2005 Survey of North Carolina Residents about Black Bears

November 2009

Dain Palmer
N.C. Wildlife Resources Commission
Division of Wildlife Management
1722 Mail Service Center
Raleigh, NC 27699-1722
(919) 707-0057
(919) 707-0067 (fax)
dain.palmer@ncwildlife.org

Executive Summary

Introduction

We conducted this study to examine the views of North Carolina residents regarding bears and bear management and to gain insight into the level of bear/human interactions that are tolerated by various publics (a.k.a. social carrying capacity).

Methods

In order to explore in-depth some topics related to bear management and to test a draft of the mail survey instrument, in February and March 2005, we conducted focus groups in Buncombe, Caswell, and Craven counties.

We divided the state into 7 strata based on WRC Bear Management Units and population density for sampling purposes. Survey Sampling International drew a random selection of 1,830 residents (≥18 years) from each of the 7 strata (12,810 total). We surveyed residents in the sample using a modified version of The Tailored Design Method (Dillman 2000); we sent participants up to four mailings beginning in May 2005.

Selected Results

Seventy-five percent of survey respondents reported participating in 1 or more wildlife-related activities.

Most respondents reported having a lack of knowledge about black bears with 65% having very little or some knowledge of bears. Rural Mountain (27%) and Buncombe Mountain (23%) residents were significantly less likely to have very little knowledge of black bears, and Rural Piedmont (42%) and Urban Piedmont (40%) residents were significantly more likely to have very little knowledge of black bears than expected.

Nearly all (100%) survey respondents knew that black bears lived in North Carolina before receiving the survey. Responses indicated 38% of those surveyed had observed or photographed a black bear in the wild in North Carolina, while only 1% reporting having a bear/vehicle accident. Rural Mountain (64%) and Buncombe Mountain (72%) residents were significantly more likely than expected to have had interactions with bears in North Carolina.

Most survey respondents (85%) agreed that it is important just knowing that bears exist in North Carolina and that the presence of bears is a sign of a healthy environment (70%).

A minority of survey respondents agreed that they are concerned about public safety threats by bears (31%), bear/vehicle accidents (44%), damage to personal property or crops by bears (33%), or threats to pets or livestock by black bears (36%).

Most (63%) respondents agreed that bear hunting, when properly managed, is compatible with viable bear populations, and 44% agreed that it is important for people to have opportunities to hunt bears in North Carolina.

Most (61%) of respondents agreed that they were concerned about future bear populations in North Carolina. Buncombe Mountain residents (32%) were more likely than expected to strongly agree that they were concerned about future North Carolina bear populations.

Forty-eight percent of respondents agreed that the money that people spend to view, hunt, or photograph bears in North Carolina is important to the economy.

When respondents were classified based on their highest level of tolerance for bear/human interactions (BSI Level), with a BSI level of 5 being most intolerant and 1 being most tolerant, 14% were intolerant of the presence of bear (Level 5), and 14% to 29% were intolerant of occasional (Level 4) or frequent events (Level 3) or personal threats by bears (Level 2). Fifteen percent of respondents were classified as Level 1 (tolerant of bear/human interactions).

BSI Levels varied by region, with significantly more Rural Mountain (22%) and Buncombe Mountain (28%) residents and significantly fewer Rural Coastal Plain (15%), New Hanover Coastal Plain (12%), Rural Piedmont (13%) and Urban Piedmont (13%) residents than expected having BSI Levels of 1.

Respondents who had had one or more interactions with bears (21%), participated in one or more wildlife related activities (20%), participated in hunting (26%), had "much knowledge" of bears (31%), or were male (19%) were significantly more likely than expected to be classified as Level 1. Surprisingly, there were few differences between BSI Levels between those that farmed or kept bees and other respondents; also surprisingly, respondents who had children under age 10 in their households were significantly more likely to have BSI Levels of 2 (34%) and significantly less likely to have BSI Levels of 5 (6%) than expected.

A quarter (25%) of respondents preferred that no black bears exist in their areas. One-half (50%) preferred that bears are occasionally sighted in rural areas. Significantly fewer Rural Mountain (14%) and Buncombe Mountain (10%) residents, and significantly more Rural Piedmont (32%) and Urban Piedmont (26%) residents preferred that no black bears exist in their areas than expected.

Most respondents (67%) were unsure how the bear population in North Carolina had changed during the past 5 years and 22% said the population had increased. Rural Mountain (26%) and Rural Piedmont (24%) residents were significantly more likely and New Hanover Coastal Plain residents (15%) were significantly less likely than expected to want bear populations in their areas to increase. BSI Level was a good predictor of preferences for future bear populations, with significantly higher proportions of Level 1 (40%) and Level 2 (28%) respondents and significantly lower proportions of Level 3 (13%), Level 4 (10%), and Level 5 (3%) respondents wanting the bear population in their areas to increase. Respondents with self described higher knowledge of black bears were more likely than expected to want increases in local bear populations.

Most (74%) respondents said they would support regulated bear hunting in their area if wildlife managers determined it was necessary.

We asked survey recipients about the acceptability of educating the public, frightening the bear, or destroying the bear in each of the following situations: a bear is sighted in a residential area, a bear chases a pet in a residential area, a bear attempts to enter a person's home, or a bear injures a human. The mean acceptability, measured by 5-category Likert-type items (2 = highly acceptable; -2 = highly unacceptable), of educating the public decreased with situations that were more threatening to humans (1.6 if a bear is sighted in a residential area to 0.6 if a bear injures a

human), while destroying the bear became more acceptable the higher the threat to people (-1.0 if a bear is sighted in a residential area to 0.5 if a bear injures a human).

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Introduction

Black bear populations in North Carolina increased from the 1970's through 2000 and have stabilized in many coastal areas in recent years while continuing to grow in many mountain areas. Concomitantly, bear occupied range has expanded as the human population in North Carolina has grown. This presents some challenges for the management of this large omnivore. In order to more effectively manage bears in North Carolina, the WRC is developing a long-range bear management plan. Some objectives of the planning process include identifying critical bear management issues and determining public views on these issues.

We conducted this study to examine the views of North Carolina residents regarding bears and bear management and to gain insight into the level of bear/human interactions that are tolerated by various publics (a.k.a. social carrying capacity).

Methods

Focus groups

In order to explore in-depth some topics related to bear management and to test a draft of the mail survey instrument, in February and March 2005 we conducted a series of 3 focus groups. We invited citizens from Buncombe, Craven, and Caswell counties to participate. We had a combination of hunters and non-hunters participate. Nearly all focus group participants had participated in one or more wildlife-related activities. Most focus group participants were men, but, with the exception of the Caswell County group, there were some women. Before each focus group, we had participants complete a draft of the mail survey instrument.

Survey instrument design

We designed a survey instrument with input from the WRC Bear Management Committee. This instrument contained items on personal experiences with black bears, values and concerns related to bears, tolerance for bear/human interactions, views on bear populations in North Carolina, acceptability of bear hunting, attitudes about hunting in general, acceptability of management practices for dealing with negative bear/human interactions, knowledge of bears, wildlife-related activities, and demographic and background information (Appendix A). Question 5 is an adaptation of a Bear Sensitivity Index (BSI) developed by Peyton and Bull (2001), and questions 6 and 7 also are based on items developed by Peyton and Bull (2001). Questions 28 to 32 are a hunting attitudes scale created by Fulton et al. (1996).

Survey implementation

Survey sampling

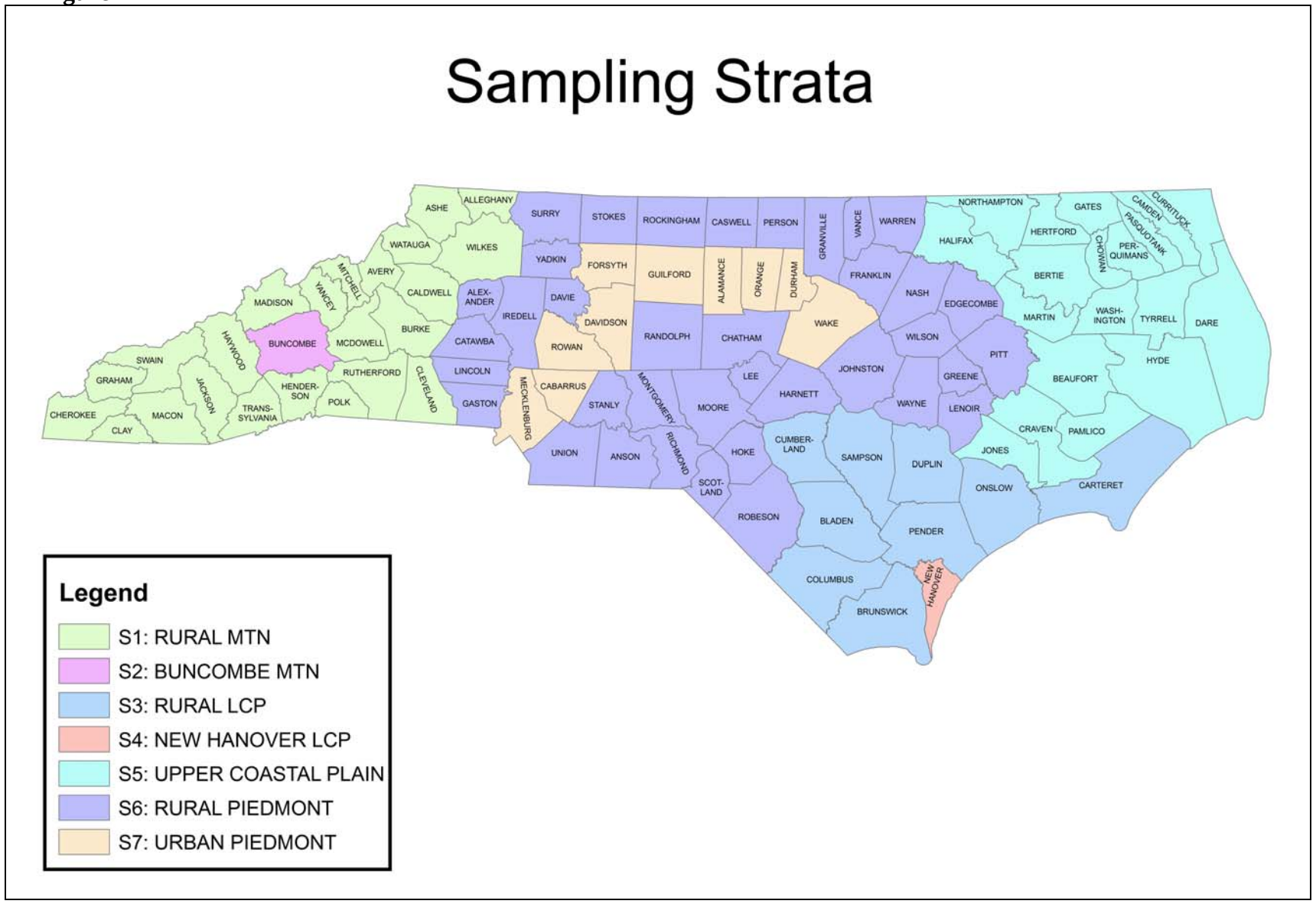
We divided the state into 7 strata for sampling purposes (Figure 1). The strata were based on the 2005 WRC Bear Management Units (BMUs) (Appendix B). Except for Buncombe, all of the counties in the Mountain BMU composed the Rural Mountain stratum. Similarly, except New Hanover, all of the Lower Coastal BMU counties composed the Rural Lower Coastal Plain stratum. We designated all of the counties in the Neuse, Southern Albemarle, Northern Albemarle, and Roanoke BMUs, as well as Perquimans County, in the Upper Coastal Plain stratum; and we designated all of the counties, except Perquimans County and some urban counties, in the No Season BMU as the Rural Piedmont stratum. We designated Buncombe

County as the Buncombe Mountain stratum and New Hanover County as the New Hanover Lower Coastal Plain stratum. Finally, we designated the following counties as the Urban Piedmont stratum: Mecklenburg, Cabarrus, Rowan, Davidson, Forsyth, Guilford, Alamance, Orange, Durham, and Wake. Survey Sampling International drew a random selection of 1,830 residents (≥18 years) from each of the 7 strata (12,810 total).

Survey mailings

We used a modified version of The Tailored Design Method (Dillman's 2000) and sent participants up to four mailings. The first full survey mailing (survey instrument and Business Reply return envelope) was mailed on May 31, 2005 and a reminder postcard was mailed to all survey recipients on June 8. All nonrespondents were sent follow up mailings on July 1 and, if necessary, August 2.

Figure 1


Sampling Strata
ASHE
ALLEGHANY
SURRY
STOKES
ROCKINGHAM
CASWELL
PERSON
GRANVILLE
VANCE
WARREN
NORTHAMPTON
GATES
CURRITUCK
CAMDEN
PASQUOTANK
HERTFORD
HALIFAX
CHOWAN
PER-QUIMANS
WATAUGA
WILKES
YADKIN
FORSYTH
GUILFORD
ALAMANCE
ORANGE
DURHAM
FRANKLIN
BERTIE
MITCHELL
AVERY
YANCEY
MADISON
CALDWELL
ALEX-ANDER
DAVIE
IREDELL
DAVIDSON
RANDOLPH
CHATHAM
WAKE
NASH
EDGECOMBE
MARTIN
WASH-INGTON
TYRRELL
DARE
BURKE
CATAWBA
ROWAN
WILSON
PITT
HYDE
BUNCOMBE
MCDOWELL
LINCOLN
CABARRUS
LEE
JOHNSTON
GREENE
BEAUFORT
SWAIN
GRAHAM
RUTHERFORD
CLEVELAND
MECKLENBURG
STANLY
MONTGOMERY
MOORE
HARNETT
WAYNE
LENOIR
HENDER-SON
HAYWOOD
JACKSON
GASTON
UNION
ANSON
RICHMOND
HOKE
CUMBER-LAND
SAMPSON
DUPLIN
JONES
CRAVEN
PAMLICO
CHEROKEE
MACON
TRANS-SYLVANIA
POLK
CLAY
SCOT-LAND
ONSLOW
CARTERET
ROBESON
BLADEN
PENDER
COLUMBUS
NEW HANOVER
BRUNSWICK
Legend
S1: RURAL MTN
S2: BUNCOMBE MTN
S3: RURAL LCP
S4: NEW HANOVER LCP
S5: UPPER COASTAL PLAIN
S6: RURAL PIEDMONT
S7: URBAN PIEDMONT

Data analysis

All data were analyzed using SPSS 13.0. We used a principal component factor analysis for data reduction of the question 4 items (values and concerns related to bears) and the hunting attitudes items (questions 28-32). To determine the reliability of the factors that emerged, we then computed Cronbach's Alpha for each factor. We calculated total scores for the scales created from the question 4 items and hunting attitudes items. We recoded the question 4 items as follows: Strongly Agree = 2, Moderately Agree = 1, Neutral or No Opinion = 0, Moderately Disagree = -1, Strongly Disagree = -2. For the hunting attitudes items, we recoded questions 28, 31, and 32 as: Strongly Agree = 2, Moderately Agree = 1, Neutral or No Opinion = 0, Moderately Disagree = -1, Strongly Disagree = -2; we recoded questions 29 and 30 as: (Strongly Agree = -2, Moderately Agree = -1, Neutral or No Opinion = 0, Moderately Disagree = 1, Strongly Disagree = 2). Scores were calculated by summing the recoded items.

In order to calculate mean acceptance for the items about dealing with bear/human conflicts (questions 13-24), we recoded responses for these items as follows: Highly Acceptable = 2, Moderately Acceptable = 1, Neutral or No Opinion = 0, Moderately Unacceptable = -1, Highly Unacceptable = -2.

For bivariate comparisons, we used crosstabulations, chi-square tests ($\chi 2$), *t* tests, and *F* tests. For crosstabulations, we omitted categories when > 20% of cells had expected values < 5 or when any cells had expected values < 1. We calculated standardized residuals to determine which cells in crosstabulations were significantly different from expected values. An adjusted residual with an absolute value ≥ 2.0 was evidence against independence in the cell (Agresti and Finlay 1999). Because our sampling strategy over-represented some regions and under-represented others, we applied case weights based on stratum for the statewide percentages and means. Following the recommendation of Winship and Radbill (1994), we did not use weighted data for statistical tests which depend on standard errors. We used the survey sampling strata for regional comparisons, except the Lower and Upper Coastal Plain strata were combined into a single Coastal Plain region. Due to rounding, not all percentages total 100%.

Results

Respondents

Adjusted response rates (calculated by omitting incorrect addresses and persons ineligible to respond) varied by stratum and ranged from 29% for the Urban Piedmont stratum to 41% for the Buncombe Mountain stratum (Table 1).

Respondents to the survey had different demographic characteristics from the North Carolina population (Table 2). For example, a lower proportion of respondents to the survey were age 16 to 44, female, had a high school degree or less than a high school degree, and had gross household incomes of less than $40k than the general North Carolina population.

Table 1. Response rate by stratum of residence.

	S1: Rural Mtn.	S2: Bunc. Mtn.	S3: Rural LCP	S4: New Han. LCP	S5: Upper Coastal Plain	S6: Rural Piedmont	S7: Urban Piedmont	Total
# Surveys Mailed	1830	1830	1830	1830	1830	1830	1830	12810
# Surveys Returned	636	654	497	535	616	524	471	3933
Adjusted Response Rate	39.5%	40.6%	31.5%	33.2%	37.4%	31.8%	28.6%	34.6%

Table 2. Demographic characteristics of 2005 NC bear survey respondents and NC citizens.

Characteristic	Categories	NC population (Census 2000)	2005 bear survey respondents
Age (years)	16 - 24	13.3%	1.7% (n=61)
	25 - 34	19.9%	8.8% (n=313)
	35 - 44	21.2%	16.4% (n=582)
	45 - 54	17.8%	21.9% (n=780)
	55 - 64	11.9%	22.1% (n=786)
	>= 65	15.9%	29.1% (n=1033)
Sex	Male	48.3%	66.2% (n=2479)
	Female	51.7%	33.8% (n=1266)
Highest education level	< high school graduate	21.9%	4.8% (n=164)
	High school graduation or GED	28.4%	17.8% (n=614)
	Some college or trade school	20.5%	23.9% (n=823)
	Associate or trade school degree	6.8%	12.4% (n=428)
	Bachelor's or 4 year degree	15.3%	23.6% (n=812)
	Graduate or professional degree	7.2%	17.5% (n=601)
Gross annual household income	Less than $20,000	23.6%	12.6% (n=426)
	$20,000 to $39,999	27.3%	22.7% (n=766)
	$40,000 to $59,999	20.7%	21.6% (n=729)
	$60,000 to $99,999	19.0%	27.5% (n=576)
	$100,000 or more	9.4%	15.5% (n=350)

Participation in wildlife-related activities

Wildlife watching or photography (44% reported participating) was the most popular wildlife-related activity for survey respondents, followed by fishing (42%), hiking (34%), wildlife feeding (32%) and hunting (22%)(Figure 2).

Of those responding (n = 2900), 75% reported participating in 1 or more wildlife-related activities.

Participation rates in wildlife-related activities varied somewhat by region with a significantly higher proportion of Rural Mountain residents (81%) reporting participating in 1 or more activities than expected (Table 3).

Hunting participation varied by region as Rural Coastal Plain (27%) and Rural Piedmont (26%) residents were significantly more likely than expected to participate in hunting (Table 4). Residents in the Buncombe Mountain (14%) and Urban Piedmont (15%) regions were significantly less likely to have participated in hunting than expected.

Eight percent (n = 300) of respondents reported hunting black bear.

Bear hunting participation varied by region, with significantly higher proportions of Rural Mountain (14%) and Rural Coastal Plain (12%) residents having bear hunted and significantly fewer Rural Piedmont (7%) and Urban Piedmont (5%) residents reporting having hunted bear than expected (Table 5).

