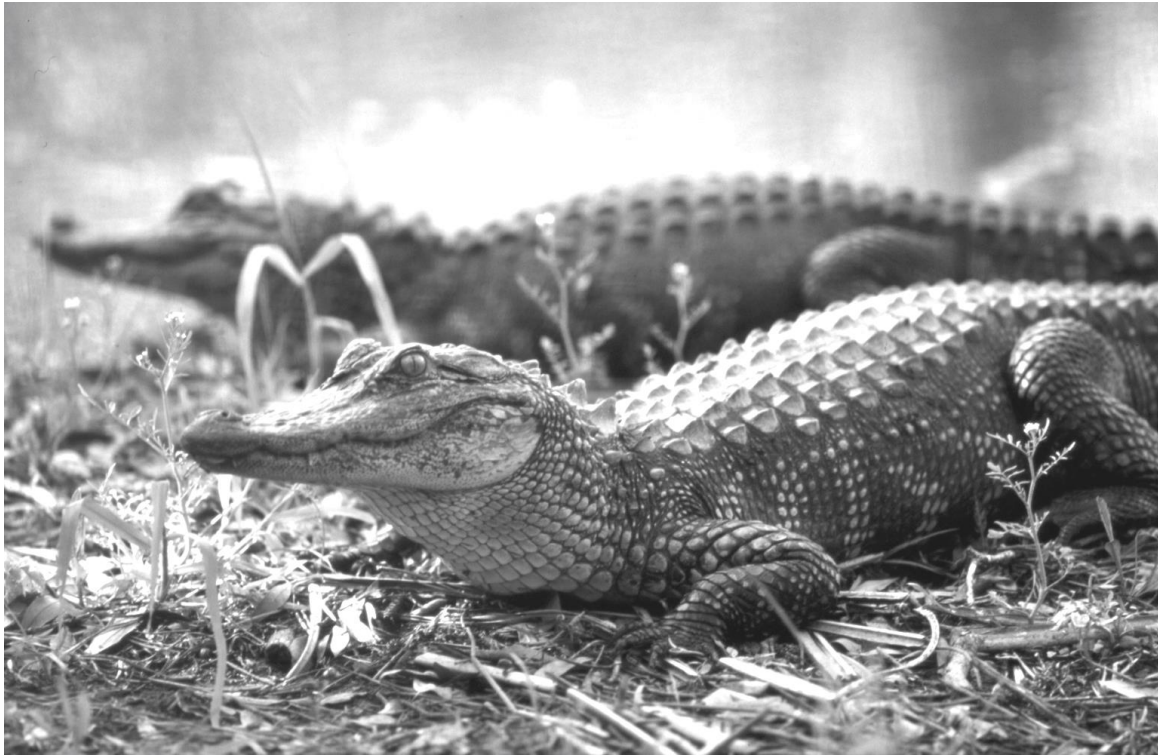


# Alligator Hunting Season Report 2017



Submitted by:  
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## **INTRODUCTION**

The successful return of the American alligator (*Alligator mississippiensis*), since its near demise and subsequent listing as “endangered” by the Endangered Species Act in the 1960s, has prompted most Southeastern states to implement hunting seasons to allow the public use of this unique natural resource. The hunts are also seen as an attempt to maintain the number of nuisance alligator complaints at a manageable level. The alligator is currently listed as “threatened,” not because of population numbers, which are decidedly secure, but because of its “similarity of appearance” to other rare and protected crocodylians worldwide. It is estimated that a minimum of 100,000 alligators occur in the state of South Carolina.

The 2017 Public Alligator Hunting Season marked the tenth general alligator hunting season after a closure of nearly 40 years. However, alligators have been legally hunted in South Carolina since 1995 under the Private Lands Alligator Harvest Program. The Private Lands Program was established as a means for large landowners having significant amounts of alligator habitat to manage their alligator numbers on a sustained-yield basis, and included quotas for specific size-class alligators. This year’s public hunt, utilizing a random computer drawing, was open to all applicants, including nonresidents, and was conducted on public and private lands (not enrolled in the Private Lands Program) from the Midlands to the coast.

Because alligators can grow to considerable size, alligator hunters can have others assist them with the taking of an alligator during the season. Everyone who participates must have a South Carolina hunting license, or be under the age of 16. To participate in the public alligator season one must first apply online, be selected, then pay a fee for a permit and harvest tag. The fee for the permit and tag is \$100. In addition, any nonresident hunter or nonresident assistant 16 years of age or older must pay a \$200 nonresident alligator hunting fee. By law, all fees collected for the alligator hunting program are used to support administration of the alligator program in South Carolina, and for research, monitoring, and management of this important and unique natural resource.

## **HUNTER SELECTION**

The public alligator hunt is a limited, lottery-style hunt in which participants are selected in a randomized computer drawing. All potential hunters are required to submit an application online through the Department of Natural Resources (DNR) website ([www.dnr.sc.gov](http://www.dnr.sc.gov)) and pay a non-refundable application fee of \$10. A person must be 16 years of age or older to apply for any alligator lottery hunt. There is no age requirement to assist a permitted alligator hunter, although other fees may apply.

The four alligator hunt units (Figure 1) remain unchanged. With the exception of a small portion of Berkeley County located within Lake Marion, county lines bound all hunt units. The allocation of permits for 2017 was 250 per hunt unit based on 1,000 total tags available. Hunters could select the option to be considered for any or all of the units for the computer drawing, but if successful, are only selected to hunt in one unit. After paying the \$100 tag fee, those selected for the hunt are issued a permit and one harvest tag. All alligator harvest tags and permits are issued specifically to the selected hunter and are non-transferrable. The harvest tag is a numbered, permanently locking nylon tag that must be attached to the alligator’s tail immediately after harvest. The permit and tag allow a hunter to take one alligator greater

than 4 foot in total length from either public or private waters in their selected hunt unit; however, no alligator hunting is allowed on certain public lands such as Wildlife Management Areas (except in navigable waters normally open to the general public for hunting), State Parks or Federal properties such as National Wildlife Refuges and their jurisdictional waters.

Two Wildlife Management Area (WMA) properties, Bear Island and Santee Coastal Reserve, were opened for alligator hunting beginning in 2011. These two WMAs are part of a special draw hunt held separately from the regular Public Alligator Hunting Season. Applicants for the WMA Alligator Hunts are required to select an area and a week to hunt on the WMA. Only two hunters per WMA are selected per week, with 4 weeks available, for a total of 16 slots available. If chosen, the applicant is issued a permit and tag that is valid for the WMA and week selected, or at their choosing, could elect to use the tag in the same unit that the specific WMA is located for the remainder of the public alligator season. Bear Island is in the Southern Coastal Unit and Santee Coastal Reserve is located in the Middle Coastal Unit. The cost to apply for the WMA Alligator Hunt is \$15, and the cost for the permit and tag is \$500 for residents and \$800 for nonresidents. A WMA Permit is required of all WMA Alligator Hunters and assistants. Because the two draw hunts are separate, a person could potentially be drawn for both the Public and WMA hunting season. Beginning in 2012, there is the option to purchase an additional tag for a smaller alligator during the WMA hunt. This additional tag is only valid for an alligator from 4-7 feet in length, and only for the chosen WMA during the week selected. Anyone in the hunting party can utilize the additional tag so long as the originally selected hunter is present.

