone 5	58	10%	601	25%
CBMU Total	**495**	**21%**	**2,374**	

Bear Cooperator Program Participation

The Black Bear Cooperator Program lets hunters directly participate with the NCWRC in monitoring the bear population when they submit biological information from their harvested bear to the NCWRC. Age and sex information gathered from biological samples are used for analyzing the age structure of the harvested population and for population reconstruction modeling. Participating hunters receive an age report on their harvested bear, as well as a blaze orange black bear cooperator hat. For information on how to participate and instructions on removing the upper pre-molars from a bear, please visit: ncwildlife.org/bearcooperator

In order to meet the assumptions of population reconstruction (see page 86), remove biases due to the under-sampling of younger bears and female bears, accurately determine age structures of the bear populations, and calculate population growth rates at a smaller scale (i.e., CBMU zones 1-5), we would need ~80 to 90% submission rate. This has not yet been accomplished through the voluntary Bear Cooperator Program. Despite intensive efforts expended by NCWRC staff prior to and during the bear hunting seasons, as previously described in prior bear annual reports, the number of bear teeth submitted by hunters statewide has declined since the 1990's (Table 22, Figure 36).

Effective for the 2021-22 bear season, and with support from bear hunters, S.L. 2021-60 was passed by the NC Geneal Assembly making it mandatory for a successful bear hunter to submit at least one premolar tooth from his/her harvested bear no later than Jan. 31 following the applicable prior bear hunting season. As in previous years, all bear e-stamp holders will receive a bear cooperator packet that contains a self-addressed, postage-paid envelope in which they can submit their bear tooth, as well as information on the mandatory requirement and detailed instructions on removing the tooth. Failure to submit a tooth shall be an infraction, punishable by a fine of thirty-five dollars ($35.00). A person responsible for an infraction shall not be assessed court costs, but the Executive Director of the North Carolina Wildlife Resources Commission is authorized to revoke or refuse to issue bear e-stamp privileges for any individual guilty of an infraction for violations of the mandatory tooth requirement for two consecutive years or upon failure to pay outstanding infraction fines when required to do so.

Submission rates by BMU: Tooth submission rates to the bear cooperator program increased from 45% during the 2020 season to 81% in the 2021 season, with 2,972 teeth received in 2021. Submission rates were as follows by BMU: 83% in the CBMU, 79% in the MBMU, and 64% in the PBMU (Figure 36; Table 22).

Submission rates by hunting methods: Since 2009, NCWRC biological staff has been able to collect information on method of hunt by hunters reporting their harvest, allowing us to compare reported harvest to the sampled harvest. Historically, bear houndsmen participation in the Bear Cooperator Program has been substantially higher than participation by still hunters (Table 23; Figure 37). In 2021, 84% of houndsmen who harvested a bear also submitted biological information versus 77% of still hunters. Submission rates for both houndsmen and still hunters vastly have improved once tooth submission became mandatory in 2021. Houndsmen participation is likely higher than still hunters due to their greater awareness of the Bear Cooperator Program. Since data collection began in 1969, NCWRC staff have worked closely with houndsmen in the collection biological samples, such as sex, weight, age and location of harvest. In addition, party leaders regularly collect biological samples from all bears harvested by their party and submit them to NCWRC staff at the end of the bear season. A portion of the still harvest is opportunistic to

deer hunting, especially in the PBMU; these hunters are not traditional bear hunters and less likely to be aware of the Bear Cooperator Program and other black bear monitoring efforts.

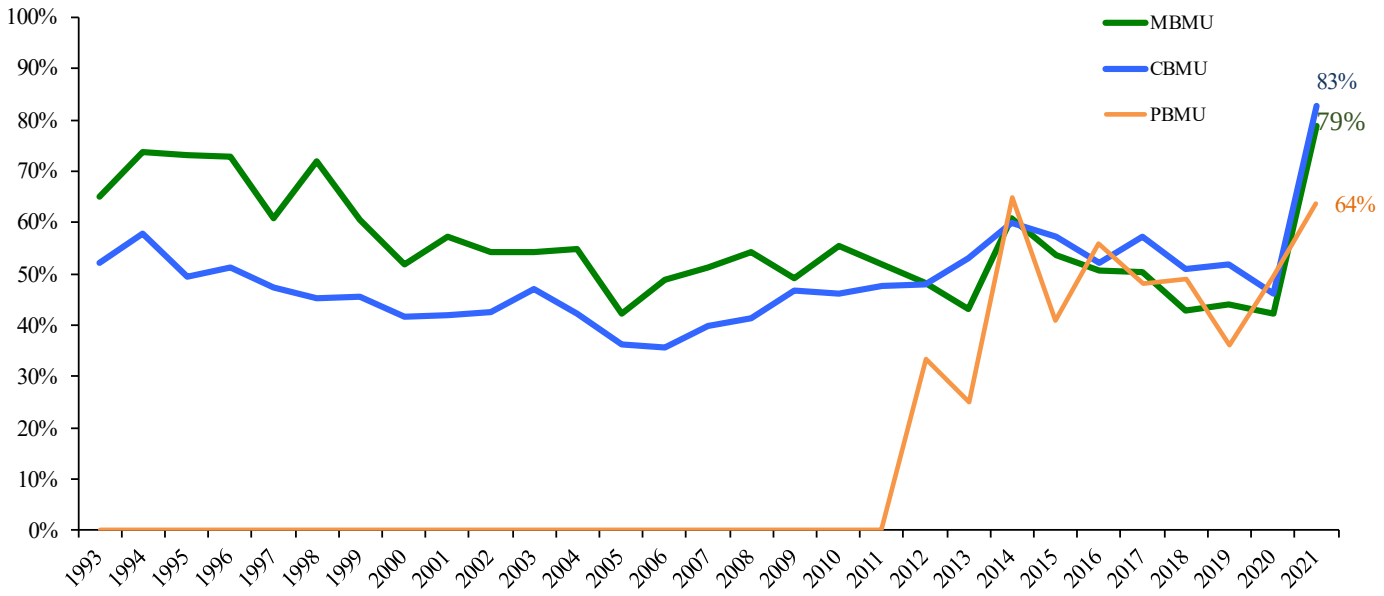


Figure 36. Percentage of registered bears that are sampled by NCWRC for aging from 1976 through 2021.

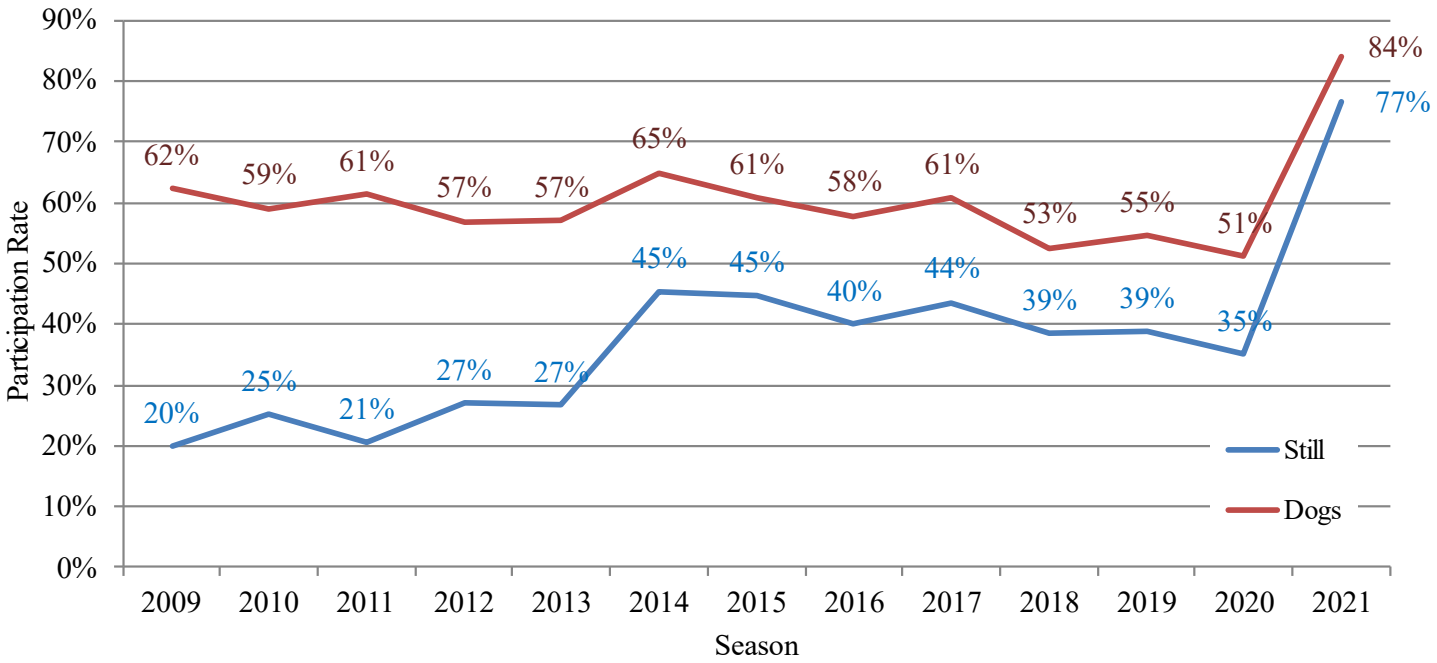


Figure 37. Participation in the bear cooperator program by hunting methods from 2009 through 2021 in North Carolina.

Table 22. Percent of registered black bears in each bear management region that are sampled by NCWRC from 1976 through 2021 (ns=no season).

Year	CBMU	MBMU	PBMU
1976	31%	97%	ns
1977	23%	75%	ns
1978	51%	90%	ns
1979	48%	69%	ns
1980	36%	69%	ns
1981	58%	74%	ns
1982	38%	58%	ns
1983	44%	88%	ns
1984	29%	77%	ns
1985	32%	80%	ns
1986	24%	74%	ns
1987	42%	77%	ns
1988	38%	61%	ns
1989	36%	55%	ns
1990	34%	57%	ns
1991	30%	61%	ns
1992	50%	54%	ns
1993	52%	65%	ns
1994	58%	74%	ns
1995	50%	73%	ns
1996	51%	73%	ns
1997	47%	61%	ns
1998	45%	72%	ns
1999	46%	60%	ns
2000	42%	52%	ns
2001	42%	57%	ns
2002	43%	54%	ns
2003	47%	54%	ns
2004	42%	55%	ns
2005	35%	42%	N/A[1]
2006	36%	49%	0%
2007	40%	51%	0%
2008	41%	54%	0%
2009	47%	49%	0%
2010	46%	55%	N/A
2011	48%	52%	0%
2012	48%	48%	33%
2013	53%	43%	25%
2014	60%	61%	65%
2015	57%	54%	41%
2016	52%	51%	56%
2017	57%	50%	48%
2018	51%	43%	49%
2019	52%	44%	36%
2020	46%	42%	49%
2021[2]	83%	79%	64%

[1] N/A: Submission rates not available because no bears were harvested in that region.

[2] 2021: First year in which tooth submission became mandatory for all successful bear hunters.

Table 23. Bear Cooperator Program participation rates (%) of still hunters and houndsmen in the three bear management units of North Carolina (2009-2021).

	Statewide		CBMU		MBMU		PBMU	
	Still	**Dogs**	**Still**	**Dogs**	**Still**	**Dogs**	**Still**	**Dogs**
2009 Participation Rates	20%	62%	23%	58%	15%	66%	0%	N/A[1]
2010 Participation Rates	25%	59%	26%	57%	18%	63%	N/A[2]	N/A
2011 Participation Rates	21%	61%	22%	59%	19%	64%	0%	N/A
2012 Participation Rates	27%	57%	29%	58%	20%	54%	50%	N/A
2013 Participation Rates	27%	57%	32%	60%	18%	53%	0%	50%
2014 Participation Rates	45%	65%	47%	66%	34%	62%	47%	100%
2015 Participation Rates	45%	61%	51%	61%	32%	61%	43%	25%
2016 Participation Rates	40%	58%	43%	58%	30%	58%	57%	53%
2017 Participation Rates	44%	61%	50%	62%	29%	59%	51%	29%
2018 Participation Rates	39%	53%	47%	53%	25%	53%	54%	33%
2019 Participation Rates	39%	55%	45%	57%	25%	52%	40%	23%
2020 Participation Rates	35%	51%	40%	51%	23%	51%	49%	54%
2021 Submission Rates[3]	77%	84%	80%	85%	68%	84%	70%	42%

[1] N/A: Submission rates not available because no bears were harvested by hound hunters in that management unit.
[2] N/A: Submission rates not available because no bears were harvested by hound hunters in that management unit.
[3] 2021 Submission rates: Tooth submission became mandatory for successful hunters in 2021.

Method of Harvest

Two types of hunting methods are utilized in North Carolina, still/stand and dog hunting. The use of dogs to "strike" and "tree" bears has been a technique that goes back centuries. North Carolinians developed a strain of hound to hunt bears, known as the Plott Hound, which has been designated by the Legislature as the official state dog of North Carolina. Still hunting or stand hunting is also an important hunting method. This is a technique whereby hunters place stands on either trails, field edges, or in areas frequented by bears to feed.

Prior to 2008, the WRC was able to track method of harvest only through information provided voluntarily by hunters when they submitted a premolar tooth for aging (Table 25). In 2008, the big game registration system started requesting method of harvest from hunters registering their harvested bear on-line or via phone. In 2009, the NCWRC requested information on method of take through all three registration systems. However, we refined the question on the big game cooperator sheets in 2010 to improve data collection; the question on method of take was changed to a "yes/no" question.

Use of dogs remains the primary method for successfully harvesting bears in North Carolina (60% in 2021; Table 25). Until 2021, when mandatory tooth submission became effective, the method of harvest collected through the bear cooperator program (i.e., the premolar tooth) was biased towards hound hunters when compared to the reported harvest (Table 25). While there is still a slight bias towards houndsmen, due to their greater submission rates to the bear cooperator program, the method of harvest reported from the big game registration system is more similar to the information submitted by the hunter with the premolar tooth (Table 25).

BMU method of harvest: The majority of bears harvested in the CBMU and MBMU are by houndsmen (57% and 69%, respectively), while most bears taken in the PBMU are by still hunters (79%; Table 26). Still hunting of bears is more common in the CBMU and the PBMU, than in the MBMU. However, in the MBMU, the percentage of bears taken by still hunters has increased and since 2017, 30% or more of bears taken in the MBMU are by still hunters (Table 26).

During 2021, the percentage of the harvest comprised of hound hunters in the MBMU increased by 1% (Table 26). However, the harvest by both hound hunters and still hunters in the MBMU decreased increased 12 and 17%, respectively, from the previous season (Figure 38). Decreases in harvest by both still and hound hunters is often due the higher abundance of hard mast during these years; when there is a fair to good hard mast, bears are less attracted to unnatural food sources, such as unprocessed bait, and are less likely to travel as for to search for food, making them less vulnerable to hunters.

In the CBMU, still hunters comprised 43% of the reported harvest in 2021, the second highest percentage of the CBMU harvest since method of harvest was recorded during registration in 2009 (Table 26). Compared to the previous season, still hunter harvest in the CBMU increased 3%, while harvest by hound hunters increased 8% (Figure 39). While harvest by hound hunters has fluctuated in the CBMU since 2014 (-8% to 8%; Figure 41), the change in the harvest from season to season by still hunters has remained positive, with the exception of 2018 (Figure 39). In 2014, use of unprocessed bait was allowed for still hunters. This change likely resulted in still hunters being more successful, despite annual changes in weather that can impact hunting success in the CBMU.

Table 25. Method of harvest from voluntary tooth submission and from big game registration system, 1992-2021.

	Tooth Submission Data			Registered Harvest		
Season	**Dog**	**Still**	**Unknown**	**Dog**	**Still**	**Unknown**
1993	77%	22%	0.6%	N/A	N/A	N/A
1994	77%	23%	0.4%	N/A	N/A	N/A
1995	74%	24%	2%	N/A	N/A	N/A
1996	79%	20%	1%	N/A	N/A	N/A
1997	78%	20%	2%	N/A	N/A	N/A
1998	75%	24%	1%	N/A	N/A	N/A
1999	77%	21%	2%	N/A	N/A	N/A
2000	77%	23%	0.3%	N/A	N/A	N/A
2001	81%	17%	1%	N/A	N/A	N/A
2002	81%	17%	2%	N/A	N/A	N/A
2003	81%	17%	2%	N/A	N/A	N/A
2004	82%	16%	3%	N/A	N/A	N/A
2005	82%	16%	2%	N/A	N/A	N/A
2006	85%	13%	2%	N/A	N/A	N/A
2007	84%	14%	2%	N/A	N/A	N/A
2008[1]	87%	12%	0.6%	37%	25%	38%
2009[2]	84%	16%	0.5%	63%	36%	0.1%
2010	84%	15%	0.5%	69%	30%	0.1%
2011	88%	12%	0.0%	71%	29%	0.0%
2012	83%	16%	0.8%	68%	31%	0.1%
2013	82%	18%	0.1%	69%	31%	0.0%
2014	74%	24%	2.6%	68%	32%	0.0%
2015	72%	27%	0.6%	66%	34%	0.0%
2016	73%	27%	0.2%	65%	35%	0%
2017	70%	30%	0.2%	63%	37%	0%
2018	66%	32%	1.3%	60%	40%	0%
2019	71%	29%	0.2%	63%	37%	0%
2020	68%	32%	0.3%	59%	41%	0%
2021[3]	63%	37%	0%	60%	40%	0%

[1]In 2008, the big game registration system started collecting information on method of hunting on-line and via telephone.

[2]In 2009, the big game registration system added method of harvest to the big game cooperator sheets.

[3]In 2021, tooth submission became mandatory for successful hunters.

Table 26. Method of harvest by bear management unit, based on 2009[1] through 2021 registered harvest.

	CBMU			MBMU			PBMU	
Year	**Still**	**Dog**	**Unknown**	**Still**	**Dog**	**Unknown**	**Still**	**Dog**
2009[1]	39%	59%	1.7%	33%	66%	0.3%	100%	0%
2010[2]	36%	64%	0.1%	15%	84%	0.3%	0%	0%
2011	31%	69%	0.1%	27%	73%	0.0%	100%	0%
2012	36%	64%	0.2%	24%	76%	0.0%	67%	33%
2013	33%	67%	0%	29%	71%	0.0%	50%	50%
2014	37%	63%	0.1%	14%	86%	0%	75%	25%
2015	37%	63%	0%	26%	74%	0%	90%	10%
2016	38%	62%	0%	27%	73%	0%	70%	30%
2017	40%	60%	0%	30%	70%	0%	87%	13%
2018	41%	59%	0%	38%	62%	0%	74%	26%
2019	40%	60%	0%	30%	70%	0%	78%	22%
2020	44%	56%	0%	33%	67%	0%	84%	16%
2021	43%	57%	0%	31%	69%	0%	79%	21%

[1]In 2009, the big game registration system started collecting information on method of hunting on all three registration methods (i.e. on-line, telephone, big game cooperator sheets).
[2] In 2010, method of harvest on the big game cooperator sheets was refined to improve data collection.

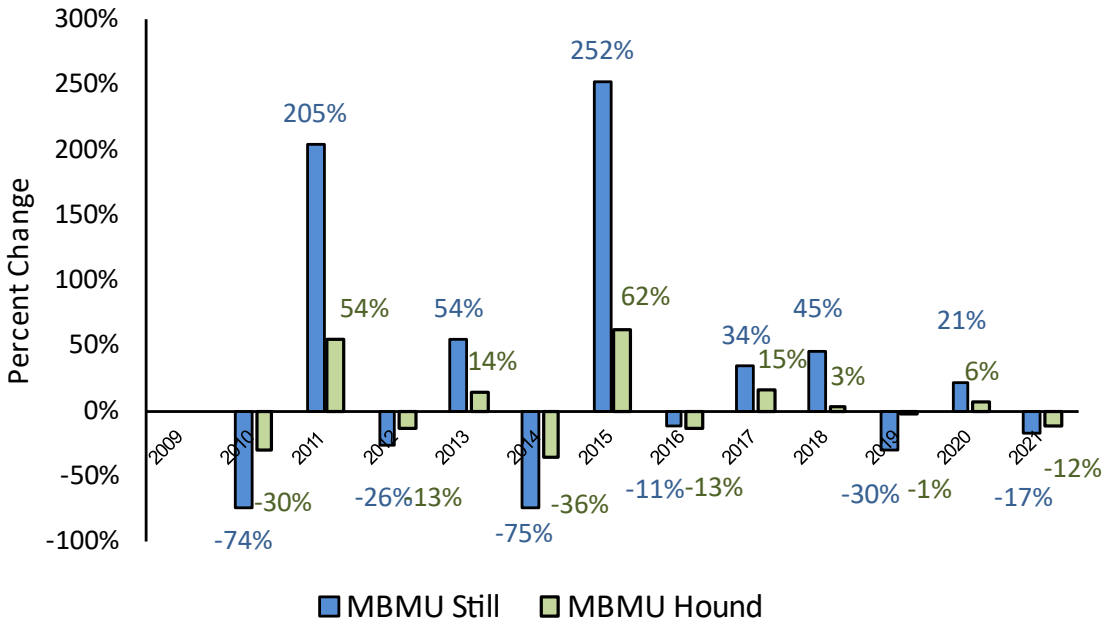


Figure 38. Percent change (%) in reported harvested in the MBMU by method of harvest from 2010 through 2021.

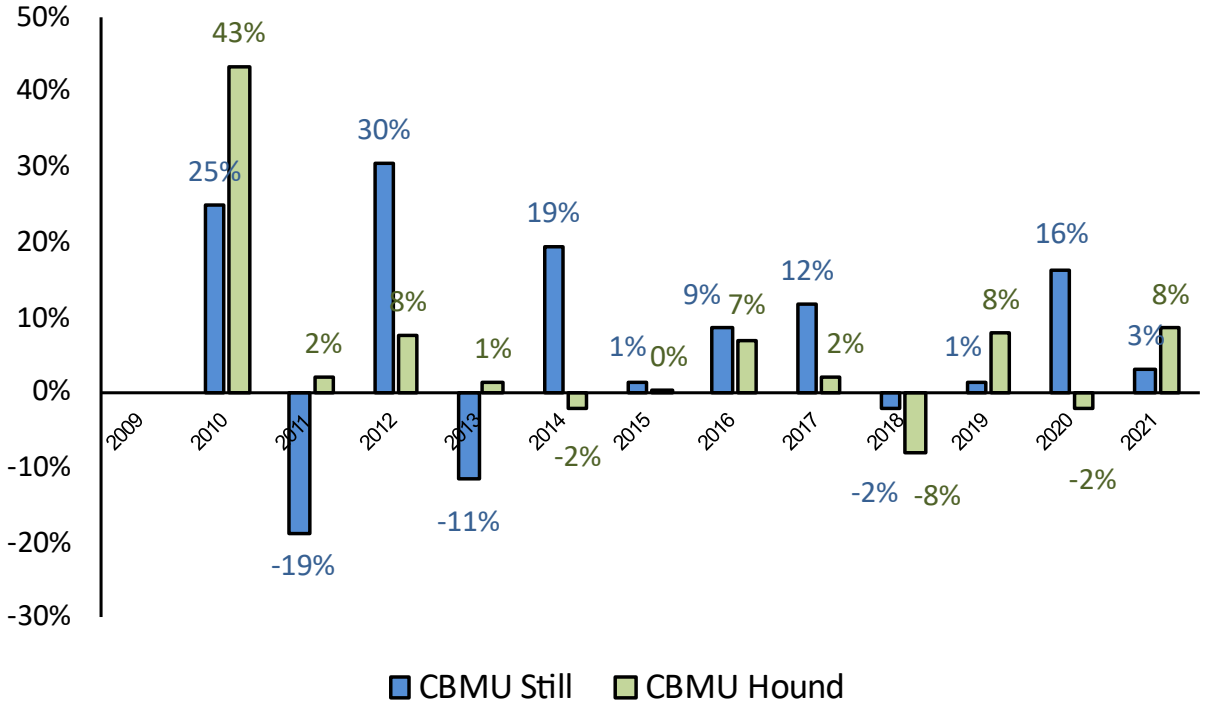


Figure 39. Percent change (%) in reported harvested in the CBMU by method of harvest from 2010 through 2021.