Figure 2

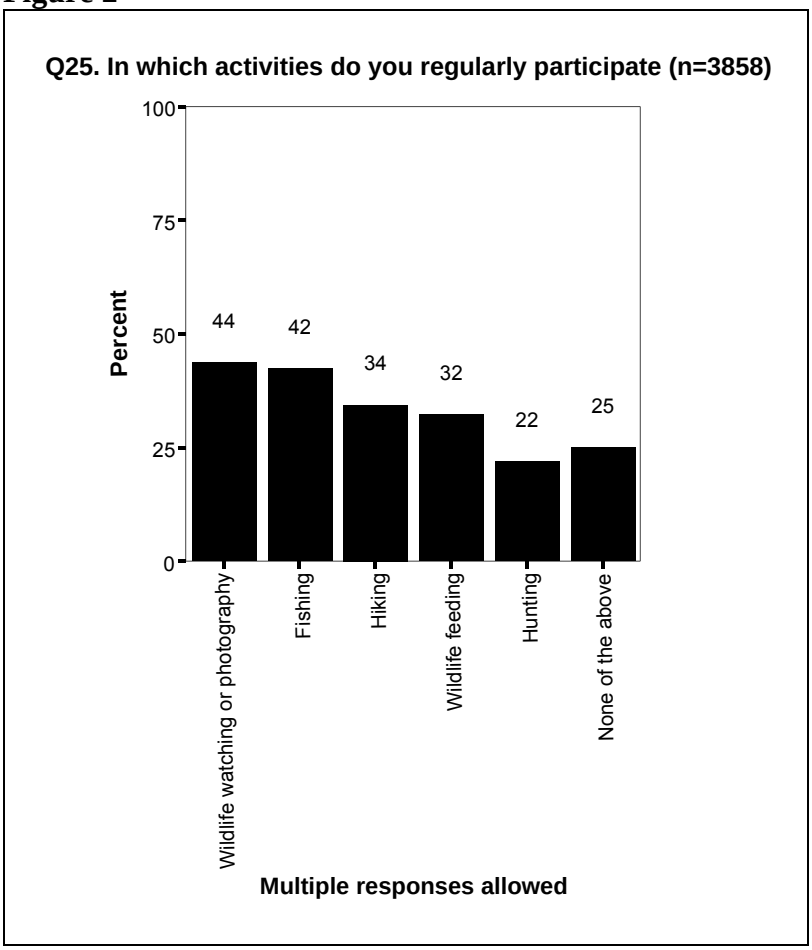


Table 3. Participation in wildlife-related activities (Q25) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Participated in 1 or more activities	80.6%[a] (n=506)	78.1% (n=497)	75.4% (n=813)	75.3% (n=381)	73.1% (n=388)	74.7% (n=358)
Did NOT participate in any activities	19.4%[b] (n=122)	21.9% (n=139)	24.6% (n=265)	24.7% (n=125)	26.9% (n=143)	25.3% (n=121)

$\chi^2 = 12.0$, df = 5, $p = 0.035$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 4. Participation in hunting (Q25) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Participated in hunting	24.7% (n=155)	14.3%[a] (n=91)	26.6%[b] (n=287)	19.0% (n=96)	26.4%[b] (n=140)	15.4%[a] (n=74)
Did NOT participate in hunting	75.3% (n=473)	85.7%[b] (n=545)	73.4%[a] (n=791)	81.0% (n=410)	73.6%[a] (n=391)	84.6%[b] (n=405)

$\chi^2 = 58.8$, df = 5, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 5. Participation in black bear hunting (Q26) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Hunted black bear	13.5%[a] (n=85)	9.3% (n=59)	12.0%[a] (n=129)	8.3% (n=42)	7.3%[b] (n=39)	4.6%[b] (n=22)
Have NOT hunted black bear	86.5%[b] (n=544)	90.7% (n=577)	88.0%[b] (n=950)	91.7% (n=464)	92.7%[a] (n=496)	95.4%[a] (n=458)

$\chi^2 = 35.8$, df = 5, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Knowledge of black bears

Most respondents reported having a lack of knowledge about black bears with 65% having very little or some knowledge of bears (Figure 3).

Rural Mountain (27%) and Buncombe Mountain (23%) residents were significantly less likely to have very little knowledge of black bears, and Rural Piedmont (42%) and Urban Piedmont (40%) residents were significantly more likely to have very little knowledge of black bears than expected (Table 6).

Figure 3

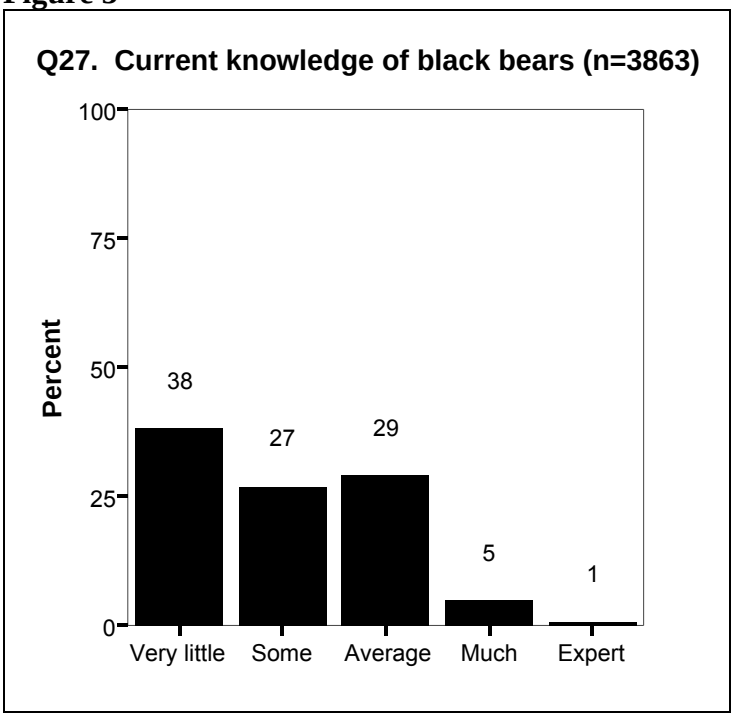


Table 6. Current knowledge of black bears (Q27) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Very little knowledge	27.1%[a] (n=170)	23.1%[a] (n=147)	36.4% (n=393)	36.7% (n=186)	42.2%[b] (n=225)	40.1%[b] (n=192)
Some knowledge	27.4% (n=172)	26.1% (n=166)	26.3% (n=284)	27.2% (n=138)	25.0% (n=133)	28.0% (n=134)
Average knowledge	36.5%[b] (n=229)	41.9%[b] (n=266)	30.2% (n=326)	30.2% (n=153)	26.6%[a] (n=142)	28.4%[a] (n=136)
Much knowledge	8.9%[b] (n=56)	8.2%[b] (n=52)	6.6% (n=71)	5.3% (n=27)	5.3% (n=28)	3.1%[a] (n=15)
Expert knowledge	0.0%[a] (n=0)	0.6% (n=4)	0.6% (n=6)	0.6% (n=3)	0.9% (n=5)	0.4% (n=2)

$\chi^2 = 106.5$, df = 20, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Bear/human interactions

Nearly all (100%) survey respondents knew that black bears lived in North Carolina before receiving the survey.

Thirty-eight percent of respondents had observed or photographed a black bear in the wild in North Carolina, while only 1% reporting having a bear/vehicle accident (Figure 4).

Forty-seven percent (n = 1676) of respondents reported having one or more interactions with bears in North Carolina.

Rural Mountain (64%) and Buncombe Mountain (72%) residents were significantly more likely than expected to have had interactions with bears in North Carolina (Table 7).

A third (33%) of respondents had observed or photographed a black bear outside of North Carolina (Figure 5). Most (62%, n = 2279) respondents had not had any interactions with bears outside of North Carolina.

Figure 4

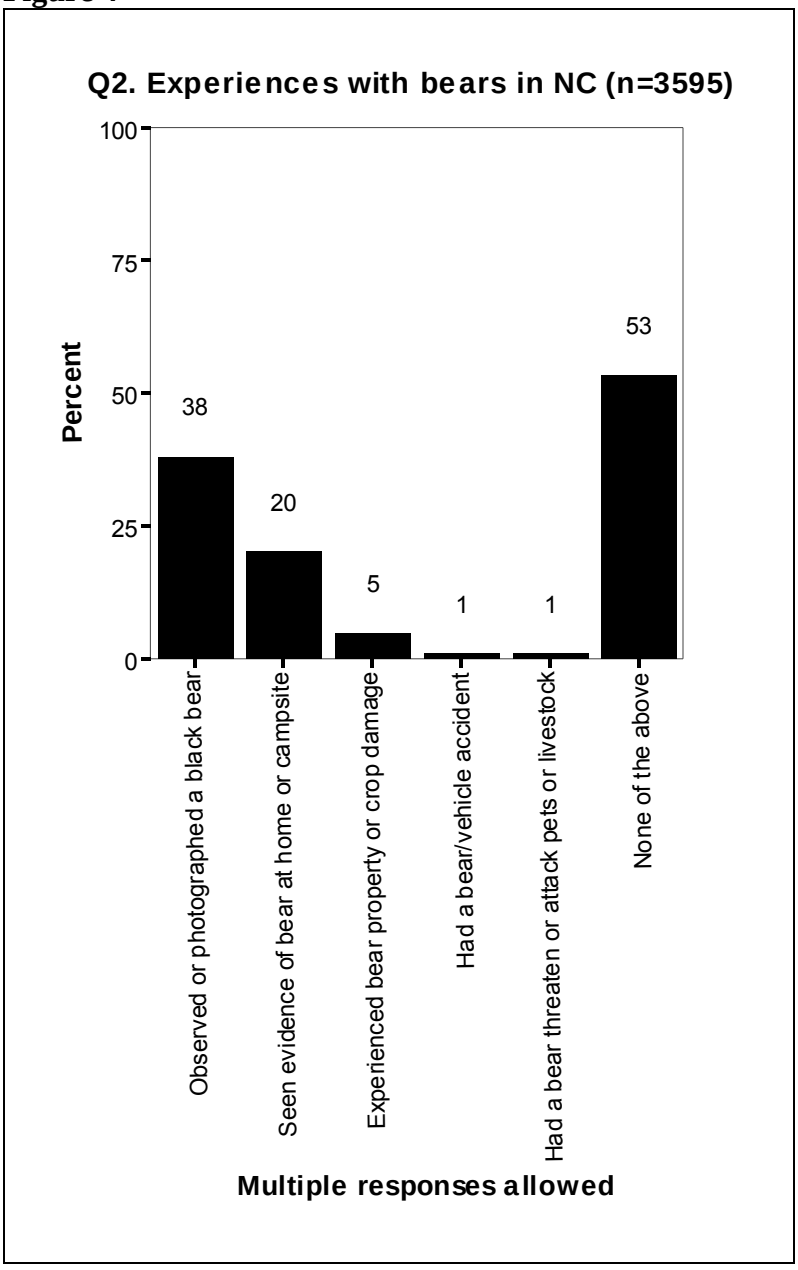

Q2. Experiences with bears in NC (n=3595)
Percent
100
75
50
25
0
38
20
5
1
1
53
Observed or photographed a black bear
Seen evidence of bear at home or campsite
Experienced bear property or crop damage
Had a bear/vehicle accident
Had a bear threaten or attack pets or livestock
None of the above
Multiple responses allowed

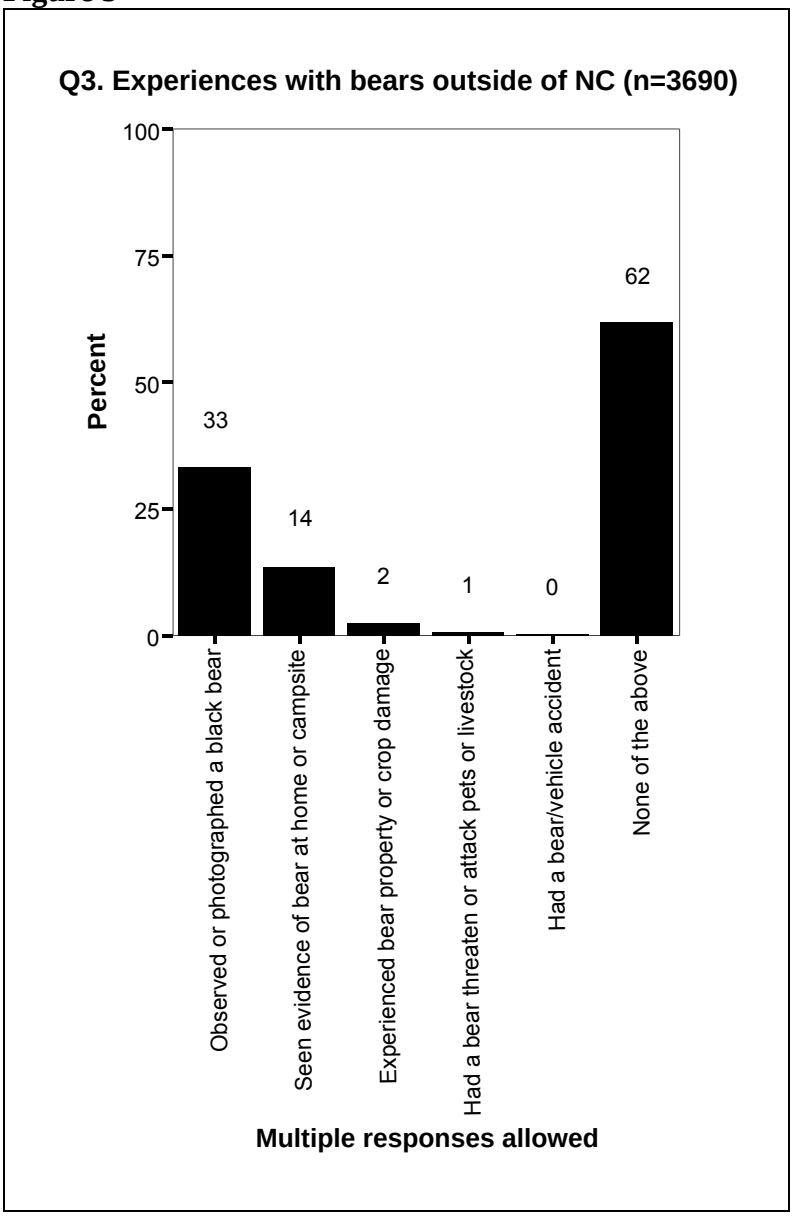
Table 7. Interactions with bears in NC (Q2) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Had one or more interactions w/bears	64.3%[a] (n=388)	72.1%[a] (n=447)	57.6% (n=596)	45.3%[b] (n=214)	45.2%[b] (n=222)	36.2%[b] (n=159)
Did NOT have any interactions w/bears	35.7%[b] (n=215)	27.9%[b] (n=173)	42.4% (n=439)	54.7%[a] (n=258)	54.8%[a] (n=269)	63.8%[a] (n=280)

$\chi^2 = 196.8$, df = 5, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Figure 5



Benefits and negative impacts of black bears

A principle component factor analysis using varimax rotation of all of the items dealing with benefits and negative impacts of black bears (question 4) revealed that there were four distinct factors that explained 58% of the variance between the items. There were 9 items that loaded on the *Importance of Having Bears* factor: it is important just knowing bears exist in North Carolina; the presence of bears in North Carolina increases my quality of life; the presence of bears is a sign of a healthy environment; it is important to have a healthy, viable population of bears in North Carolina; it is important for people to have opportunities to view or photograph bears in North Carolina; by following some simple precautions, people can reduce problems

caused by bears; the presence of black bears near my home increases my overall quality of life; I am concerned that humans are destroying bear habitat; bears play an important role in nature. The *Importance of Having Bears* factor explained 26% of the common variance. The 9 items had a Cronbach's Alpha reliability value of 0.87.

The *Concerns About Bears* factor, which explained 15% of the common variance, was comprised of four items: I am concerned about public safety threats by bears; I am concerned about bear/vehicle accidents; I am concerned about damage to personal property or crops caused by bears; I am concerned about threats to livestock by black bears. This factor had a Cronbach's Alpha reliability value of 0.79.

Two items formed the *Bear Hunting* factor: Bear hunting, when properly managed, is compatible with viable bear populations and it is important for people to have opportunities to hunt bears in North Carolina. This factor explained 11% of the common variance and had a Cronbach's Alpha reliability value of 0.79.

The item, people in North Carolina generally have high knowledge of bears, loaded by itself and explained 6% of the common variance. The following items did not load with any of the factors: I am concerned about future bear populations; I generally support how the WRC manages bears; the money that people spend to view, hunt, or photograph bears in North Carolina is important to the economy.

Importance of having bears

Most survey respondents (85%) agreed that it is important just knowing that bears exist in North Carolina and that the presence of bears is a sign of a healthy environment (70%) (Figure 6, Figure 7). As one focus group participant put it, "They're part of the interconnected web of life". Most survey respondents also agreed that it is important to have a healthy, viable population of bears in NC (73%), it is important for people to have opportunities to view or photograph bears in North Carolina (66%), by following some simple precautions, people can reduce problems caused by bears (87%), they are concerned that humans are destroying bear habitat (72%), and bears play an important role in nature (79%) (Figure 8, Figure 9, Figure 10, Figure 11, Figure 12). Only 42% agreed that the presence of bears in North Carolina increases their quality of life and 27% agreed that the presence of black bears near their home increases their quality of life (Figure 13, Figure 14). One focus group participant said, "The presence of bears…adds to a sense of depth of meaning in our own lives."

Overall scores for *Importance of Having Bears* ranged between -18 and 18. When these scores were recoded, 73% of North Carolinians had importance scores of moderately or highly important (Figure 15).

Buncombe Mountain (48%) residents were more likely than expected to have scores of highly important, while Rural Coastal Plain (33%) and Urban Piedmont (32%) residents were less likely than expected to have scores of highly important (Table 8).