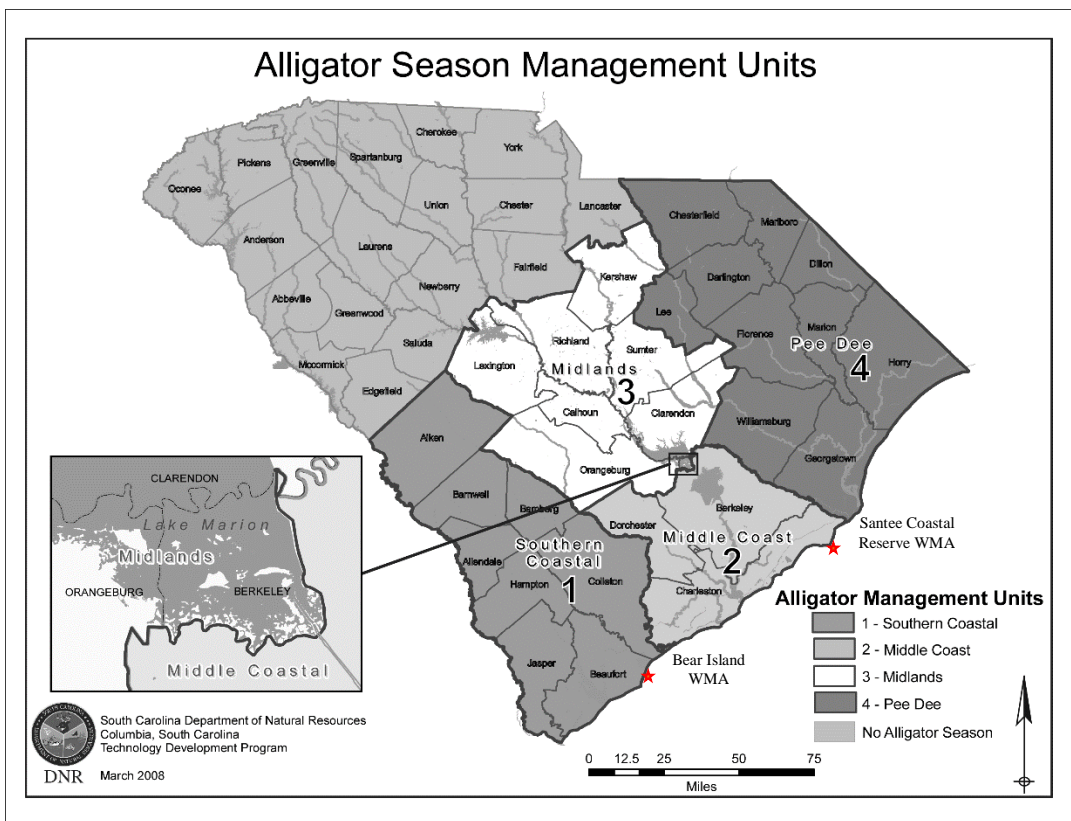


Figure 1. 2017 Alligator Management Units.

Legislation passed during the 2010 legislative session requires that all nonresident alligator hunters pay a *nonresident alligator hunting fee*. This fee is *in addition* to any application, licensing, and permit fees normally required to hunt alligators, regardless of the alligator hunting program. The cost is \$200 and is required of all nonresident hunters, as well as all nonresident assistants that are 16 years of age or older. Thus, the *minimum* cost for a nonresident alligator hunter that receives a permit and tag in the hunt selection is \$350. The fee breakdown would be: \$10 for the application, \$100 for the permit/tag, \$200 for the nonresident alligator hunting fee, and \$40 for a 3-day nonresident hunting license. Nonresident assistants 16 years of age or older would pay a minimum of \$240. This would include the \$200 nonresident fee and a 3-day hunting license (\$40). The *minimum* cost for a nonresident alligator hunter that receives a permit and tag in the WMA hunt selection is \$1,131. The fee breakdown would be: \$15 for the application, \$800 for the permit/tag, \$200 for the nonresident alligator hunting fee, \$76 for the WMA permit, and \$40 for a 3-day nonresident hunting license. Nonresident assistants 16 years of age or older would pay a minimum of \$316. This would include the \$200 nonresident fee, WMA permit (\$76), and a 3-day hunting license (\$40). Nonresident assistants under 16 do not pay any fees. Other states have similar additional nonresident fees, or prohibit nonresident participation altogether.

The lottery selection process began as usual on May 1<sup>st</sup> and ended on June 15<sup>th</sup>. A total of 5,582 hunters applied for the 2017 hunt, an increase of 22.5% from the previous season. The applicants were from 39 different states (including SC) along with one applicant from the Virgin Islands. The number of resident applicants increased slightly to 88.7% of the total applications received for the Public Hunting Season. Of the non-residents, NC and GA residents were 4.1% and 1.1% of the total number of applicants. No other states' applicants were more than 1% of the total.

A total of (295) applications for the WMA Alligator Hunt were received from sixteen different states and a single applicant from Canada. The number of applicants increased (31.7%) from the previous season. SC residents comprised the majority (85.8%) of the WMA applicant pool, followed by 3.1% from NC, and 2.4% from GA.

As was the case last season, no one with less than two preference points was selected for the Public Alligator Hunting season. The majority (82.0%) had two preference points. The remaining selected hunters had three (16.3%), four (1.5%), and two applicants had five preference points. Another 374 applicants with two or more preference points were not selected this season or chose the non-draw option. Applicants lose any accumulated preference points once selected for a permit, whether the permit is purchased or not.

A total of 863 of the 1,000 hunters selected (86.3%) in the 2017 season completed the application process and were issued a harvest tag and permit. The tag purchase rate was identical to last year's rate of 86.3%. Nevertheless, this purchasing rate still remains at or above the predicted fulfillment rate of 75-80% relative to the targeted tag distribution. Currently, the targeted allotment is 1,000 tags, a number which is subject to change in future years based on harvest and/or alligator survey data.

The 2017 Alligator Hunting Guide, (<http://www.dnr.sc.gov/wildlife/alligator/pdf/2017gatorguide.pdf>) was updated to reflect changes from the previous season.

The 2017 season began at noon on September 9<sup>th</sup> and ended at noon on October 14<sup>th</sup>.

## SEASON RESULTS

All permitted alligator hunters were required to report their hunting activities by November 1<sup>st</sup>, regardless of whether or not they actually went alligator hunting in South Carolina. Reporting compliance for 2017 was 52.0% for all fully permitted hunters. Those hunters who did not report are not eligible to apply for the next hunting season.

The total number of alligators reported taken during the 2017 public alligator hunting season was 343 a decrease of 43 alligators (11.4%) from the 2016 season. This represents a success rate of 39.6% for all fully permitted hunters (n=863) and 34.2% for all selected applicants (n=1,000). The Middle Coastal unit had the most alligators taken at 94 (27.5% of total harvest), followed by the Southern Coastal with 92, Pee Dee with 86, and the Midlands Unit with 71 alligators (Table 1).

Table 1. The number of alligators taken and percent of total alligators harvested for the 2017 season by Hunt Unit.

Hunt Unit	Number of Alligators Taken	Percent of Total Harvest*
Middle Coastal	94	27.5%
Midlands	71	20.8%
Pee Dee	86	25.1%
Southern Coastal <sup>a</sup>	92	26.6%
<b>Total</b>	<b>343</b>	<b>100.0%</b>

\*Percentages may not be equal due to rounding of decimal numbers.

<sup>a</sup> includes one alligator taken by a WMA hunter

Fully permitted hunters (n=863) who actually reported going hunting (n=520) had a success rate of 65.0%. The number of hunters that hunted but were unsuccessful was 166 (19.2%). Another 2.2% of hunters (n=19) that paid their \$100 tag fee reportedly did not go alligator hunting this season. The *reported* participation rate was highest in the Middle Coastal and Southern Coastal Units, both with 43.6% of *all selected hunters* (n=250) for the unit going on at least one alligator hunting trip. Participation rates for the other units were as follows: Pee Dee unit at 42.8% (n=250) and the Midlands unit at 39.2% (n=250). Statewide, the participation rate was 42.4% (Figure 2).

Of *all participating hunters reporting*, the Midlands and Pee Dee hunters averaged 3.2 days afield (SD=2.7), Middle Coastal hunters averaged 2.9 hunting trips (SD=2.6) per hunter, followed by the Southern Coastal hunters at 2.8 days (SD=2.6). Collectively, all hunters averaged 3.1 days hunting alligators (SD=2.8).