District and county method of harvest: While use of dogs has been the primary method of successful bear harvest in most wildlife districts, still hunters took 100%, 86%, and 58% of harvested bears in District 6, District 5, and District 3, respectively (Table 27). Of the remaining wildlife districts, Districts 8 and 9 had the highest percent of bears taken by houndsmen (85% and 92%; Table 27).

During 2021, still hunters harvested 100% of the bears in 12 counties; 7 of these counties are in the PBMU and 1 county (Pamlico County) prohibits pursuing bears with hounds by local law (Table 28). Houndsmen harvested >90% of bears in 5 counties, 4 of which are located in the MBMU (Table 28). During 2020, houndsmen harvested the majority of bears in 39 counties and still hunters harvested the majority of bears in 35 counties. In 2021, houndsmen harvested the majority of bears in 40 counties and still hunters harvested the majority of bears in 32 counties. Three counties (Onslow, Warren, Wayne) had equal harvest by still and houndsmen (Table 28). No harvest took place in 28 counties. In the MBMU, Clay (97%), Graham (96%), Swain (94%), and Cherokee (91%) counties had the highest percent of bears taken by houndsmen. In the CBMU, Martin County (95%), followed by Greene (88%) and Bertie (83%) counties had the highest percent of bears taken by houndsmen (Table 28). In the PBMU, still hunters harvested the majority of bears in 10 of 11 counties, and in Warren County, there was equal harvest by still hunters and houndsmen (Table 28).

Table 27. Method of harvest by district, based on the 2021 registered harvest.

District	Dogs	Still	% Dogs	% Still
1	578	496	54%	46%
2	541	377	59%	41%
3	26	36	42%	58%
4	220	115	66%	34%
5	4	24	14%	86%
6	0	1	0%	100%
7	8	117	71%	29%
8	292	94	85%	15%
9	544	188	92%	8%
Statewide	**2,213**	**1,448**	**60%**	**40%**

Table 28. Method of harvest by county, based on the 2021 registered harvest.

County	Still	Dog
Alamance	100%	0%
Alexander	N/A[1]	N/A
Alleghany	100%	0%
Anson	N/A	N/A
Ashe	94%	6%
Avery	24%	76%
Beaufort	35%	65%
Bertie	17%	83%
Bladen	35%	65%

County	Still	Dog
Brunswick	38%	63%
Buncombe	55%	45%
Burke	33%	67%
Cabarrus	N/A	N/A
Caldwell	12%	88%
Camden	40%	60%
Carteret	34%	66%
Caswell	80%	20%
Catawba	N/A	N/A
Chatham	N/A	N/A
Cherokee	9%	91%
Chowan	36%	64%
Clay	3%	97%
Cleveland	100%	0%
Columbus	33%	67%
Craven	42%	58%
Cumberland	31%	69%
Currituck	41%	59%
Dare	64%	36%
Davidson	N/A	N/A
Davie	N/A	N/A
Duplin	35%	65%
Durham	N/A	N/A
Edgecombe	55%	45%
Forsyth	N/A	N/A
Franklin	N/A	N/A
Gaston	N/A	N/A
Gates	43%	57%
Graham	4%	96%
Granville	67%	33%
Greene	13%	88%
Guilford	N/A	N/A
Halifax	89%	11%
Harnett	N/A	N/A
Haywood	14%	86%
Henderson	61%	39%
Hertford	40%	60%
Hoke	N/A	N/A
Hyde	63%	37%

County	Still	Dog
Iredell	100%	0%
Jackson	16%	84%
Johnston	N/A	N/A
Jones	26%	74%
Lee	100%	0%
Lenoir	56%	44%
Lincoln	N/A	N/A
Macon	11%	89%
Madison	16%	84%
Martin	5%	95%
McDowell	17%	83%
Mecklenburg	N/A	N/A
Mitchell	37%	63%
Montgomery	N/A	N/A
Moore	N/A	N/A
Nash	N/A	N/A
New Hanover	70%	30%
Northampton	42%	58%
Onslow	50%	50%
Orange	N/A	N/A
Pamlico	100%	0%
Pasquotank	56%	44%
Pender	53%	47%
Perquimans	37%	63%
Person	100%	0%
Pitt	37%	63%
Polk	96%	4%
Randolph	N/A	N/A
Richmond	N/A	N/A
Robeson	100%	0%
Rockingham	100%	0%
Rowan	N/A	N/A
Rutherford	68%	32%
Sampson	32%	68%
Scotland	N/A	N/A
Stanly	100%	0%
Stokes	86%	14%
Surry	100%	0%
Swain	6%	94%

County	Still	Dog
Transylvania	49%	51%
Tyrrell	38%	62%
Union	N/A	N/A
Vance	100%	0%
Wake	N/A	N/A
Warren	50%	50%
Washington	55%	45%
Watauga	93%	7%
Wayne	50%	50%
Wilkes	93%	8%
Wilson	60%	40%
Yadkin	N/A	N/A
Yancey	14%	86%

[1] N/A: Percent method of harvest not available because no bears were harvested in that county.

Sex Ratio by method of harvest and BMU: Statewide, a majority of bears harvested by all hunters were male (Table 29). During the 2021 season, still hunters in the CBMU showed less selectivity for male bears (47% female; Figure 40), whereas houndsmen showed greater selectivity for male bears (38% female; Table 29; Figure 41). Since 2010, still hunters have shown a declining selectivity for male bears in the CBMU, with two seasons (2015 and 2020) in which the majority of the harvest by still hunters was female bears (Figure 40).

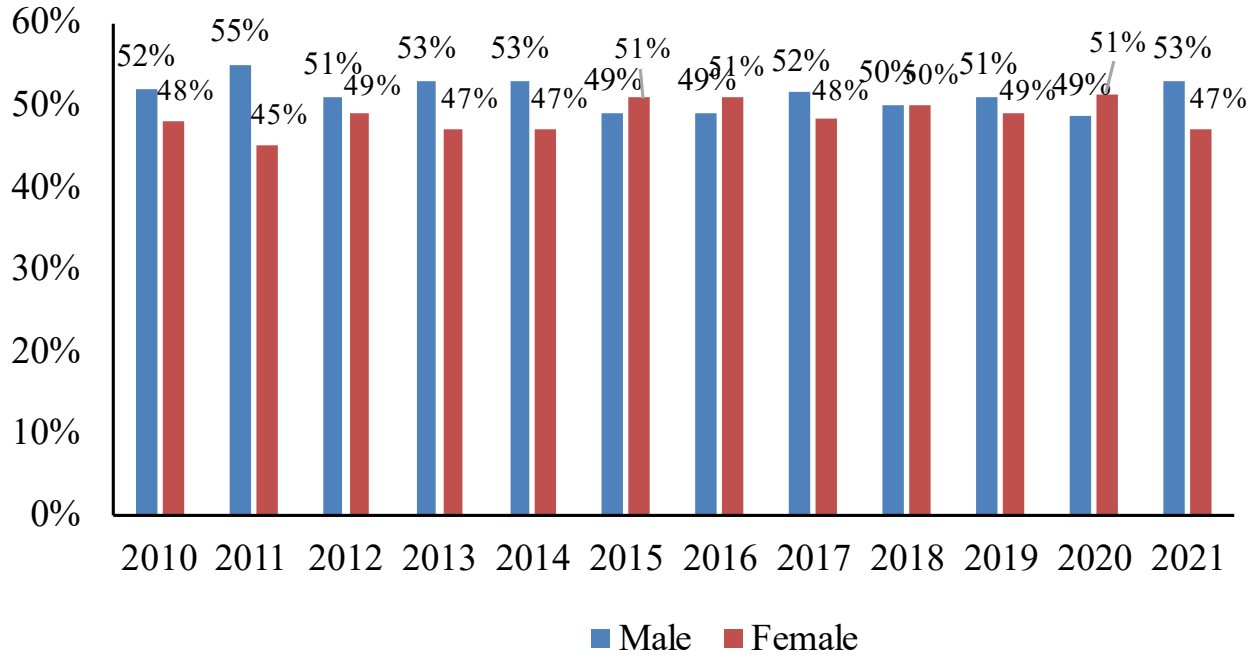


Figure 40. Sex ratio of the bear harvest by still hunters in the Coastal BMU from 2010 through 2021

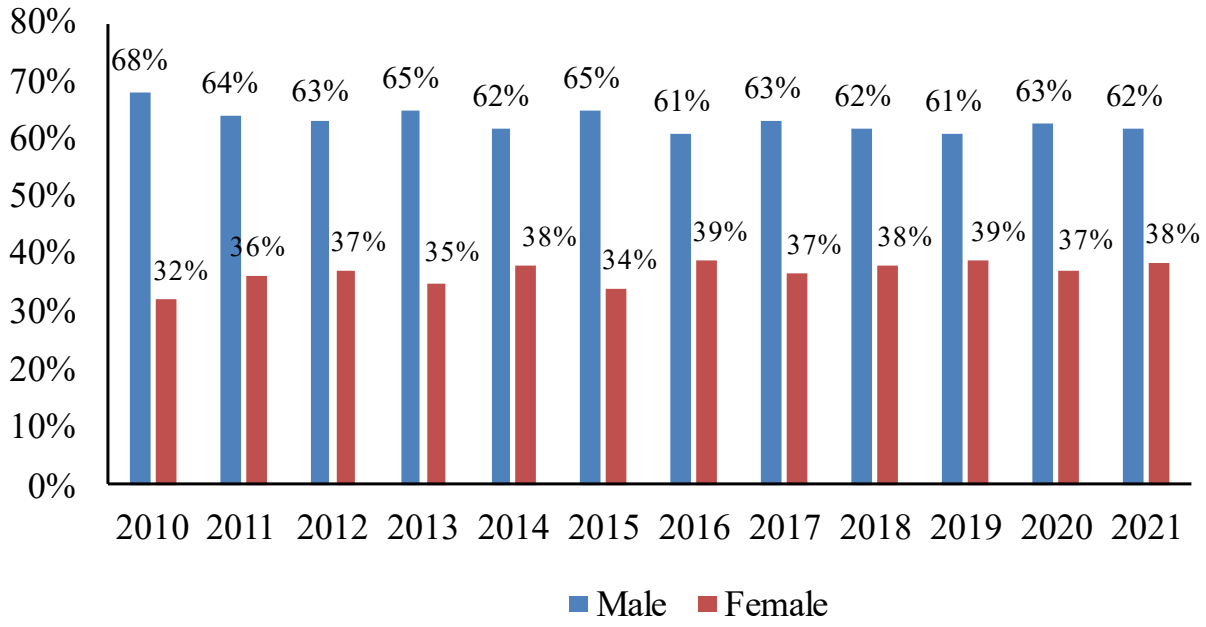


Figure 41. Sex ratio of the bear harvest by houndsmen in the Coastal BMU from 2010 through 2021.

In the MBMU when mast is fair to poor, as it was in 2018 and 2020, bear hunters, in particular still hunters, are likely to harvest a greater ratio of females than in years with fair to good mast crop. This is due to the poor acorn crop causing bears to travel more extensively, making them more vulnerable to harvest and more likely to be attracted to artificial food sources, such as unprocessed bait. In 2021, mast abundance was fair and higher than in 2020, and both still and hound hunters harvested a higher ratio of females than in 2020 (Table 29; Figures 42 and 43). Compared to still hunters, houndsmen in the MBMU showed less selectivity for male bears than female bears during 2021 (Table 29).

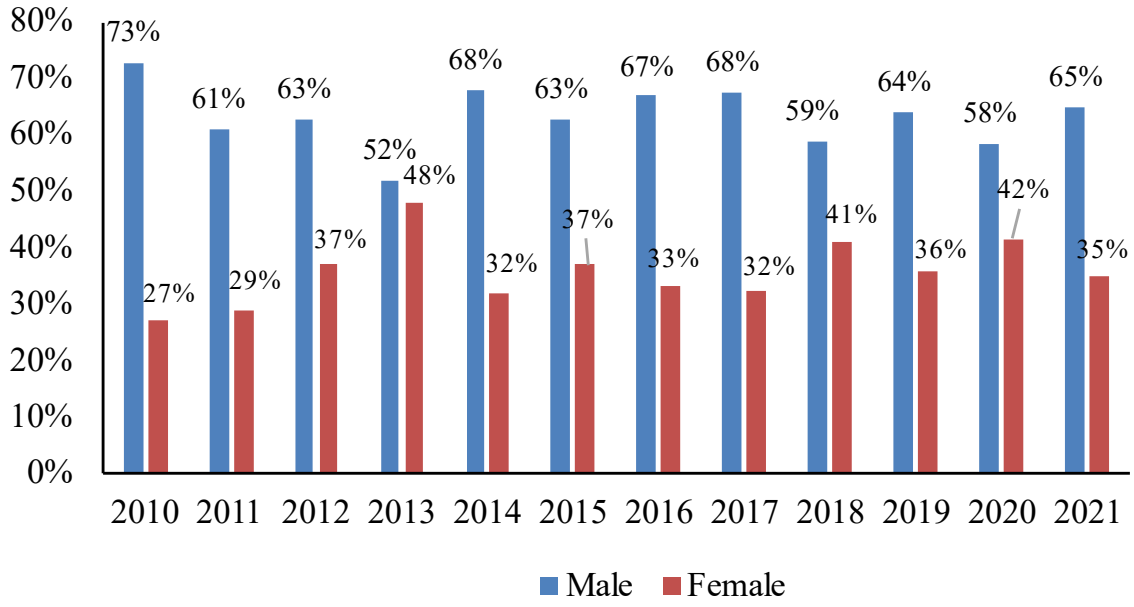


Figure 42. Sex ratio of the bear harvest by still hunters in the Mountain BMU from 2010 through 2021

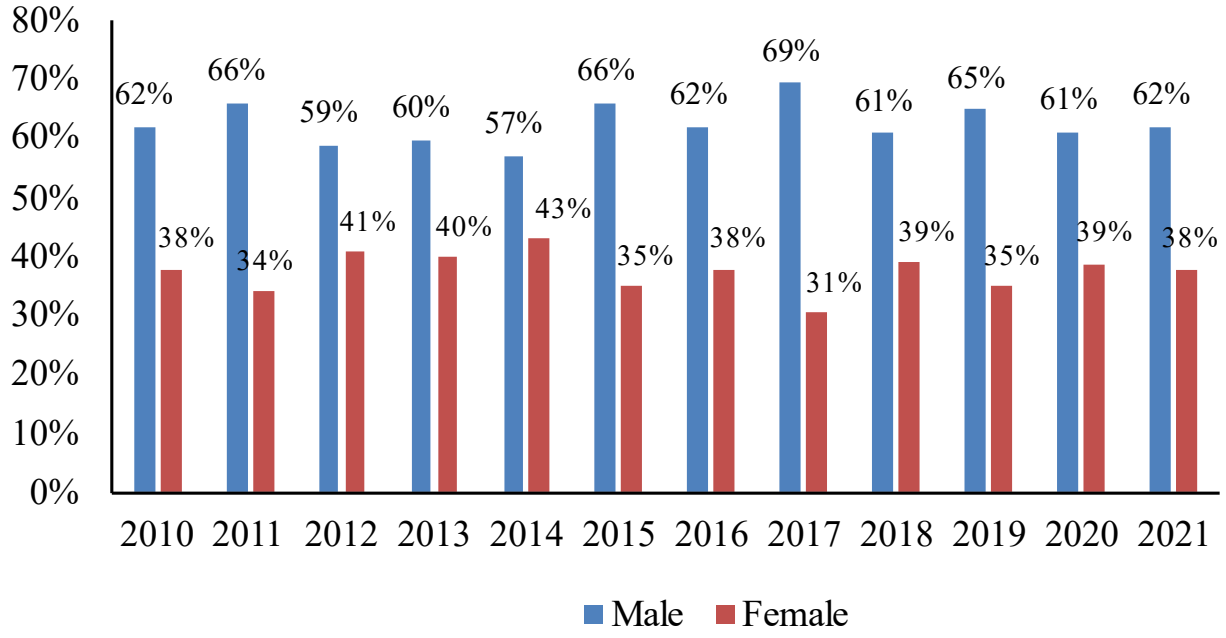


Figure 43. Sex ratio of the bear harvest by houndsmen in the Mountain BMU from 2010 through 2021.

Table 29. Sex ratio by method of harvest based on the 2012 through 2021 registered harvest.

		CBMU		MBMU		PBMU		Statewide	
	Method	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
2012	**Dog**	63%	37%	59%	41%	100%	0%	61%	39%
	Still	51%	49%	63%	37%	100%	0%	54%	46%
2013	**Dog**	65%	35%	60%	40%	100%	0%	63%	37%
	Still	53%	47%	52%	48%	50%	50%	53%	47%
2014	**Dog**	62%	38%	57%	43%	60%	40%	61%	39%
	Still	53%	47%	68%	32%	87%	13%	56%	44%
2015	**Dog**	65%	34%	66%	35%	100%	0%	66%	34%
	Still	49%	51%	63%	37%	77%	23%	54%	46%
2016	**Dog**	61%	39%	62%	38%	73%	27%	61%	39%
	Still	49%	51%	67%	33%	60%	40%	54%	46%
2017	**Dog**	63%	37%	69%	31%	43%	57%	66%	34%
	Still	52%	48%	68%	32%	67%	33%	57%	43%
2018	**Dog**	62%	38%	61%	39%	83%	17%	62%	38%
	Still	50%	50%	59%	41%	71%	29%	54%	46%
2019	**Dog**	61%	39%	65%	35%	77%	23%	63%	37%
	Still	51%	49%	64%	36%	71%	29%	60%	40%
2020	**Dog**	63%	37%	61%	39%	46%	54%	62%	38%
	Still	49%	51%	58%	42%	76%	24%	53%	47%
2021	**Dog**	62%	38%	62%	38%	75%	25%	62%	38%
	Still	53%	47%	65%	35%	70%	30%	57%	43%

Sex ratio by method, district and county: In 8 of 8 wildlife districts where bear harvest by houndsmen occurred, houndsmen harvested a higher ratio of male bears than female bears (54% to 65% male; Table 30). Similar to 2018 through 2020, still hunters in 8 of 9 wildlife districts harvested a higher ratio of male bears to females bears during the 2020 season (53% to 100% male; Table 30). Houndsmen harvested the highest ratio of males in District 9, followed by Districts 1 and 7, while still hunters harvested the highest ratio of males in district 6, followed by District 8, District 7 and District 6 (Table 30). All of these districts are partially or fully in the PBMU. The PBMU not only has a less established bear population compared to the CBMU and MBMU, but is a BMU in which bears are still expanding their range. Bear range expansion is initially led by dispersing males, so the PBMU likely has many more males than females, as reflected in the harvest by both houndsmen and still hunters. Houndsmen harvested the highest ratio of females (50%) in District 5, followed by District 3 (46%), while still hunters harvested the highest ratio of females (51%) in District 2, followed by District 4 (47%; Table 30)

Table 30. Sex ratio by method of harvest by district based on 2021 registered harvest.

	Dogs		Still		Dogs		Still		All Methods	
District	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
1	366	212	279	217	63%	37%	56%	44%	60%	40%
2	328	213	185	192	61%	39%	49%	51%	56%	44%
3	14	12	20	16	54%	46%	56%	44%	55%	45%
4	136	84	61	54	62%	38%	53%	47%	59%	41%
5	2	2	16	8	50%	50%	67%	33%	64%	36%
6	0	0	1	0	0%	0%	100%	0%	100%	0%
7	5	3	80	37	63%	38%	68%	32%	68%	32%
8	166	126	66	28	57%	43%	70%	30%	60%	40%
9	353	191	114	74	65%	35%	61%	39%	64%	36%

Table 31. Method of harvest by county and sex, based on the 2020 registered harvest.

	Still			Dog			Percent Female		
County	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Still**	**Dog**	**All Methods**
Alamance	0	0	0	0	0	0	N/A[1]	N/A	N/A
Alexander	1	1	2	0	0	0	100%	0%	50%
Alleghany	13	10	23	0	0	0	100%	0%	43%
Anson	0	1	1	0	0	0	N/A	N/A	N/A
Ashe	20	13	33	3	2	5	87%	13%	39%
Avery	8	3	11	31	15	46	19%	81%	32%
Beaufort	38	42	80	81	63	144	36%	64%	47%
Bertie	8	23	31	42	17	59	34%	66%	44%
Bladen	22	33	55	52	30	82	40%	60%	46%
Brunswick	9	7	16	19	18	37	30%	70%	47%
Buncombe	31	49	80	20	21	41	66%	34%	58%
Burke	9	2	11	18	12	30	27%	73%	34%

	Still			Dog			Percent Female		
County	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Still**	**Dog**	**All Methods**
Cabarrus	0	0	0	0	0	0	N/A	N/A	N/A
Caldwell	2	2	4	33	9	42	9%	91%	24%
Camden	15	11	26	26	18	44	37%	63%	41%
Carteret	5	3	8	22	0	22	27%	73%	10%
Caswell	6	0	6	0	1	1	86%	14%	14%
Catawba	0	1	1	0	0	0	100%	0%	100%
Chatham	0	0	0	0	0	0	N/A	N/A	N/A
Cherokee	6	1	7	27	13	40	15%	85%	30%
Chowan	3	2	5	0	3	3	63%	38%	63%
Clay	3	2	5	20	13	33	13%	87%	39%
Cleveland	0	0	0	0	0	0	N/A	N/A	N/A
Columbus	3	7	10	5	7	12	45%	55%	64%
Craven	17	17	34	49	32	81	30%	70%	43%
Cumberland	5	8	13	27	5	32	29%	71%	29%
Currituck	3	5	8	13	4	17	32%	68%	36%
Dare	9	15	24	0	1	1	96%	4%	64%
Davidson	0	1	1	0	0	0	100%	0%	100%
Davie	0	1	1	0	0	0	100%	0%	100%
Duplin	5	5	10	18	1	19	34%	66%	21%
Durham	0	0	0	0	0	0	N/A	N/A	N/A
Edgecombe	2	0	2	2	1	3	40%	60%	20%
Forsyth	0	0	0	0	0	0	N/A	N/A	N/A
Franklin	0	0	0	0	0	0	N/A	N/A	N/A
Gaston	0	0	0	0	0	0	N/A	N/A	N/A
Gates	18	11	29	33	19	52	36%	64%	37%
Graham	2	0	2	41	38	79	2%	98%	47%
Granville	9	3	12	0	0	0	100%	0%	25%
Greene	0	1	1	3	1	4	20%	80%	40%
Guilford	0	0	0	0	0	0	N/A	N/A	N/A
Halifax	3	0	3	3	1	4	43%	57%	14%
Harnett	0	0	0	0	0	0	N/A	N/A	N/A
Haywood	8	13	21	70	48	118	15%	85%	44%
Henderson	19	11	30	8	8	16	65%	35%	41%
Hertford	6	7	13	21	25	46	22%	78%	54%
Hoke	0	0	0	0	0	0	N/A	N/A	N/A
Hyde	101	71	172	59	27	86	67%	33%	38%
Iredell	0	0	0	0	0	0	N/A	N/A	N/A
Jackson	4	6	10	34	34	68	13%	87%	51%

	Still			Dog			Percent Female		
County	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Still**	**Dog**	**All Methods**
Johnston	2	0	2	0	0	0	100%	0%	0%
Jones	26	38	64	63	54	117	35%	65%	51%
Lee	1	0	1	0	0	0	100%	0%	0%
Lenoir	13	12	25	15	4	19	57%	43%	36%
Lincoln	0	0	0	0	0	0	N/A	N/A	N/A
Macon	1	1	2	49	26	75	3%	97%	35%
Madison	16	17	33	38	26	64	34%	66%	44%
Martin	1	1	2	22	8	30	6%	94%	28%
McDowell	20	11	31	81	32	113	22%	78%	30%
Mecklenburg	0	0	0	0	0	0	N/A	N/A	N/A
Mitchell	9	6	15	13	9	22	41%	59%	41%
Montgomery	0	0	0	0	0	0	N/A	N/A	N/A
Moore	0	0	0	0	0	0	N/A	N/A	N/A
Nash	1	0	1	1	0	1	50%	50%	0%
New Hanover	1	1	2	0	0	0	100%	0%	50%
Northampton	6	5	11	4	2	6	65%	35%	41%
Onslow	8	16	24	25	19	44	35%	65%	51%
Orange	0	0	0	0	0	0	N/A	N/A	N/A
Pamlico[2]	33	21	54	0	0	0	100%	0%	39%
Pasquotank	11	6	17	4	6	10	63%	37%	44%
Pender	21	23	44	24	11	35	56%	44%	43%
Perquimans	1	6	7	5	6	11	39%	61%	67%
Person	6	1	7	0	2	2	78%	22%	33%
Pitt	8	12	20	20	9	29	41%	59%	43%
Polk	15	2	17	0	1	1	94%	6%	17%
Randolph	0	0	0	0	0	0	N/A	N/A	N/A
Richmond	0	0	0	0	0	0	N/A	N/A	N/A
Robeson	0	1	1	0	0	0	100%	0%	100%
Rockingham	7	3	10	0	0	0	100%	0%	30%
Rowan	0	0	0	0	0	0	N/A	N/A	N/A
Rutherford	11	5	16	5	2	7	70%	30%	30%
Sampson	5	17	22	21	11	32	41%	59%	52%
Scotland	0	0	0	0	0	0	N/A	N/A	N/A
Stanly	0	0	0	0	0	0	N/A	N/A	N/A
Stokes	11	1	12	1	2	3	80%	20%	20%
Surry	19	4	23	0	0	0	100%	0%	17%
Swain	3	4	7	23	12	35	17%	83%	38%
Transylvania	16	6	22	15	16	31	42%	58%	42%

	Still			Dog			Percent Female		
County	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Still**	**Dog**	**All Methods**
Tyrrell	53	48	101	78	38	116	47%	53%	40%
Union	0	0	0	0	0	0	N/A	N/A	N/A
Vance	1	1	2	0	0	0	100%	0%	50%
Wake	0	0	0	0	0	0	N/A	N/A	N/A
Warren	8	2	10	5	2	7	59%	41%	24%
Washington	15	30	45	29	25	54	45%	55%	56%
Watauga	9	8	17	1	2	3	85%	15%	50%
Wayne	1	0	1	0	0	0	100%	0%	0%
Wilkes	26	9	35	11	0	11	76%	24%	20%
Wilson	2	2	4	0	1	1	80%	20%	60%
Yadkin	0	0	0	0	0	0	N/A	N/A	N/A
Yancey	3	9	12	47	35	82	13%	87%	47%
Total	**803**	**717**	**1,520**	**1,380**	**848**	**2,228**	**41%**	**59%**	**42%**

[1] N/A: No harvest occurred in the county
[2] Pamlico: Session law 1983, c. 448 prohibits taking bears with dogs.