Figure 6

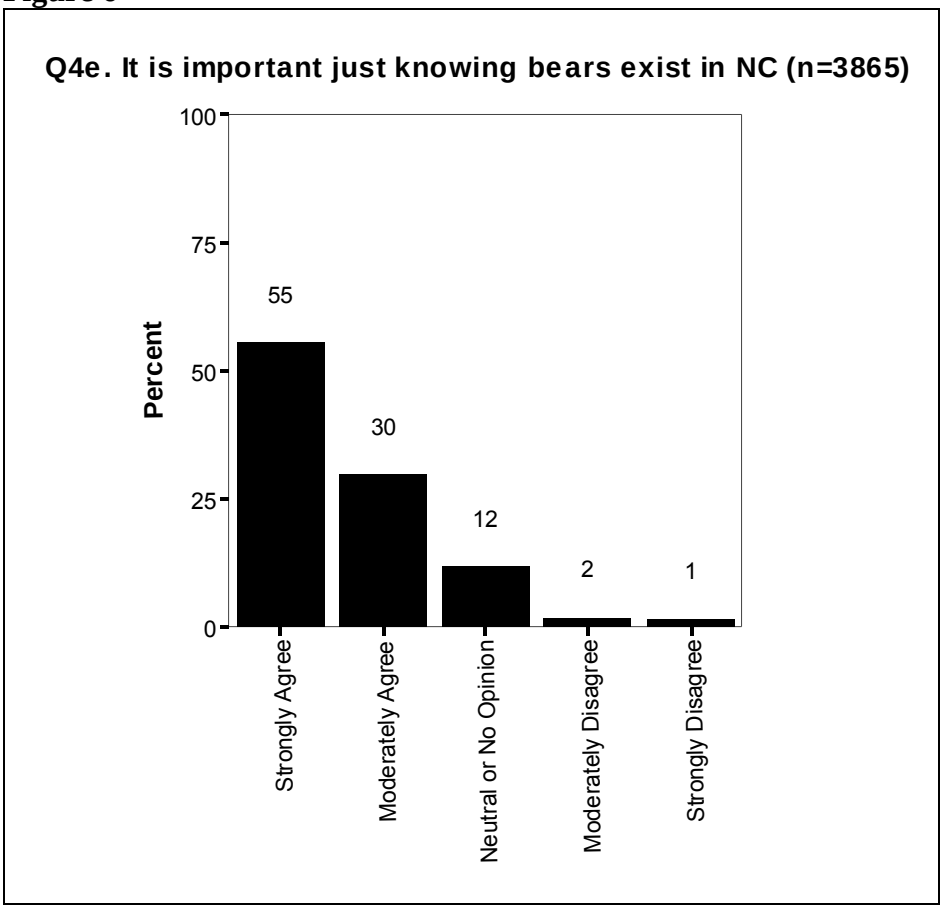

Q4e. It is important just knowing bears exist in NC (n=3865)
Percent
100
75
50
25
0
55
30
12
2
1
Strongly Agree
Moderately Agree
Neutral or No Opinion
Moderately Disagree
Strongly Disagree

Figure 7

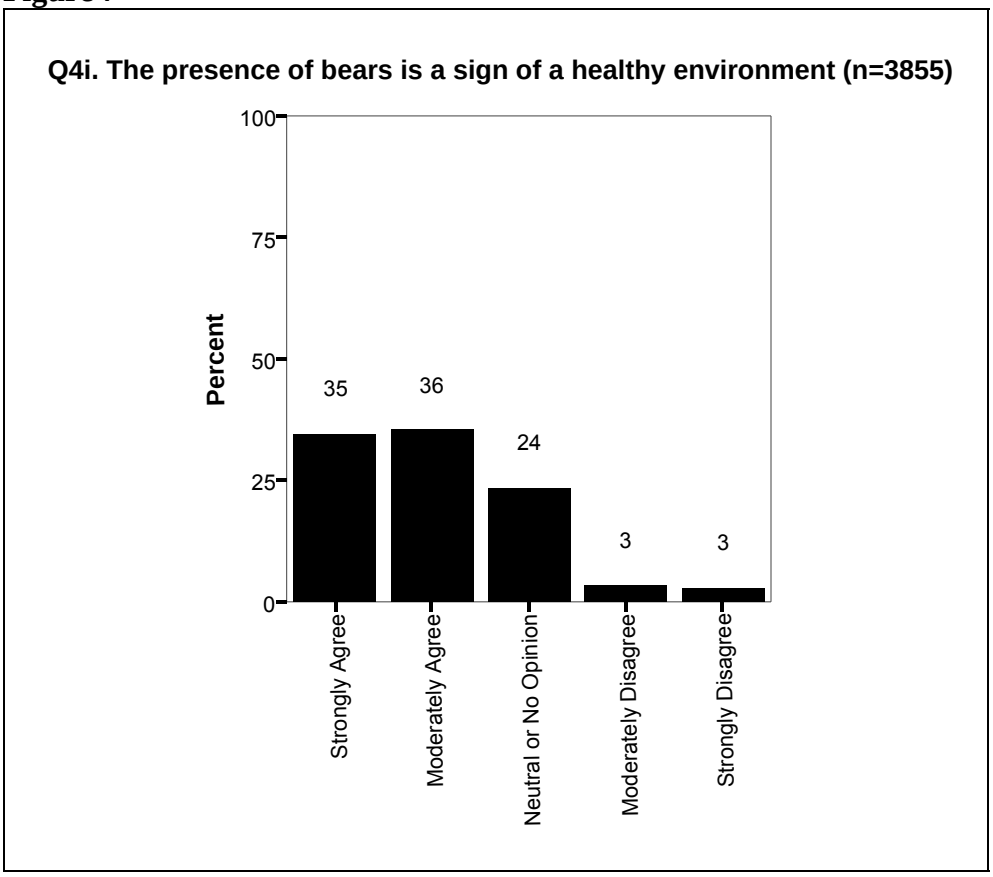

Q4i. The presence of bears is a sign of a healthy environment (n=3855)
Percent
100
75
50
25
0
35
36
24
3
3
Strongly Agree
Moderately Agree
Neutral or No Opinion
Moderately Disagree
Strongly Disagree

Figure 8

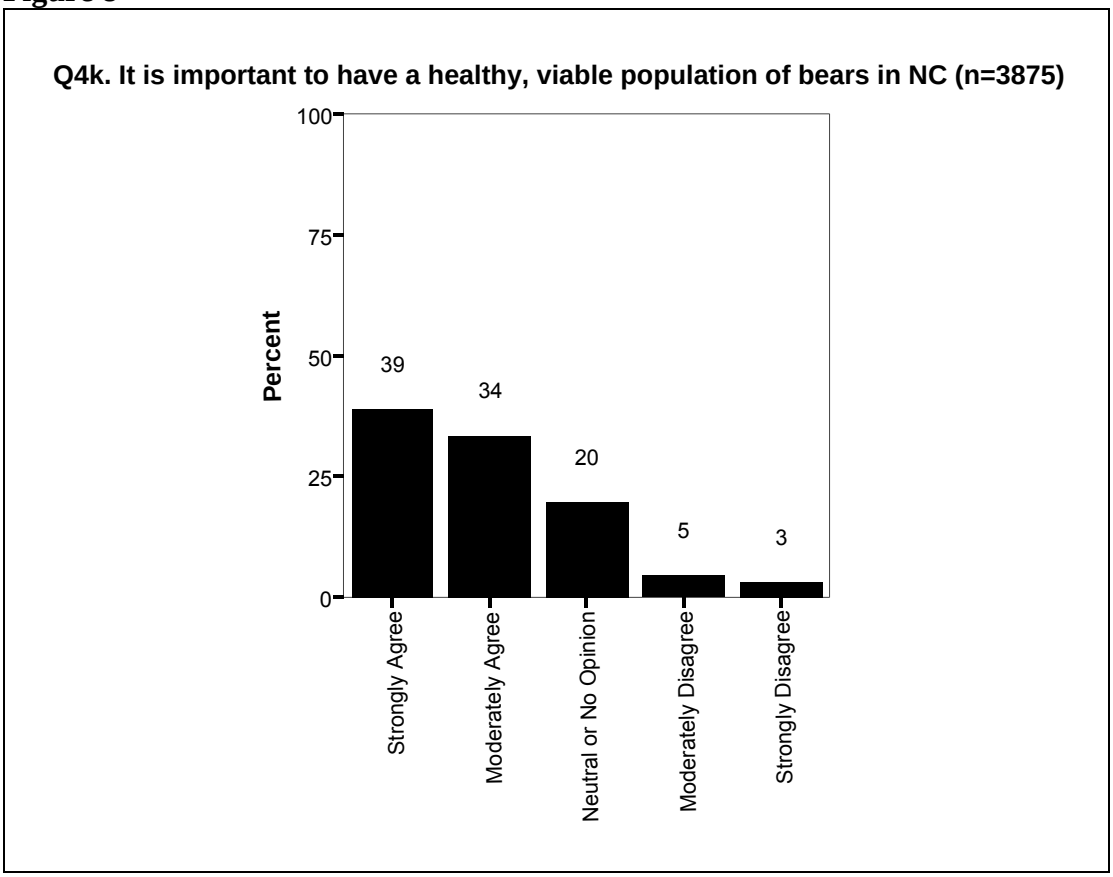

Q4k. It is important to have a healthy, viable population of bears in NC (n=3875)
Percent
100
75
50
25
0
39
34
20
5
3
Strongly Agree
Moderately Agree
Neutral or No Opinion
Moderately Disagree
Strongly Disagree

Figure 9

Q4l. It is important for people to have opportunities to view or photograph bears in NC (n=3883)

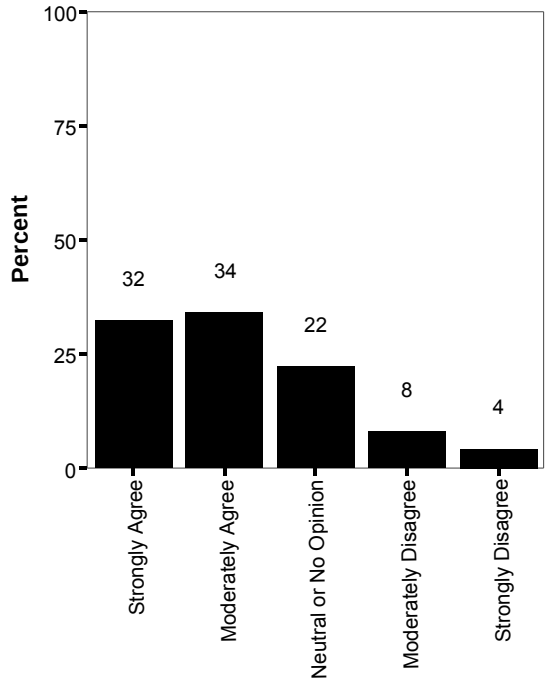


Figure 10

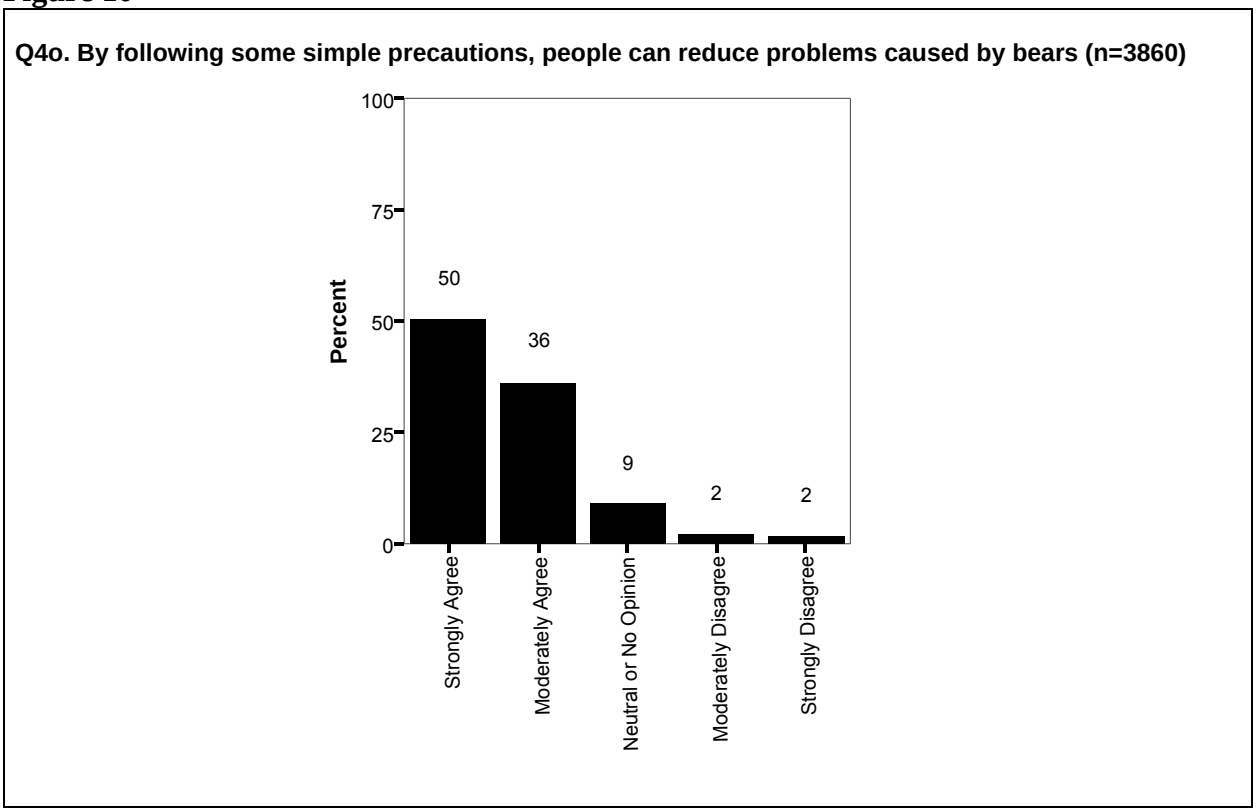


Figure 11

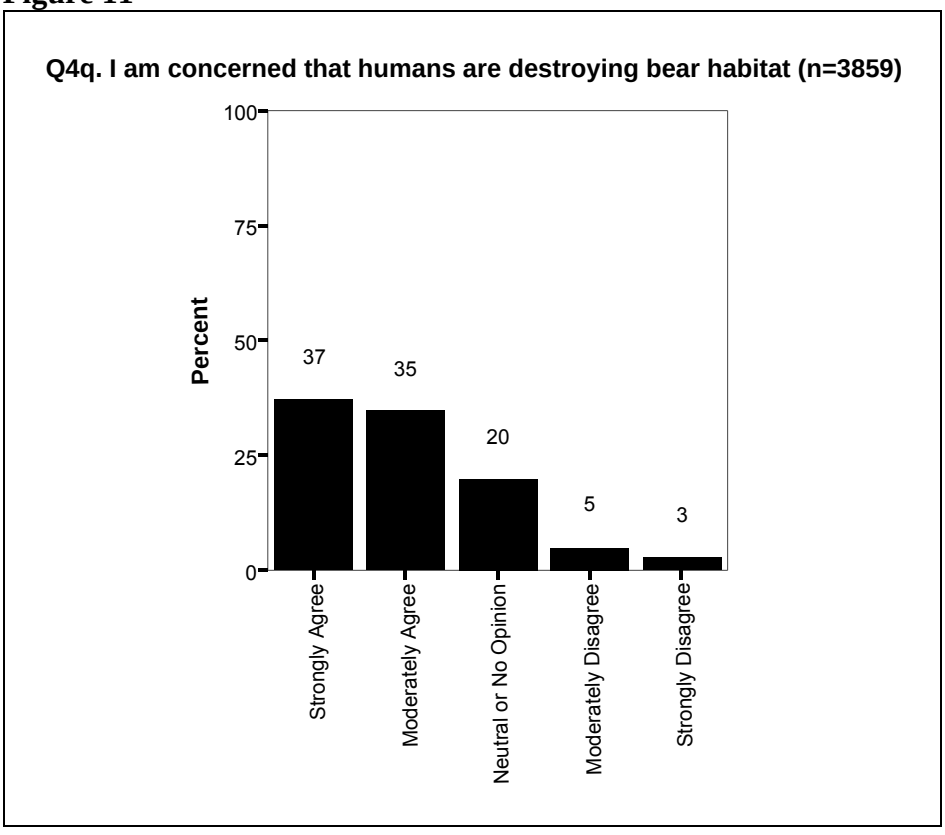


Figure 12

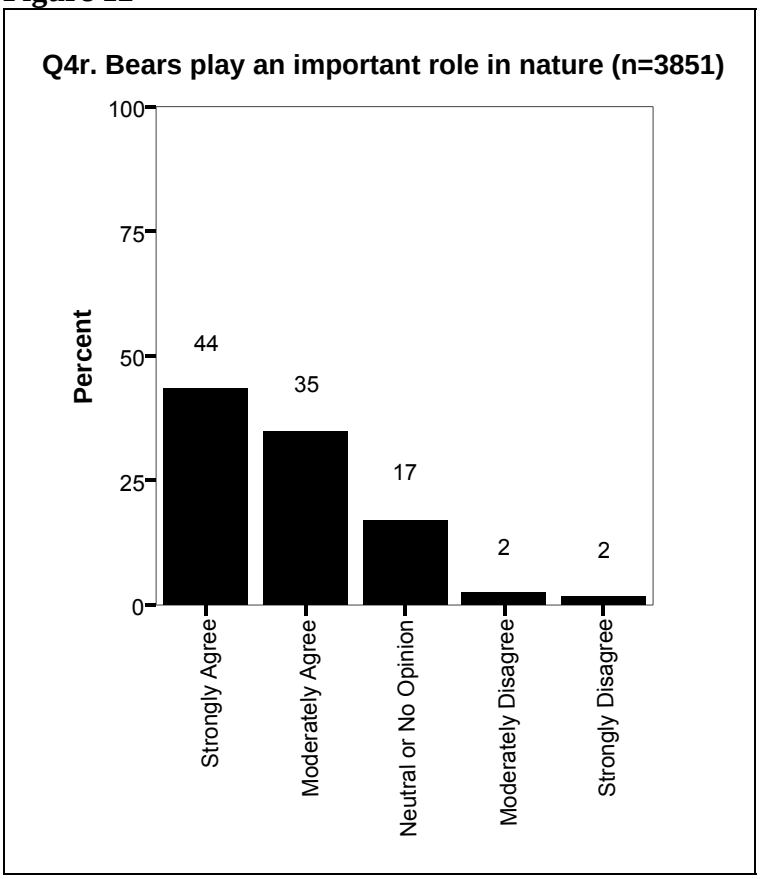

Q4r. Bears play an important role in nature (n=3851)
Percent
100
75
50
25
0
44
35
17
2
2
Strongly Agree
Moderately Agree
Neutral or No Opinion
Moderately Disagree
Strongly Disagree

Figure 13

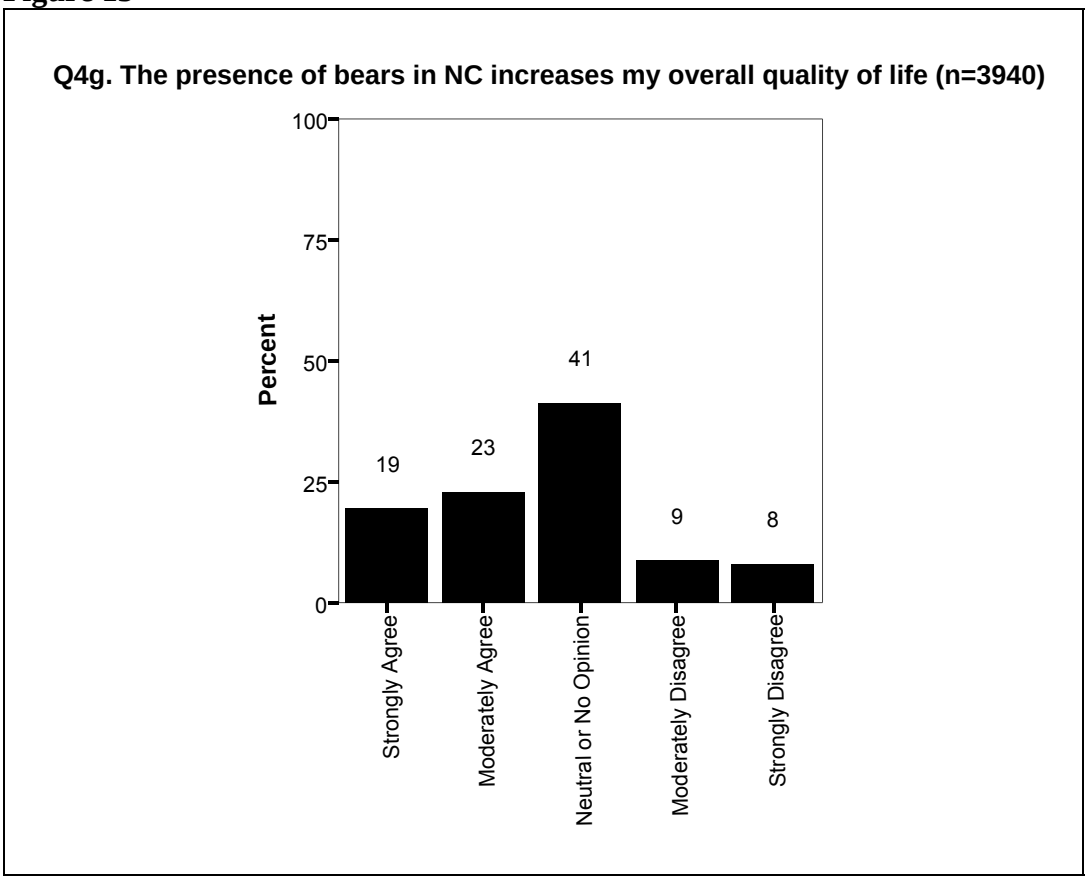

Q4g. The presence of bears in NC increases my overall quality of life (n=3940)
Percent
100
75
50
25
0
19
23
41
9
8
Strongly Agree
Moderately Agree
Neutral or No Opinion
Moderately Disagree
Strongly Disagree