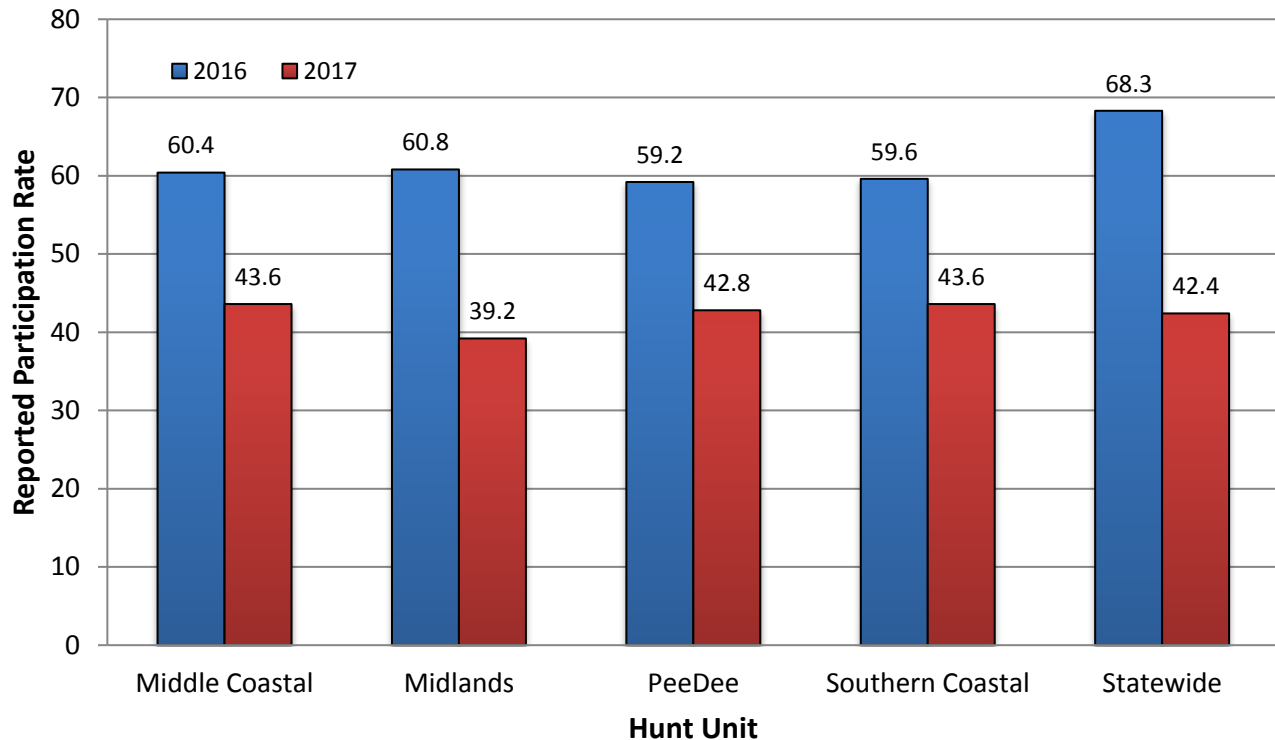


Figure 2. Reported participation rate (at least one trip afield) for all hunters selected to participate in the 2017 alligator season by Hunt Unit. The drop in participation was presumably a result of two major hurricanes that impacted South Carolina during the 2017 alligator season.

Considering *only the successful hunters*, the most efficient hunters were from the Southern Coastal unit. These hunters went afield 226 times for an average of 2.5 trips per alligator killed (SD=2.4). Successful Pee Dee hunters went, on average, 2.6 days for each alligator taken (SD=2.0), followed by Middle Coastal hunters and Midlands hunters averaging 2.8 (SD=2.5) and 2.9 (SD=2.4) days afield per alligator killed. On average, all successful hunters spent 2.6 days hunting for every alligator taken (SD=2.3).

The average size of all alligators reported taken during the 2017 public season was 8.8 feet (SD=1.8). The average size of alligators taken in the Middle Coastal unit was 8.9 feet (SD=1.9), followed by the Midlands at 8.7 feet (SD=1.9). The Pee Dee unit averaged 8.3 feet (SD=1.8), and lastly the Southern Coastal averaged 7.7 feet (SD=1.4) (Figure 3). The average size of alligators harvested in all hunt units remained the same or was smaller than in 2016. No alligators were reported to be 13 feet or greater, compared to three and four harvested in 2015 and 2016 (Figure 4). According to harvest reports, the largest alligators taken this season were 12'7" and all three were from the Middle Coastal unit. The smallest alligator reported was 4'6", and taken from the Southern Coastal unit.

Twelve (3.5%) alligators taken were reported to be less than 6 feet in length. The number of smaller alligators (six-feet and smaller) decreased significantly from last year from sixty-seven to just sixteen (4.7% of total) this season. The greatest number (39.4%) of larger alligators, those animals *10 feet and larger*, came from the Midlands, followed by the Middle Coastal unit (37.2%), Pee Dee (32.6%) and Southern Coastal unit (16.5%). Of the *very large* alligators, the Middle Coastal unit (n=10) had a slightly larger number of the total alligators taken that were 12 feet and larger, followed closely by the Midlands

(n=7). The Pee Dee unit had four animals greater than 12 feet. No alligators larger than 13 feet were harvested from any unit in 2017.

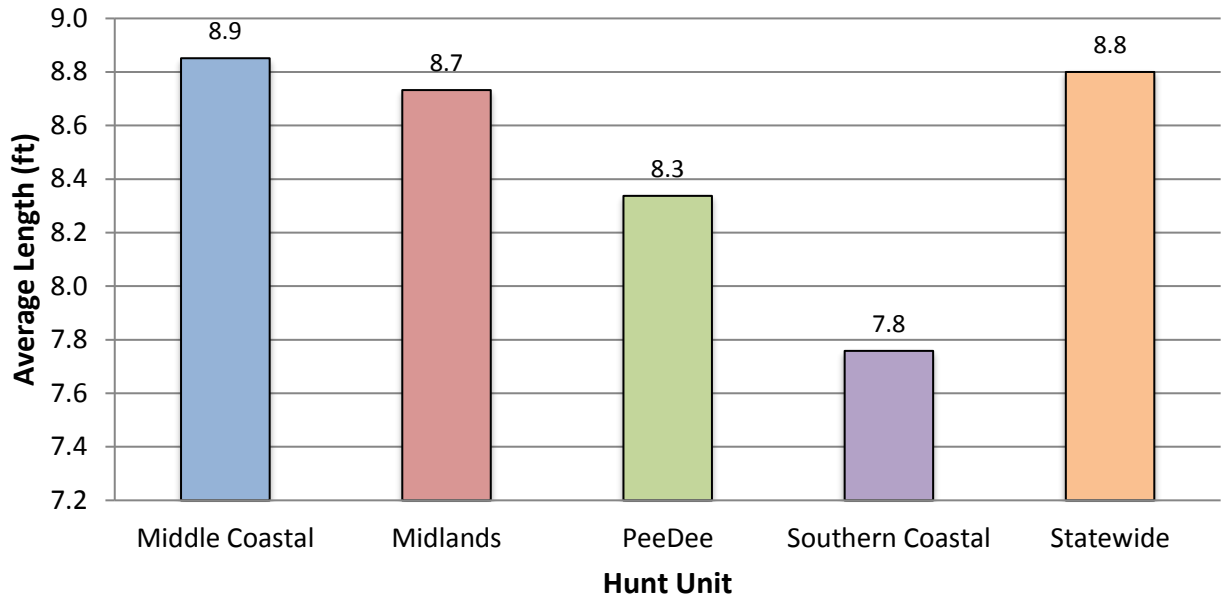


Figure 3. Average size of alligators taken during the 2017 Public Hunting Season by Hunt Unit.

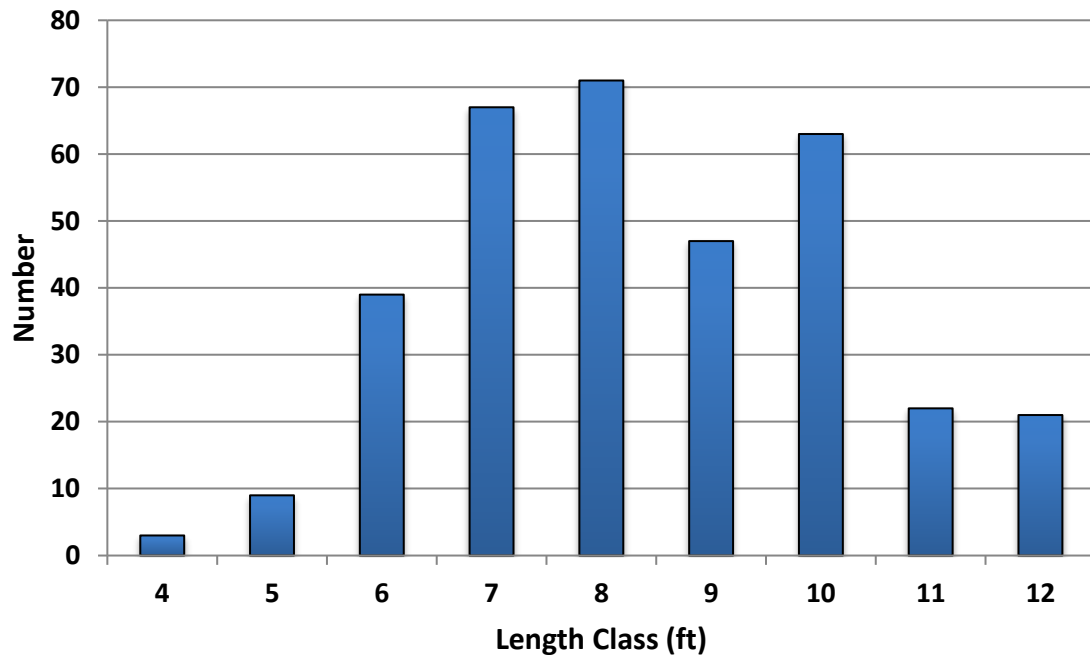


Figure 4. Number of alligators taken by size class during the 2017 Public Hunting Season.