Weights of Sampled Harvested Bears

Mortality information from harvested bears, including the collection of premolar teeth and reproductive tracts, began in 1969. NCWRC staff continue to work closely with bear hunters to collect biological data from harvested bears. Age and sex information gathered from biological samples are used for analyzing the age structure of the harvested population and for population reconstruction modeling.

During the 2021 hunting season, no bears were sampled that weighed over 700 lbs. (Table 32). This is the second season in a row since the 2011 season in which no bears were reported to be over 700 lbs. (Table 32; Figures 44 and Figure 45). The plurality of bears harvested since 1976 are in the 100-199 lbs. weight class (38%), followed by the 200-299 lbs. weight class (29%; Table 33; Figure 44). During the 2021 season, bears in the 100-199 lbs. and 200-299 lbs. weight category comprised the majority of the sampled harvest (Tables 32 and 33). Since 1976, 30 harvested male bears that were sampled by NCWRC staff weighed over 700 lbs. (Table 33). Hyde County has produced the 2nd and 3rd largest bears in North Carolina, and 5 of the top ten bears have been harvested in Hyde County (Table 34). To be a top ten bear by weight in North Carolina, a bear must weigh at least 735 lbs. (Table 34). Of the top ten male bears, 10 of the 13 bears were taken by hound hunters (Table 34).

Table 32. Number of harvested bears sampled by weight category during the 2021 hunting season.

	2021 Hunting Season				
Weight Category	**Statewide Total**	**Statewide Percent**	**MBMU**	**CBMU**	**PBMU**
<100 lbs.	32	2%	5	27	0
100-199 lbs.	631	35%	236	382	13
200-299 lbs.	628	35%	184	437	7
300-399 lbs.	239	13%	46	189	4
400-499 lbs.	138	8%	16	122	0
500-599 lbs.	113	6%	10	103	0
600-699 lbs.	36	2%	0	36	0
700-799 lbs.	0	0%	0	0	0

Table 33. Number of harvested bears sampled by weight category from 1976 through 2021, North Carolina.

Weight Category	**Statewide**	**Statewide Percent**	**MBMU**	**CBMU**	**PBMU**
<100 lbs.	715	3%	322	393	0
100-199 lbs.	9,654	38%	4,798	4,808	47
200-299 lbs.	7,466	29%	2,617	4,791	57
300-399 lbs.	3,175	13%	903	2,255	17
400-499 lbs.	2,382	9%	350	2,027	5
500-599 lbs.	1,544	6%	74	1,466	4
600-699 lbs.	398	2%	8	389	1
700-799 lbs.	30	0%	0	30	0
> 800 lbs.	1	0%	0	1	0

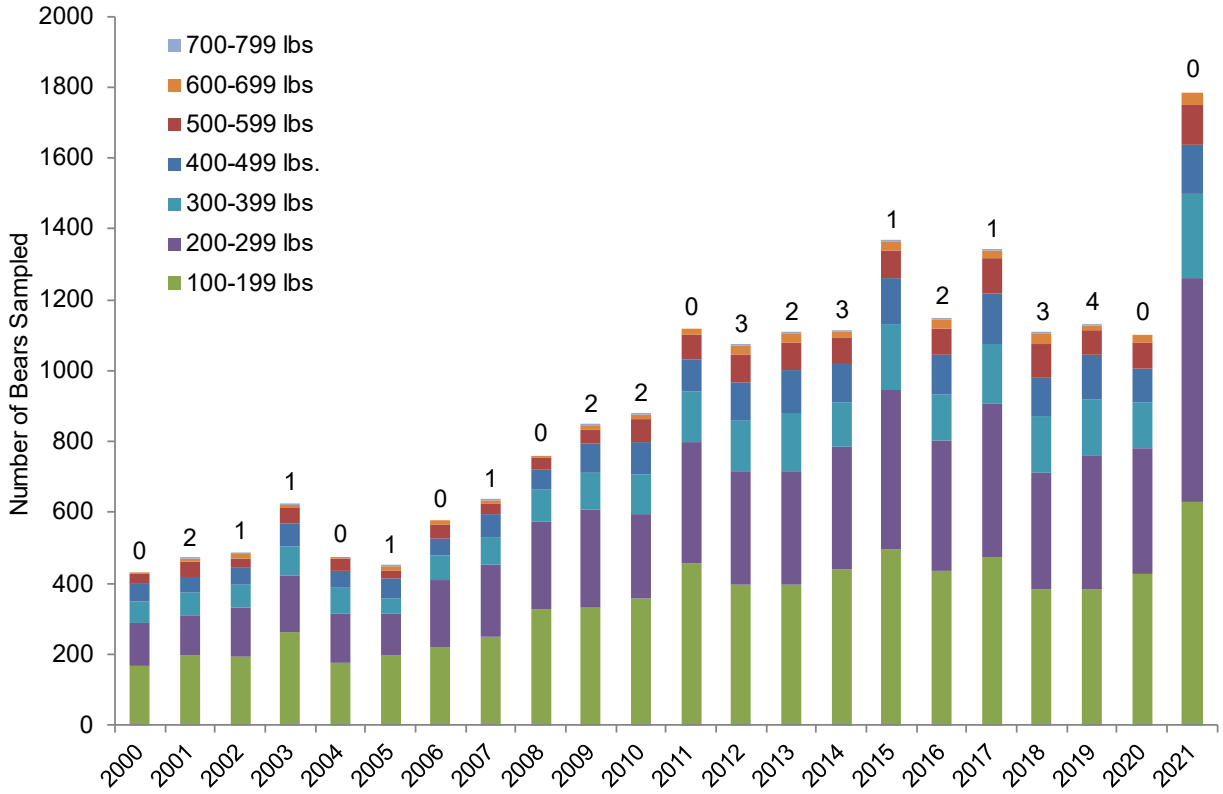


Figure 44. Number of bears sampled by weight category from 2000 through 2021. Note: Number on top of each bar indicates number of bears sampled from 700-799 lbs.

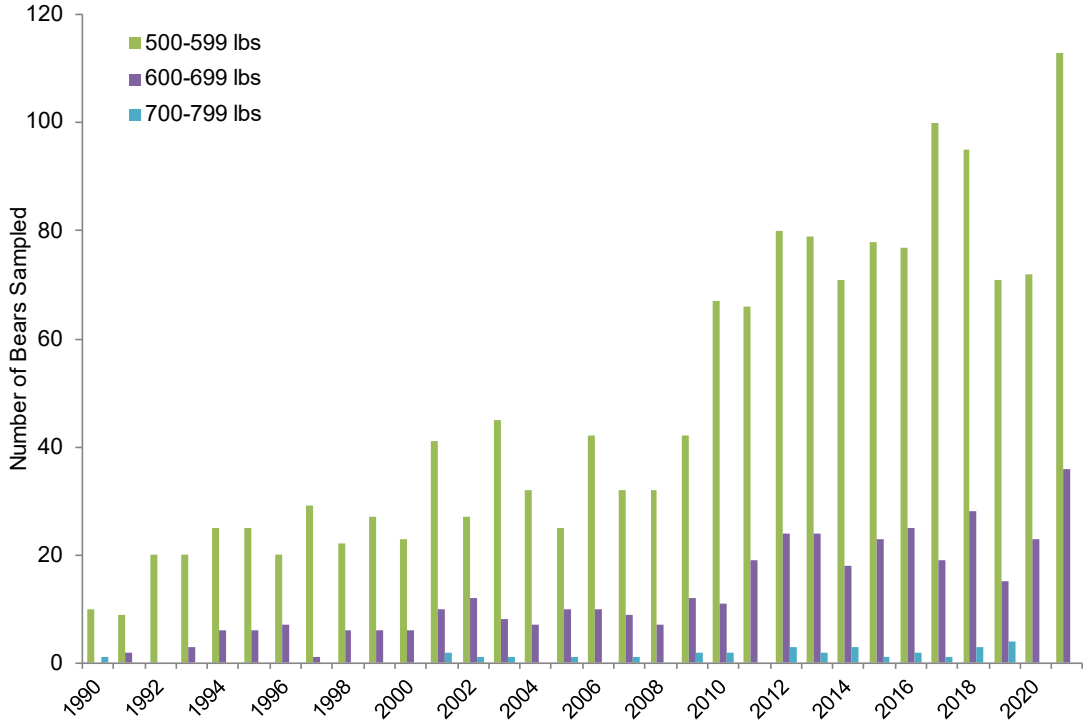


Figure 45. The number of harvested black bears sampled by the Commission that weighed over 500 lbs. from 1990 through 2021.

Table 34. Top ten male bear weights recorded by NCWRC from 1976 through 2021.

Rank	Year	County	BMU	Type of Hunt	Weight	Sex	Age
1	1998	CRAVEN	Coastal	DG	880	M	10.75
2	2014	HYDE	Coastal	DG	784	M	9.75
3	2014	HYDE	Coastal	ST	782	M	9.75
4	2012	WASHINGTON	Coastal	DG	780	M	6.75
4	2013	CRAVEN	Coastal	DG	780	M	8.75
5	2009	HYDE	Coastal	ST	760	M	6.75
5	2019	BEAUFORT	Coastal	DG	760	M	7.75
6	2016	HYDE	Coastal	DG	757	M	8.75
7	2007	DARE	Coastal	ST	752	M	7.75
8	2001	GATES	Coastal	DG	742	M	9.75
9	2001	BEAUFORT	Coastal	DG	740	M	13.75
10	2012	HYDE	Coastal	DG	735	M	11.75
10	2014	TYRRELL	Coastal	DG	735	M	7.75

The record female bear weight recorded was 520 lbs., taken by a hound hunter in Martin County in 2015 (Table 35). To be a top ten female bear by weight, a harvested female bear must weigh at least 429 lbs. Eight of the top ten females were harvested by hound hunters and four were harvested by still hunters (Table 35). Only one of the top ten harvested female bears was in the Mountain BMU; the remaining 11 bears were harvested in the Coastal BMU. Four of the 12 female bears were taken in Hyde County (Table 35).

Table 35. Top ten female bear weights recorded by NCWRC from 1976 through 2021.

Rank	Year	County	BMU	Type of Hunt	Weight	Sex	Age
1	2015	Martin	Coastal	S	DG	520	18.75
2	2017	Sampson	Coastal	R	DG	517	13.75
3	2021	Tyrrell	Coastal	R	DG	498	8.75
4	2017	Hyde	Coastal	R	ST	482	6.75
5	2020	Edgecombe	Coastal	R	DG	471	8.75
6	2010	Chowan	Coastal	S	DG	450	13.75
6	2010	Hyde	Coastal	S	DG	450	3.75
7	2007	Hyde	Coastal	R	ST	445	9.75
8	2018	Washington	Coastal	R	DG	440	13.75
9	2013	Caldwell	Mountains	R	DG	438	5.75
9	2019	Pitt	Coastal	R	ST	438	11.75
10	2016	Hyde	Coastal	U	ST	429	12.75

Weight by Bear Management Unit: Male bears sampled in the CBMU during the 2021 hunting season weighed more, on average, than their counterparts in the MBMU and PBMU (*All hunters*; Table 36,

Figure 46). The mean weight of male bears in the CBMU were 90 lbs. and 91 lbs. heavier than male bears in the MBMU and PBMU, respectively (Table 36). Female bears in the CBMU weighed 11 lbs. and 43 lbs. more than females sampled in the MBMU and PBMU, respectively (Table 36).

This difference in weight between the BMUs is expected; bears in the MBMU are dependent on availability of natural food sources (i.e., soft and hard mast) that fluctuate annually in abundance, which can limit how much weight they can gain. In addition, natural food sources in the MBMU are only available during late spring through fall. The opposite occurs in the CBMU; not only are food sources (e.g., soft mast, hard mast, agricultural crops) relatively stable from year to year, but these food sources are available during a longer period of time during the year, due to the longer growing season. Much of the PBMU has a recently expanded bear population, in which younger, thus smaller, male bears will more likely comprise the population and the harvest.

Mean weight of male bears in the CBMU was slightly lower than 10-year average (7 lbs. difference), while female bears during 2021 were 2 lbs. heavier than the average (Table 36). Male bears in the MBMU were 7 lbs. heavier in 2021 than the 10-year average, while female bears were 8 lbs. heavier than the average (Table 36).

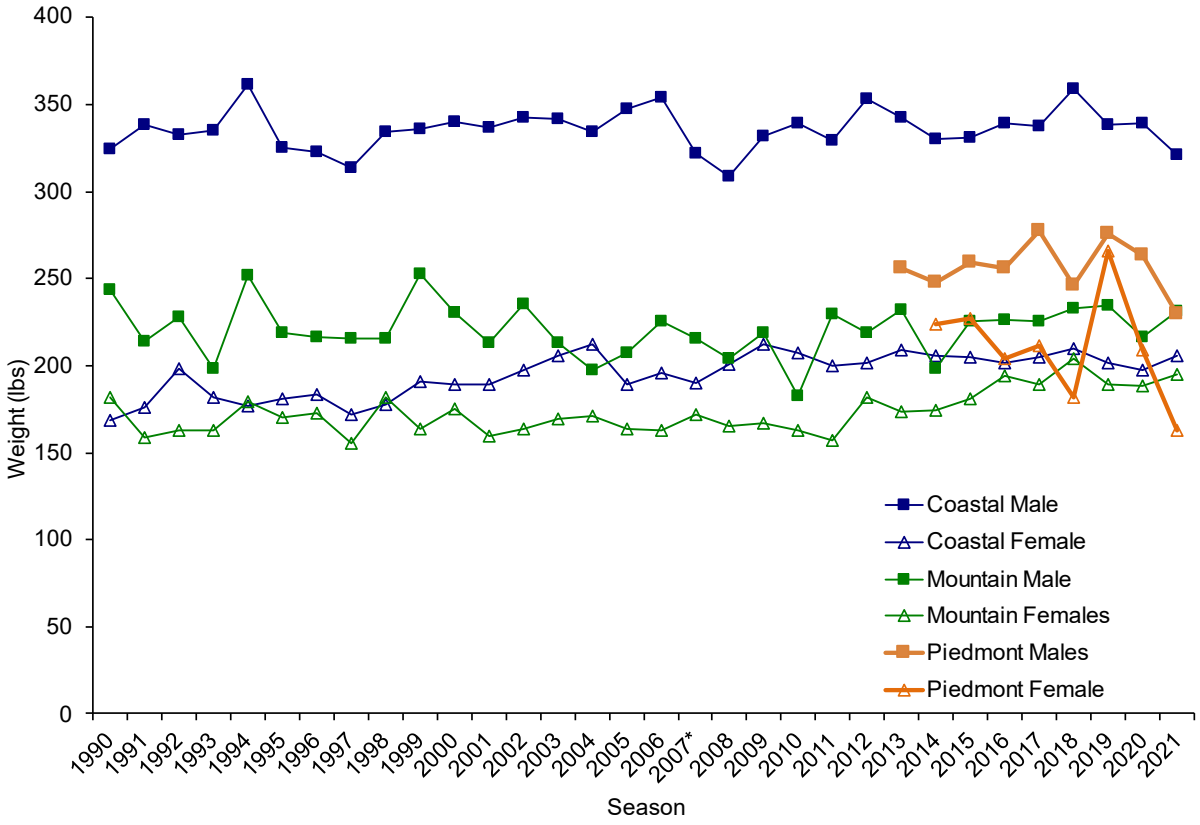


Figure 46. Average weight of sampled male and female bears in each bear management unit from 1990 through 2021.

Weight by Method of Hunt: For the 2021 season, CBMU male and female bears sampled from houndsmen were heavier (53 lbs. and 33 lbs. respectively) than those sampled from still hunters (Table 36). Weights

of male and female bears harvested by houndsmen from the MBMU were 20 lbs. and 8 lbs. heavier than bears harvested by still hunters in the MBMU (Table 36). In the PBMU, houndsmen harvested lighter male and female bears than still hunters during 2021.

Compared to the 10-year average, male bears sampled from still hunters during 2021 in the CBMU and MBMU were 41 lbs. and 13 lbs. lighter in weight, respectively (Table 36). During 2021, houndsmen in the CBMU harvested similar male bears and slightly heavier (+4 lbs.) females compared to the 10-year average, while houndsmen in the MBMU harvested heavier males (+10 lbs.) and females (+9 lbs.) than the average (Table 36).

Limited interpretation should be given to these results, since we are unable to sample all harvested bears and, starting in 2020, much of the information on weight is provided by the hunter, rather then the bear being weighed by Commission staff. Despite the weight information being self-reported by hunters, most hunters now have access to accurate and low-cost digital scales. In addition, with mandatory tooth submission, the Commission is receiving more data on bear weights. For example, in 2020, the Commission received weight data on 30% of harvested bears, whereas in 2021 (when mandatory tooth submission became effective), we received weight data from 50% of harvested bears.

Table 36. Mean age and weight for harvested bears sampled from North Carolina during the 2021 season and 10-year averages.

			Mean Age (yr.)		**Mean Weight (lbs.)**	
Season	**Region**	**Hunting Method**	**Male**	**Female**	**Male**	**Female**
2021	CBMU	Still Hunters	3.9	4.5	287	186
		Houndsmen	4.6	5.2	340	219
		All Hunters	*4.3*	*4.9*	*321*	*206*
2021	MBMU	Still Hunters	2.9	4.3	215	188
		Houndsmen	3.5	5.2	235	196
		All Hunters	*3.3*	*5.0*	*231*	*195*
2021	PBMU	Still Hunters	2.9	2.4	235	168
		Houndsmen	2.3	1.8	208	125
		All Hunters	*2.8*	*2.3*	*230*	*163*
2012-2021 (10-yr. average)	CBMU	Still Hunters	4.5	4.7	328	183
		Houndsmen	4.7	5.2	341	215
		All Hunters	*4.6*	*5.0*	*338*	*204*
2012-2021 (10-yr. average)	MBMU	Still Hunters	3.1	4.4	228	188
		Houndsmen	3.5	5.3	225	187
		All Hunters	*3.5*	*5.1*	*225*	*187*
2012-2021 (10-yr. average)	PBMU	Still Hunters	2.7	3.2	256	198
		Houndsmen	2.6	4.6	255	218
		All Hunters	*2.7*	*3.4*	*256*	*203*

MBMU weights: Through 2014, the average ($\bar{x}$) weight of harvested male bears sampled in the MBMU has varied. For example, from 1990 through 2014, weight varied by as much as 71 lbs., with 2010 experiencing the lowest weight ($\bar{x}$=182 lbs.) and 1999 experiencing the heaviest weight ($\bar{x}$=253 lbs.). From 2015-2021, the average weight of male bears sampled has been stable to slightly increasing (range 217-235 lbs.; blue bars, Figure 47). From 2000 through 2021, the average weight of male bears sampled was lowest in 2010 ($\bar{x}$=182 lbs.) and highest in 2002 ($\bar{x}$=236 lbs.). In 2021, the average weight of male bears sampled was 231 lbs., which was 14 lbs. heavier than 2020, but not significantly different ($p<0.05$) then almost all seasons, over the last 20 years. Male bear weights in 2021 were significantly heavier than in 2004, 2005, 2008, 2010, and 2014. Overall, average male weights are stable to slightly increasing (Figure 47), however there is a stable to slightly declining trend in the percent of male bears >300 lbs. that comprise the harvest (blue line; Figure 48). However, limited interpretation should be made, as reporting bear weight is not mandatory, and hunters may be less inclined to report weights of smaller bears versus larger bears. Further analysis is needed to determine if certain factors, such as the annual variation in hard mast abundance and the ability of both still hunters (first half of bear season) and hound hunters (all season) to use unprocessed bait to aid in hunting bears, has influenced the sampled male bear weights over the past few years.

Similar to harvested MBMU male bears, the average ($\bar{x}$) weight of harvested female bears sampled in the MBMU has remained stable to slightly increasing over the past 21 years (red bars; Figure 47), with weight varying by 47 lbs. during this time period. Female weights likely reflect greater hunter selectivity and the fact that female bears are limited in size, due to variation in natural food supplies and the energetic demands of raising cubs. In 2020, the average weight of harvested female bears sampled in the MBMU was 187 lbs. and similar to the 2019 season ($\bar{x}$=189 lbs.), but significantly lighter ($p<0.05$) than the 2018 season ($\bar{x}$=204 lbs.). However, the average weight of females during the 2020 season was significantly heavier than several previous seasons (i.e., 2001 through 2011 and 2013; Figure 49). The average weight of female bears was lowest in 2011 ($\bar{x}$=157 lbs.) and highest in 2018 ($\bar{x}$=204 lbs.), which was a significant difference in weight ($p<0.05$). The 2018 sampled weight for females was the highest sampled weight since 2000 and was significantly higher than several previous seasons. This could be due to several factors. For example, the 2018 sampled female weight may have reflected the good mast crop in fall 2017, which contributed to bears being in better nutritional condition during 2018 (Table 41 on page 106). The sampled female weight for 2018 could also reflect greater hunter selectivity. We observed a similar trend with the 2016 sampled harvest; the 2016 sampled female weight was the 2nd highest on record since 2000 and likely the good mast crop in fall 2015.