Figure 14

Q4p. The presence of black bears near my home increases my overall quality of life (n=3870)

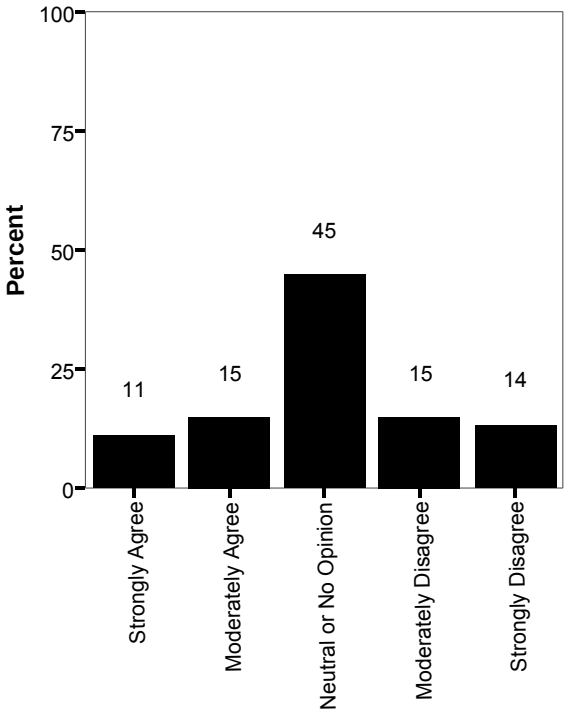


Figure 15

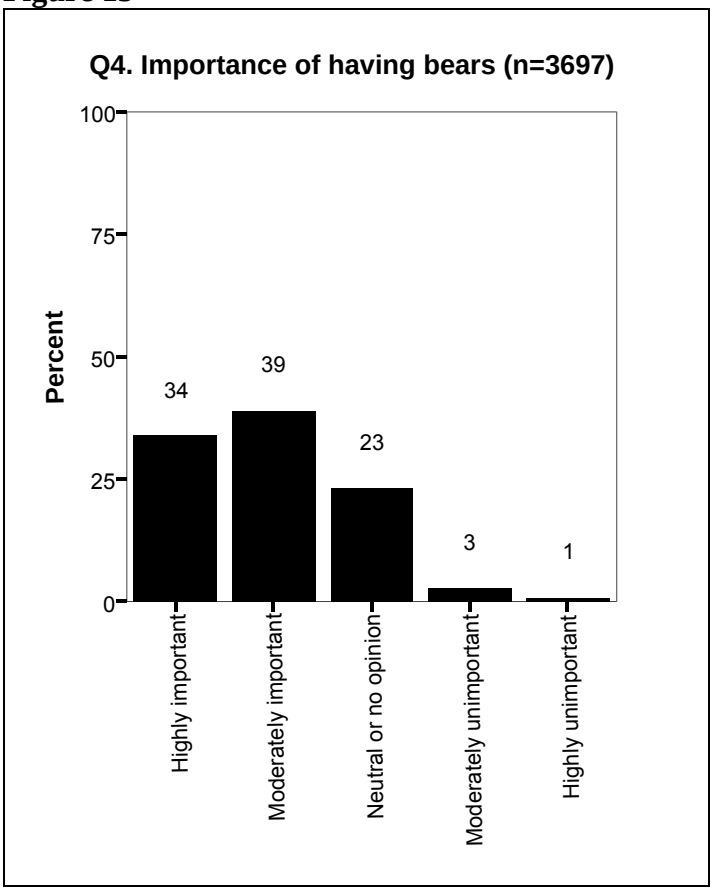


Table 8. Importance of having bears (Q4) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Highly important	39.7% (n=235)	48.0%[a] (n=294)	32.8%[b] (n=335)	36.7% (n=179)	33.7% (n=171)	31.7%[b] (n=147)
Moderately important	37.8% (n=224)	35.1% (n=215)	39.8% (n=406)	39.5% (n=193)	35.4% (n=180)	42.7%[a] (n=198)
Neutral or no opinion	18.9% (n=112)	15.7%[b] (n=96)	24.3%[a] (n=248)	21.5% (n=105)	25.8%[a] (n=131)	22.6% (n=105)
Moderately unimportant	2.4% (n=14)	1.3% (n=8)	2.5% (n=26)	1.8% (n=9)	3.5% (n=18)	2.4% (n=11)
Highly unimportant	1.2% (n=7)	0.0%[b] (n=0)	0.5% (n=5)	0.4% (n=2)	1.6%[a] (n=8)	0.6% (n=3)

$\chi^2 = 76.8$, df = 20, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Concerns about bears

One focus group participant said, "I like seeing bears in their place, but I really have a concern when bears start coming into the neighborhood and into an urban area." However, only a minority of survey respondents agreed that they are concerned about public safety threats by bears (31%), bear/vehicle accidents (44%), damage to personal property or crops by bears (33%), or threats to pets or livestock by black bears (36%) (Figure 16, Figure 17, Figure 18, Figure 19).

Overall scores for *Concerns About Bears* ranged from -8 to 8; 27% of respondents had scores of moderately or highly concerned (Figure 20).

Scores varied by region, with a significantly higher proportion of Rural Piedmont residents (12%) and significantly fewer New Hanover Coastal Plain residents (6%) having scores of highly concerned than expected (Table 9).

Figure 16

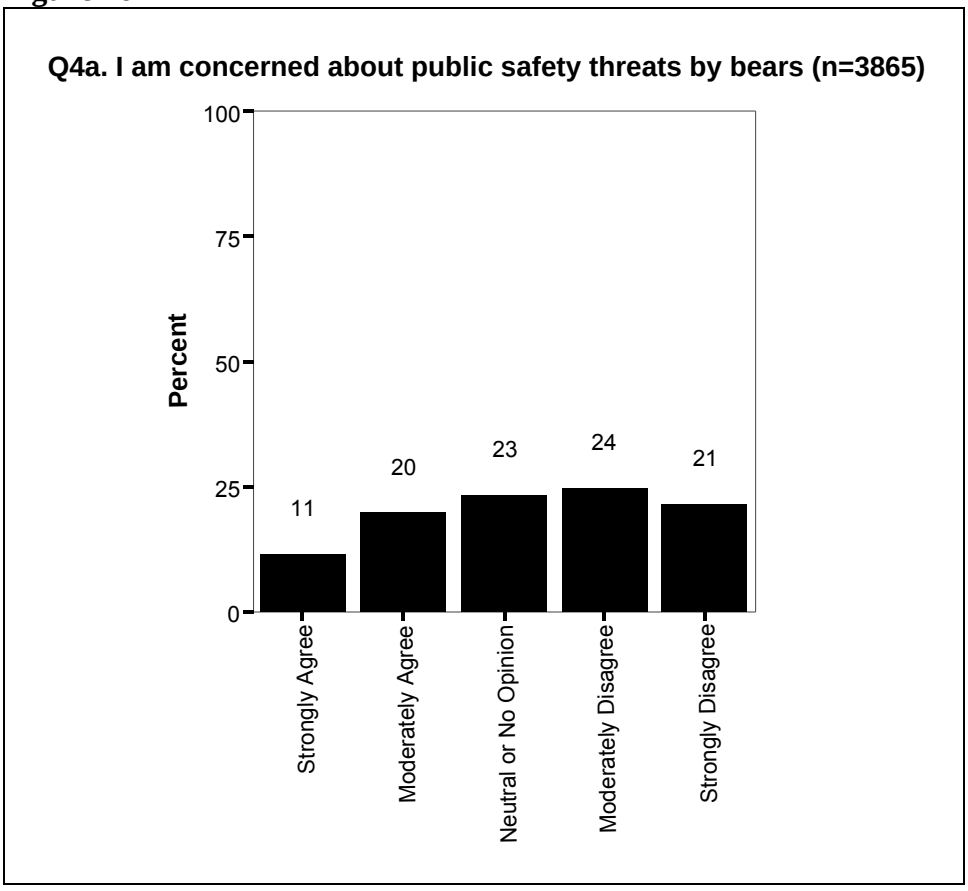


Figure 17

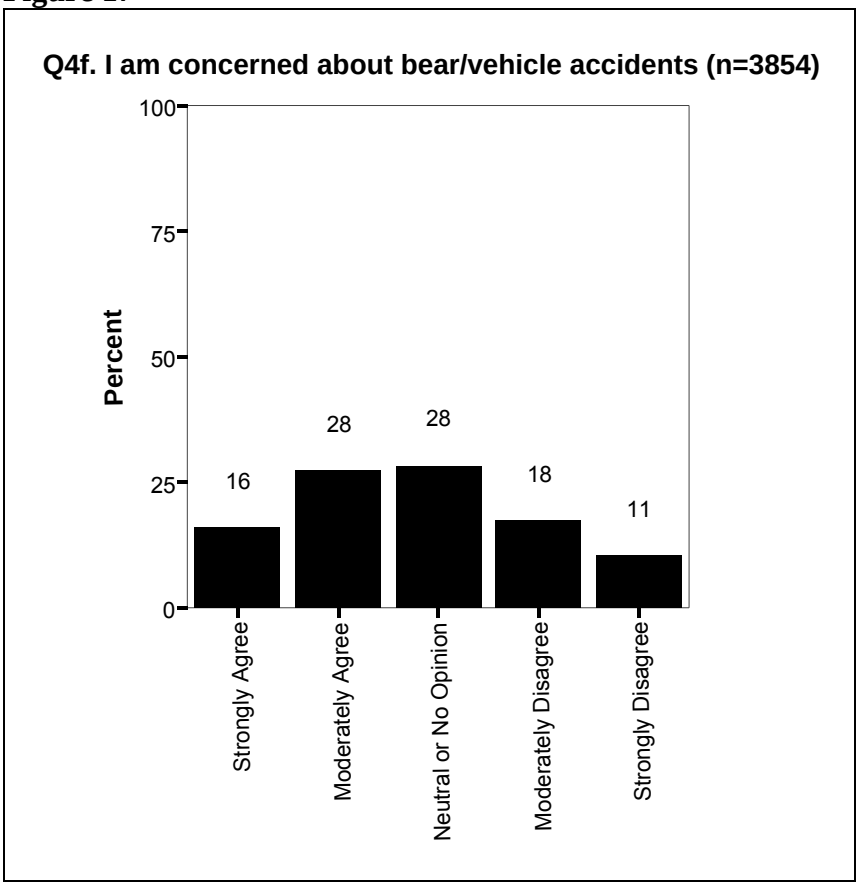

Q4f. I am concerned about bear/vehicle accidents (n=3854)
Percent
100
75
50
25
0
16
28
28
18
11
Strongly Agree
Moderately Agree
Neutral or No Opinion
Moderately Disagree
Strongly Disagree

Figure 18

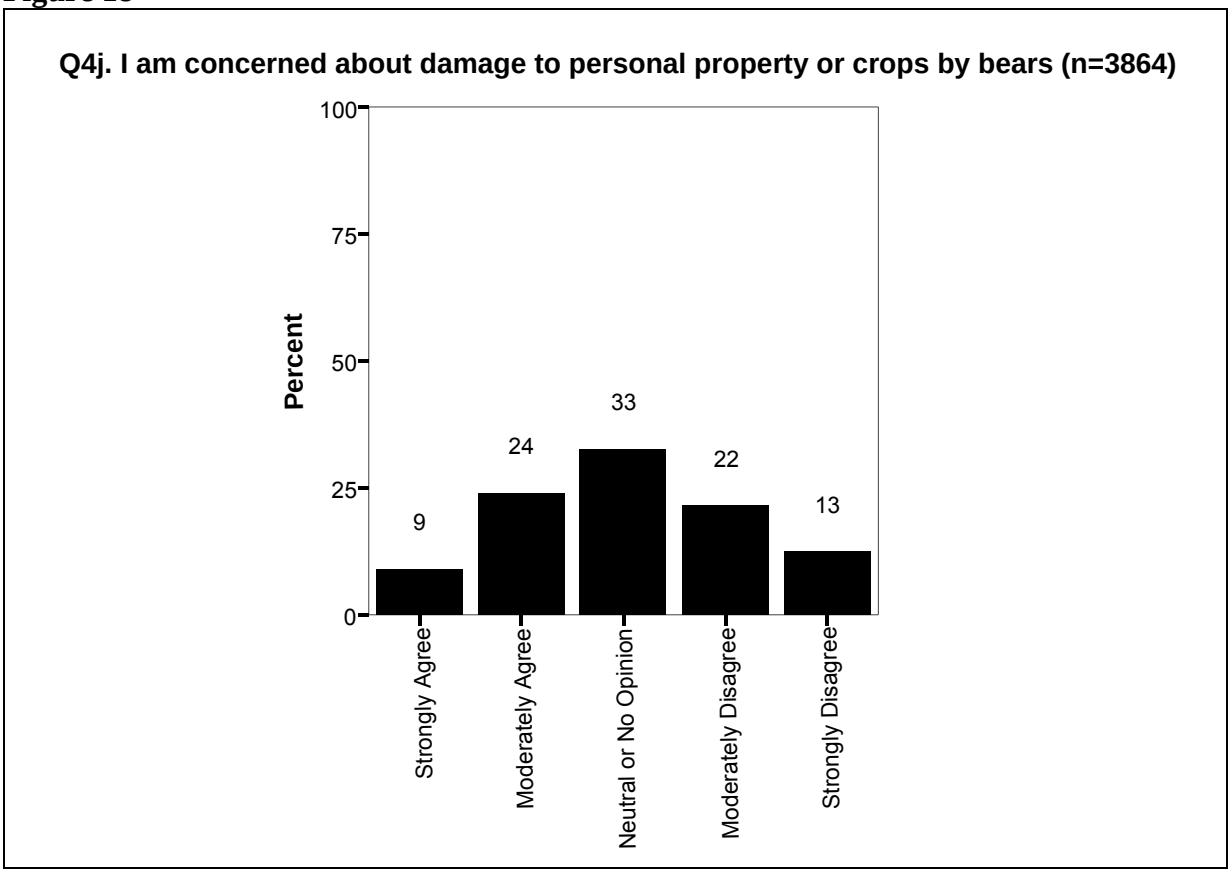

Q4j. I am concerned about damage to personal property or crops by bears (n=3864)
Percent
100
75
50
25
0
9
24
33
22
13
Strongly Agree
Moderately Agree
Neutral or No Opinion
Moderately Disagree
Strongly Disagree

Figure 19

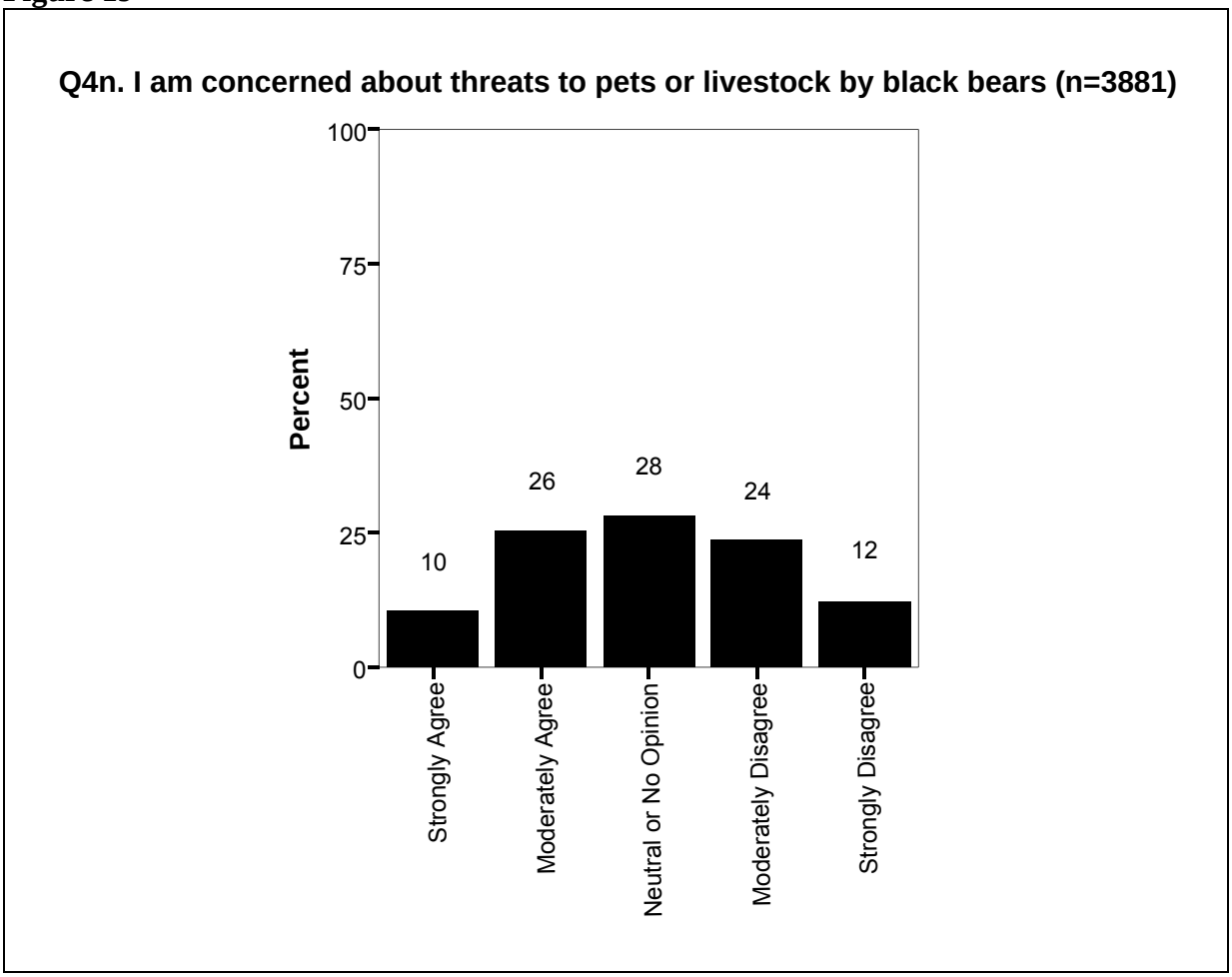

Q4n. I am concerned about threats to pets or livestock by black bears (n=3881)
Percent
100
75
50
25
0
10
26
28
24
12
Strongly Agree
Moderately Agree
Neutral or No Opinion
Moderately Disagree
Strongly Disagree

Figure 20

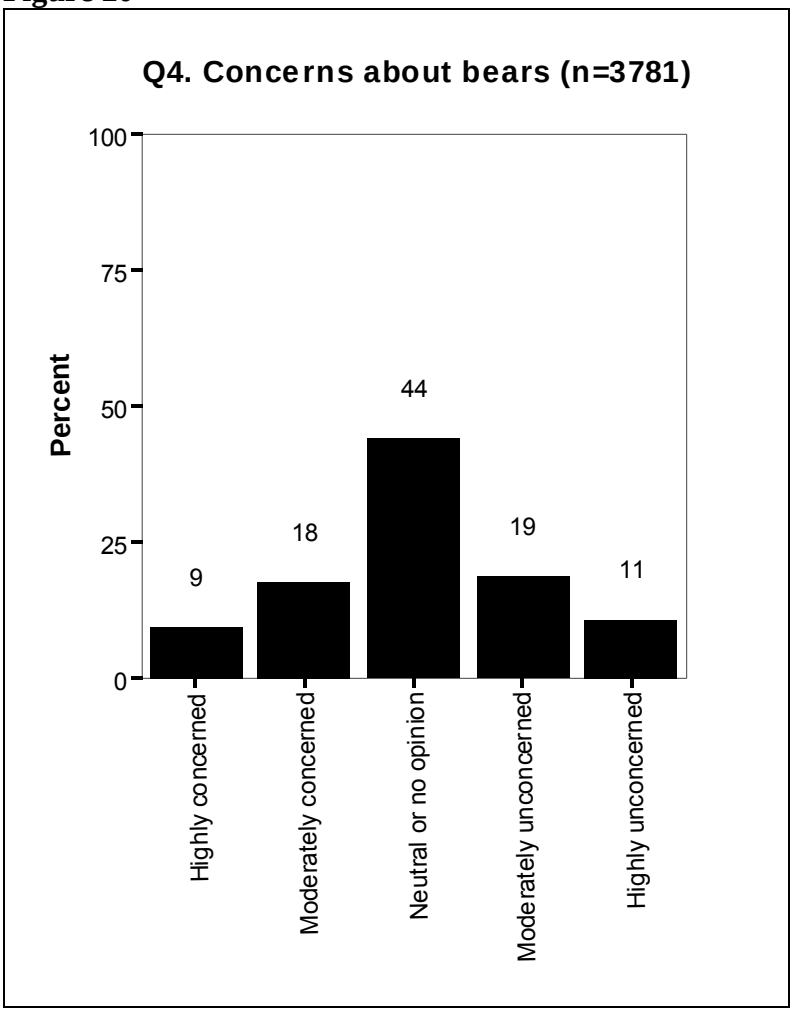


Table 9. Concerns about bears (Q4) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Highly concerned	8.1% (n=49)	7.6% (n=47)	8.2% (n=86)	5.8%[a] (n=29)	12.0%[b] (n=63)	8.2% (n=39)
Moderately concerned	16.1% (n=97)	18.1% (n=112)	20.2%[b] (n=211)	17.2% (n=86)	20.3% (n=106)	14.2%[a] (n=67)
Neutral or no opinion	41.6% (n=251)	42.4% (n=263)	46.0% (n=481)	52.5%[b] (n=262)	41.9% (n=219)	45.5% (n=215)
Moderately unconcerned	21.9%[b] (n=132)	20.5% (n=127)	17.0% (n=178)	15.4% (n=77)	15.7% (n=82)	21.1% (n=100)
Highly unconcerned	12.4% (n=75)	11.5% (n=71)	8.6%[a] (n=90)	9.0% (n=45)	10.1% (n=53)	11.0% (n=52)

$\chi^2 = 52.8$, df = 20, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Bear hunting

Most respondents (63%) agreed that bear hunting, when properly managed, is compatible with viable bear populations (Figure 21) and 44% agreed that it is important for people to have opportunities to hunt bears in North Carolina (Figure 22).