The Southern Coastal unit did not have any alligators harvested that were larger than 11 feet. Overall there was an 8.3% decrease in the number of alligators taken in all size classes greater than 8-foot. (Table 2; also see Appendices).

Alligator harvest was reported from nineteen coastal plain counties. Reported take by county revealed that three counties: Berkeley, Georgetown, and Colleton, comprised 59.4% of the public alligator harvest (Table 3; Appendix V). Those same counties have accounted for approximately 60% to 70% of the total harvest since the 2009 season. The largest alligators (10'+) came from four counties, one from each hunt unit: Berkeley (n=28), Georgetown (n=28), Clarendon (n=12), and Colleton (n=11). On average, the largest alligators came from Dorchester County (n=4), followed by Clarendon (n=29), Berkeley (n=63) and Williamsburg (n=1; Figure 5).

Table 2. Number of alligators taken by size class and Hunt Unit during the 2017 Public Hunting Season.

Hunt Unit	Alligator Size Class <sup>a</sup>									
	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'
Middle Coastal	0	5	5	15	15	19	14	11	10	0
Midlands	1	0	10	8	16	8	15	6	7	0
Pee Dee	1	2	8	21	19	7	19	5	4	0
Southern Coastal <sup>b</sup>	1	2	16	23	21	14	15	0	0	0
Totals	1	9	39	67	71	47	63	22	21	0
Change from 2016	+2	-16	-2	+4	-11	-6	+5	-12	-3	-4

<sup>a</sup> Shaded area denotes “larger” alligator size classes.

<sup>b</sup> Includes one alligator taken by a WMA hunter in their respective hunt unit



Table 3. 2017 Alligator harvest and percent of total alligator harvest by hunt unit and county.

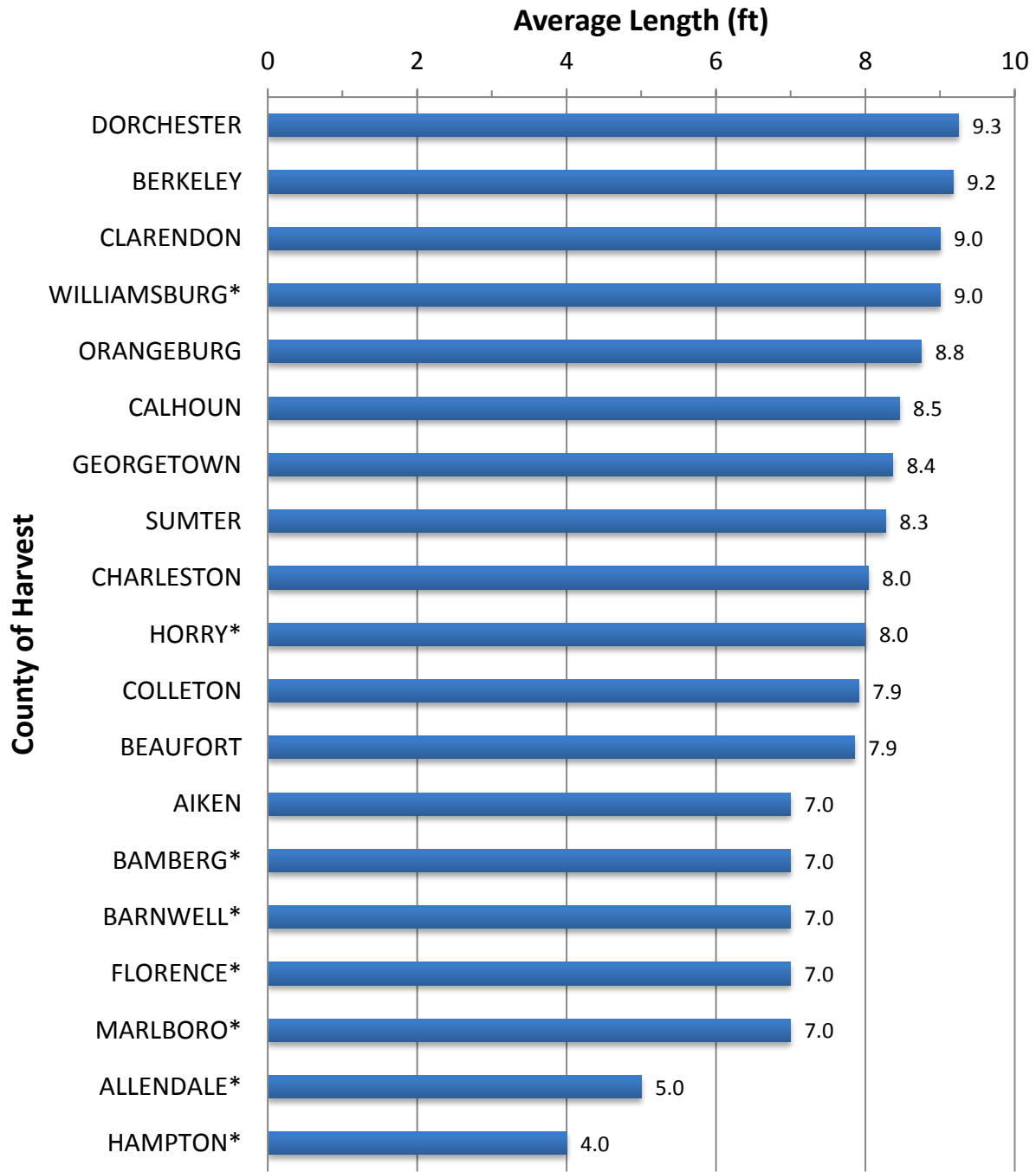
Hunt Unit	County	Number of Alligators Taken	Percent of Total Harvest*
<b>MIDDLE COASTAL</b>		94	27.5%
	Berkeley <sup>a</sup>	63	18.4%
	Charleston <sup>b</sup>	27	7.9%
	Dorchester	4	1.2%
<b>MIDLANDS</b>		71	20.7%
	Orangeburg	20	5.8%
	Clarendon	29	8.5%
	Calhoun	11	3.2%
	Sumter	11	3.2%
<b>SOUTHERN COASTAL</b>		92	26.6%
	Colleton	58	17.0%
	Beaufort <sup>c</sup>	28	7.9%
	Hampton	1	0.3%
	Aiken	2	0.6%
	Allendale	1	0.3%
	Bamberg	1	0.3%
	Barnwell	1	0.3%
<b>PEE DEE</b>		86	25.1%
	Georgetown	82	24.0%
	Horry	1	0.3%
	Marlboro	1	0.3%
	Florence	1	0.3%
	Williamsburg	1	0.3%
<b>TOTAL</b>		343	100%

<sup>a</sup> Does not include the portion of Berkeley County in the lower end of Lake Marion.

<sup>b</sup> Includes the portion of Berkeley County in the lower end of Lake Marion.

<sup>c</sup> Includes one alligator taken by a WMA hunter in their respective hunt unit

\*Percentages may not be equal due to rounding of decimal numbers.



\*Represented by only one alligator.

Figure 5. Average length of alligators reported taken during the 2017 Public Harvest Season by county.

Reported meat yield from all harvested alligators was 9,401 lbs., a 7.0% decrease from 2016.