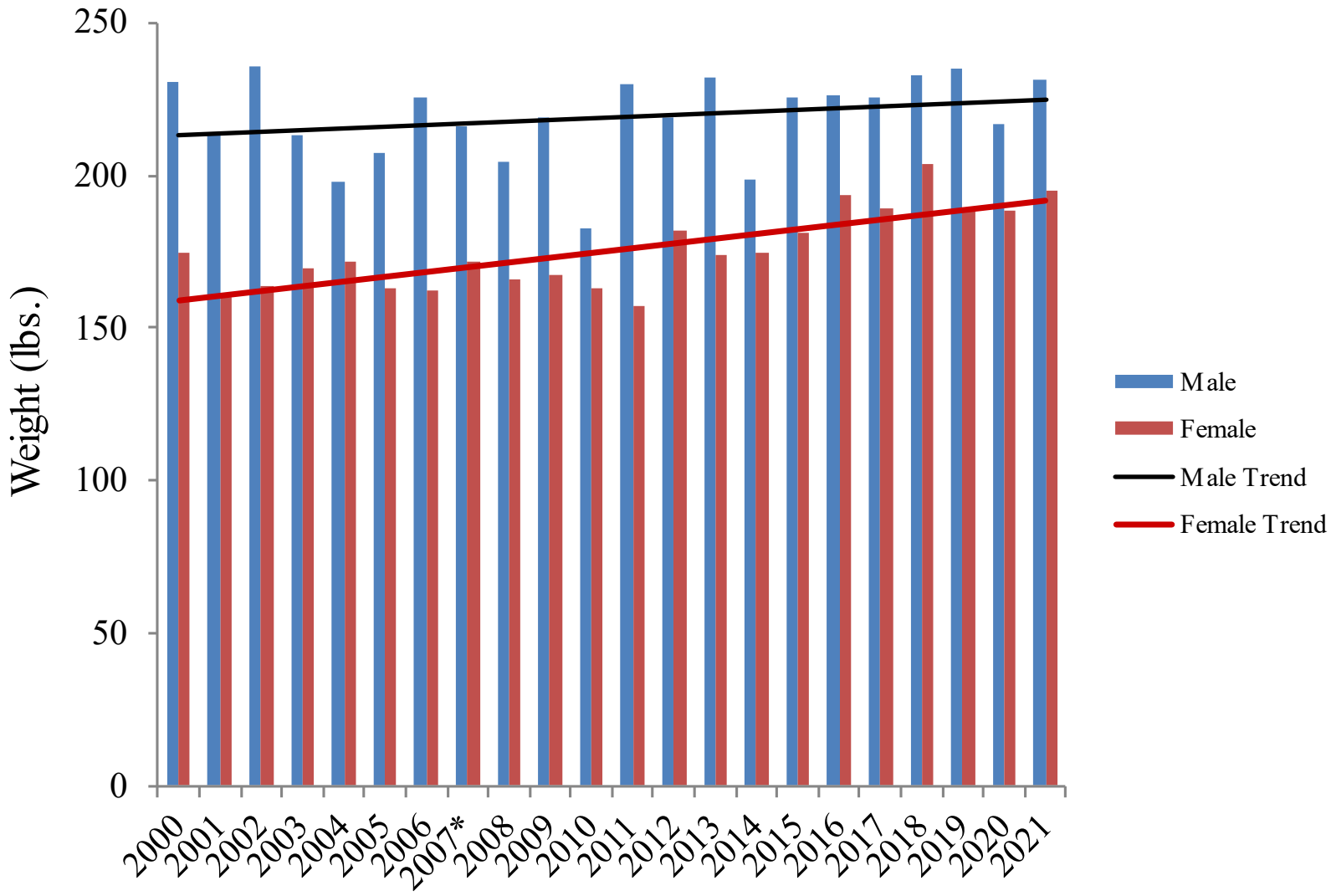


Figure 47. Average weight of harvested male and female bears sampled in the MBMU, 2000-2021.

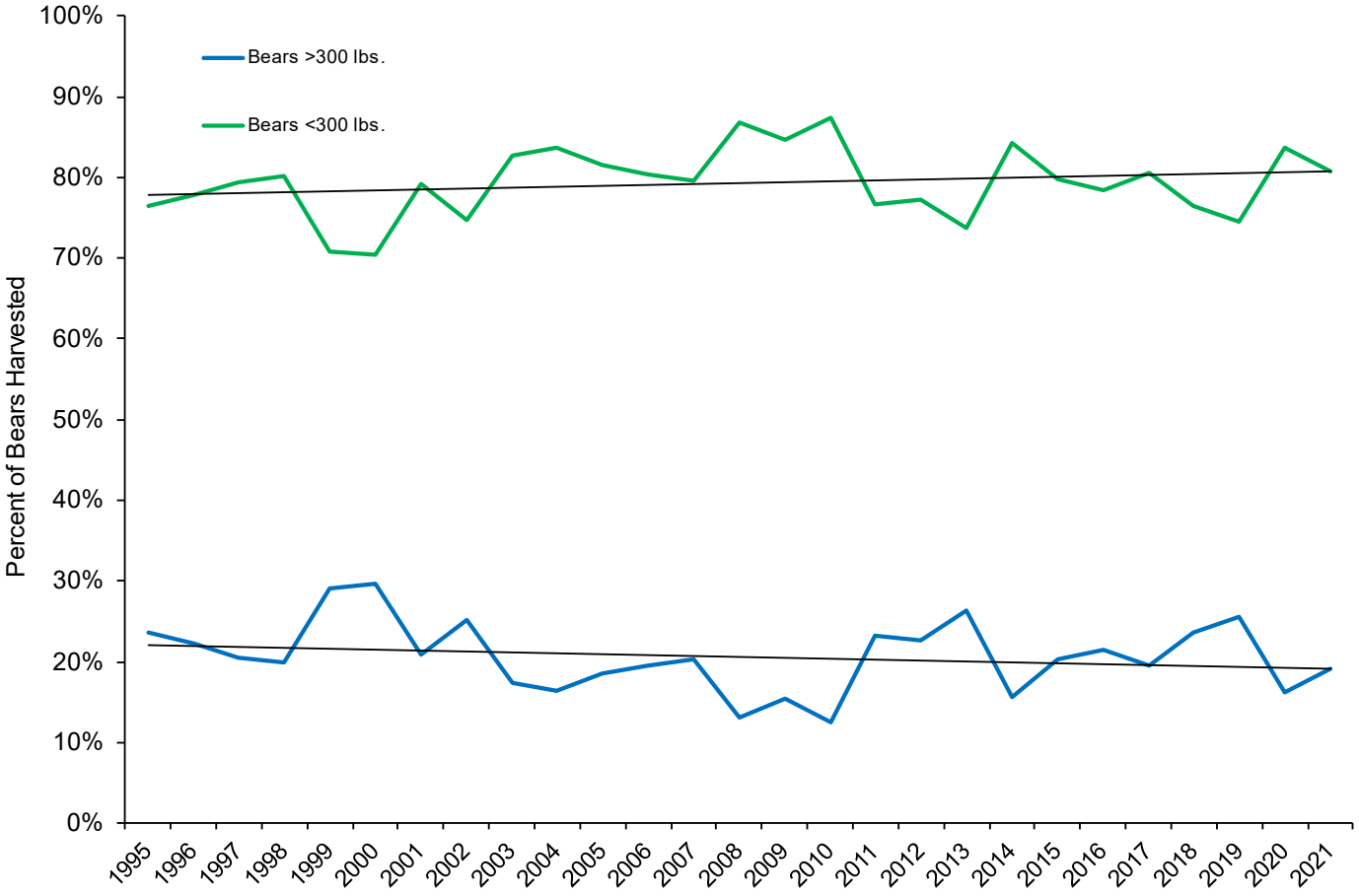


Figure 48. Percent of male bears sampled in the MBMU that weighed over and under 300 lbs. from 1995 through 2021 in North Carolina.

CBMU Weights: From 2000 through 2020, average ($\bar{x}$) weights of harvested male bears sampled in the CBMU has remained fairly stable (blue bars; Figure 51), likely reflecting year-round stable food resources (e.g., hard mast, agricultural crops). However, there has been a slight decline in weights of males sampled during 2019 and 2020, compared to the 2018 season (Figure 51). In 2019, the average weight of sampled males in the CBMU was 338 lbs. and significantly lower than the 2018 season, but significantly higher than the 2008 season. In 2008, the average weight of harvested male bears declined to 309 lbs., which was the lowest average weight recorded during the past 20 years. Otherwise, the sampled male weight in 2019 was similar to all other seasons from 2000 to 2017. In 2020, the average weight of sampled males was 341 lbs. and significantly higher to the 2008 season. Otherwise, male weights sampled in 2020 were similar to previous seasons dating back to 2000. The highest average weights for harvested males occurred during the 2018 ($\bar{x}$=359 lbs.), 2006 ($\bar{x}$=354 lbs.) and 2012 ($\bar{x}$=352 lbs.) seasons. The sampled bear weights from the 2018 season differed significantly ($p \leq 0.05$) from the previous 4 seasons. In 2018, the Commission approved changes to bear hunting seasons in the CBMU that aligned seasons to zones (Figure 19 on page 29), added Saturday openers for the November and December seasons in zones 1 through 4, changed the November season start date and end date in Zone 4, and extended the November season in Zone 1 from 6 days to 16 days, which also added 3 weekends (Table 7 on page 20). These season changes, especially in Zone 1 (Dare, Hyde and Tyrrell counties),

may have allowed hunters more time to select for larger bears. Change in weight may also reflect low sampling weight of harvested bears. There is a very slight trend upwards in the percentage of male bears sampled that weigh over 500 lbs. (blue line; Figure 52). The percent of male bears sampled that weighed over 500 lbs. declined in 2019 (17%) and was the lowest percent since 2015 (16%) and second lowest since 2008 (11%; Figure 52). In 2020, 20% of bears sampled weighed over 500 lbs. (Figure 52).

The average ($\bar{x}$) weight of harvested female bears sampled in the CBMU has also remained fairly stable over the past 20 years, ranging from $\bar{x}$=189 lbs. to $\bar{x}$=212 lbs. (red bars; Figure 51). The heaviest average weight occurred during the 2004 and 2009 seasons ($\bar{x}$=212 lbs.). In 2020, the average weight of sampled female bears in the CBMU was 196 lbs., which was lower than the 2019 season ($\bar{x}$=201 lbs.) and significantly lower than the 2018, 2013, 2009, and 2004 seasons (Figure 51).

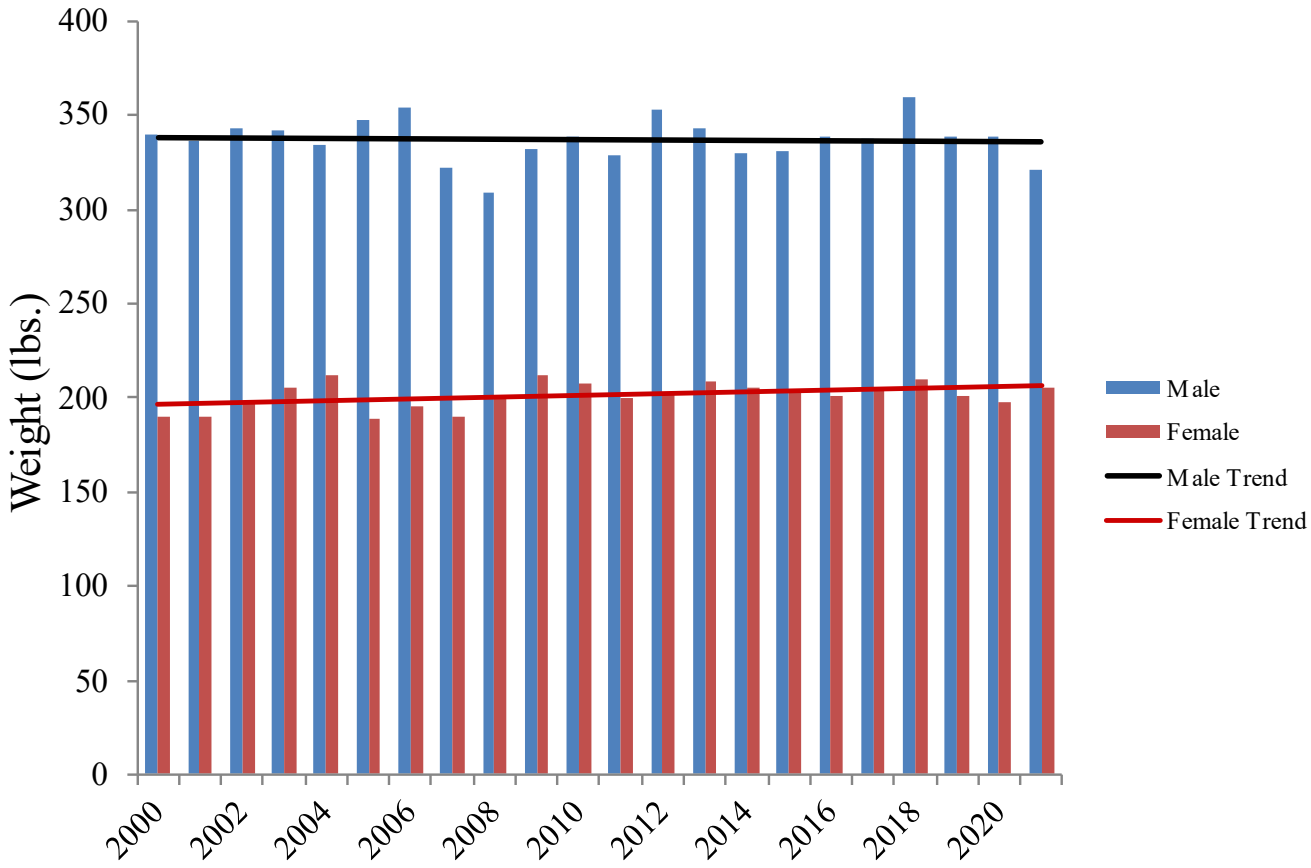


Figure 49. Average weight of harvested male and females bears sampled in the CBMU, 2000-2021.

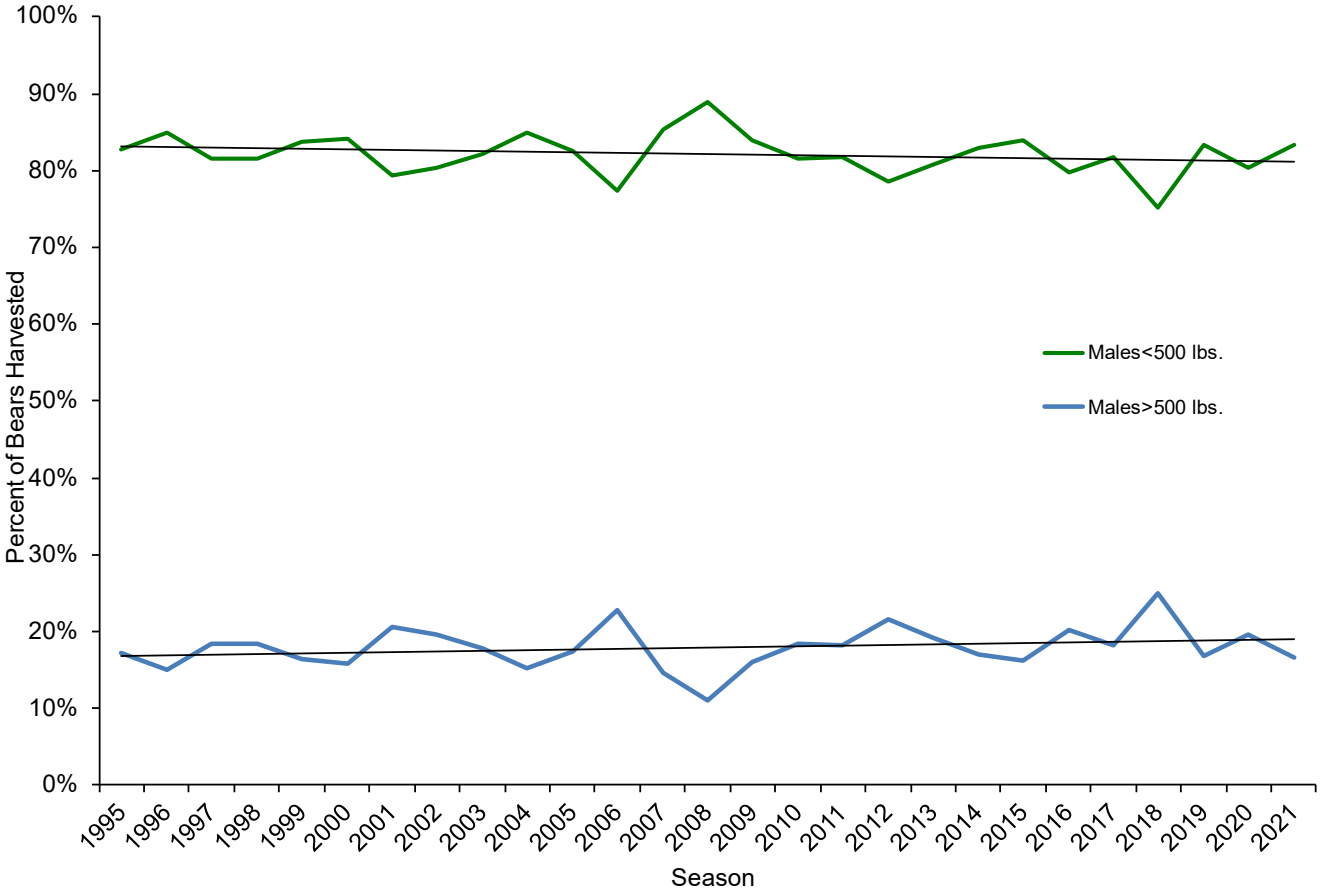


Figure 50. Percent of male bears sampled in the CBMU that weighed over and under 500 lbs. from 1995 through 2021 in North Carolina.

Ages of Sampled Harvested Bears

During the 2020 bear hunting seasons, the oldest bear harvested was a 350 lb. female bear in Bertie County taken by a still hunter that was 24.75 years old. She was the 2nd oldest bear taken during the harvest season since 1969 (Table 37). The oldest bear harvested in the MBMU during the 2020 season was a 17.75-year-old female bear taken by a dog hunter in Macon County; she weighed 200 lbs. The oldest male harvested during the 2020 season was a 19.75-year-old bear taken in the CBMU (Tyrell County) by a still hunter that weighed 445 lbs. The oldest bear ever harvested in North Carolina was a 26.75 year-old female bear taken in 2003 by a still hunter in the MBMU (Table 37). The oldest male bears harvested in North Carolina were both 23.75 years old and taken in the CBMU in 2005 and 2013 (Table 37). The oldest male bear taken in the MBMU was 22.75 years old harvested by houndsmen in 1969. Since 1969, only one bear has been harvested that was 26.75 years-old and no bears have been harvested that were 25.75 years old (Table 38).

Table 37. Top five bear ages, based on sampled harvest, recorded by NCWRC from 1969 through 2021.

Rank	Year	County	Region	Type of Hunt	Sex	Age	Weight
1	2003	McDowell	Mountains	Still/Stand	F	26.75	200
2	2011	Beaufort	Coastal Plain	Still/Stand	F	24.75	180
2	2020	Bertie	Coastal Plain	Still/Stand	F	24.75	350
3	1998	Madison	Mountains	Dogs	F	23.75	not reported
3	2003	Haywood	Mountains	Dogs	F	23.75	not reported
3	2005	McDowell	Mountains	Dogs	F	23.75	100
3	2005	Pamlico	Coastal Plain	Still/Stand	F	23.75	275
3	2005	Bertie	Coastal Plain	Still/Stand	M	23.75	460
3	2009	Chowan	Coastal Plain	Dogs	F	23.75	not reported
3	2013	Chowan	Coastal Plain	Dogs	F	23.75	150
3	2013	Hyde	Coastal Plain	Still/Stand	M	23.75	545
4	1969	Graham	Mountains	Dogs	M	22.75	not reported
4	2000	Graham	Mountains	Dogs	F	22.75	not reported
4	2009	Macon	Mountains	Dogs	F	22.75	140
4	2015	Bladen	Coastal Plain	Dogs	F	22.75	250
4	2018	Haywood	Mountains	Still/Stand	F	22.75	not reported
5	1990	Onslow	Coastal Plain	Unknown	F	21.75	200
5	1992	Yancey	Mountains	Dogs	F	21.75	not reported
5	1995	Tyrrell	Coastal Plain	Still/Stand	F	21.75	not reported
5	2011	Hyde	Coastal Plain	Still/Stand	M	21.75	320
5	2013	Bertie	Coastal Plain	Dogs	F	21.75	285
5	2017	Craven	Coastal Plain	Dogs	F	21.75	325

Female bears harvested in the MBMU and CBMU are usually older than male bears and females in the PBMU (Figure 53). For the past three seasons, female bears in the MBMU have been slightly older than female bears in the CBMU; from 2014 through 2017, females in the CBMU were older than the MBMU (Figure 53). This change may reflect the impact of increased harvest pressure (Table 7) resulting in declining population growth rates (Figure 59 on page 91) in the CBMU. Conversely, male bears in the

CBMU are older than male bears harvested in the MBMU and PBMU (Figure 53). During the 2020 season, a majority of harvested male bears sampled in the CBMU were 3-5 years old (n=164; Figure 54), followed by the yearling age class (n=160); 3-5 year-old females comprised a majority of the CBMU sampled harvest, followed by yearlings (n=103). In the MBMU during the 2020 season, 3-5 year old males and females comprised the majority of the sampled harvest (Figure 54).

Table 38. Number of harvested bears sampled that were greater than 15 years old, 1969 through 2021, North Carolina.

Age (yrs.)	Number of Bears	MBMU	CBMU
15.75	150	31	119
16.75	83	23	60
17.75	60	20	40
18.75	32	7	25
19.75	23	5	18
20.75	24	5	19
21.75	6	1	5
22.75	5	4	1
23.75	8	3	5
24.75	2	0	2
26.75	1	1	0

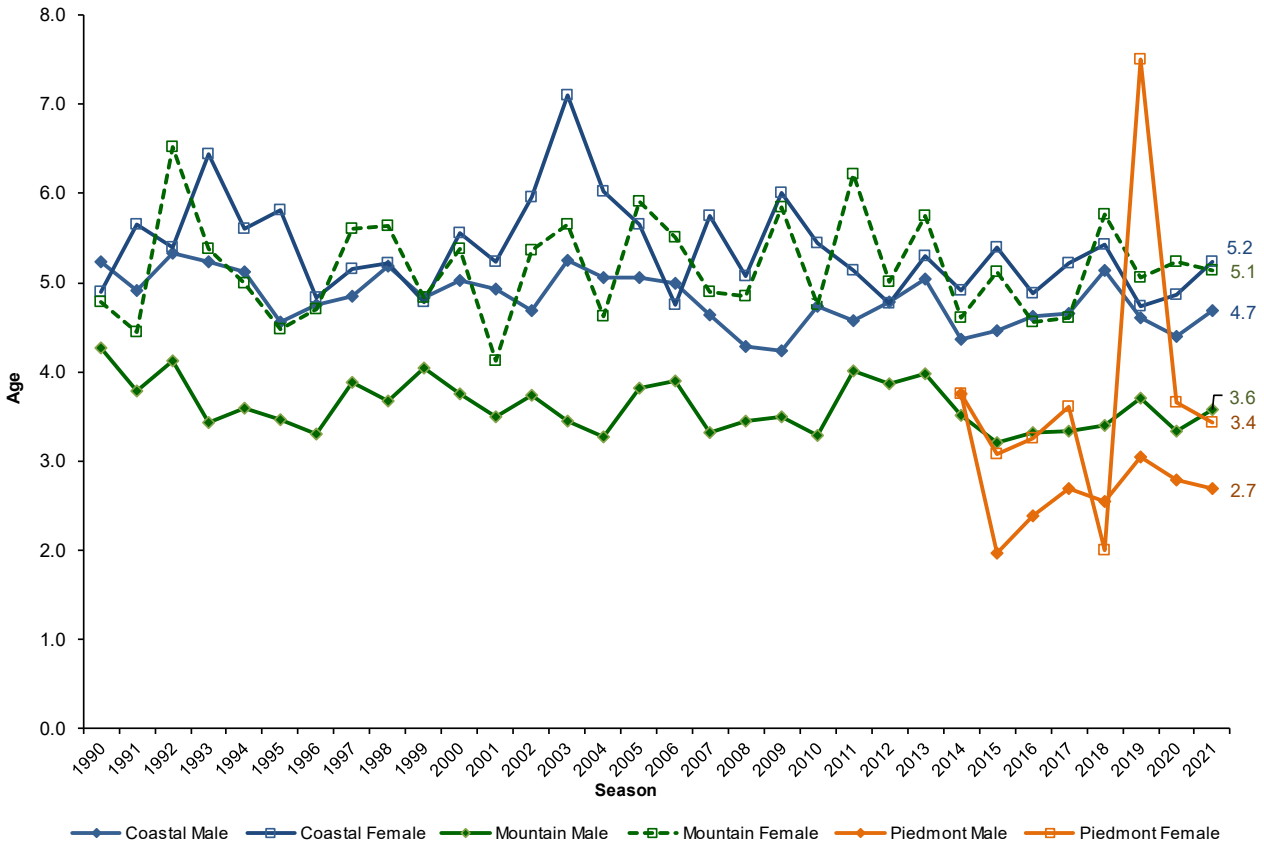


Figure 51. Average age of harvested bears sampled by bear management unit and by sex from 1990 through 2021.