When the two bear hunting items were combined, overall scores ranged from -2 to 2; 44% of respondents had total scores that indicated they supported bear hunting (Figure 23).

Rural Coastal Plain (18%) and Rural Piedmont (20%) residents were significantly more likely to strongly support bear hunting and Urban Piedmont residents (11%) were significantly less likely to strongly support bear hunting than expected; Buncombe Mountain residents were significantly more likely than expected to moderately (16%) or strongly (8%) oppose bear hunting (Table 10).

Figure 21

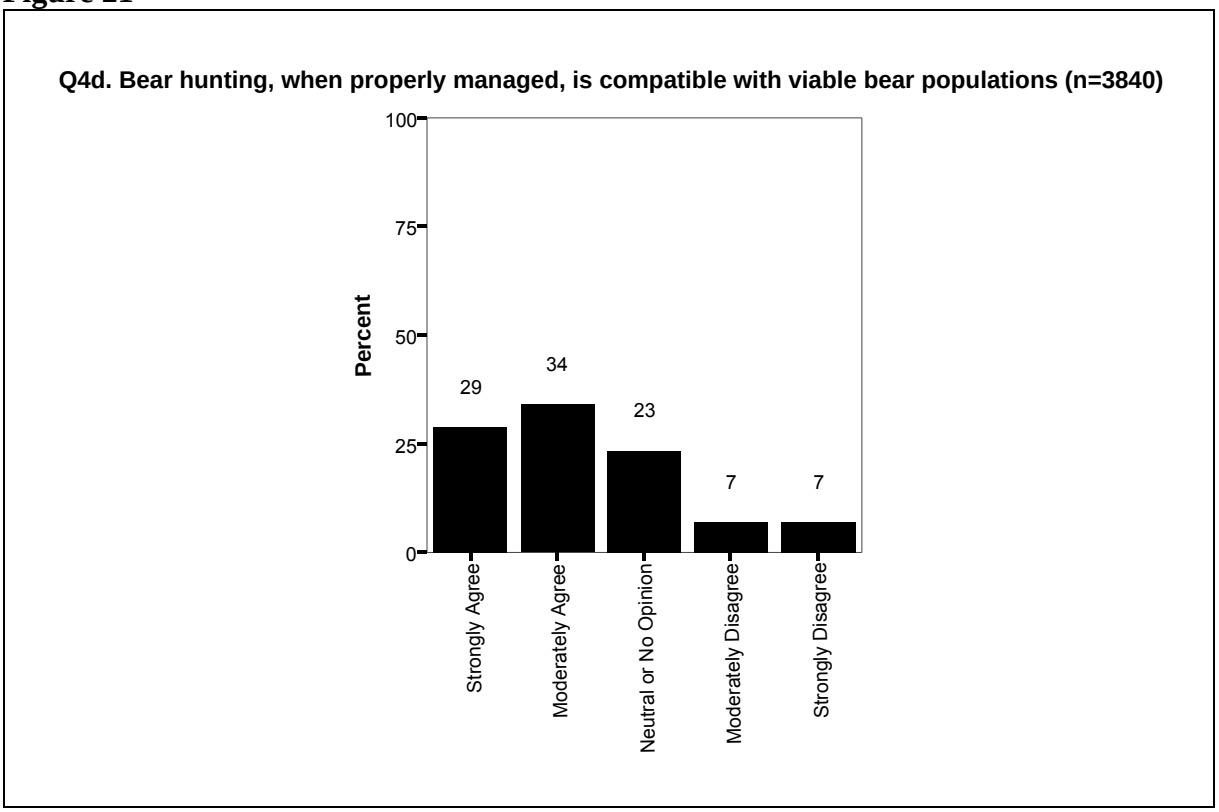


Figure 22

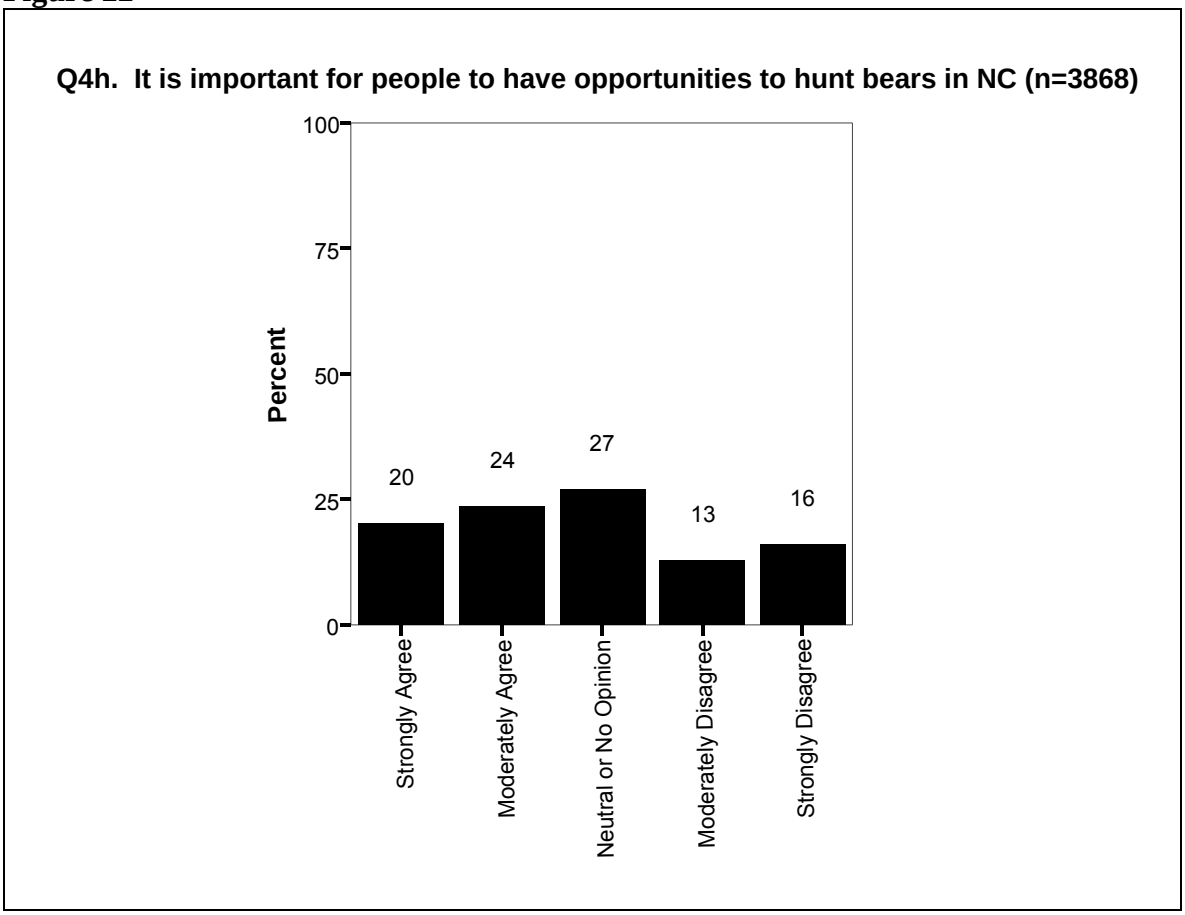

Q4h. It is important for people to have opportunities to hunt bears in NC (n=3868)
Percent
100
75
50
25
0
20
24
27
13
16
Strongly Agree
Moderately Agree
Neutral or No Opinion
Moderately Disagree
Strongly Disagree

Figure 23

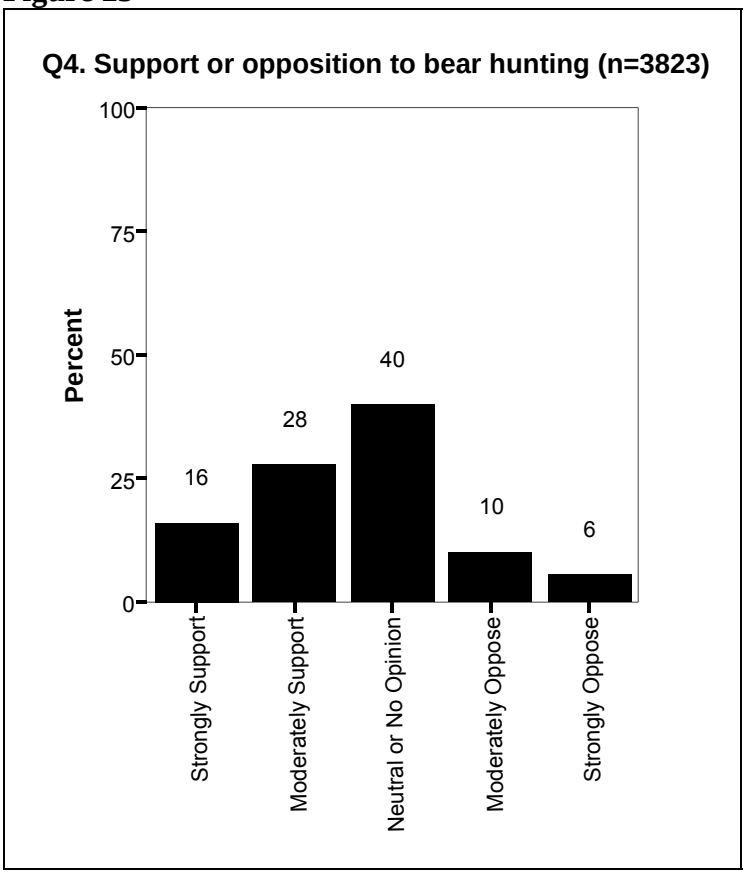


Table 10. Support or opposition to bear hunting (Q4) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Strongly Support	18.0% (n=111)	13.8% (n=87)	18.3%[a] (n=195)	14.3% (n=72)	20.1%[a] (n=106)	11.3%[b] (n=54)
Moderately Support	31.6% (n=195)	27.8% (n=175)	34.9%[a] (n=372)	31.6% (n=159)	28.3% (n=149)	23.7%[b] (n=113)
Neutral or No Opinion	35.8% (n=221)	34.8% (n=219)	35.6% (n=380)	39.6% (n=199)	38.9% (n=205)	44.3%[a] (n=211)
Moderately Oppose	9.5% (n=59)	15.9%[a] (n=100)	7.7%[b] (n=82)	10.3% (n=52)	8.2% (n=43)	12.6% (n=60)
Strongly Oppose	5.2% (n=32)	7.8%[a] (n=49)	3.5%[b] (n=37)	4.2% (n=21)	4.6% (n=24)	8.0%[a] (n=38)

$\chi^2 = 98.6$, df = 20, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Knowledge of bears

Only 10% of respondents agreed that people in North Carolina generally have a high knowledge of bears (Figure 24).

There were differences by region in assessment of the knowledge of North Carolinians about bears with a significantly higher proportion of Rural Mountain residents (4%) and a significantly lower percentage of Rural Piedmont residents (1%) having strongly agreed that people in North Carolina generally have high knowledge of bears than expected (Table 11).

Figure 24

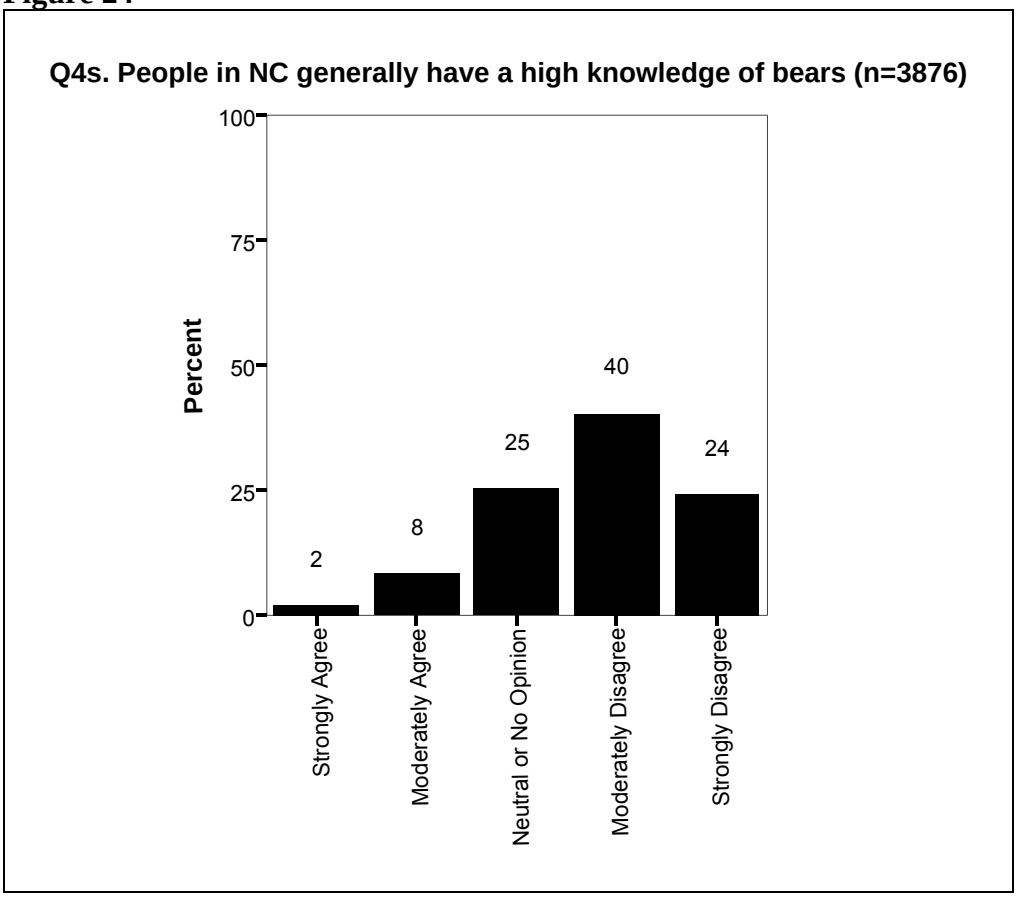


Table 11. People in NC generally have high knowledge of bears (Q4s) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Strongly Agree	4.1%[a] (n=26)	2.7% (n=17)	2.9% (n=31)	2.0% (n=10)	1.1%[b] (n=6)	1.7% (n=8)
Moderately Agree	13.9%[a] (n=87)	14.4%[a] (n=92)	11.1% (n=120)	7.7%[b] (n=39)	6.9%[b] (n=37)	5.8%[b] (n=28)
Neutral or No Opinion	22.0%[b] (n=138)	27.0% (n=172)	28.0% (n=303)	27.9% (n=141)	24.2% (n=130)	25.6% (n=123)
Moderately Disagree	40.8% (n=256)	38.1% (n=243)	37.9% (n=411)	39.2% (n=198)	41.2% (n=221)	41.3% (n=198)
Strongly Disagree	19.1% (n=120)	17.7%[b] (n=113)	20.2% (n=219)	23.2% (n=117)	26.6%[a] (n=143)	25.6%[a] (n=123)

$\chi^2 = 77.1$, df = 20, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Concern about bear populations

Most respondents (61%) agreed that they were concerned about future bear populations in North Carolina (Figure 25).

Buncombe Mountain residents (32%) were more likely than expected to strongly agree that they were concerned about future North Carolina bear populations (Table 12).