The most commonly reported alligator capture technique was a hook and line, with nearly three-quarters (74.3%) of all successful hunters using this as a primary capture device. Sixteen percent of hunters used a crossbow, followed by a bow (6.3%), and a harpoon (2.3%) (Figure 6). A total of 13.5% of the successful hunters utilized a guide's services, up 1.4% from the previous season.

Alligator hide utilization (sold, kept, or given away) was reported at 94.7%.

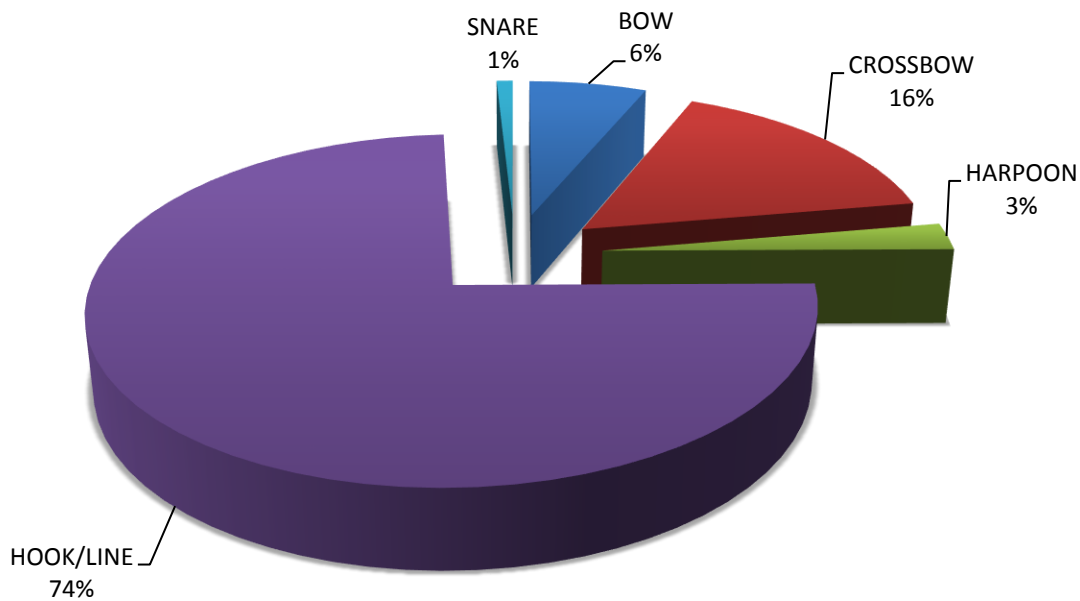


Figure 6. Reported initial capture device utilized during the 2017 Alligator Season.

**SEASON RESULTS – WILDLIFE MANAGEMENT AREAS**

Starting with the 2012 season, WMA alligator permittees were given the option to purchase a "smaller" alligator tag in addition to the normal WMA alligator tag. This tag allowed the take of an additional alligator between four and seven foot in length. Thus, with sixteen WMA permits available, up to a total of thirty-two total tags were offered to selected WMA hunters if the additional tag was purchased. Seven of the sixteen additional "smaller" alligator tags offered to WMA hunters were purchased this season.

Four alligators were reported taken from both Bear Island and Santee Coastal Reserve WMA (Table 4). All eight alligators were taken by only four hunters that purchased and filled their normal and "smaller" alligator tag. Using only the normal WMA tag, the average size for alligators on Bear Island and Santee Coastal Reserve WMA was 10.6 and 10 ft. The largest alligator taken from Bear Island was 11'3", the largest on Santee Coastal Reserve was 10'6". When all of the alligators taken with all WMA tags are included (n=8), the average size for Bear Island is 8.8 ft. and Santee Coastal Reserve is 8.1 ft., which is equal or less than the average size for the state.

While the normal WMA tag allows the hunter to take an alligator from the WMA during the week assigned, this tag can also be used in the same Public Alligator Hunt Unit where the WMA is located for the entire season until the tag is utilized. One Bear Island WMA hunter took advantage of this option this season and were successful in catching their alligator within the confines of the overall Southern Coastal hunt unit.

Table 4. 2017 WMA Alligator harvest by week and management area.

Wildlife Management Area	Week	Number of Alligators Taken
Bear Island WMA		4
	First	0
	Second	0
	Third	2
	Fourth	2
	Fifth	0
Santee Coastal WMA		4
	First	0
	Second	0
	Third	2
	Fourth	2
	Fifth	0

## DISCUSSION AND RECOMMENDATIONS

The number of applicants for this season's alligator hunt increased by 22.5% from last year but was still down 15.9% from the all-time high back in 2012 (n=6,640), arguably at the height of various alligator-related TV shows. It is also possible that for many people, alligator hunting is a one and done kind of activity. Certainly there are hunters that apply annually; however, there is just as likely a segment of the hunting community that wants to alligator hunt just once, then drop out of the applicant pool altogether. However, an increase of over 1,000 applicants from last year suggests there is still a strong interest in South Carolina's public alligator hunting program.

Similar to the last two years an unanticipated weather event took place at the onset of the hunting season. In 2015, we experienced historical rainfall and flooding beginning in early October which undoubtedly impacted the remainder of the hunting season for many of the hunt units. The 2016 season saw Hurricane Matthew approach the South Carolina coast in early October and certainly impacted some hunters' ability to hunt through the end of the hunting season. This year we experienced impacts from Hurricane Irma for at least the first week of the season, due to high winds and coastal flooding. Evacuations of the lower coast most likely hindered some alligator hunters planned hunts. Overall participation was down from last year (Figure 2) and consequently we observed a reduction in success rate, below the long term average of 37% (Figure 7).

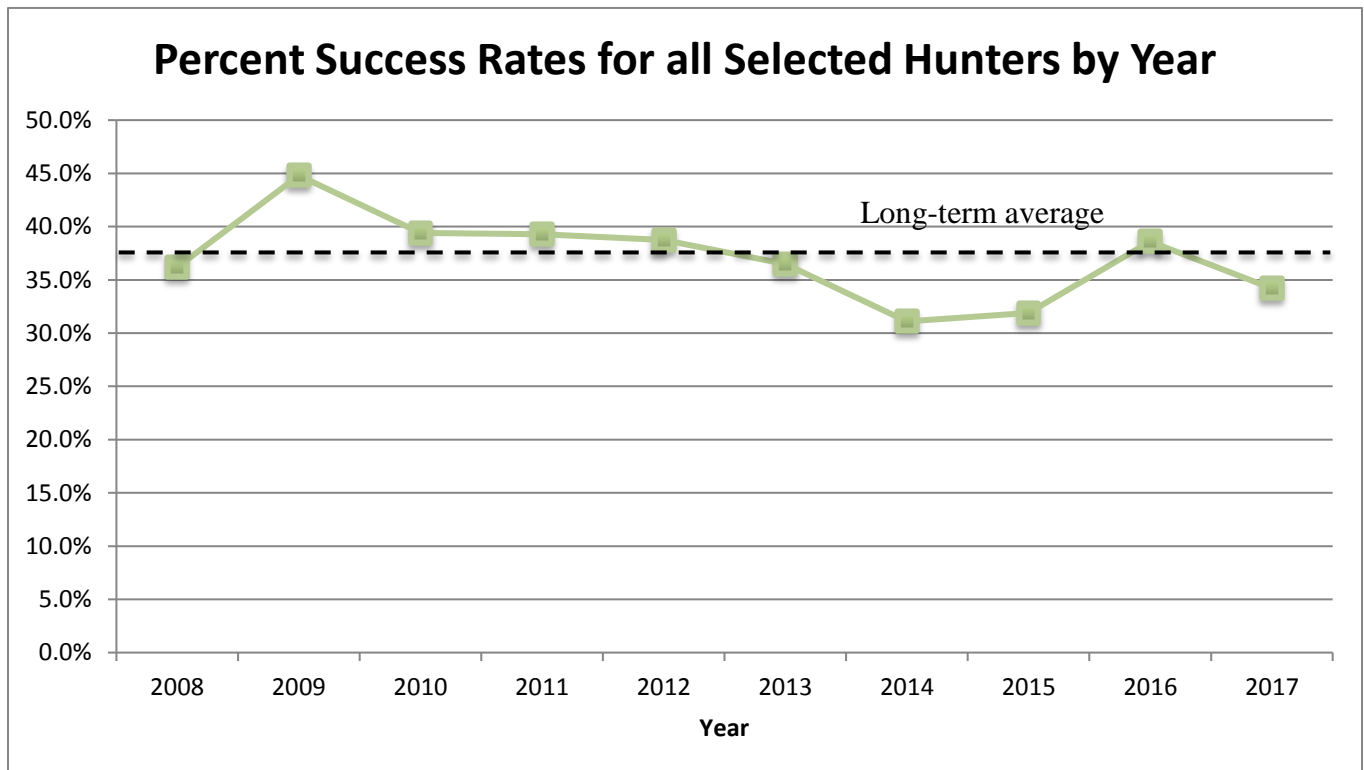


Figure 7. Percent success rate for all selected hunters, by season.