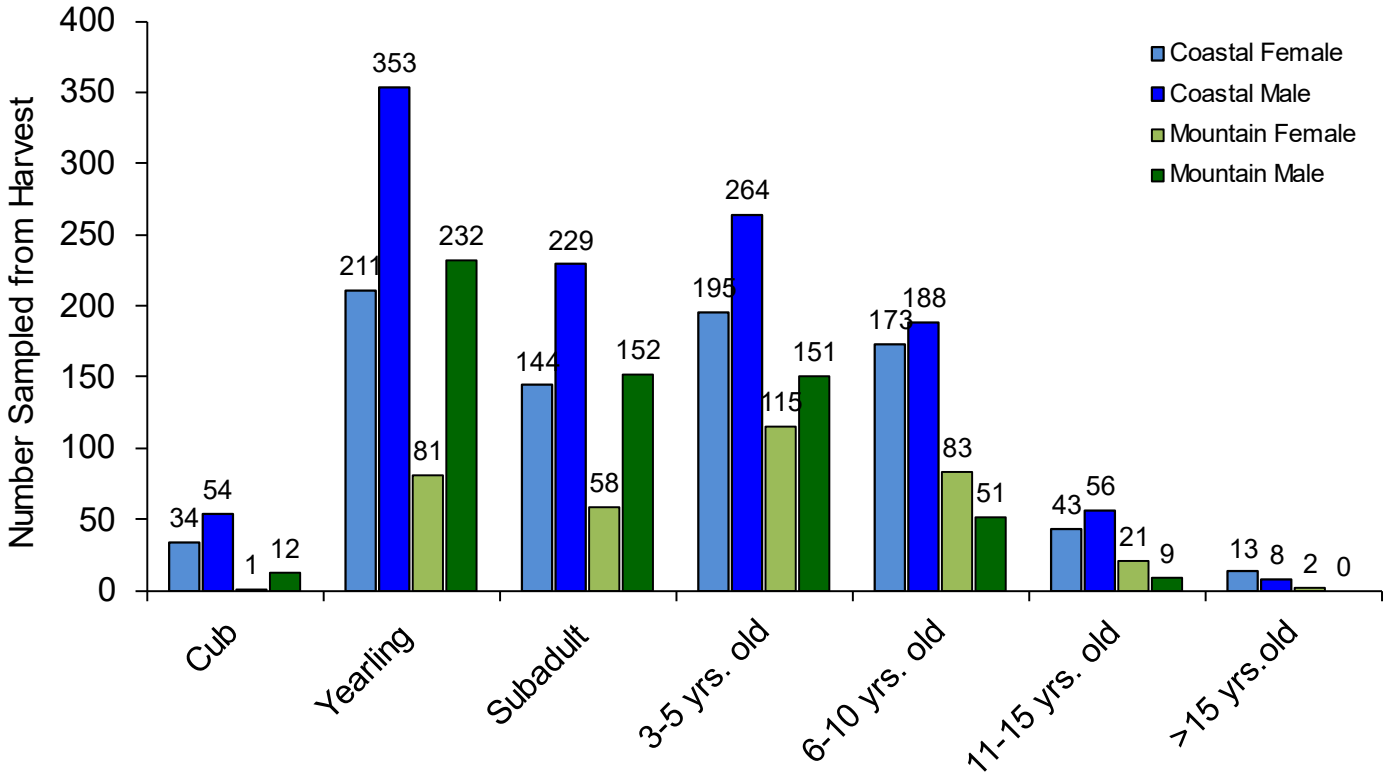


Figure 52. Number of bears sampled by age class in the MBMU and CBMU during the 2021 season.

CBMU Ages: There is a declining trend in the average ($\bar{x}$) age of harvested males sampled in the CBMU (blue bars; Figure 55). In 2020, the average age of sampled bears was 4.4 years old, which was slightly younger than the 2019 season ($\bar{x}$=4.6 years old) and significantly younger than the 2018 season ($\bar{x}$=5.1 years old), the 2013 season ($\bar{x}$=5.0 years old), and the 2012 season ($\bar{x}$=4.8 years old). Since 2000, the oldest mean age of male bears occurred in the 2018 season, followed by the 2005 season, and the youngest mean age occurred in 2009 ($\bar{x}$= 4.2 years old; Figure 55)

From 2000 to 2020, the average ($\bar{x}$) age of harvested female bears sampled in the CBMU has varied, ranging from 4.7 yrs. old to 7.1 yrs. old, but also shows a declining trend (red bars; Figure 55). The average age of female bears peaked in 2003 ($\bar{x}$=7.1 yrs. old). In 2020, the average age of females sampled was 4.9 years old, which was similar to the previous season (2019; $\bar{x}$=4.7 years old) and significantly younger than the 2018 season ($\bar{x}$=5.4 years old). The 2019 season is the youngest female age sampled since the 1983 season, while the 2003 season, followed by the 2004 season ($\bar{x}$=6.0 years old) had the oldest mean age (Figure 55). There was no significant difference ($p \leq 0.05$) in average age of male and female bears during the 2020 season (4.4 and 4.9 years old, respectively), which has occurred two time previously (2012 and 2019 seasons) in the last 20 years.

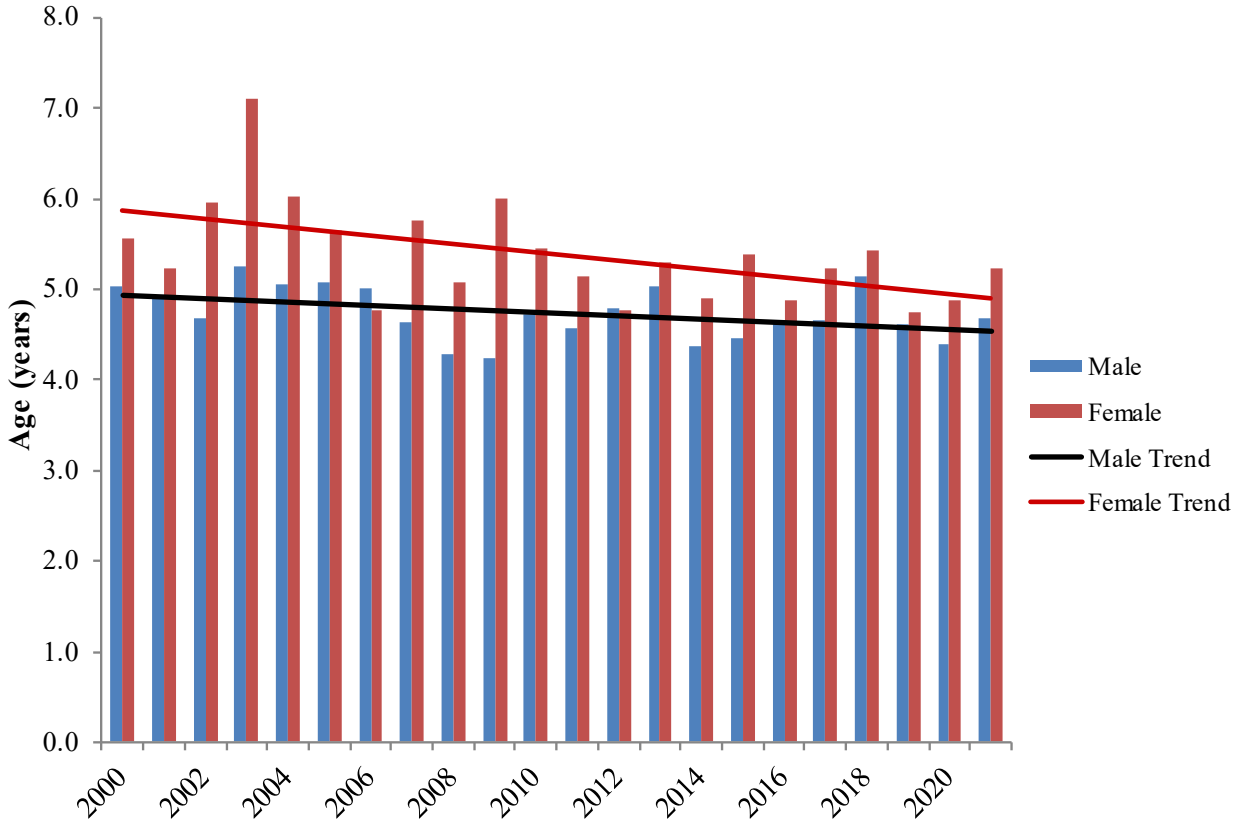


Figure 53. Average age of harvested male and female bears sampled in the CBMU, 2000-2021.

MBMU Ages: There has been variation in the average ($\bar{x}$) age of harvested male bears over the past 20 years, likely due to annual changes in hard mast abundance, which heavily influences harvest pressure (blue bars; Figure 48). The average age harvested was lowest during the 2015 seasons ($\bar{x}$=3.2 yrs. old), and highest during the 2011 and 2013 ($\bar{x}$=4.0 yrs. old) seasons. Overall, there is a slightly declining trend in male ages sampled (Figure 56). In 2019, the average age of sampled male bears ($\bar{x}$=3.7 yrs. old) was similar to the 2018 season, but significantly older than the 2015-2017 seasons and the 2004, 2007, and 2010 seasons.

The average ($\bar{x}$) age of harvested female bears sampled has also varied significantly from 2000 through 2019 and but shows only a slight declining trend in female bear age (red bars; Figure 56). As with males in the MBMU, this variation is likely due to annual changes in hard mast abundance, which heavily influences harvest pressure. The average age harvested was lowest during the 2014, 2016 and 2017 seasons ($\bar{x}$=4.1 yrs. old) and highest during the 2011 season ($\bar{x}$=6.2 yrs. old). The average age of harvested female bears sampled during the 2019 season ($\bar{x}$=5.0 yrs. old) was significantly younger than the previous season (2018; $\bar{x}$=5.8 yrs. old), as well as the 2005, 2009, 2011, and 2013 seasons.

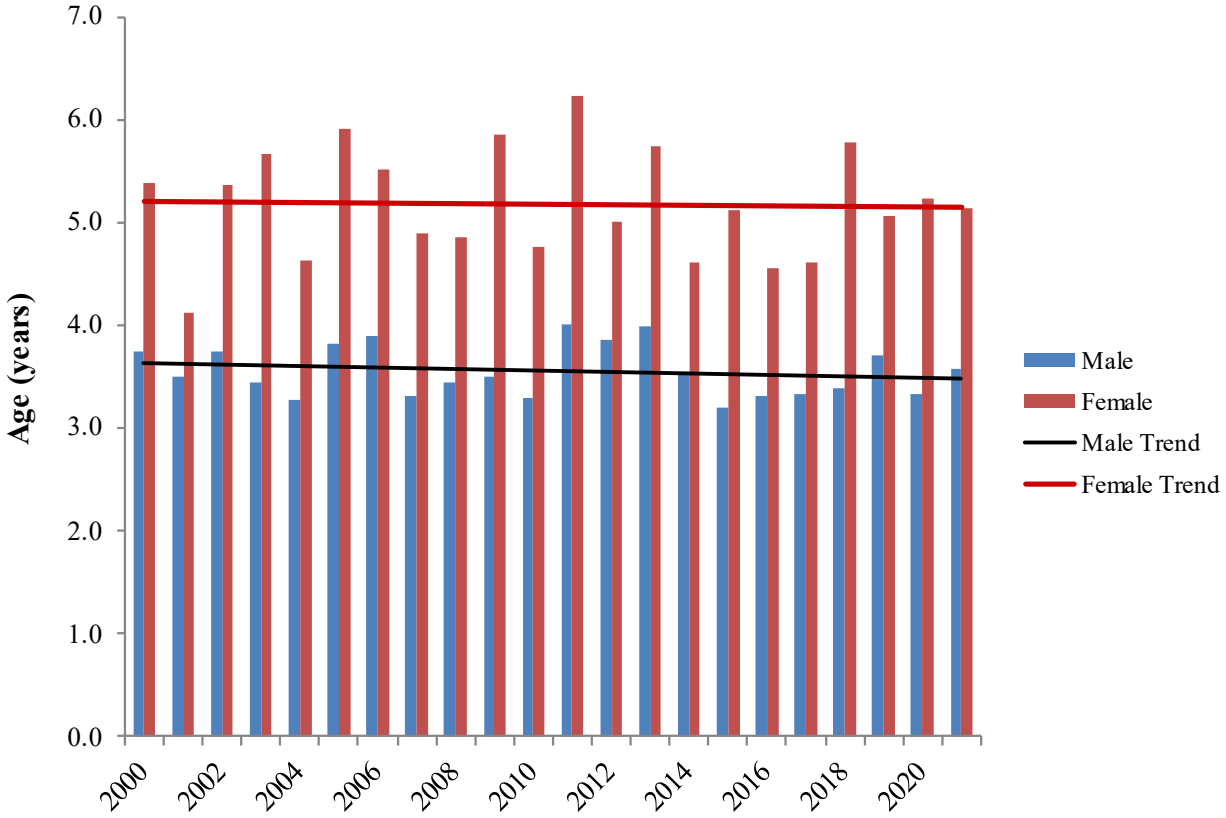


Figure 54. Average age of harvested male and female bears sampled in the MBMU, 2000-2021.

Population Growth Rates

Our bear population growth rates are based on population reconstruction which relies on biological data collected from harvested bears (see page 53). This method of population analysis reconstructs the age structure of the bear population three years prior to when the biological data is collected. For example, biological data collected during the 2021 harvest season reconstructs the size of the bear population in 2018).

Therefore, impacts of harvest on the bear population growth trends are not known until three years after any regulatory change has occurred. Because of this lag time, caution should be taken in setting specific harvest levels for bears until a more robust population model can be identified and developed. In addition, population reconstruction is sensitive to changes in harvest levels, so population trends may follow harvest trends. The Commission's Black Bear Management Plan identified this need under Objective 2, Strategy 4 and Objective 3, Strategies 4 and 5. To meet these objectives, starting in January 2023, the Commission will partner with NC State University and Mississippi State University to not only estimate the CBMU bear population, but to incorporate the data from this study, as well as data from other surveys (i.e., Bear E-stamp survey), into our population reconstruction estimates.

Population reconstruction relies on the assumption that the sampled harvest reflects the actual harvest (e.g., % younger bears in the harvest equals % younger bears in sampled harvest). Prior to mandatory bear tooth submission, anecdotal evidence indicated the sampled harvest was biased towards older bears, because hunters are less interested in receiving age results from younger bears (e.g., yearlings, subadults). Implementing mandatory bear tooth submission now overcomes biases in sampling, as well as to be able to have more accurate growth rates and population estimates at the bear management unit level and CBMU zone level, tooth submission rates should be above 80%. Lastly, population reconstruction is mainly meant as a tool to monitor bear population trends (i.e., growth rates, λ) over time, rather than to come up with precise population estimates.

Population growth rates in the CBMU and the MBMU show a declining trend (Figures 57 and 58). The population objectives of the MBMU and the CBMU, based on the 2012-2022 Black Bear Management Plan, were to lower the rate of population growth in order to stabilize bear populations and keep them within cultural carrying capacity.

The Commission is meeting this objective in the CBMU (Figure 55) due to the changes on bear season structures (e.g., lengthening seasons) and hunting methods (i.e., legalization of use of unprocessed bait) that have occurred since 2007 (Table 7). As of 2018, the CBMU is at 0-1% population growth and that growth trend is resulting the bear population starting to plateau (Figure 55). Population growth in the MBMU is also declining, but more slowly than that of the CBMU (Figure 56). As of 2018, population growth had declined to 3-5%.

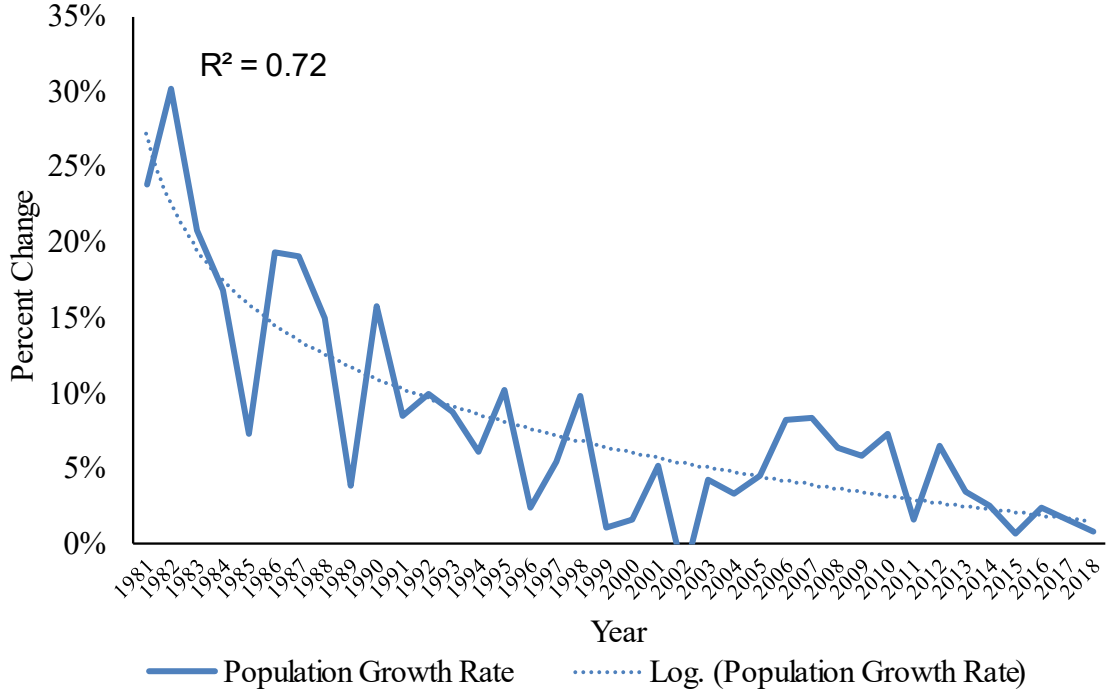


Figure 55. Population growth rates of the CBMU bear population (1981-2018)

Figure 56. Population growth rates of the MBMU bear population (1981-2018).

Non-Harvest Mortality

Human-induced mortality is the greatest source of black bear mortality in North Carolina (Figure 57). Regulated hunting (92%) remains the primary cause of mortality in black bears, with vehicle collisions (7%) being the second leading cause of mortality.

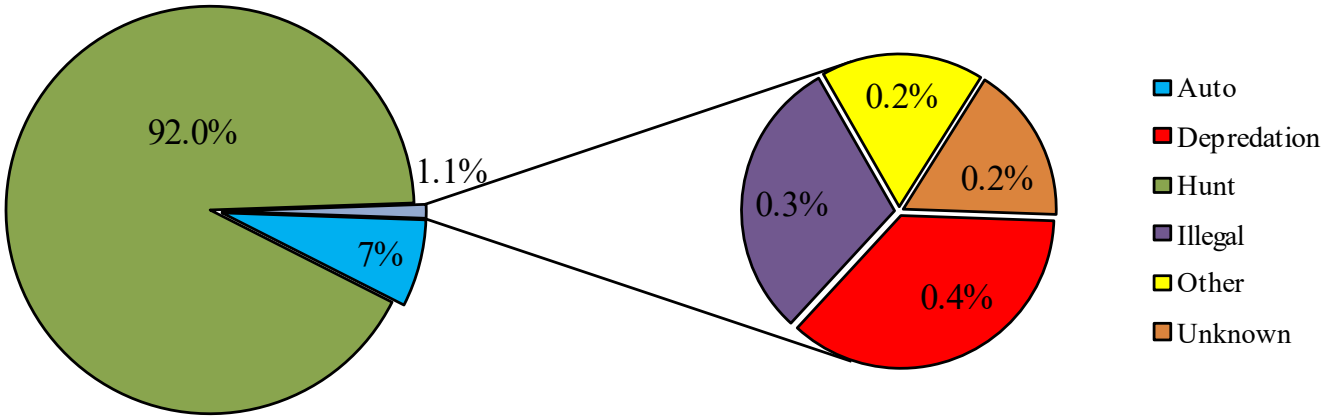


Figure 57. Causes of mortality among bears sampled by NCWRC from 1969 through 2021.

During 2021, there were 255 non-harvest mortalities in North Carolina (Table 39); 86% of these non-harvest mortalities were from vehicle collisions (n=220), followed by depredation (n=12), other mortalities (n=11), unknown causes (n=7), and illegal mortalities (n=5). Depredation mortalities decreased 8% in 2021, with a 27% decline the MBMU (n=8) and a 100% increase in the CBMU (n=4; Figures 58 and 59). Illegal mortalities increased 67% from the prior year (n=5; Figure 60).

Vehicle-caused mortalities decreased 11% from 2020 (n=218; Figure 61). Vehicle-caused mortalities decreased 14%, 8%, and 20% in the CBMU, MBMU, and PBMU, respectively (Figure 62). Fifty-nine percent of vehicle-caused mortalities occurred in the CBMU during 2021 (Figure 62), likely reflecting the higher bear population and number of highways in that region. In 2021, Currituck (n=33), Buncombe (n=28), and Haywood (n=17) counties reported the highest number of vehicle mortalities (Figure 63). Historically, Buncombe County (n=329) leads counties statewide for vehicle-caused mortalities, followed by Jones (n=320), Beaufort (n=312), and Washington counties (n=297; Figure 64).

A majority of vehicle-caused mortalities occur in October, followed by November and June (Figures 65). The increase in the number of roadkills that occur in June is primarily due to increased movements by younger bears; when the female's offspring are just over a year old, they will separate from their mother sometime after den emergence (late April through mid-June) and disperse until they establish a home range. The increases in roadkills that occur in October and November is due to increased travel by both male and female bears in search of foods (Figures 66). During fall, black bears must consume mass amounts of food to prepare their body for winter, when they must rely on their body fat for nutrition, maintenance, production of cubs and lactation. The need to find foods in fall in order to have adequate body fat for the lactation and the production of cubs is likely the main reason female adults (>3 years old) comprise the majority of roadkilled female bears (Figure 67). The age distribution of female bears is more even, with most mortalities occurring in the 3-5 age class, followed by yearling age class (Figure 68). Male yearlings

and subadults tend to travel further from their natal home range than females, thus they comprise the majority of roadkills (Figure 68).

Table 39. Non-harvest mortalities by district during 2021.