Figure 25

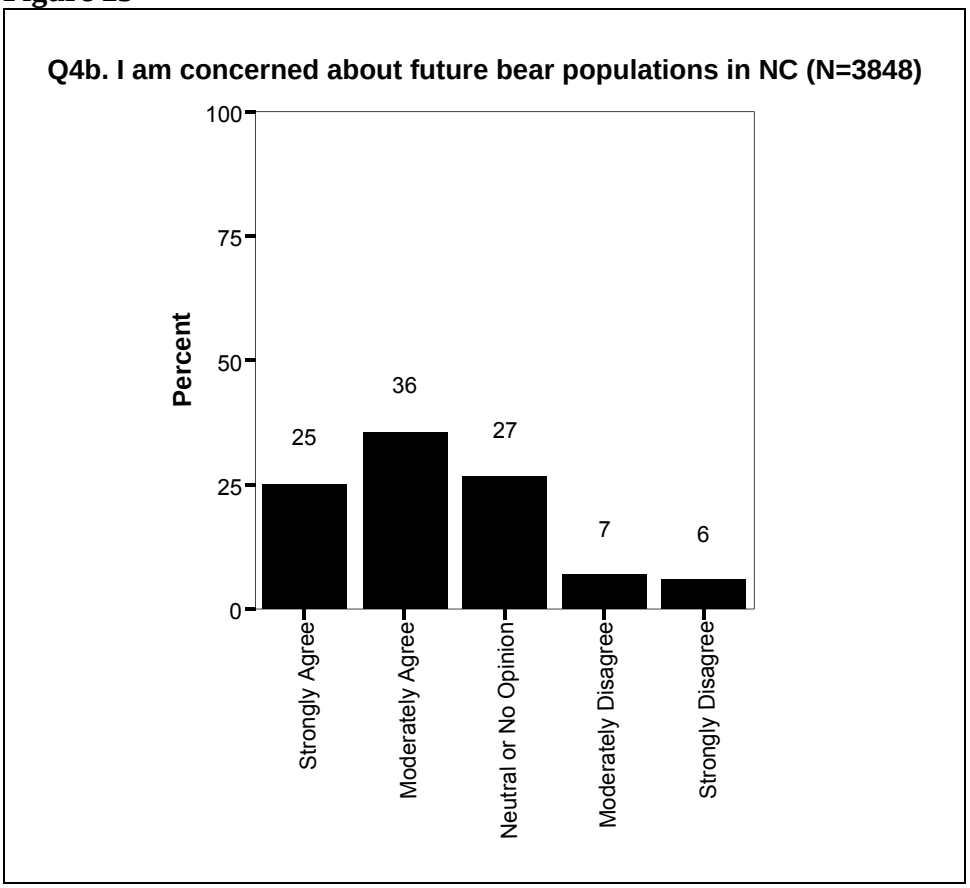


Table 12. I am concerned about future bear populations in NC (Q4b) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Strongly Agree	26.5% (n=164)	31.8%[a] (n=202)	24.7% (n=264)	23.2% (n=117)	26.4% (n=139)	23.2% (n=112)
Moderately Agree	34.2% (n=212)	37.0% (n=235)	35.3% (n=377)	34.5% (n=174)	36.8% (n=194)	35.0% (n=169)
Neutral or No Opinion	23.7% (n=147)	18.9%[b] (n=120)	25.4% (n=271)	28.3% (n=143)	26.2% (n=138)	28.8%[a] (n=139)
Moderately Disagree	11.0%[a] (n=68)	7.7% (n=49)	8.7% (n=93)	7.7% (n=39)	4.9%[b] (n=26)	6.4% (n=31)
Strongly Disagree	4.5% (n=28)	4.6% (n=29)	6.0% (n=64)	6.3% (n=32)	5.7% (n=30	6.6% (n=32)

$\chi^2 = 48.0$, df = 20, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Support of WRC bear management

Most respondents (58%) agreed that they generally support WRC bear management (Figure 26).

Rural Mountain (31%) residents were less likely and Urban Piedmont (45%) residents were more likely to be to be neutral or have no opinion about support for WRC bear management than expected (Table 13).

Figure 26

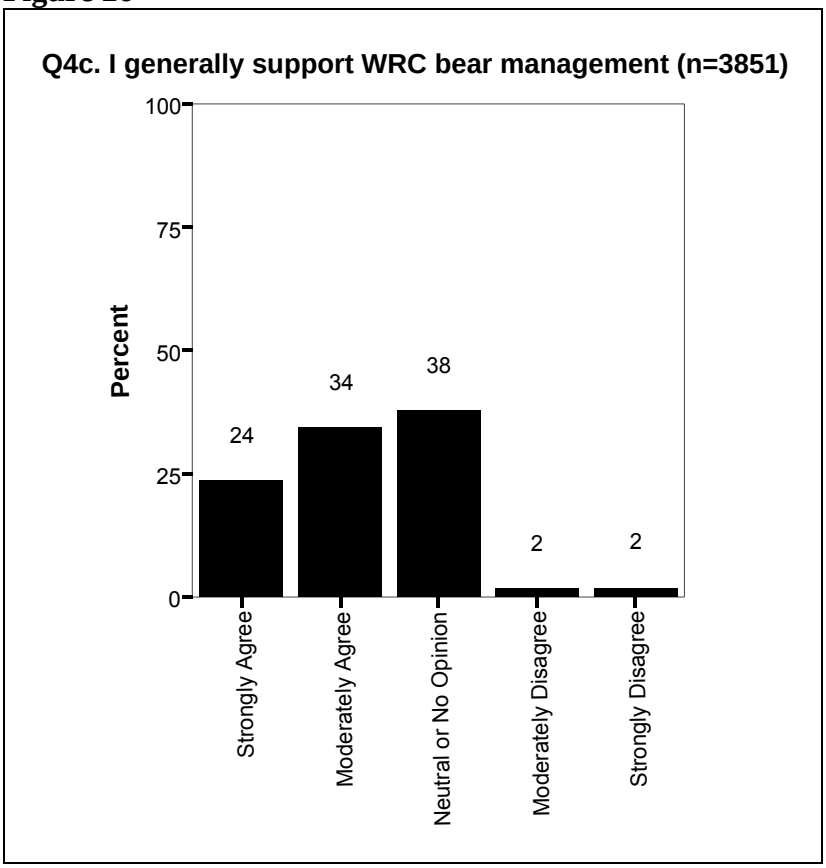


Table 13. I generally support WRC bear management (Q4c) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Strongly Agree	24.5% (n=151)	22.7% (n=143)	25.5% (n=273)	23.1% (n=117)	25.3% (n=134)	21.7% (n=105)
Moderately Agree	38.4% (n=237)	35.7% (n=225)	36.6% (n=392)	36.9% (n=187)	35.7% (n=189)	31.3%[a] (n=151)
Neutral or No Opinion	31.0%[a] (n=191)	36.7% (n=231)	33.9% (n=363)	37.5% (n=190)	34.0% (n=180)	44.9%[b] (n=217)
Moderately Disagree	3.9%[b] (n=24)	2.9% (n=18)	2.6% (n=28)	2.0% (n=10)	1.5% (n=8)	1.0%[a] (n=5)
Strongly Disagree	2.3% (n=14)	2.1% (n=13)	1.3% (n=14)	0.6%[a] (n=3)	3.4%[b] (n=18)	1.0% (n=5)

$\chi^2 = 53.0$, df = 20, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Economic importance of bears

A plurality of respondents (48%) agreed that the money that people spend to view, hunt, or photograph bears in North Carolina is important to the economy (Figure 27).

Overall, there were few differences by region in how people viewed the economic importance of bears; however, Rural Mountain residents (23%) were significantly more likely and Urban Piedmont residents (15%) were significantly less likely than expected to strongly agree that the money that people spend to view, hunt or photograph bears is important to the economy (Table 14).

Figure 27

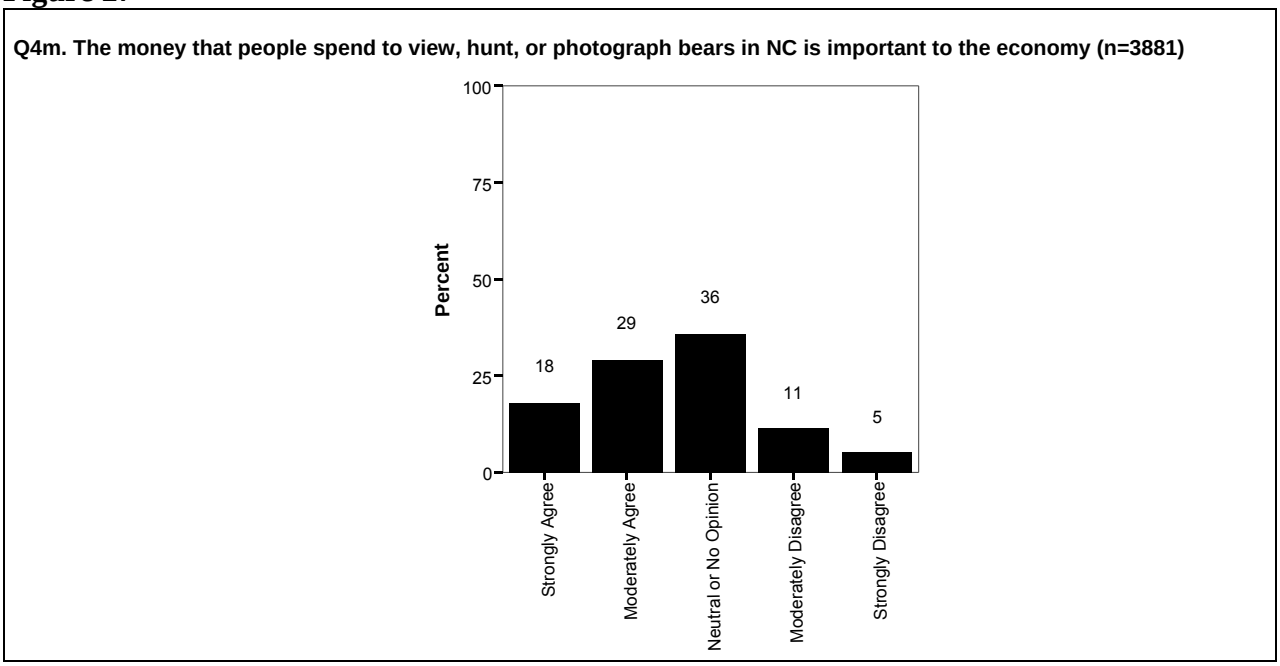


Table 14. The money that people spend to view, hunt, or photograph bears in NC is important to the economy (Q4m) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Strongly Agree	22.7%[a] (n=142)	16.7% (n=106)	20.1% (n=218)	18.7% (n=94)	19.2% (n=103)	15.1%[b] (n=73)
Moderately Agree	30.5% (n=191)	32.1% (n=204)	29.1% (n=315)	27.8% (n=140)	30.2% (n=162)	28.2% (n=136)
Neutral or No Opinion	31.3%[b] (n=196)	34.6% (n=220)	35.1% (n=380)	37.9% (n=191)	34.6% (n=186)	38.8% (n=187)
Moderately Disagree	10.1% (n=63)	9.8% (n=62)	10.9% (n=118)	10.3% (n=52)	10.8% (n=58)	12.4% (n=60)
Strongly Disagree	5.4% (n=34)	6.8% (n=43)	4.8% (n=52)	5.4% (n=27)	5.2% (n=28)	5.4% (n=26)

$\chi^2 = 24.1$, df = 20, $p = 0.237$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Bear Sensitivity Index (BSI)

The proportion of respondents who would not contact any authorities ranged from 3% (a bear repeatedly threatens and charges pets near your home) to 53% (you see a bear near your home one morning) (Figure 28, Figure 29, Figure 30, Figure 31, Figure 32, Figure 33, Figure 34, Figure 35).

Most respondents (72%) were intolerant (would ask/tell some authority to do something) of the personal threat items in Level 2 of the BSI (Table 15). For Level 3, 30-41% of respondents were intolerant of the frequent events involving bears. Fewer respondents were intolerant of occasional events (24-29%) or the presence of bear (14%).

When respondents were classified based on there highest level of tolerance for bear/human interactions (BSI Level), 14% were intolerant of the presence of bear (Level 5) and 14-29% were intolerant of occasional (Level 4) or frequent events (Level 3) or personal threats by bears (Level 2) (Figure 36). Only 15% of respondents were classified as Level 1 (tolerant of bear/human interactions).

BSI Levels varied by region, with significantly more Rural Mountain (22%) and Buncombe Mountain (28%) residents and significantly fewer Rural Coastal Plain (15%), New Hanover Coastal Plain (12%), Rural Piedmont (13%) and Urban Piedmont (13%) residents having BSI Levels of 1 (Table 16).

Respondents who had had one or more interactions with bears (21%), participated in one or more wildlife related activities (20%), participated in hunting (26%), had “much knowledge” of bears (31%), or were male (19%) were significantly more likely than expected to be classified as Level 1 (Table 17, Table 18, Table 19, Table 20, Table 21).

Surprisingly, there were few differences between BSI Levels between those that farmed or kept bees and other respondents; in fact, those that farmed or kept bees were significantly more likely to be classified as Level 1 (25%) (Table 22).

Also surprisingly, respondents who had children under age 10 in their households were significantly more likely to have BSI Levels of 2 (34%) and significantly less likely to have BSI Levels of 5 (6%) than those without children in their households (Table 23).

Figure 28

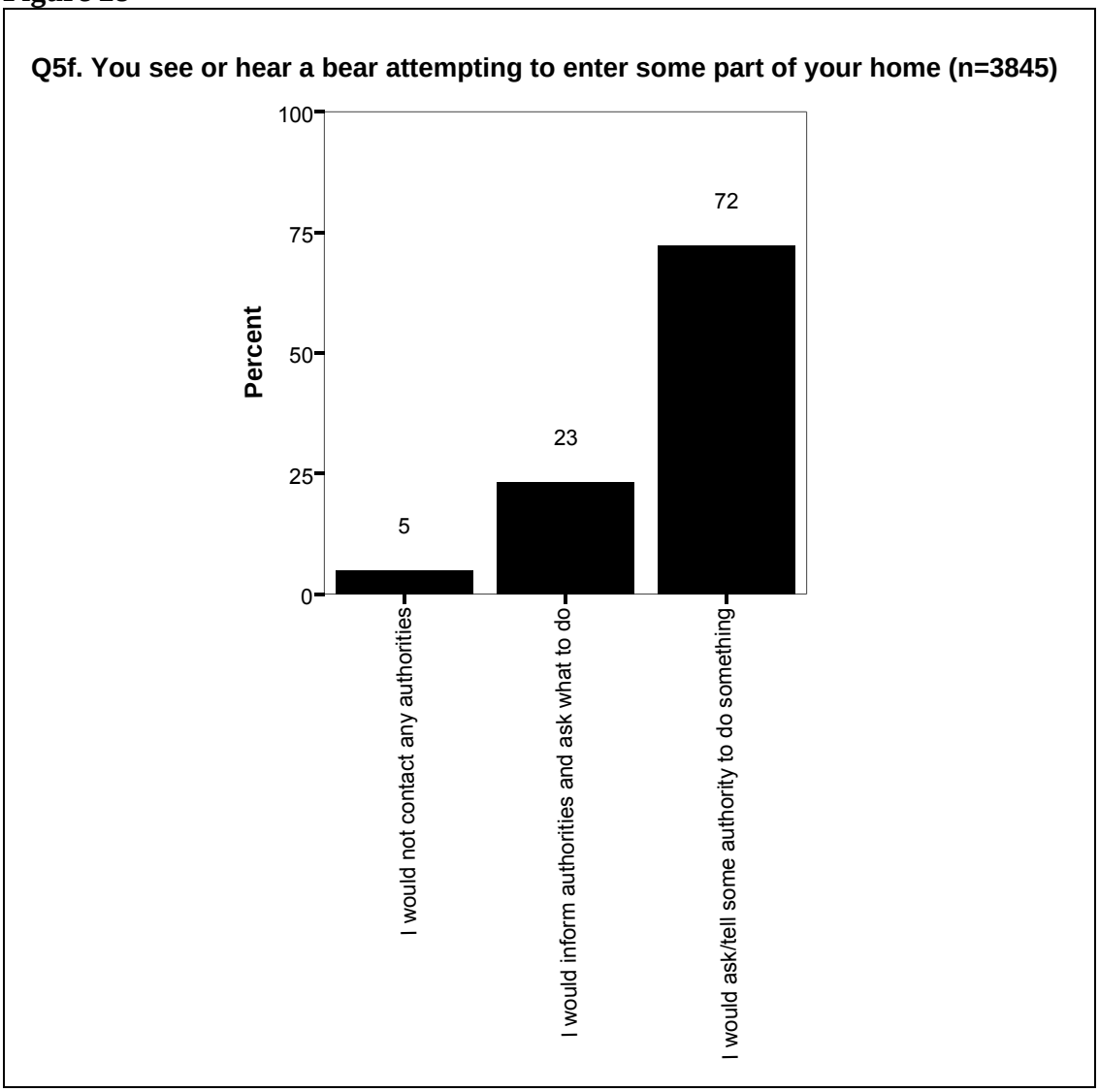

Q5f. You see or hear a bear attempting to enter some part of your home (n=3845)
Percent
100
75
50
25
0
5
23
72
I would not contact any authorities
I would inform authorities and ask what to do
I would ask/tell some authority to do something

Figure 29

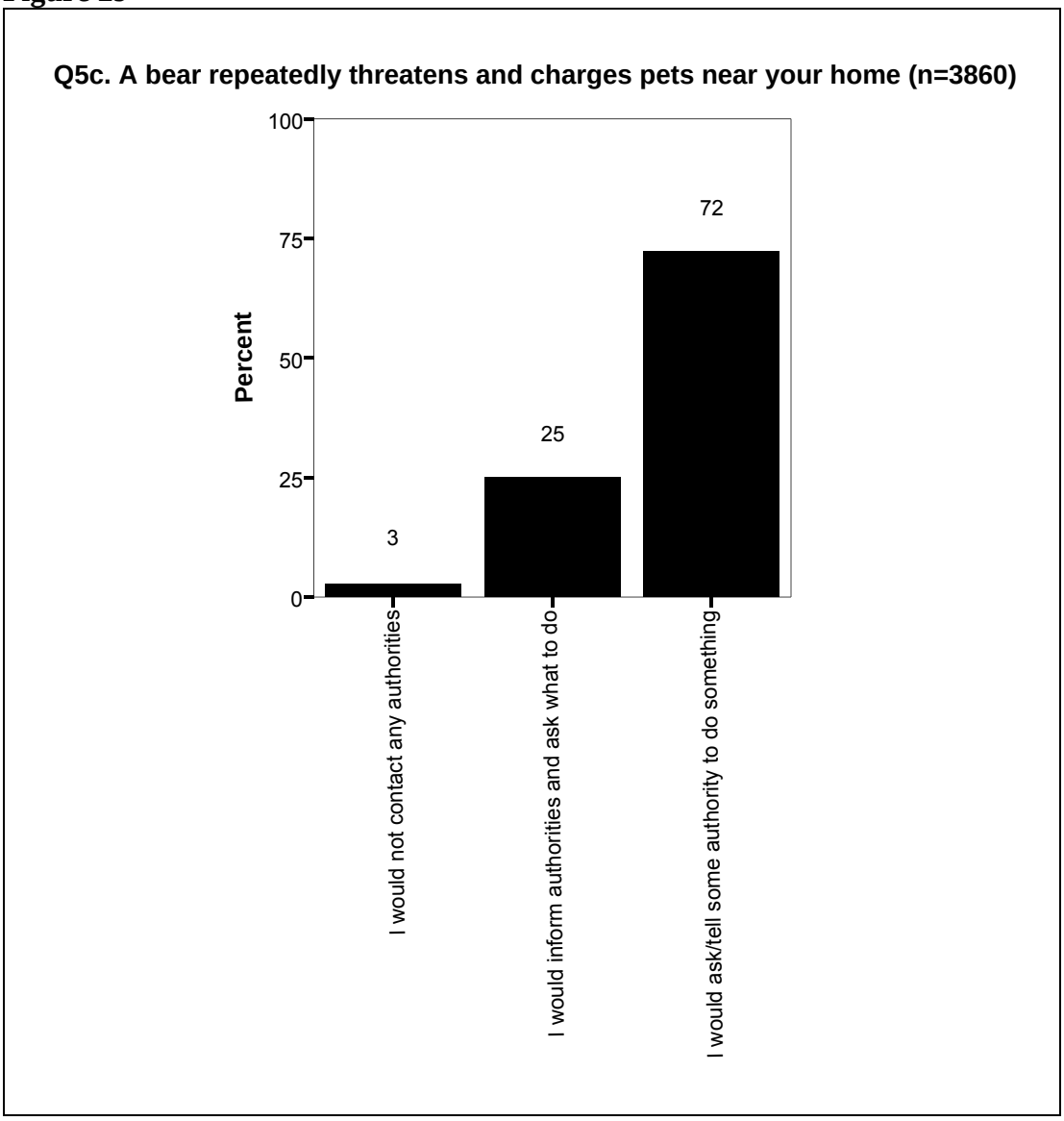

Q5c. A bear repeatedly threatens and charges pets near your home (n=3860)
Percent
100
75
50
25
0
3
25
72
I would not contact any authorities
I would inform authorities and ask what to do
I would ask/tell some authority to do something

Figure 30

Q5e. A bear damages several birdfeeders and outdoor grills over a week near your home (n=3864)