One concern regarding the public alligator hunt is the over harvest of “larger” alligators. Alligator harvest data since 2008 suggests a downward trend in alligators harvested in these larger size classes (Figure 8). While this does not necessarily represent a true decline in the number of large alligators available it does suggest that fewer large alligators are being harvested and reported.

Possible explanations for this apparent trend include but are not limited to:

- 1) An overall reduction in participation and/or reporting of harvest
- 2) An overall reduction in total alligators harvested
- 3) Behavioral changes in alligators resulting from negative anthropogenic interactions
- 4) Reduced accessibility to larger alligators
- 5) It represents a true decline in the larger size classes

Harvest numbers will be closely monitored as there is still uncertainty as to how many of these animals can be taken annually on a sustainable basis. Future management techniques will be discussed to avoid over harvest of these larger alligators going forward.

A long-term monitoring project in cooperation with Clemson University is scheduled to conclude in 2018 with the desired outcome of being able to make better management decisions based on alligator survey data. This may or may not impact the number of tags allocated to hunters in subsequent years.

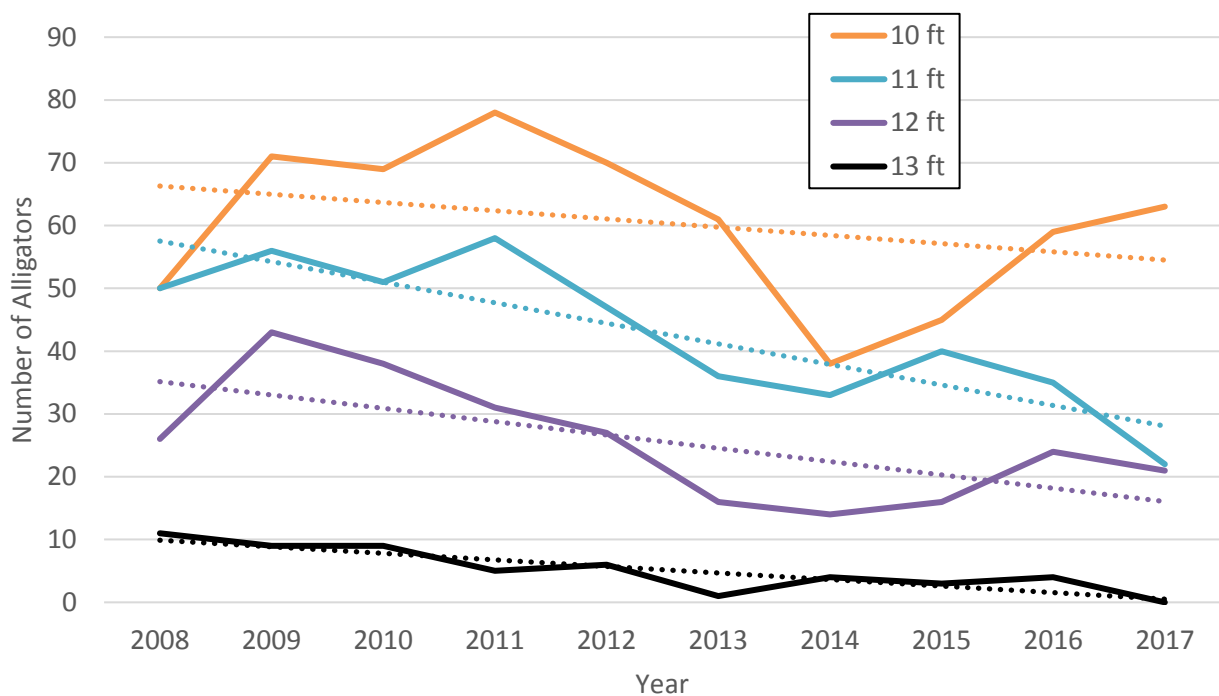


Figure 8. Total number of the largest alligators (10-13 ft.) harvested each year since 2008. Trend lines represent trajectory of harvest numbers over time.