District	Vehicle	Depredation	Illegal	Other	Unknown	Total
1	112	4	0	1	0	117
2	10	0	0	0	0	10
3	2	0	0	0	0	2
4	2	0	0	0	0	2
5	6	0	0	0	0	6
6	1	0	0	0	1	2
7	4	0	0	0	0	4
8	14	2	0	3	2	21
9	69	6	5	7	4	91
Total	**220**	**12**	**5**	**11**	**7**	**255**

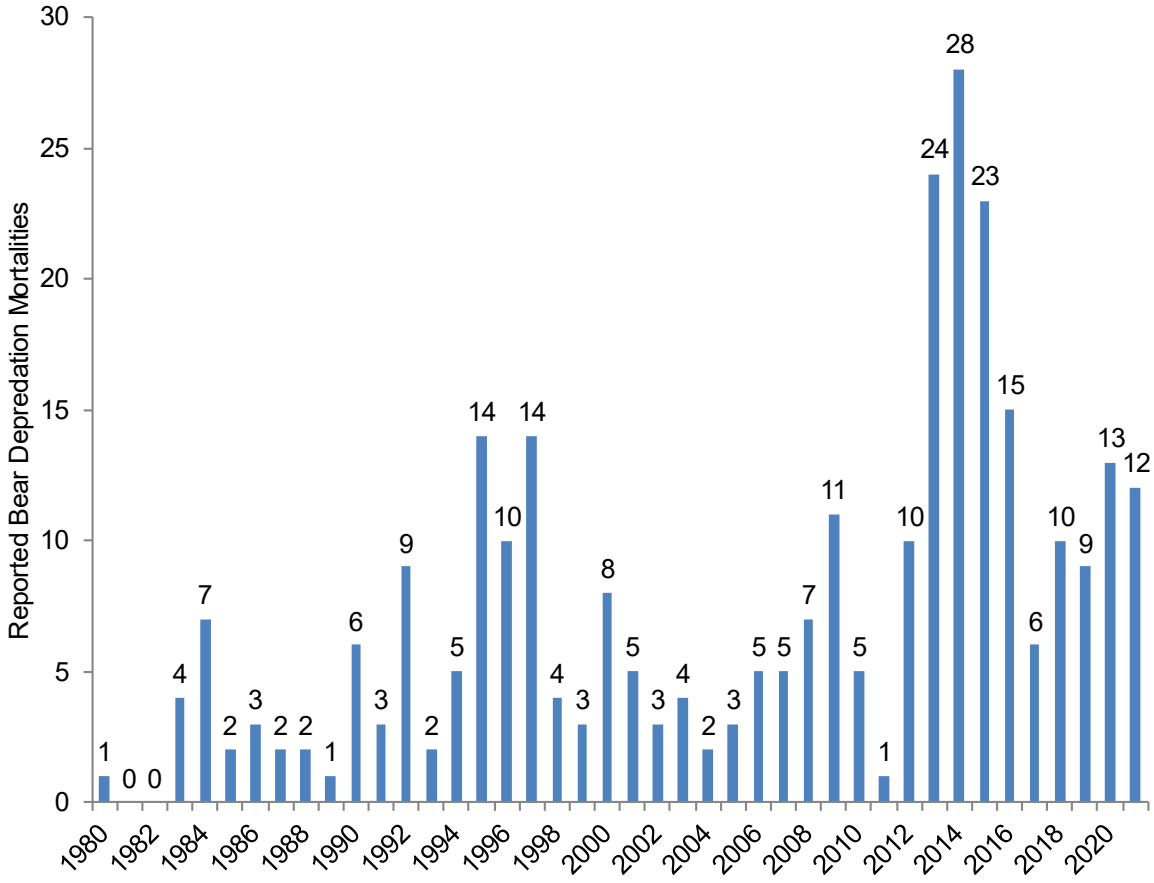


Figure 58. Number of reported bear mortalities caused by depredation from 1980 through 2021 in North Carolina.

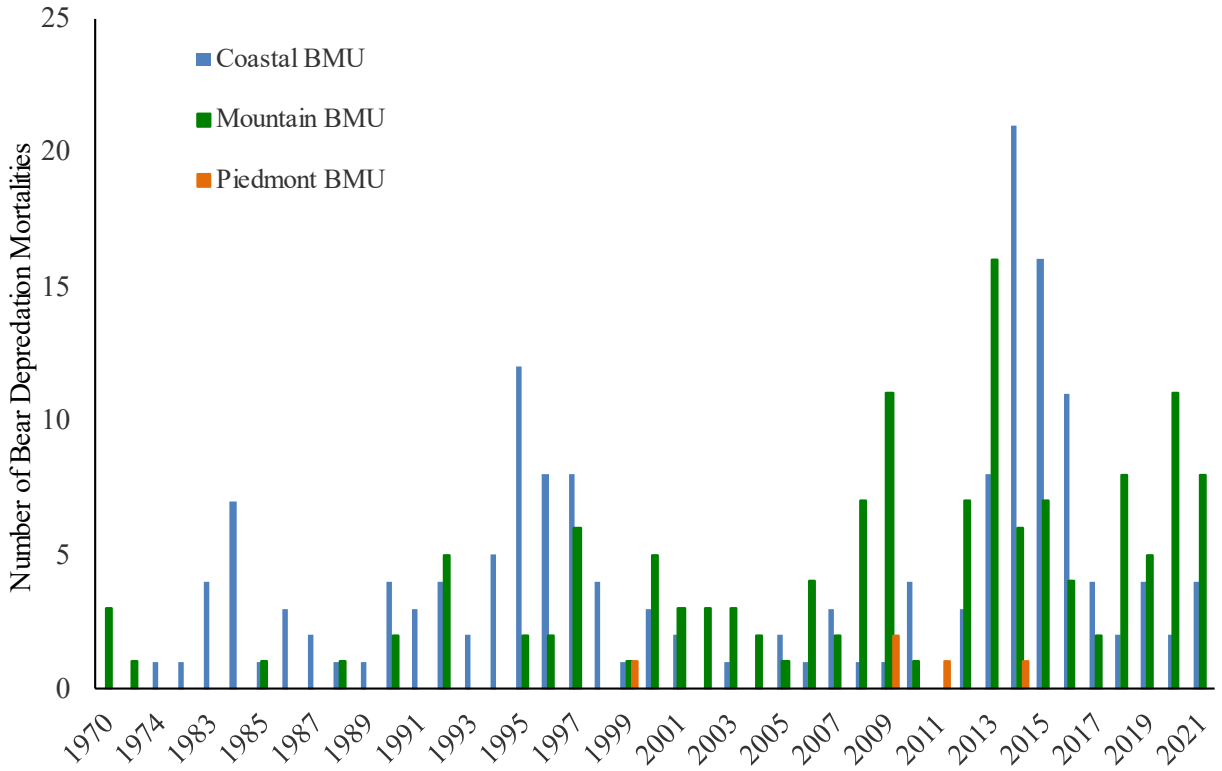


Figure 59. Number of reported bear mortalities caused by depredation from 1980 through 2021 in North Carolina by bear management unit.

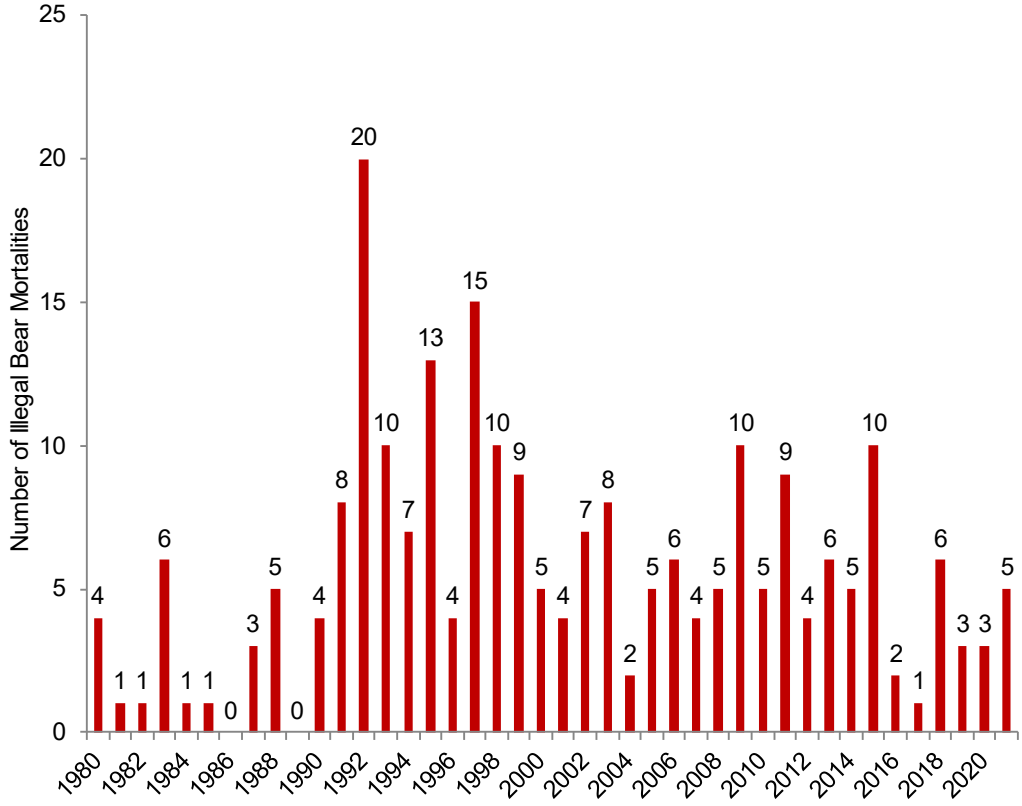


Figure 60. Number of illegal bear mortalities in North Carolina from 1980 through 2021.

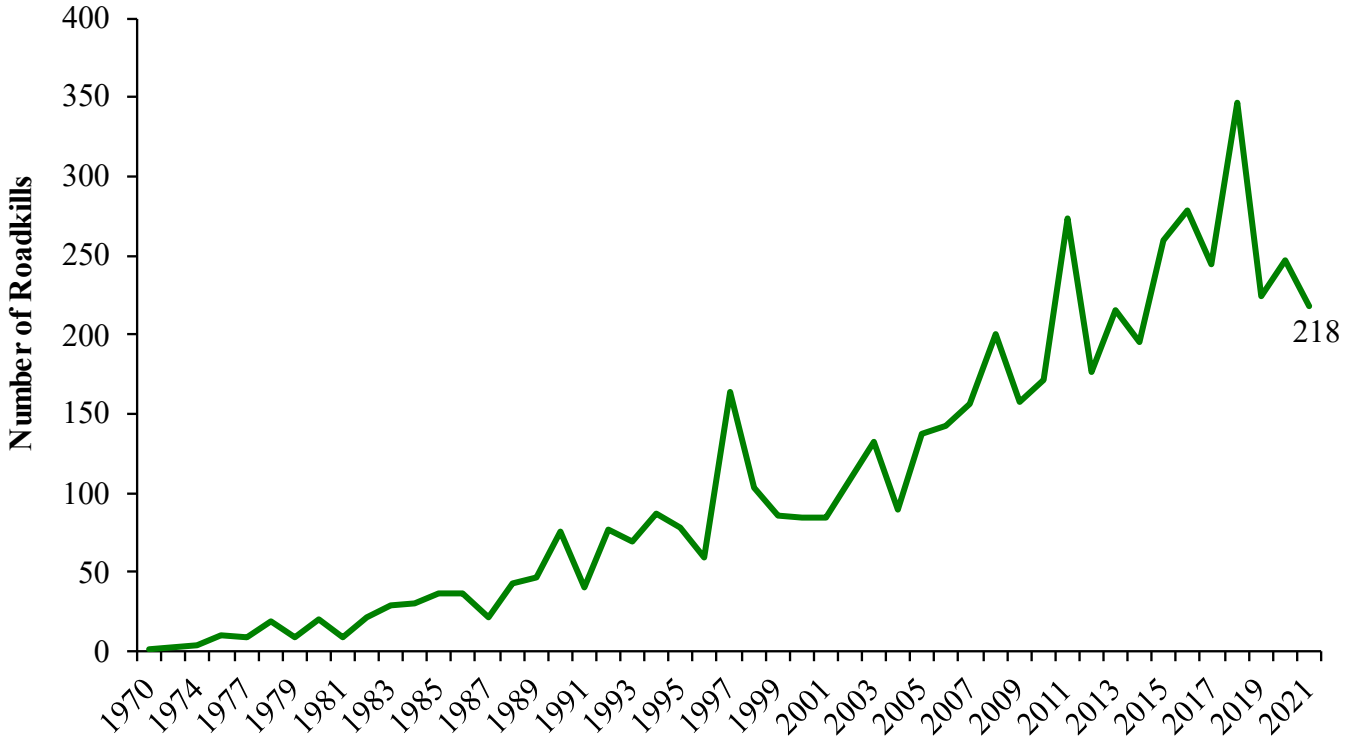


Figure 61. Total number of vehicle-caused black bear mortalities in North Carolina from 1970 through 2021.

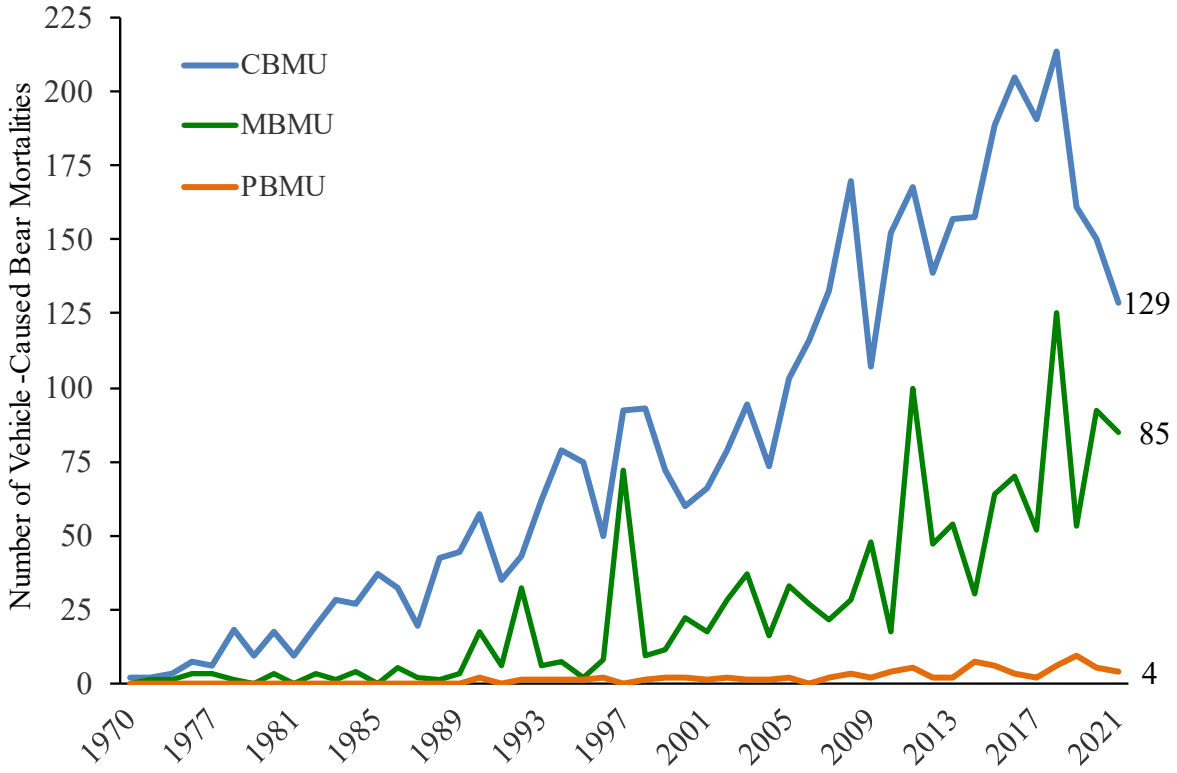


Figure 62. Total number of vehicle-caused black bear mortalities in North Carolina from 1970 through 2021 by bear management unit.

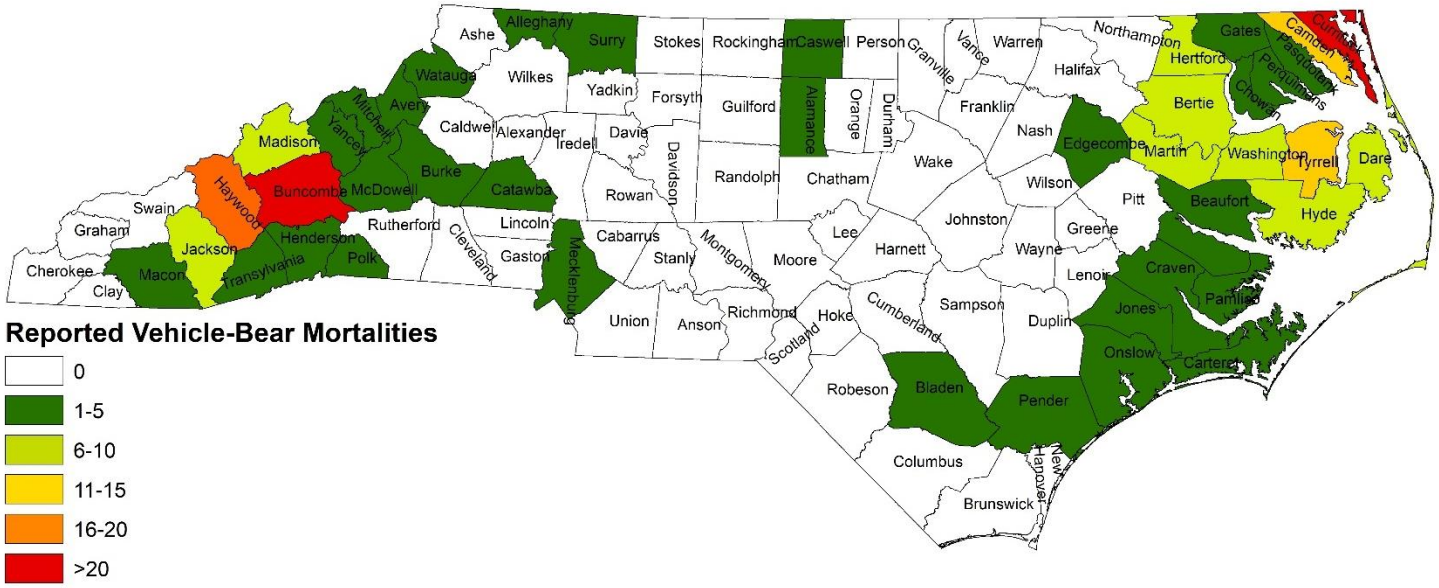


Figure 63. Number of vehicle-caused bear mortalities in North Carolina in 2021.

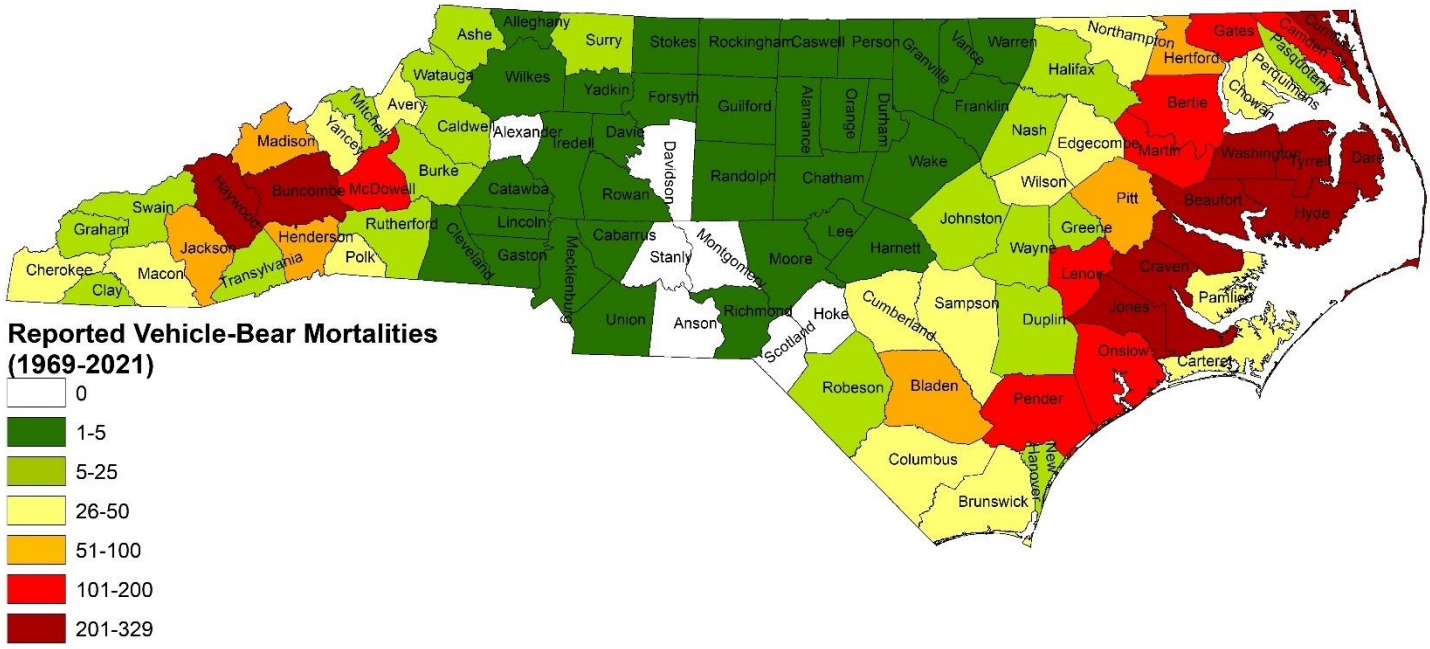


Figure 64. Number of vehicle-caused bear mortalities from 1969 through 2021.

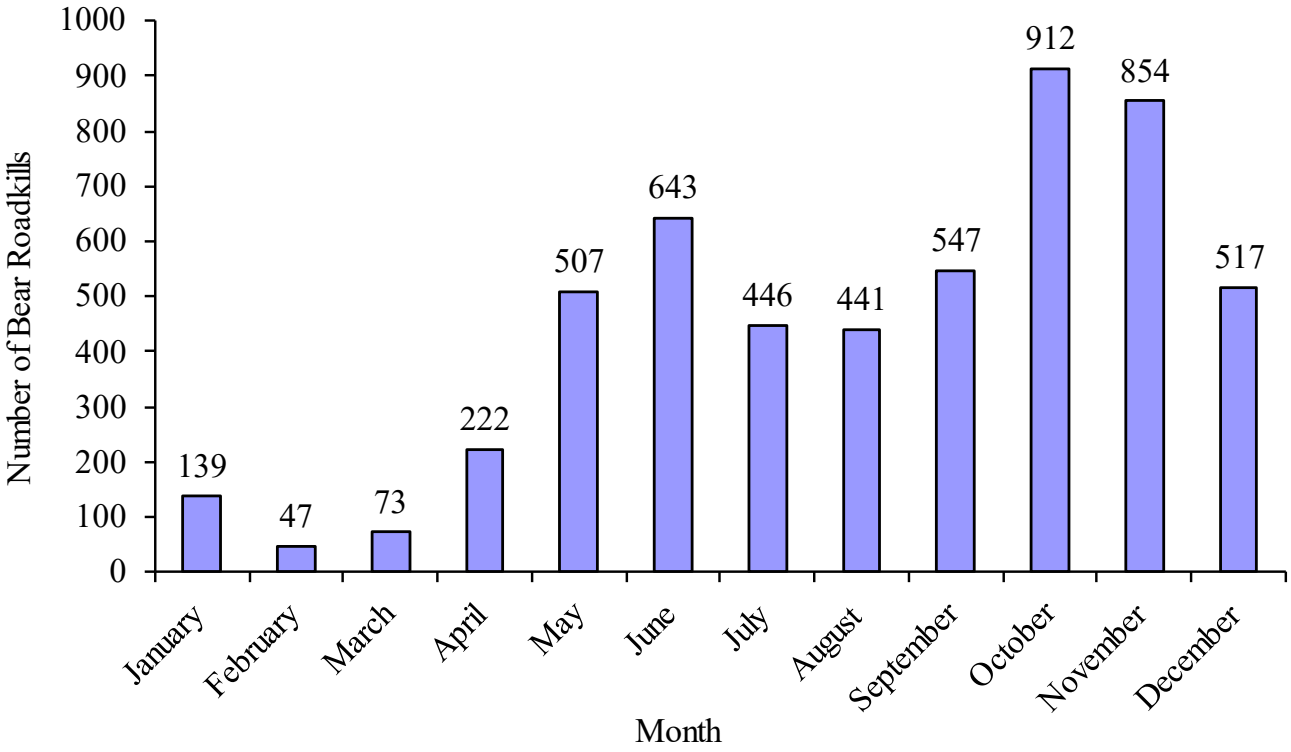


Figure 65. Number of vehicle-caused mortalities by month in North Carolina, 1970-2021.