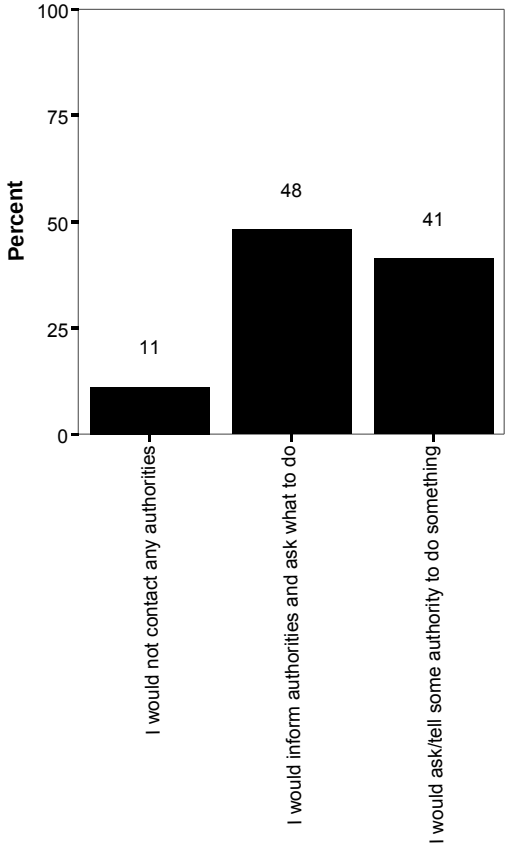


Figure 31

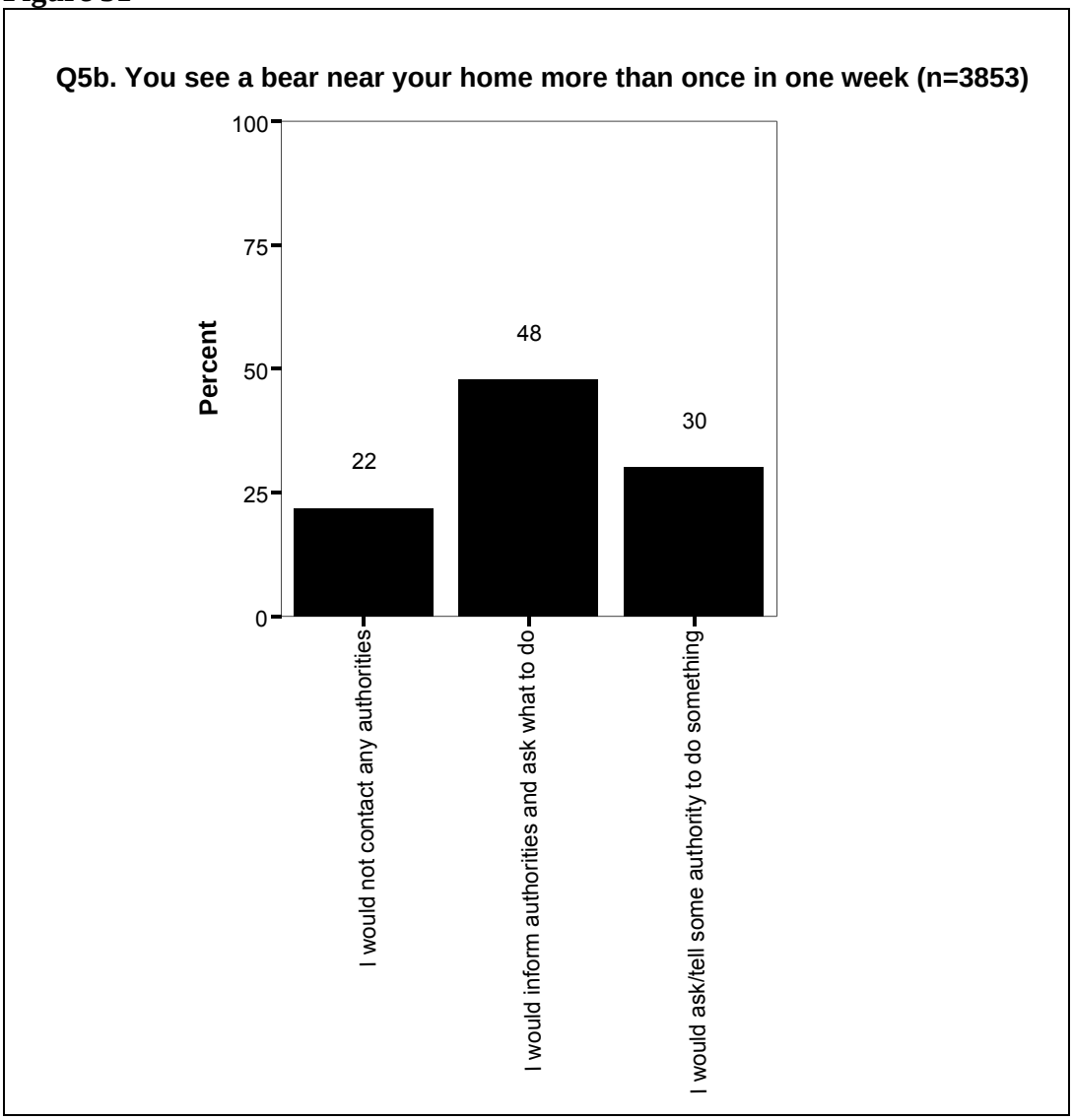

Q5b. You see a bear near your home more than once in one week (n=3853)
Percent
100
75
50
25
0
22
48
30
I would not contact any authorities
I would inform authorities and ask what to do
I would ask/tell some authority to do something

Figure 32

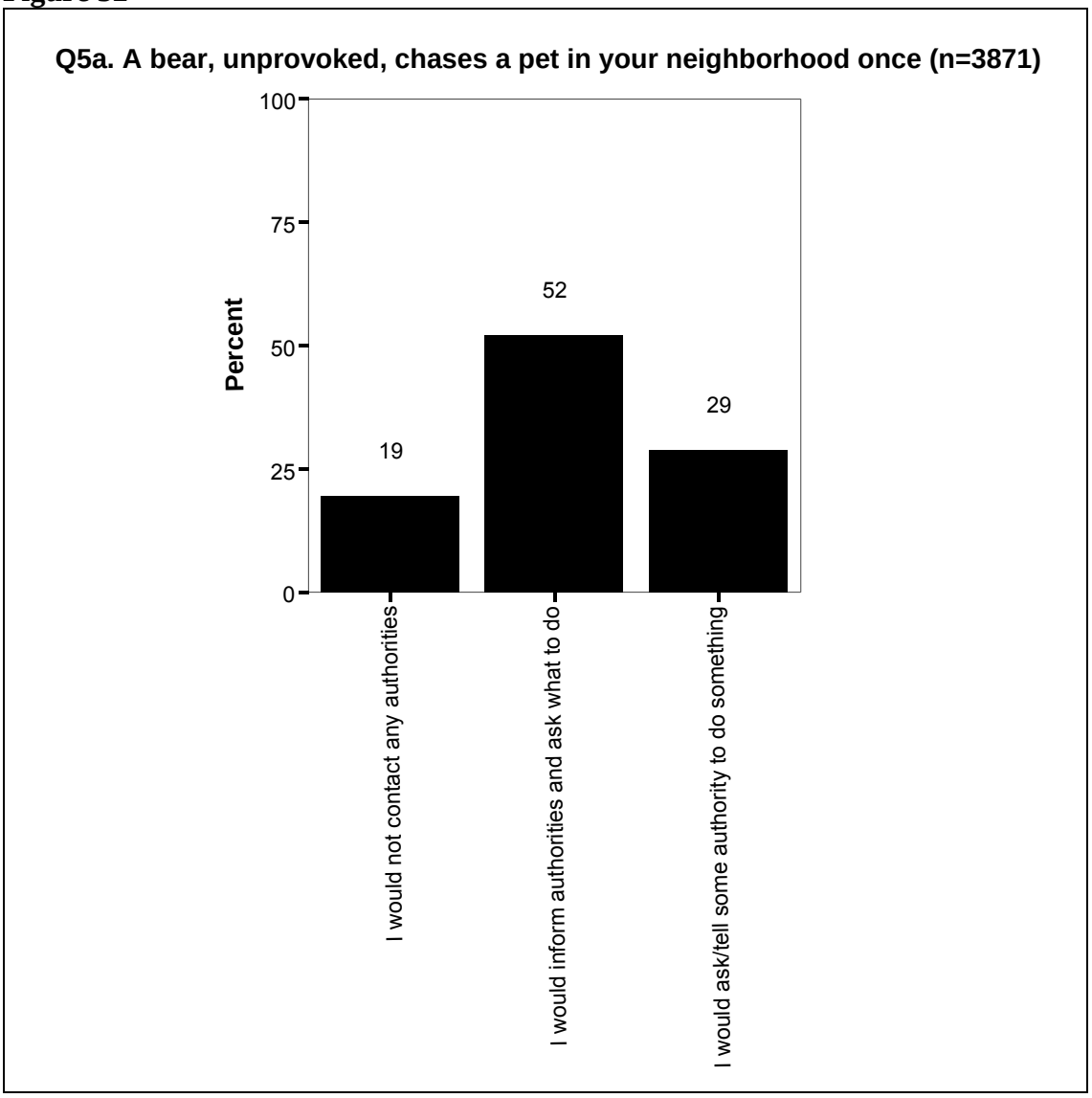

Q5a. A bear, unprovoked, chases a pet in your neighborhood once (n=3871)
Percent
100
75
50
25
0
19
52
29
I would not contact any authorities
I would inform authorities and ask what to do
I would ask/tell some authority to do something

Figure 33

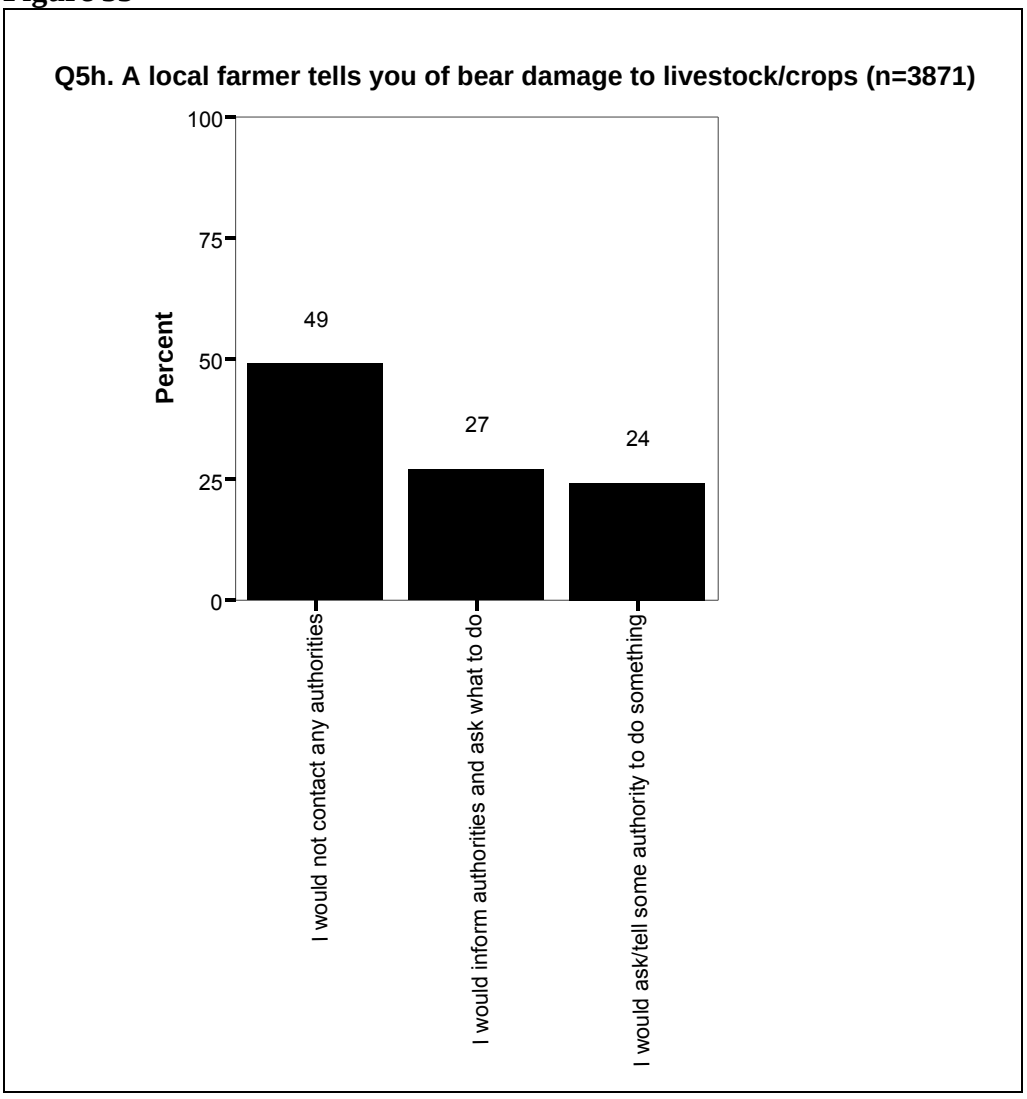

Q5h. A local farmer tells you of bear damage to livestock/crops (n=3871)
Percent
100
75
50
25
0
49
27
24
I would not contact any authorities
I would inform authorities and ask what to do
I would ask/tell some authority to do something

Figure 34

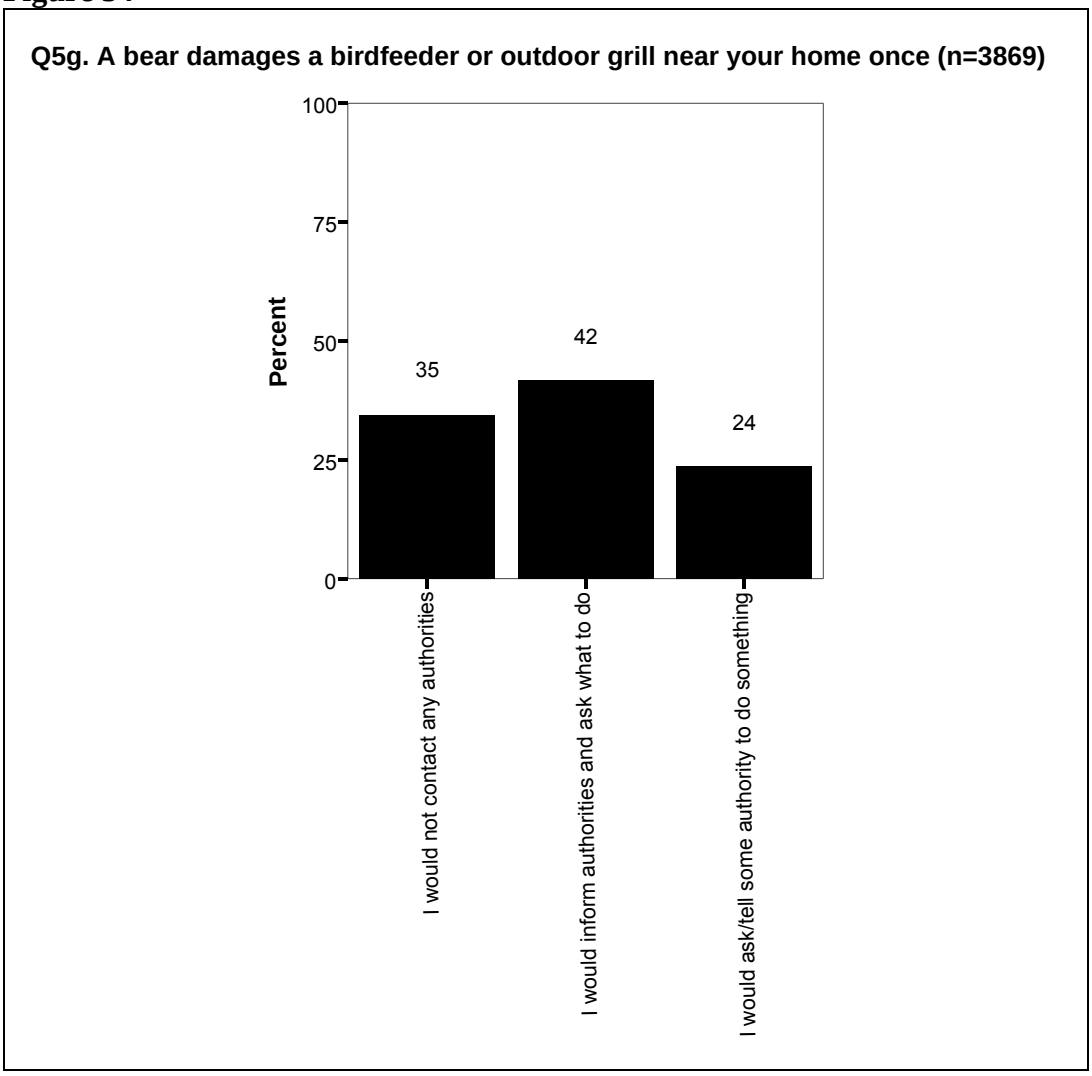

Q5g. A bear damages a birdfeeder or outdoor grill near your home once (n=3869)
Percent
100
75
50
25
0
35
42
24
I would not contact any authorities
I would inform authorities and ask what to do
I would ask/tell some authority to do something

Figure 35

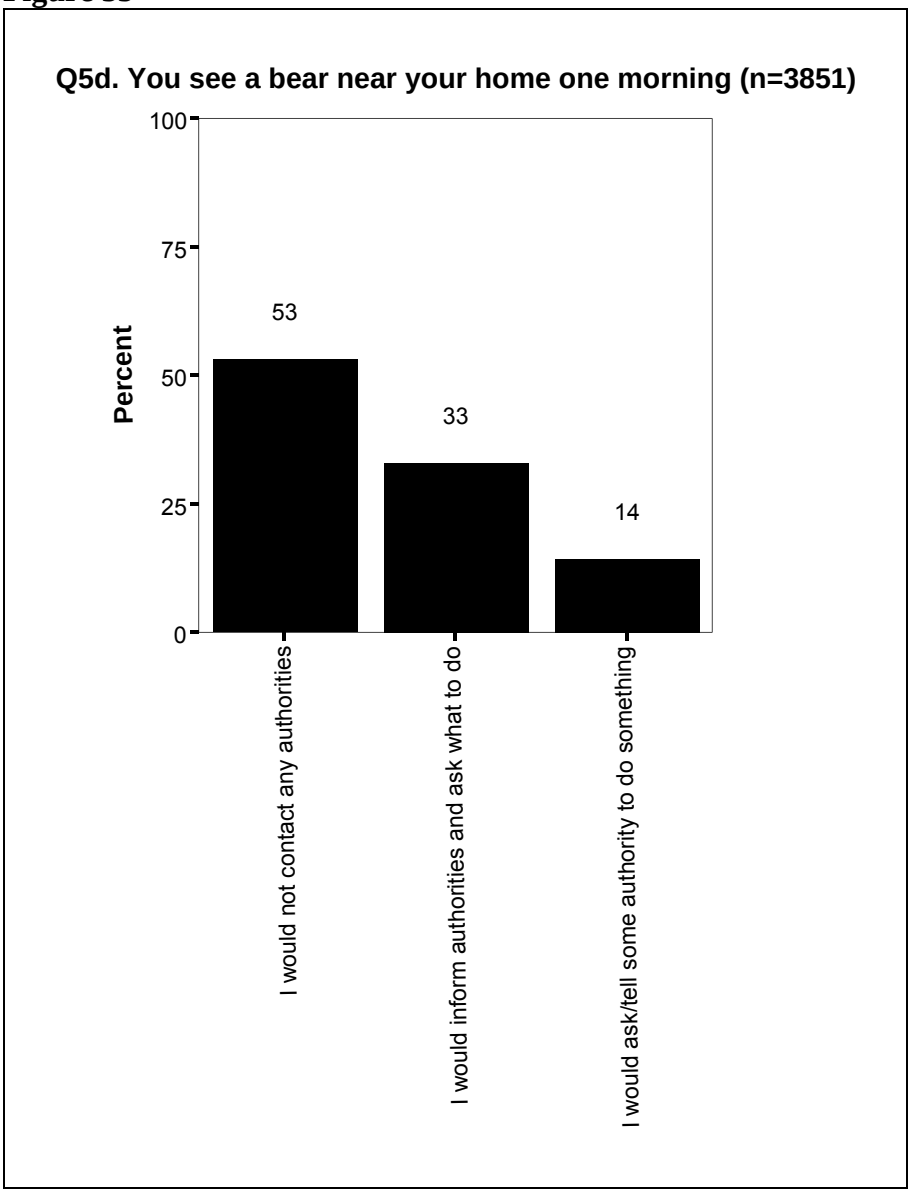

Q5d. You see a bear near your home one morning (n=3851)
Percent
100
75
50
25
0
53
33
14
I would not contact any authorities
I would inform authorities and ask what to do
I would ask/tell some authority to do something

Table 15. Bear Sensitivity Index (BSI) (Adapted from Peyton and Bull 2001).