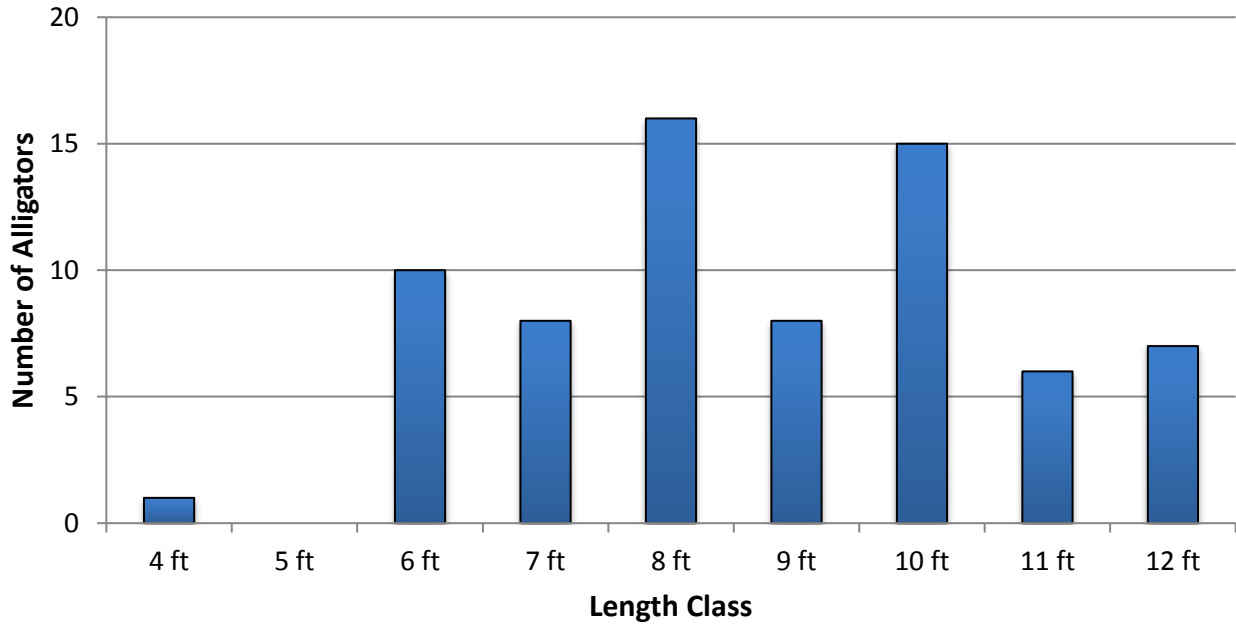
# Appendix

2017 Harvest Graphs

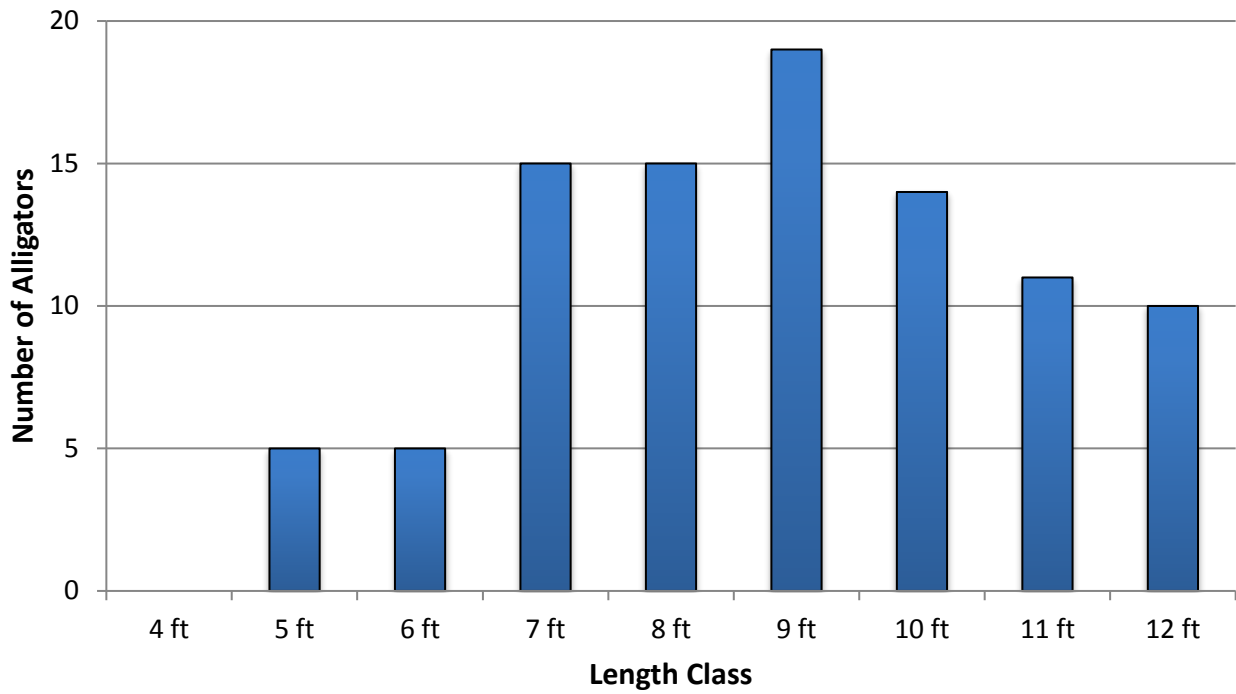
By

Public Alligator Harvest Hunt Unit  
&  
County of Harvest  
&  
Cumulative Harvest Totals by Year

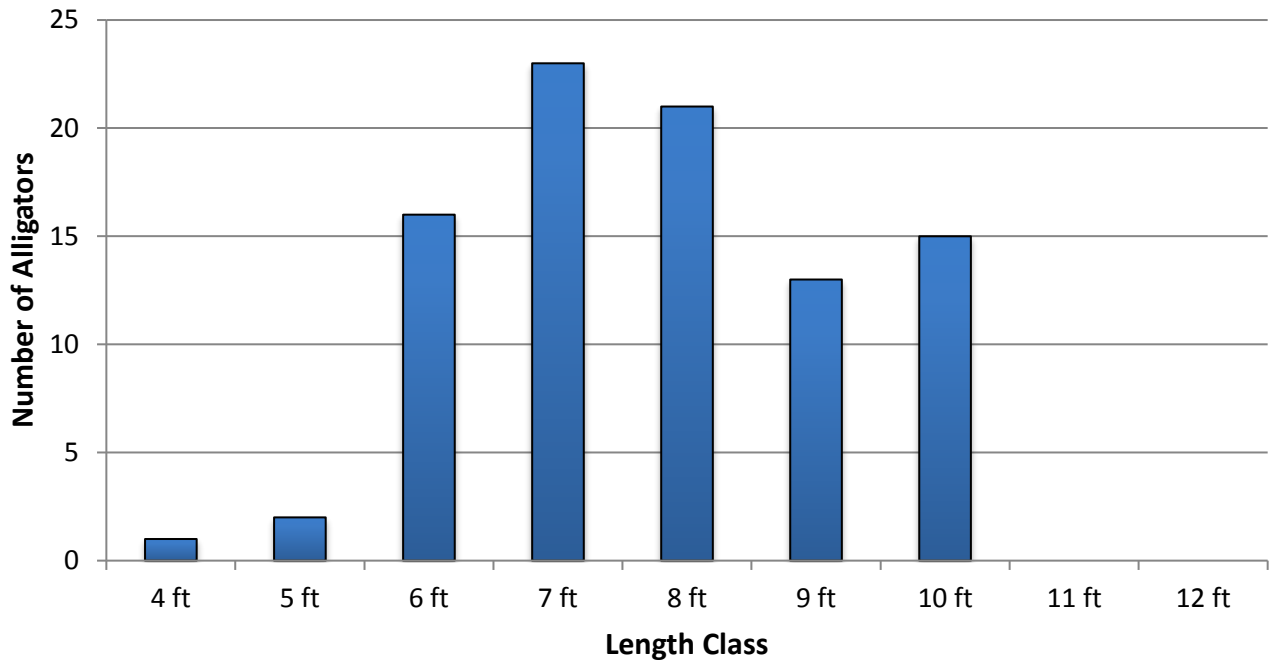




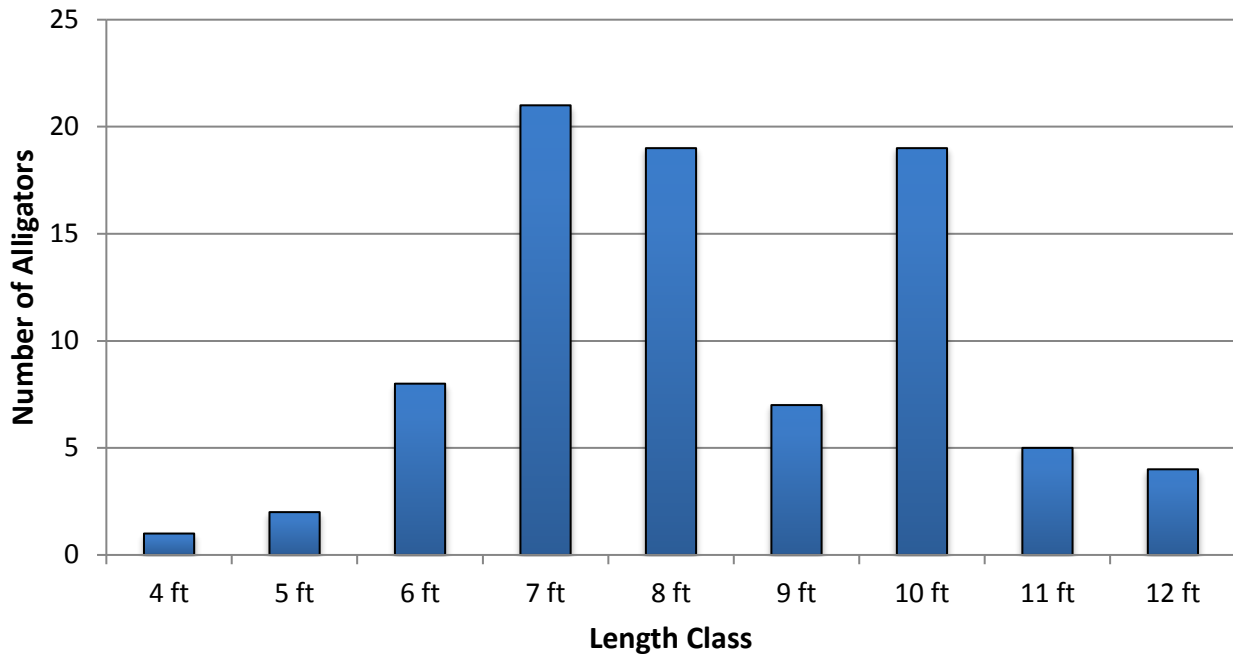
Appendix I. Number of alligators taken during the 2017 Public Hunting Season by size class for the Midlands Hunt Unit.