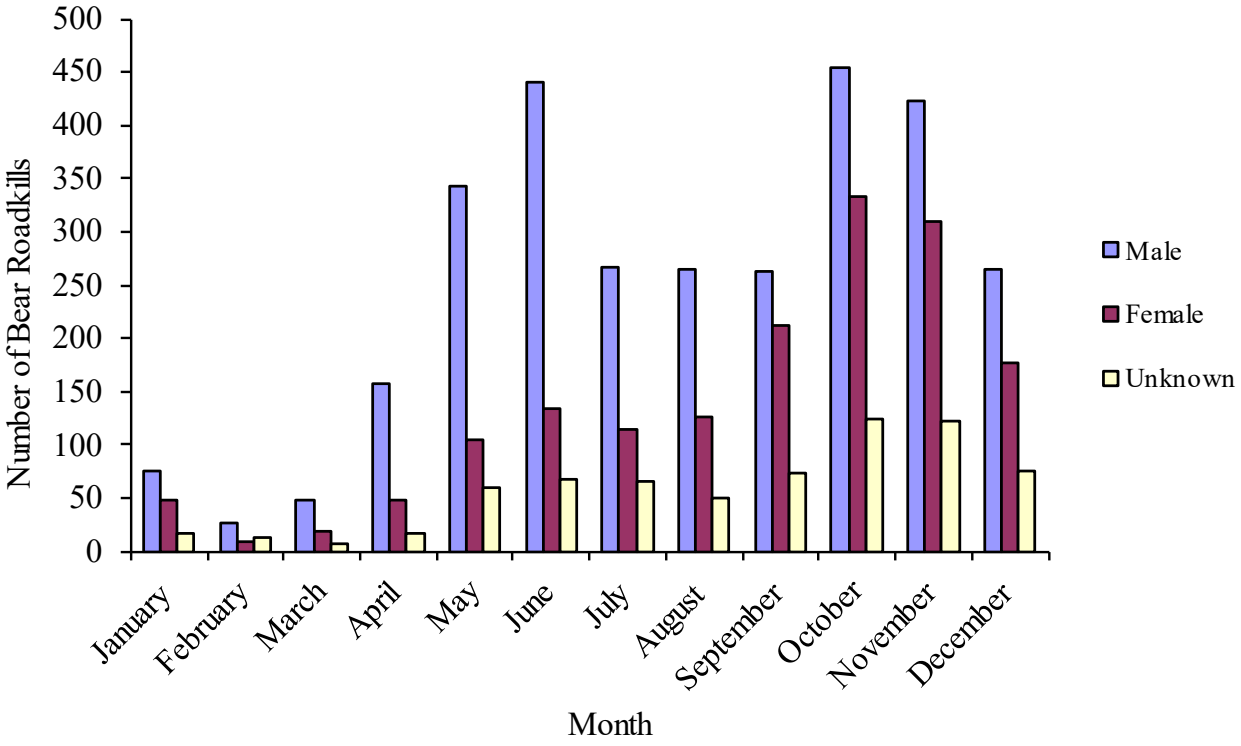


Figure 66. Number of vehicle-caused mortalities by month and by sex in North Carolina, 1970 through 2021.

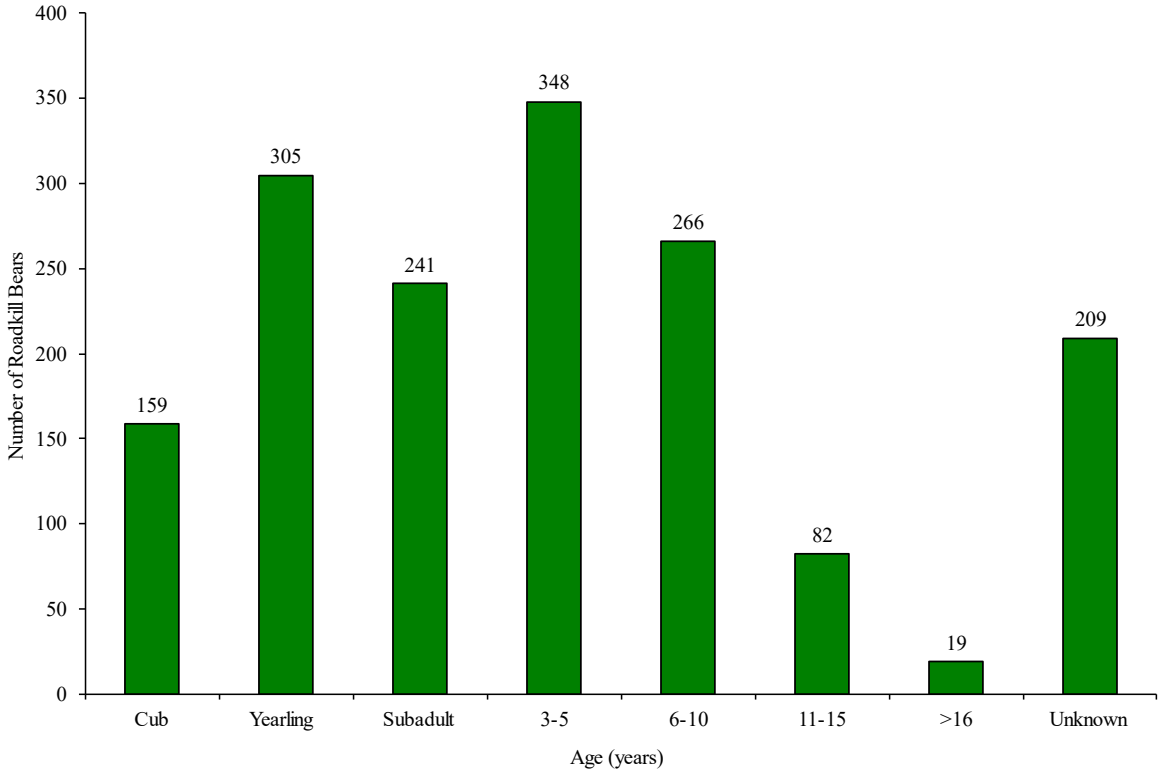


Figure 67. Number of vehicle-caused mortalities of female bears by age category in North Carolina, 1970-2021.

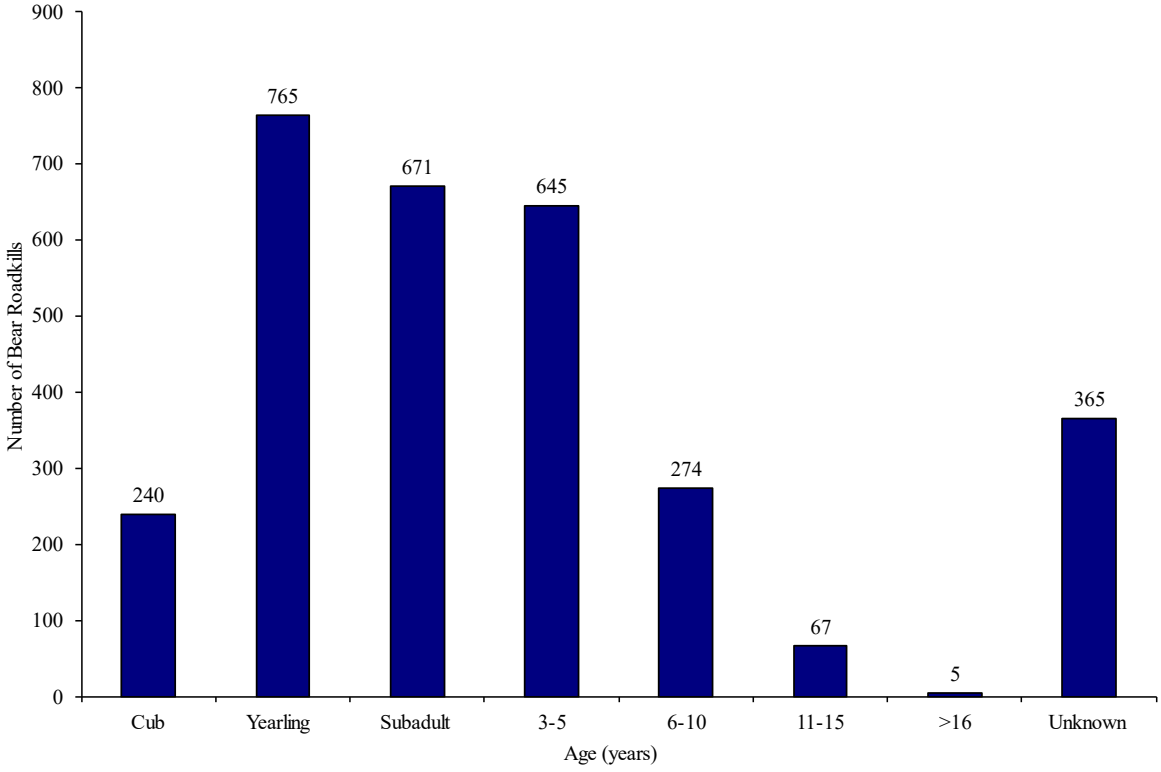


Figure 68. Number of vehicle-caused mortalities of male bears by age category in North Carolina, 1970-2021.

Human-Bear Interactions

Since 1993, WRC biological staff have recorded human-bear interaction reports (Table 40; Figure 69). A human-bear interaction includes both bear observations and conflicts with bears. This information aided in tracking bear population trends for several decades and now helps the Commission predict when most interactions may occur (Figures 73 through 75), identify areas of high interactions (Figure 72) and identify common sources of conflict so that we can properly address human-bear interactions and provide effective technical guidance, such as the BearWise® Basics (bearwise.org) to resolve conflicts.

In 2021, observations and complaints about black bears decreased 6%, from 1,618 in 2020 to 1,528 in 2021 (Table 40; Figure 70). Despite the decline, this was the 3rd highest recorded number of human-bear interactions since 1993, likely indicative of the continued growth of the bear population in the MBMU (Figures 56, pages86-87) and the increase in the human population in North Carolina.

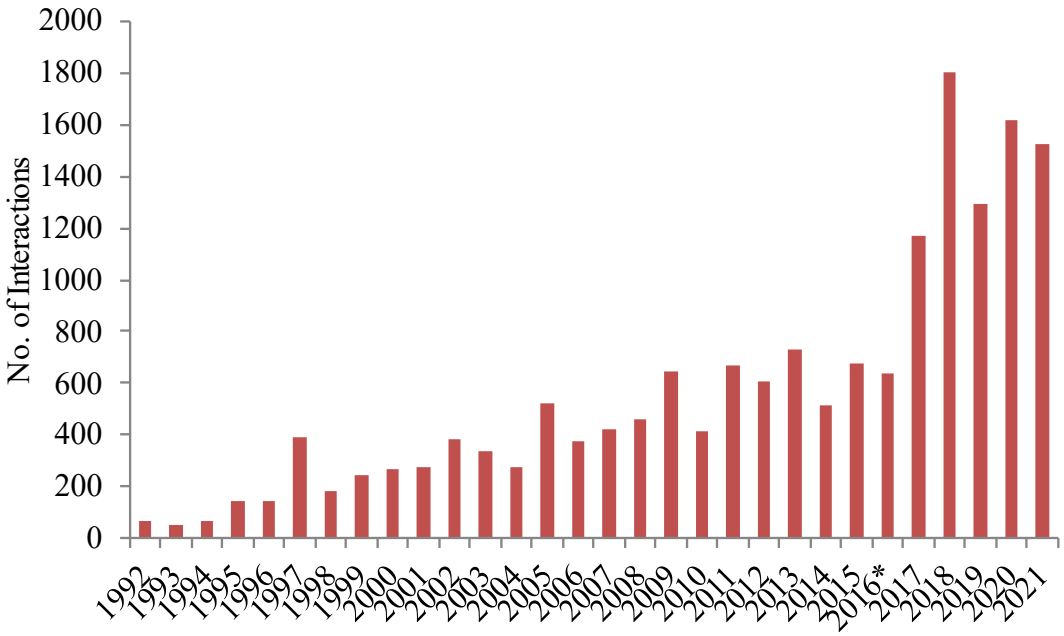


Figure 69. Number of human-bear interactions by year in North Carolina, 1993 through 2021. *Statewide wildlife helpline created.

As in past years, the MBMU had the highest number of human-bear interactions (n=992; 64% of statewide phone calls; Figure 70), particularly District 9, which comprised 51% of all interactions (n=777; Table 40). While the MBMU experienced a 16% decline in human-bear interactions, the PBMU and CBMU experienced a 15% and 62% increase, respectively (Figure 70). The high number of human-bear interactions in District 9 is largely driven by the high human population in Buncombe County, coupled with high bear densities in this area, due to limited hunter access, topography and habitat that aids in bear dispersal, and the high amount of artificial food resources in and around Asheville (e.g., bird feeders, garbage, purposeful feeding). Buncombe (n=474) and Henderson (n=88) counties reported the highest number of human-bear interactions, followed by Watauga County (n=55; Figure 72).

Out of 100 counties, Buncombe County reported 31% of all human-bear interactions during 2021, which is why the Commission has focused efforts to promote living responsibly with bears via BearWise and BearWise Recognized Communities in this county. A BearWise-Recognized community is defined as a

neighborhood, town, business, campground, park, college, or other type of land-based organization. BearWise communities commit to co-existing responsibly with bears, securing all potential food sources, and knowing when and how to report bear activity. Over the past 2 years, the Commission has worked with community partners to create 3 recognized BearWise Communities and 1 recognized BearWise Business (Sierra Nevada Brewing Company) in Buncombe County and hope to have more communities become recognized by end of 2023.

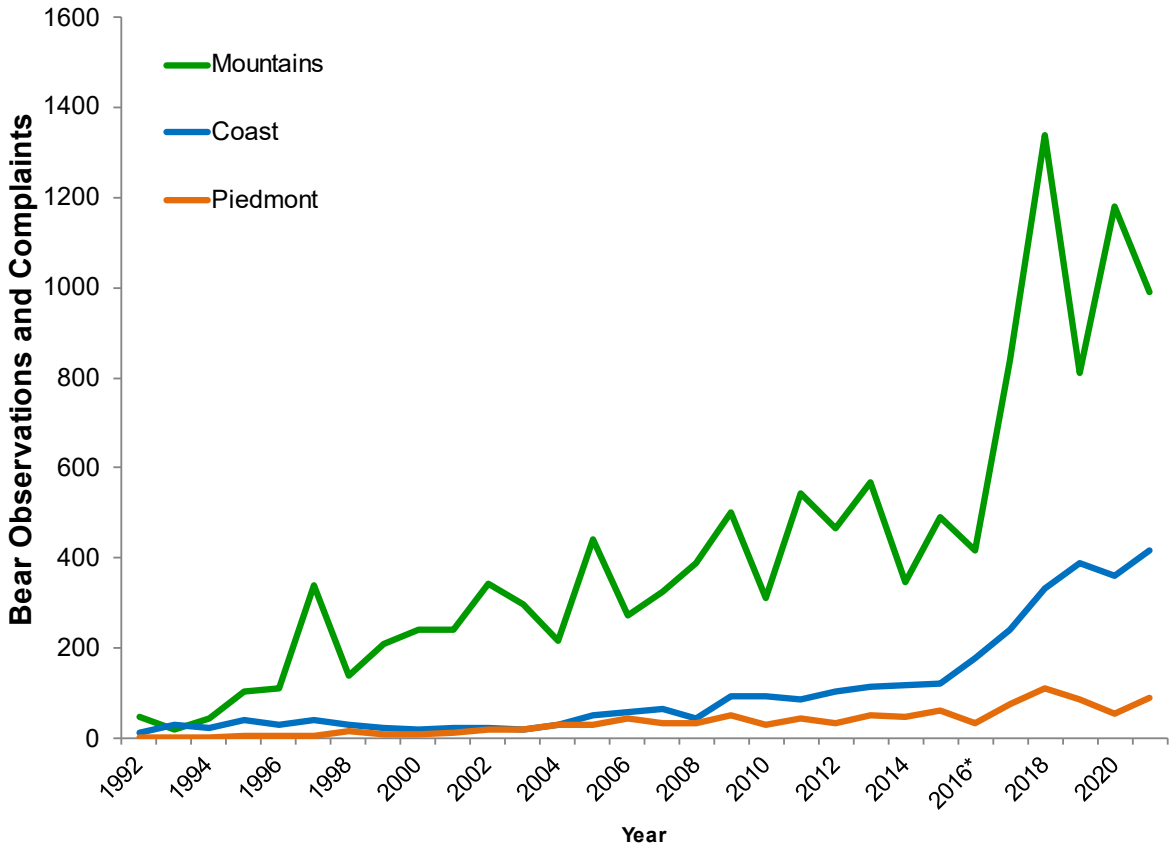


Figure 70. Number of human-bear interactions by bear management unit from 1992 through 2021.

Table 40. Number of Human-Bear Interactions Received by the North Carolina Wildlife Resources Commission, 2002-2021.

District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*	2017	2018	2019	2020	2021
1	2	6	9	17	30	31	21	44	46	48	53	48	58	70	90	105	125	143	185	161
2	10	8	12	19	14	9	3	27	33	22	25	52	49	40	31	86	160	155	98	170
3	3	0	16	12	13	13	12	22	11	17	14	6	5	6	9	19	39	44	14	34
4	6	7	8	6	5	15	5	9	9	11	17	11	11	14	23	41	38	56	67	64
5	10	8	11	16	12	7	13	11	6	14	12	14	12	18	12	17	29	34	22	28
6	0	0	0	0	4	4	3	3	0	8	3	15	6	6	2	15	12	19	10	22
7	13	15	12	16	29	27	30	34	15	29	24	46	36	39	39	52	96	51	99	121
8	55	82	40	51	37	41	70	91	63	97	70	74	62	63	46	145	146	89	80	119
9	278	226	184	397	232	271	302	405	234	425	385	465	272	419	331	676	1140	694	1017	777
Totals	**377**	**352**	**292**	**534**	**376**	**418**	**459**	**646**	**417**	**671**	**603**	**731**	**511**	**675**	**583**	**1156**	**1785**	**1285**	**1592**	**1496**

*New call center created and all Commission staff now reporting phone calls about bears.

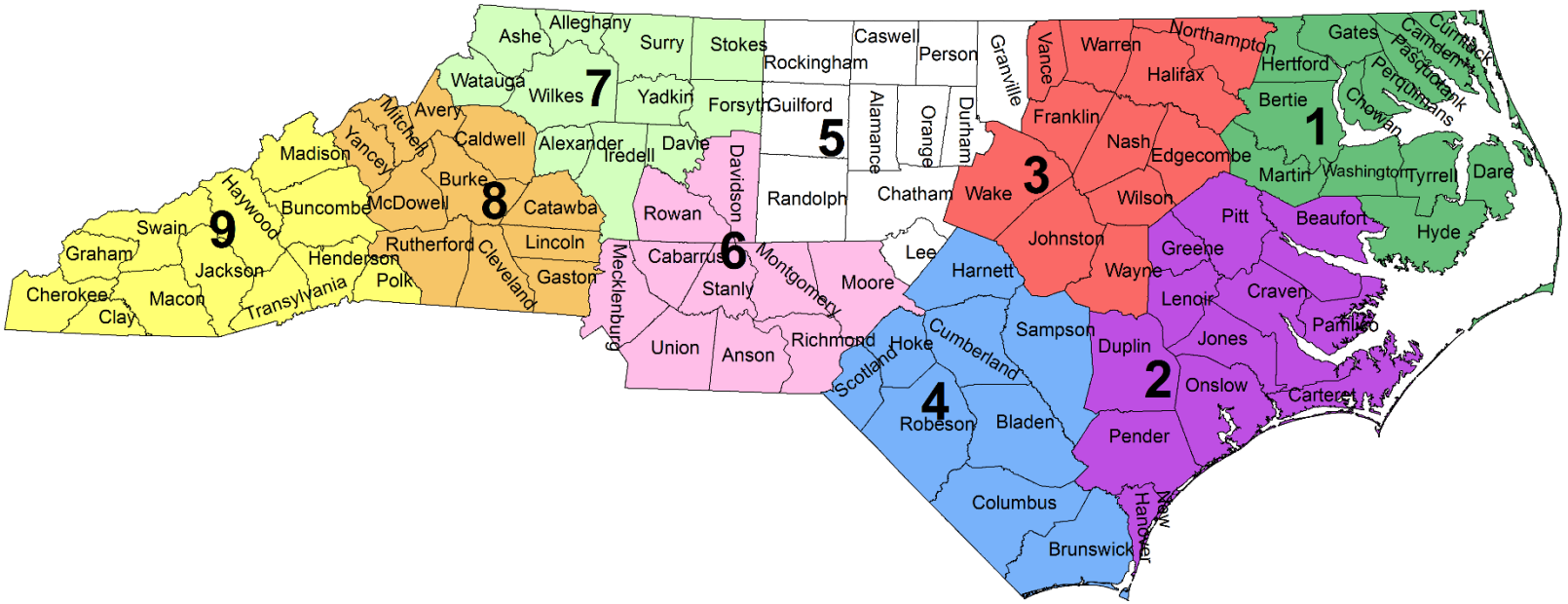


Figure 71. The nine wildlife districts of the North Carolina Wildlife Resources Commission.

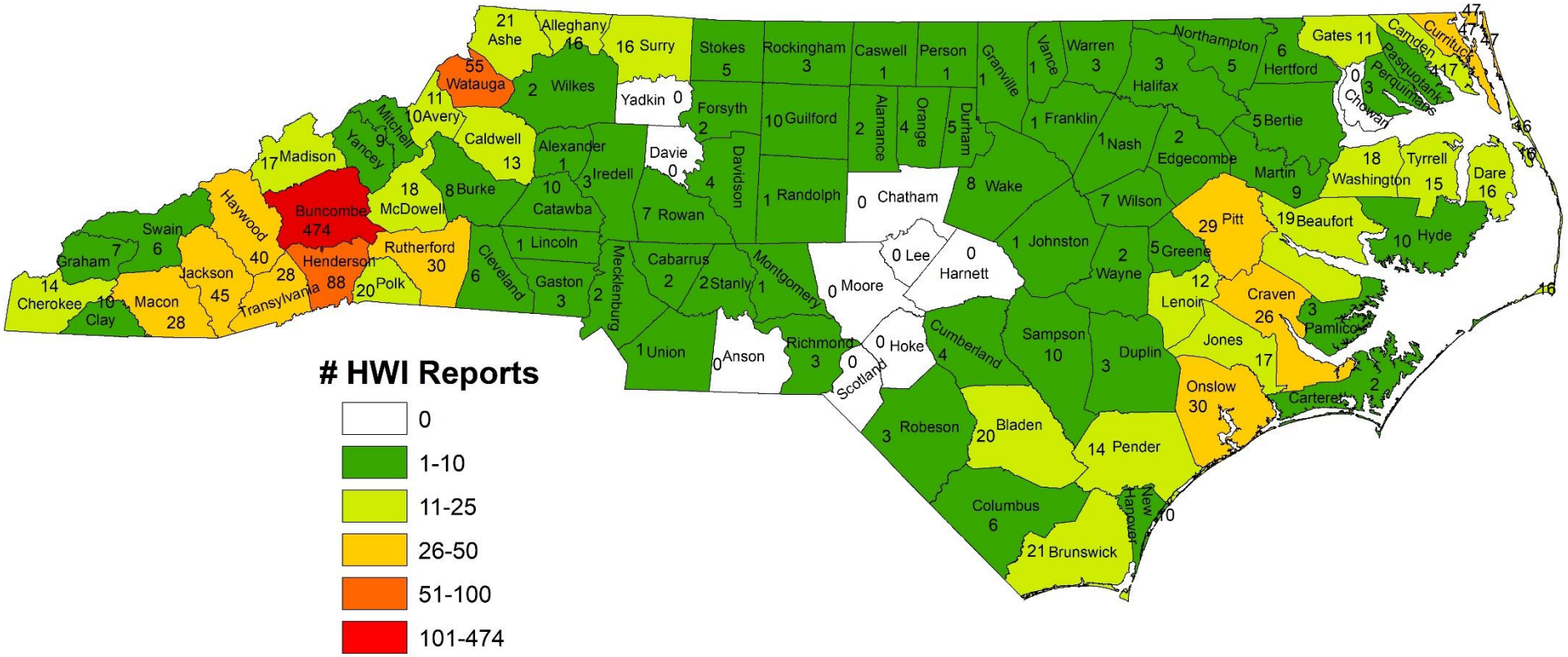


Figure 72. Number of human-bear interaction reports received by the North Carolina Wildlife Resources Commission in 2021.