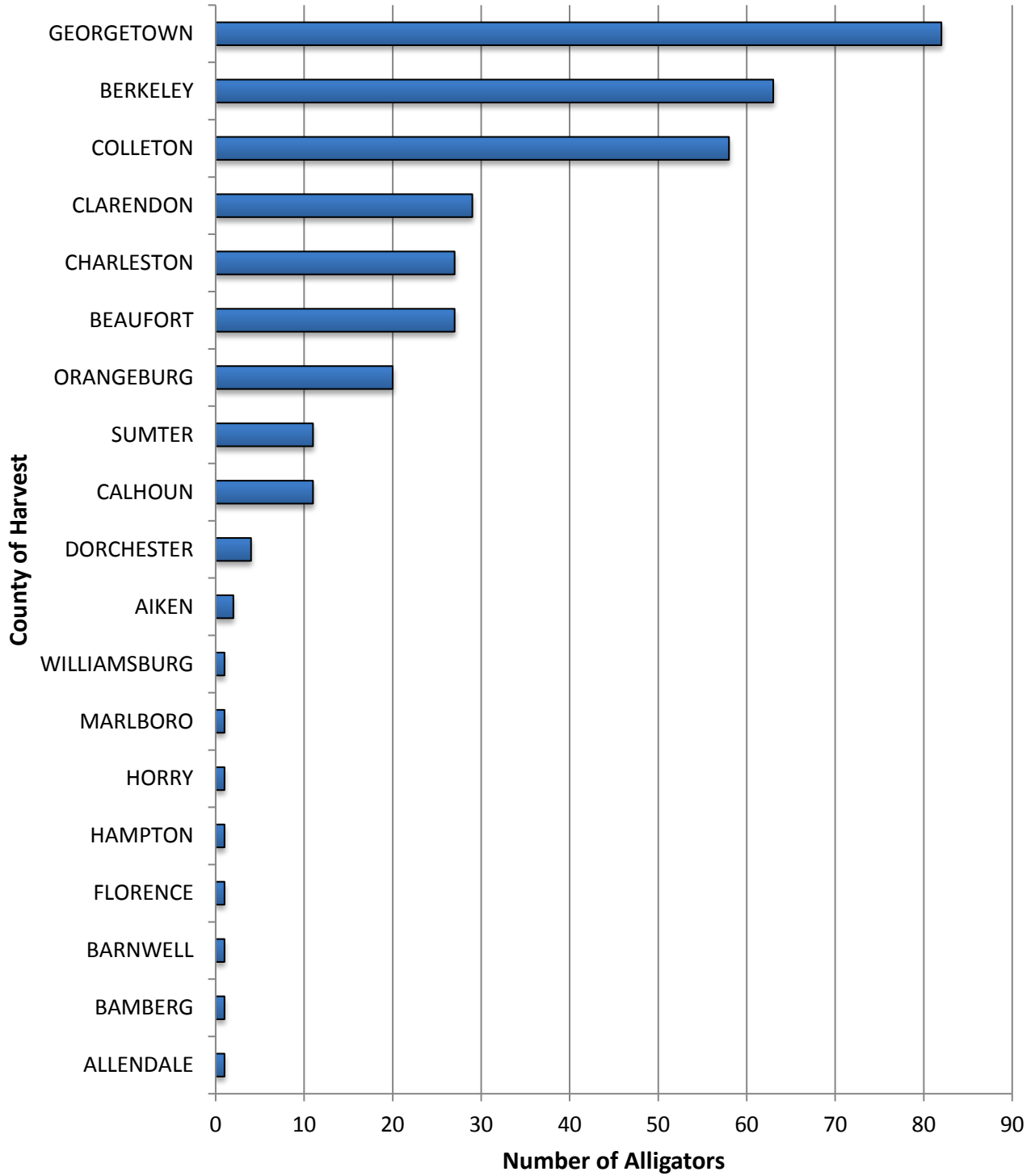
Appendix II. Number of alligators taken during the 2017 Public Hunting Season by size class for the Middle Coastal Hunt Unit.



Appendix III. Number of alligators taken during the 2017 Public Hunting Season by size class for the Southern Coastal Hunt Unit.



Appendix IV. Number of alligators taken during the 2017 Public Hunting Season by size class for the Pee Dee Hunt Unit.



Appendix V. Number of alligators taken during the 2017 Public Hunting Season by county of reported harvest.

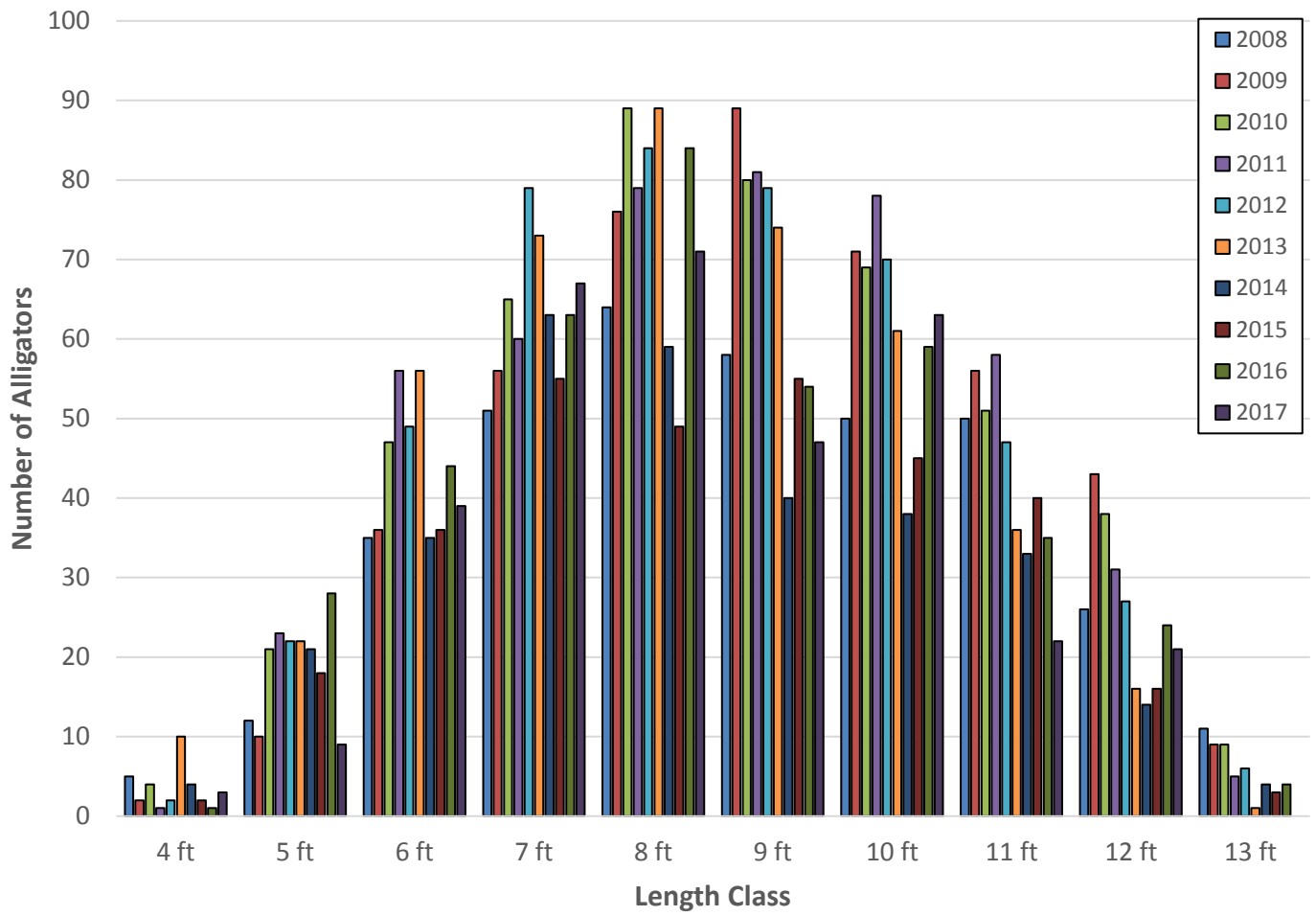
Appendix VI. Number of alligators taken during all years of the Public & WMA Hunting Season, by Hunt Unit.

Hunt Unit	Year										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Middle Coastal <sup>b</sup>	121	147	117	140	134	128	88	88	108	98	1169
Midlands	87	93	104	87	90	82	57	74	79	71	824
Pee Dee	60	104	111	120	115	121	85	69	91	86	962
Southern Coastal <sup>a</sup>	94	108	141	136	144	121	81	102	118	97	1142
<b>Annual Total*</b>	<b>362</b>	<b>452</b>	<b>473</b>	<b>483</b>	<b>483</b>	<b>452</b>	<b>325</b>	<b>333</b>	<b>396</b>	<b>351</b>	<b>4101</b>

\* Includes alligators taken the WMA Alligator Hunting Program beginning in 2011.

<sup>a</sup> Includes alligators taken at Bear Island WMA

<sup>b</sup> Includes alligators taken at Santee Coastal Reserve WMA



Appendix VII. Number of alligators taken during all years of the Public Alligator Hunting Seasons, by size class.