Since 1993, a majority of observations and complaints about black bears occur in May through August (Figure 73), when bears are more active due to increased traveling to locate natural food resources, as well as a time of year when more people are spending time outdoors. In the CBMU during June and July, corn is typically reaching the milk stage of the growth stage, which makes it highly attractive to bears. May and June are also the time of year when yearling bears are dispersing away from their mothers and more likely to encounter human development and unnatural food sources, such as bird feeders and garbage. In late summer and early fall, acorns become available, resulting in a decline in human-bear interactions at this time of year. Similar to the 29-year trend, monthly patterns human-bear interactions in 2021 were highest from June through August and started to decline once hard mast was available in late August/early September through the fall (Figures 73 and 74).

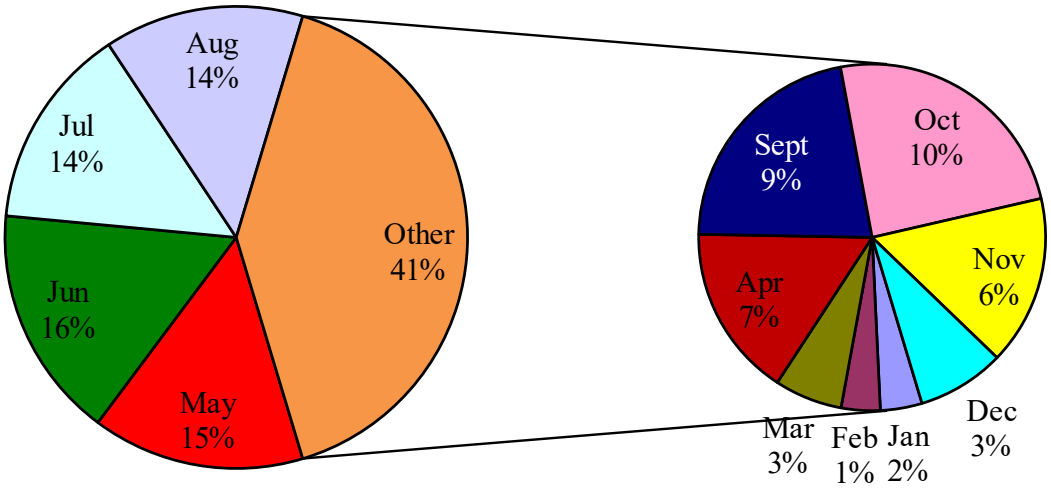


Figure 73. Percentage of statewide black bear observations and complaints by month for 1993-2021.

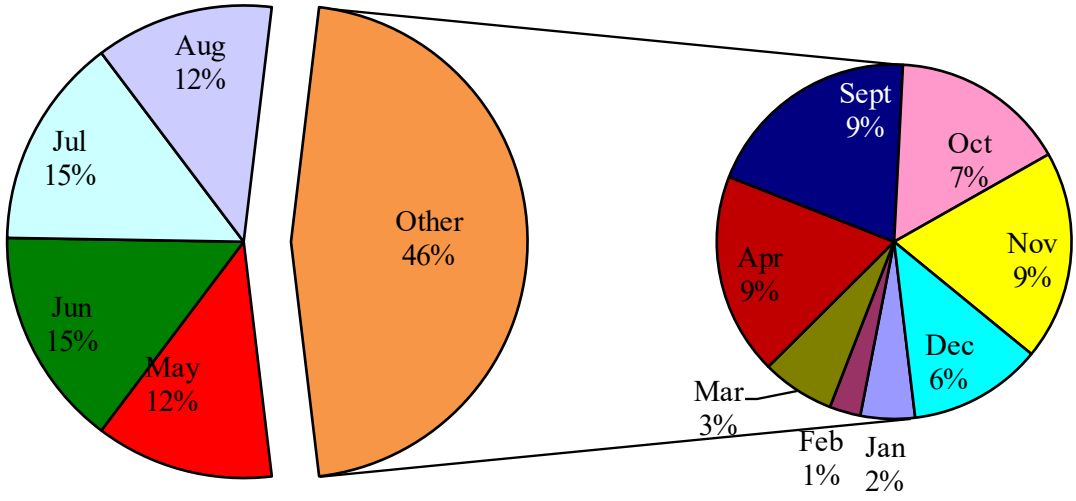


Figure 74. Percentage of statewide black bear observations and complaints by month for 2021.

Human-bear interactions were at their highest in the MBMU, PBMU, and CBMU during the summer months, though each BMU had peak interactions staggered by month; peak interactions occurred in July (n=71) for the CBMU (n=53-56 monthly), in June for the PBMU, and in July (n=150) followed by August (n=147) for the MBMU (Figure 75).

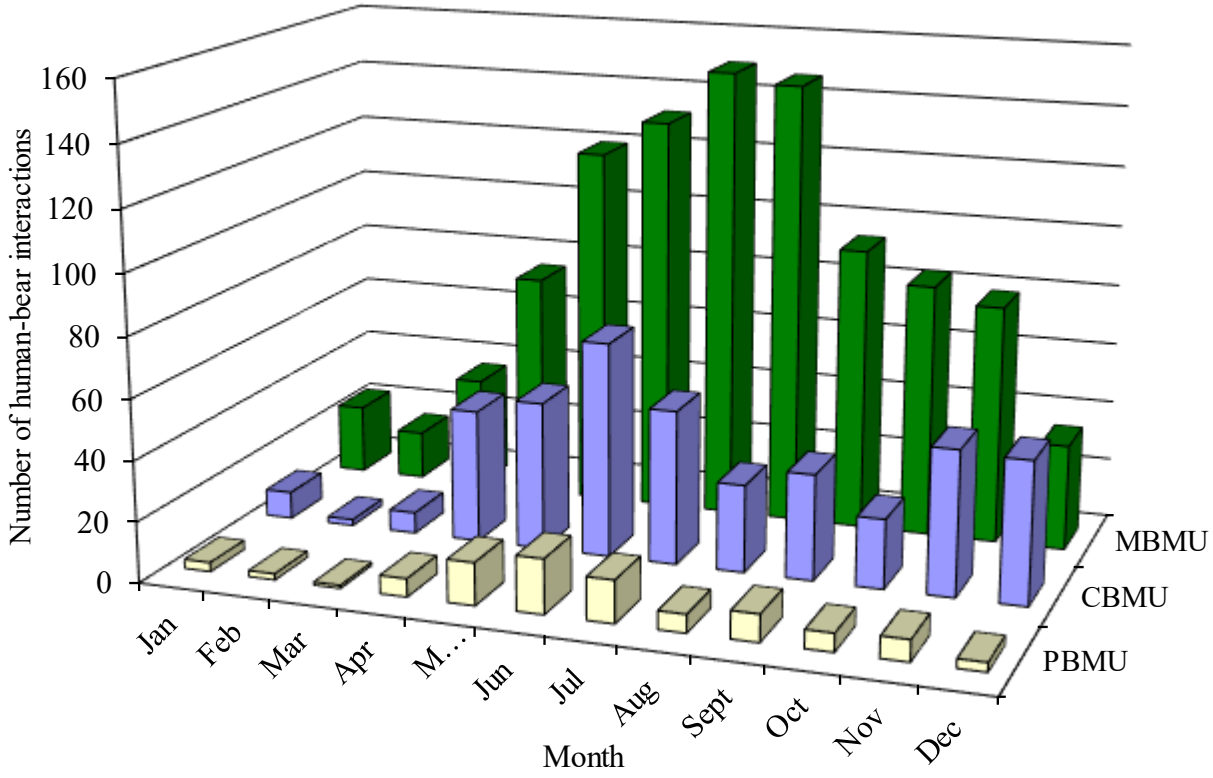


Figure 75. Number of human-bear interactions by month and bear management unit in 2021 in North Carolina.

Hard Mast Surveys

This report and previous annual mast reports (2003 to present) can be found at: http://www.ncwildlife.org/bear and click on “Surveys and Reports” tab, then the “Hard and Soft Mast Surveys” link.

Bait Station Surveys

Bait station surveys in the Mountain BMU were initiated in 1992 and provide a monitoring tool that is independent of harvest and human-bear interaction data, which both have biases. The surveys were conducted annually until 2005, then based on recommendations from the Southern Appalachian Black Bear Study Group, changed to every two years. Several other states in the southeast use this tool to monitor trends in the bear population. All surveys are conducted on public lands (i.e., game lands, National Forest), where the NCWRC has long-term access. In 1998, bait station surveys were conducted in the CBMU to see if this technique could be used to monitor the CBMU's bear population. Due to the abundance of natural foods and agricultural crops, which resulted in bears less likely to visit the bait station, as well as the lower amount of public lands to conduct the surveys, it was determined this technique was not an effective tool in the CBMU.

The most recent bait station survey was conducted in July 2021 by Land and Water Access staff, and 774 stations were visited 354 times by black bears for a visitation rate of 46% (Figure 76). This is a decrease in visitation rate since 2019. The decline in visitation rates from 2009 through 2013 likely reflects a host of factors, including record rainfall that occurred during summer 2013 and changes made to the survey lines in 2011 and 2013. These changes included the removal of several bait stations and survey lines and the addition of four new survey lines. In 2021, the area experienced another wet summer that may have impacted visitation rates. In addition, we removed one line due to increased human disturbance (Lake James State Park) and added a new line at Johns River Game Land (Figure 76).

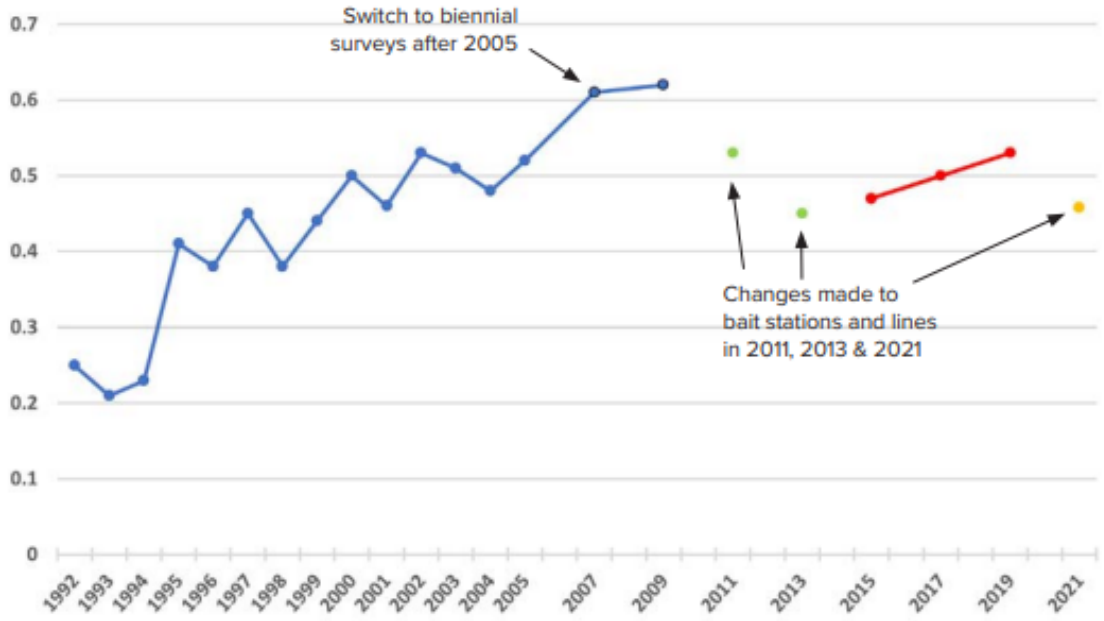


Figure 76. Mountain Black Bear Bait Survey Visitation Rate (%), 1992-2021.

Big Game – Bear

Restrictions

It is unlawful to do any of the following:

- Take a cub (less than 75 pounds) or a female bear with cub(s).
- Hunt bear on a designated bear sanctuary. (See the information below on bear sanctuaries.)

Information on the use of dogs to hunt bears and the use of unprocessed foods is on pages 54–55, 61. Information about the bear cooperator program can be found under the Bear Seasons map on page 61.

Bear Sanctuaries

Bear may not be taken in those parts of counties included in the following sanctuaries:

- **Bachelor Bay Bear Sanctuary**
  Bertie and Washington counties
- **Columbus County Bear Sanctuary**
  Brunswick and Columbus counties
- **Croatan Bear Sanctuary**
  Carteret, Craven and Jones counties
- **Daniel Boone Bear Sanctuary (except by permit only)**
  Avery, Burke and Caldwell counties
- **Dare Bear Sanctuary (except by permit only)**
  Dare and Hyde counties

BEAR HUNTING SEASONS

Daily limit 1; Season limit 1

SEASON DATES	APPLICABLE COUNTY OR COUNTIES
MOUNTAIN BEAR MANAGEMENT UNIT SEASONS	
Oct. 18 – Nov. 20	In and west of Surry, Wilkes, Caldwell, Burke, Cleveland.
Dec. 13 – Jan. 1, 2022	*Note: Further game land restrictions may apply. See the "Game Lands" section for specific game land rules.*
PIEDMONT BEAR MANAGEMENT UNIT SEASONS	
Oct. 16, 2021 – Jan. 1, 2022	Franklin, Harnett, Hoke, Johnston, Moore, Richmond, Scotland, Vance, Wake, Warren
Nov. 13, 2021 – Jan. 1, 2022	Alamance, Anson, Cabarrus, Caswell, Chatham, Davidson, Durham, Granville, Guilford, Lee, Mecklenburg, Montgomery, Orange, Person, Randolph, Rockingham, Rowan, Stanly, Union
Nov. 20, 2021 – Jan. 1, 2022	Alexander, Catawba, Davie , Forsyth, Gaston, Iredell, Lincoln, Stokes, Yadkin
COASTAL BEAR MANAGEMENT UNIT SEASONS	
Nov. 13 – Nov. 28 and Dec. 11 – Dec. 26, 2021	**Zone 1:** Dare, Hyde, Tyrrell
Nov. 13 – Nov. 21 and Dec. 11 – Dec. 26, 2021	**Zone 2:** Camden*, Chowan*, Currituck, Gates, Pasquotank*, Perquimans
Nov. 13 – Nov. 21 and Dec. 11 – Dec. 26, 2021	**Zone 3:** Beaufort, Bertie, Craven, Hertford, Jones, Martin, Washington
Nov. 20 – Dec. 19, 2021	**Zone 4:** Edgecombe, Greene, Halifax, Lenoir, Nash, Northampton, Pitt, Wayne, Wilson
Nov. 8, 2021 – Jan. 1, 2022	**Zone 5:** Bladen, Brunswick, Carteret, Columbus, Cumberland, Duplin, New Hanover, Onslow, Pamlico (use of dogs for hunting bears prohibited in this county), Pender, Robeson, Sampson

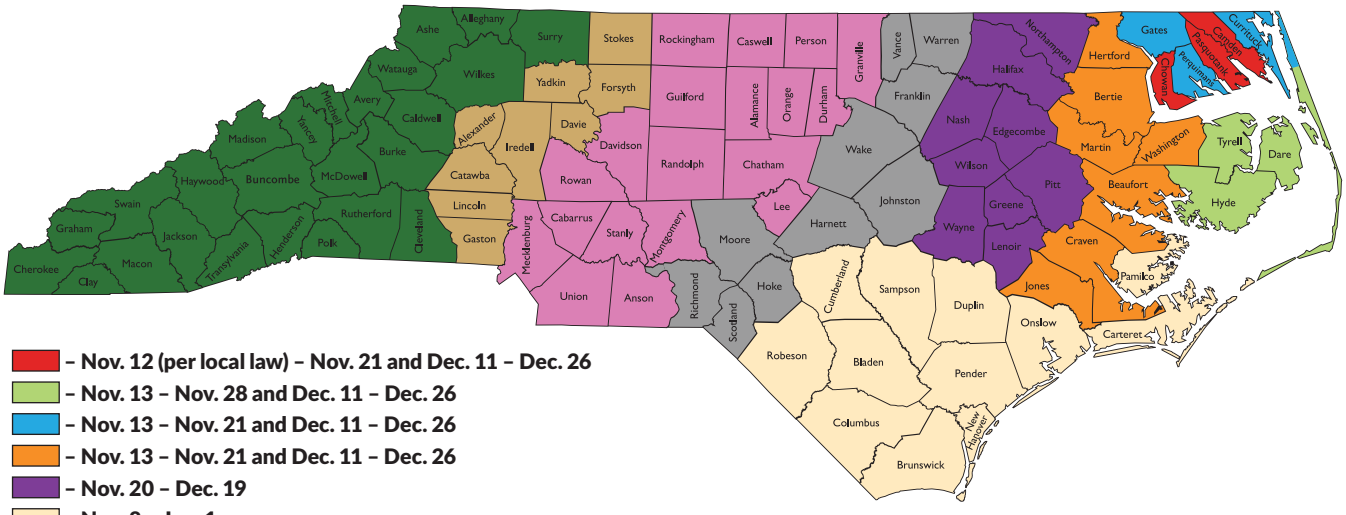
* Per local law, bear season in these counties opens on Nov. 12.

- **Fires Creek Bear Sanctuary**
  Clay County
- **Flat Top Bear Sanctuary**
  Mitchell and Yancey counties
- **Green Swamp Bear Sanctuary**
  Brunswick County
- **Gull Rock Bear Sanctuary**
  Hyde County
- **Harmon Den Bear Sanctuary**
  Haywood County
- **Juniper Creek Bear Sanctuary**
  Brunswick and Columbus counties
- **Mt. Mitchell Bear Sanctuary (except by permit only)**
  McDowell and Yancey counties
- **North River Bear Sanctuary**
  Camden and Currituck counties
- **Panthertown-Bonas Defeat Bear Sanctuary**
  Jackson County
- **Pisgah Bear Sanctuary**
  Buncombe, Haywood, Henderson and Transylvania counties
- **Pungo River Bear Sanctuary**
  Hyde County
- **Rich Mountain Bear Sanctuary**
  Madison County
- **Sherwood Bear Sanctuary**
  Haywood County
- **Standing Indian Bear Sanctuary**
  Macon County
- **Suggs Mill Pond Bear Sanctuary**
  Bladen and Cumberland counties
- **Thurmond Chatham Bear Sanctuary**
  Alleghany and Wilkes counties
- **Wayah Bear Sanctuary**
  Macon County

The following additional restrictions apply to bear sanctuaries:

- Dogs may not be used to pursue bear, except during permit hunts that allow hunting bear with dogs.
- It is unlawful to take feral swine on bear sanctuaries except during the deer archery season, deer blackpowder season, deer gun season and any small game season using only weapons and manner of take prescribed for that hunting season.
- Dogs may not be used to take feral swine.
- It is unlawful to train dogs or allow dogs to run unleashed on bear sanctuaries in and west of the counties where deer hunting with the use of dogs is prohibited (pg. 67) from March 1 until the Monday on or nearest Oct. 15.

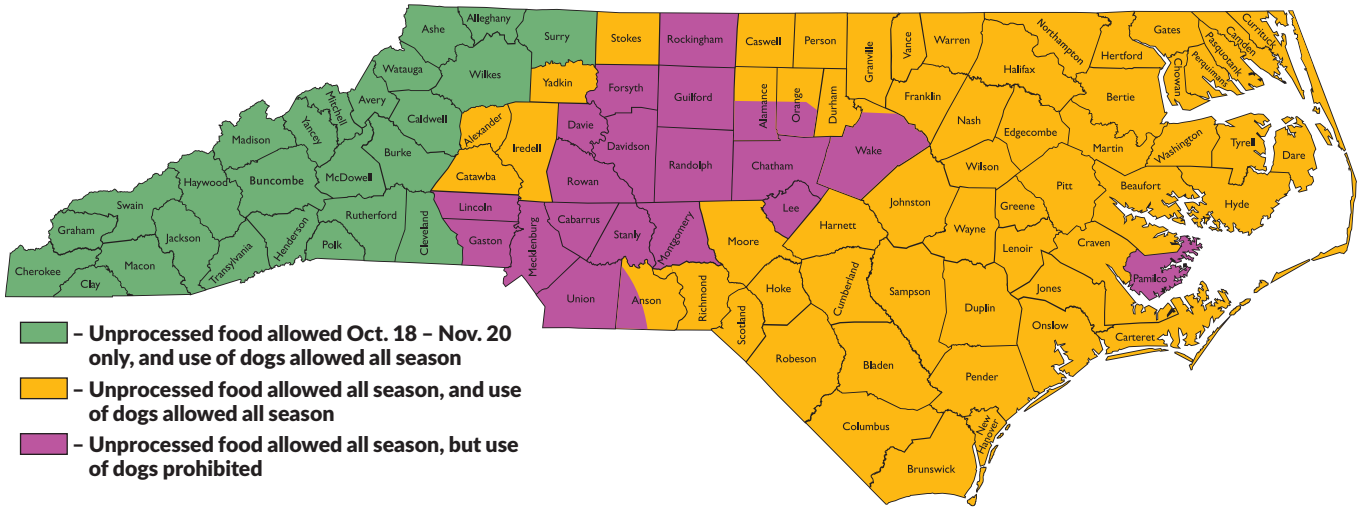
2021–2022 Bear Seasons



- **– Nov. 12 (per local law) – Nov. 21 and Dec. 11 – Dec. 26**
- **– Nov. 13 – Nov. 28 and Dec. 11 – Dec. 26**
- **– Nov. 13 – Nov. 21 and Dec. 11 – Dec. 26**
- **– Nov. 13 – Nov. 21 and Dec. 11 – Dec. 26**
- **– Nov. 20 – Dec. 19**
- **– Nov. 8 – Jan. 1**
- **– Oct. 16 – Jan. 1**
- **– Nov. 13 – Jan. 1**
- **– Nov. 20 – Jan. 1**
- **– Oct. 18 – Nov. 20 and Dec. 13 – Jan. 1**

Bear Hunters: Become a Bear Cooperator and receive a free, blaze orange hunting hat by submitting the premolars from your bear. Call 919-707-0050 or visit ***ncwildlife.org/bear*** for more information, including a video on how to remove the premolars.

Hunting Bear with Dogs and Using Unprocessed Foods



- **– Unprocessed food allowed Oct. 18 – Nov. 20 only, and use of dogs allowed all season**
- **– Unprocessed food allowed all season, and use of dogs allowed all season**
- **– Unprocessed food allowed all season, but use of dogs prohibited**

DOGS. Hunting bears with dogs is prohibited in the following counties or parts of counties: Alamance south of I-85, Anson west of N.C. Hwy 742, Cabarrus, Chatham, Davie, Davidson, Forsyth, Gaston, Guilford, Lee, Lincoln, Mecklenburg, Montgomery, Orange south of I-85, Pamlico (per local law), Randolph, Rockingham, Rowan, Stanly, Union, and Wake south of N.C. Hwy 98. In all other counties, hunting bears with the use of dogs is legal during open bear seasons, but restrictions may apply on game lands. See "Game Land" section for further information.

UNPROCESSED FOODS. Legal during the Monday on or nearest October 15 to the Saturday before Thanksgiving* in and west of Surry, Wilkes, Caldwell, Burke and Cleveland counties. In all other counties, unprocessed foods may be used to aid in taking of bear during any open season for bear.

** The prohibition against taking bears with the use and aid of bait does not apply to the release of dogs in the vicinity of any food source that is not a processed food product. However, dogs may not be released in the vicinity of any commercially available mineral supplement whether placed for the purpose of attracting deer or otherwise.*

It is unlawful:

- to take a bear while in the act of consuming unprocessed foods; or with use or aid of any animal, animal part or product, salt, salt lick, honey, sugar, sugar-based material, syrups, candy, pastry, gum, candy block, oils, spices, peanut butter, grease; or extract of such substances; or any substance modified by any of the above substances or extract of above substance; or any bear bait attractant, including scented sprays, aerosols, scent balls, and scent powders; or processed food products. Processed food products are any food substance or flavoring that has been modified by the addition of ingredients or by treatment to modify its chemical composition or form or to enhance its aroma or taste. This includes: food products enhanced by sugar, honey, syrups, oils, salts, spices, peanut butter, grease, meat, bones, or blood; candies, pastries, gum, and sugar blocks; and extracts of such products; and to place any sort of processed or unprocessed foods on game lands.