	Q#	Situation	% intolerant	n (for item)
Level 1= (Tolerant of all)				
Level 2 (Personal Threat)	5f	You see or hear a bear attempting to enter some part of your home	72.1%	3845
	5c	A bear repeatedly threatens and charges pets near your home	72.1%	3860
Level 3 (Frequent Events)	5e	A bear damages several birdfeeders and outdoor grills over a week near your home	41.2%	3864
	5b	You see a bear near your home more than once in one week	30.2%	3853
Level 4 (Occasional Events)	5a	A bear, unprovoked, chases a pet in your neighborhood once	28.7%	3871
	5h	A local farmer tells you of bear damage to livestock/crops	24.3%	3871
	5g	A bear damages a birdfeeder or outdoor grill near your home once	23.6%	3869
Level 5 (Presence)	5d	You see a bear near your home one morning	14.2%	3851

Figure 36

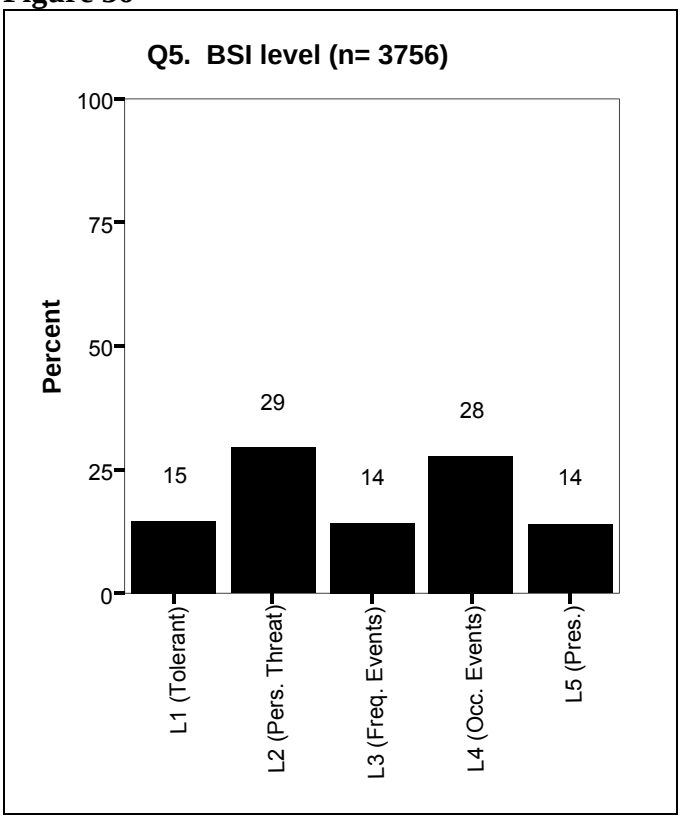


Table 16. BSI level (Q5) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Level 1 (Tolerant of all situations)	21.9%[a] (n=131)	28.2%[a] (n=169)	14.8%[b] (n=155)	12.2%[b] (n=60)	13.2%[b] (n=69)	12.7%[b] (n=59)
Level 2 (Intolerant of Personal Threat)	33.4% (n=200)	37.3%[a] (n=224)	30.0% (n=314)	30.2% (n=149)	31.2% (n=163)	26.0%[b] (n=121)
Level 3 (Intolerant of Frequent Events)	13.2% (n=79)	10.3%[b] (n=62)	15.4% (n=161)	17.8%[a] (n=88)	14.1% (n=74)	14.4% (n=67)
Level 4 (Intolerant of Occasional Events)	23.1% (n=138)	18.5%[b] (n=111)	27.8%[a] (n=291)	24.3% (n=120)	26.2% (n=137)	30.9%[a] (n=144)
Level 5 (Intolerant of Presence of Bear)	8.4%[b] (n=50)	5.7%[b] (n=34)	12.0% (n=125)	15.4%[a] (n=76)	15.3%[a] (n=80)	16.1%[a] (n=75)

$\chi^2 = 160.0$, df = 20, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 17. BSI level (Q5) by experiences with bears in NC (Q2).

	Had 1 or more interactions w/bears		Did NOT have any interactions w/bears	
Level 1 (Tolerant of all situations)	21.3%[a]	(n=304)	14.4%[b]	(n=296)
Level 2 (Intolerant of Personal Threat)	35.8%[a]	(n=512)	28.5%[b]	(n=585)
Level 3 (Intolerant of Frequent Events)	13.2%	(n=188)	15.3%	(n=314)
Level 4 (Intolerant of Occasional Events)	23.0%[b]	(n=329)	26.8%[a]	(n=551)
Level 5 (Intolerant of Presence of Bear)	6.7%[b]	(n=96)	15.0%[a]	(n=309)

$\chi^2 = 95.2$, df = 4, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 18. BSI level (Q5) by participation in wildlife-related activities (Q25).

	Participated in 1 or more activities		Did NOT participate in any activities	
Level 1 (Tolerant of all situations)	20.0%[a]	(n=562)	7.9%[b]	(n=68)
Level 2 (Intolerant of Personal Threat)	35.5%[a]	(n=998)	18.7%[b]	(n=160)
Level 3 (Intolerant of Frequent Events)	13.9%	(n=392)	15.4%	(n=132)
Level 4 (Intolerant of Occasional Events)	23.4%[b]	(n=657)	31.8%[a]	(n=272)
Level 5 (Intolerant of Presence of Bear)	7.2%[b]	(n=203)	26.2%[a]	(n=224)

$\chi^2 = 335.8$, df = 4, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 19. BSI level (Q5) by participation in hunting (Q25).

	Participated in hunting		Did NOT participate in hunting	
Level 1 (Tolerant of all situations)	26.0%[a]	(n=209)	14.7%[b]	(n=421)
Level 2 (Intolerant of Personal Threat)	34.0%	(n=274)	30.9%	(n=884)
Level 3 (Intolerant of Frequent Events)	13.0%	(n=105)	14.6%	(n=419)
Level 4 (Intolerant of Occasional Events)	22.7%	(n=183)	26.1%	(n=746)
Level 5 (Intolerant of Presence of Bear)	4.2%[b]	(n=34)	13.7%[a]	(n=393)

$\chi^2 = 101.0$, df = 4, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 20. BSI level (Q5) by current knowledge of black bears (Q27).

	Very little knowledge	Some knowledge	Average knowledge	Much knowledge	Expert knowledge
Level 1 (Tolerant of all situations)	9.0%[a] (n=111)	17.4% (n=172)	22.4%[b] (n=269)	31.2%[b] (n=72)	15.8% (n=3)
Level 2 (Intolerant of Personal Threat)	20.9%[a] (n=257)	33.7% (n=333)	39.1%[b] (n=470)	39.4%[b] (n=91)	26.3% (n=5)
Level 3 (Intolerant of Frequent Events)	15.5% (n=190)	16.3%[b] (n=161)	12.3%[a] (n=148)	10.4% (n=24)	0.0% (n=0)
Level 4 (Intolerant of Occasional Events)	31.9%[b] (n=391)	24.3% (n=240)	21.3%[a] (n=256)	16.5%[a] (n=38)	42.1% (n=8)
Level 5 (Intolerant of Presence of Bear)	22.7%[b] (n=278)	8.4%[a] (n=83)	4.8%[a] (n=58)	2.6%[a] (n=6)	15.8% (n=3)

$\chi^2 = 415.9$, df = 16, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 21. BSI level (Q5) by sex (Q46).

	Male		Female	
Level 1 (Tolerant of all situations)	18.7%[a]	(n=444)	14.1%[b]	(n=167)
Level 2 (Intolerant of Personal Threat)	33.7%[a]	(n=801)	27.7%[b]	(n=327)
Level 3 (Intolerant of Frequent Events)	14.4%	(n=342)	14.6%	(n=172)
Level 4 (Intolerant of Occasional Events)	24.1%[b]	(n=572)	27.4%[a]	(n=324)
Level 5 (Intolerant of Presence of Bear)	9.1%[b]	(n=215)	16.2%[a]	(n=192)

$\chi^2 = 57.9$, df = 4, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 22. BSI level (Q5) by income from farming or beekeeping (Q39).

	All or part of income comes from farming or beekeeping		All or part of income does NOT come from farming or beekeeping	
Level 1 (Tolerant of all situations)	24.6%[a]	(n=46)	16.7%[b]	(n=558)
Level 2 (Intolerant of Personal Threat)	31.0%	(n=58)	32.1%	(n=1076)
Level 3 (Intolerant of Frequent Events)	10.2%	(n=19)	14.7%	(n=494)
Level 4 (Intolerant of Occasional Events)	24.1%	(n=45)	25.2%	(n=844)
Level 5 (Intolerant of Presence of Bear)	10.2%	(n=19)	11.3%	(n=379)

$\chi^2 = 9.5$, df = 4, $p = 0.050$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 23. BSI level (Q5) by children in household (Q44).

	Children under age 10 live in household		Children under age 10 do NOT live in household	
Level 1 (Tolerant of all situations)	16.9%	(n=100)	17.2%	(n=512)
Level 2 (Intolerant of Personal Threat)	37.5%[a]	(n=222)	30.5%[b]	(n=911)
Level 3 (Intolerant of Frequent Events)	16.2%	(n=96)	14.0%	(n=419)
Level 4 (Intolerant of Occasional Events)	23.5%	(n=139)	25.6%	(n=763)
Level 5 (Intolerant of Presence of Bear)	5.9%[b]	(n=35)	12.7%[a]	(n=379)

$\chi^2 = 29.7$, df = 4, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Preferred and intolerable levels of bear/human interactions

Preferred level of bear/human interactions

Only 25% of respondents preferred that no black bears exist in their areas (Situation A) (Table 24) (Figure 37), and 50% preferred that bears are occasionally sighted in rural areas (Situation B).

Significantly fewer Rural Mountain (14%) and Buncombe Mountain (10%) residents, and significantly more Rural Piedmont (32%) and Urban Piedmont (26%) residents preferred Situation A than expected (Table 25).

Preference for bear/human interactions significantly differed between BSI Levels. Respondents who had BSI Levels of 1 were less likely to prefer Situation A (8%) and Situation B (43%) and more likely to prefer Situation C (34%), Situation D (11%), and Situation E (5%) than other respondents. Those with BSI Levels of 5 were more likely to prefer Situation A (63%) and less likely to prefer Situation B (30%), Situation C (3%), and Situation D (2%) than other respondents (Table 26).

Respondents who had had experiences with bears in North Carolina (10%), who participated in one or more wildlife-related activities (13%), participated in hunting (11%), participated in black bear hunting (7%), had "much" (6%) or "average" (9%) knowledge of black bears, lived in a suburban setting on the edge of a city (17%), or were male (17%) were less likely than other respondents to prefer Situation A (Table 27, Table 28, Table 29, Table 30, Table 31, Table 32, Table 33).

Respondents who were farmers or beekeepers (18%) were less likely than other respondents to prefer Situation B (Table 34).

Table 24. Situations presented for bear/human interactions items (Q6-Q7) (based on Peyton and Bull 2001).

Situation A	*No* black bears exist
Situation B	Black bears *occasionally* sighted in rural areas
Situation C	*Regular* rural sightings of black bears *Occasional* property damage for rural residents
Situation D	*Regular* rural sightings of black bears *Increasing* property damage for rural residents *Occasional* sightings close to towns Rural residents must take precautions with bird feeders, outdoor grills, garbage, etc. *Occasional* bear/vehicle accidents
Situation E	*Regular* rural sightings of black bears *Increasing* number of sightings close to towns *Occasional* property damage close to towns Rural *and suburban* residents must take precautions with bird feeders, outdoor grills, garbage, etc. *Increasing* number of bear/vehicle accidents

Figure 37

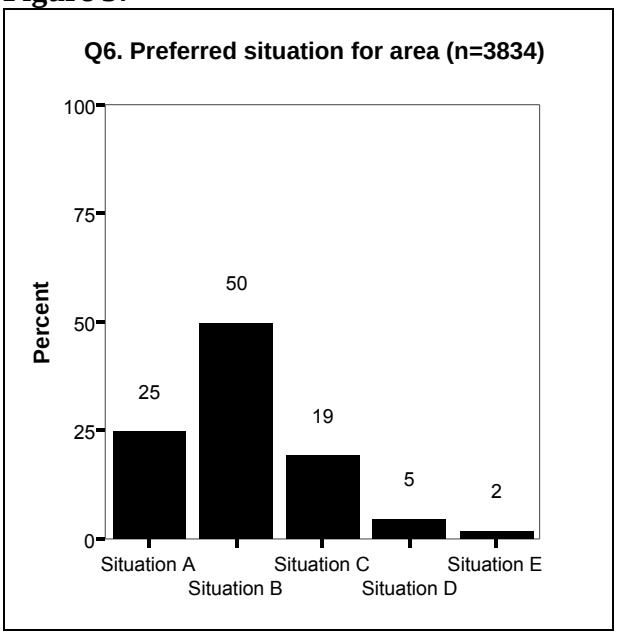


Table 25. Preferred situation for area (Q6) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Situation A	13.8%[a] (n=86)	10.4%[a] (n=66)	18.3% (n=195)	20.8% (n=104)	31.8%[b] (n=169)	26.1%[b] (n=124)
Situation B	54.1% (n=337)	48.6% (n=307)	54.3%[b] (n=579)	49.3% (n=247)	47.1% (n=250)	48.4% (n=230)
Situation C	23.4% (n=146)	27.4%[b] (n=173)	21.1% (n=225)	22.6% (n=113)	16.0%[a] (n=85)	19.2% (n=91)
Situation D	5.5% (n=34)	9.5%[b] (n=60)	4.0%[a] (n=43)	6.2% (n=31)	3.6%[a] (n=19)	5.3% (n=25)
Situation E	3.2% (n=20)	4.1%[b] (n=26)	2.3% (n=24)	1.2% (n=6)	1.5% (n=8)	1.1%[a] (n=5)

$\chi^2 = 161.8$, df = 20, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 26. Preferred situation for area (Q6) by BSI level (Q5).

	Level 1 (Tolerant of all situations)	Level 2 (Intolerant of Personal Threat)	Level 3 (Intolerant of Frequent Events)	Level 4 (Intolerant of Occasional Events)	Level 5 (Intolerant of Presence of Bear)
Situation A	7.6%[a] (n=48)	5.1%[a] (n=59)	18.9% (n=99)	25.8%[b] (n=236)	63.0%[b] (n=264)
Situation B	42.6%[a] (n=269)	51.6% (n=597)	62.9%[b] (n=329)	59.1%[b] (n=541)	30.1%[a] (n=126)
Situation C	34.0%[b] (n=215)	34.1%[b] (n=395)	14.7%[a] (n=77)	10.6%[a] (n=97)	3.3%[a] (n=14)
Situation D	11.1%[b] (n=70)	7.3%[b] (n=85)	2.7%[a] (n=14)	2.6%[a] (n=24)	1.9%[a] (n=8)
Situation E	4.7%[b] (n=30)	1.8% (n=21)	0.8%[a] (n=4)	2.0% (n=18)	1.7% (n=7)

$\chi^2 = 1022.1$, df = 16, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 27. Preferred situation for area (Q6) by experiences with bears in NC (Q2).

	Had one or more interactions w/bears		Did NOT have any interactions w/bears	
Situation A	10.3%[a]	(n=204)	28.0%[b]	(n=442)
Situation B	54.0%[b]	(n=1072)	48.6%[a]	(n=768)
Situation C	26.6%[b]	(n=528)	17.1%[a]	(n=271)
Situation D	6.3%[b]	(n=126)	4.7%[a]	(n=75)
Situation E	2.8%[b]	(n=55)	1.6%[a]	(n=25)

$\chi^2 = 201.6$, df = 4, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 28. Preferred situation for area (Q6) by participation in wildlife-related activities (Q25).

	Participated in 1 or more activities		Did NOT participate in any activities	
Situation A	13.0%[a]	(n=376)	39.5%[b]	(n=347)
Situation B	53.0%[b]	(n=1534)	44.5%[a]	(n=391)
Situation C	25.4%[b]	(n=736)	10.5%[a]	(n=92)
Situation D	6.4%[b]	(n=185)	3.0%[a]	(n=26)
Situation E	2.2%	(n=65)	2.5%	(n=22)

$\chi^2 = 339.9$, df = 4, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 29. Preferred situation for area (Q6) by participation in hunting (Q25).

	Participated in hunting		Did NOT participate in hunting	
Situation A	10.5%[a]	(n=87)	21.6%[b]	(n=636)
Situation B	51.0%	(n=422)	51.0%	(n=1503)
Situation C	28.3%[b]	(n=234)	20.2%[a]	(n=594)
Situation D	6.9%	(n=57)	5.2%	(n=154)
Situation E	3.3%[b]	(n=27)	2.0%[a]	(n=60)

$\chi^2 = 68.2$, df = 4, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 30. Preferred situation for area (Q6) by participation in black bear hunting (Q26).

	Has participated in black bear hunting		Has NOT participated in black bear hunting	
Situation A	7.0%[a]	(n=26)	20.7%[b]	(n=705)
Situation B	51.2%	(n=190)	50.9%	(n=1738)
Situation C	30.5%[b]	(n=113)	20.9%[a]	(n=714)
Situation D	6.5%	(n=24)	5.5%	(n=186)
Situation E	4.9%[b]	(n=18)	2.0%[a]	(n=69)

$\chi^2 = 58.5$, df = 4, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 31. Preferred situation for area (Q6) by current knowledge of black bears (Q27).

	Very little knowledge	Some knowledge	Average knowledge	Much knowledge	Expert knowledge[a]
Situation A	37.1%[b] (n=472)	13.7%[c] (n=138)	8.7%[c] (n=107)	5.7%[c] (n=14)	- -
Situation B	47.0%[c] (n=598)	56.3%[b] (n=566)	53.3%[b] (n=659)	38.6%[c] (n=95)	- -
Situation C	10.7%[c] (n=136)	23.2% (n=233)	28.6%[b] (n=353)	38.2%[b] (n=94)	- -
Situation D	3.4%[c] (n=43)	4.9% (n=49)	6.6%[b] (n=82)	14.2%[b] (n=35)	- -
Situation E	1.7% (n=22)	2.0% (n=20)	2.8% (n=35)	3.3% (n=8)	- -

$\chi^2 = 519.2$, df = 12, $p = 0.001$

[a] Category not included in crosstabulation due to small numbers of respondents.
[b]Adjusted residual ≥ 2.0.
[c]Adjusted residual ≤ -2.0.

Table 32. Preferred situation for area (Q6) by area of residence (Q36).

	A town <2,000 people	A town or city 2,000 to 10,000 people	A city >10,000 people	A suburban setting on city edge	A rural setting in the country
Situation A	19.0% (n=32)	18.5% (n=98)	23.6%[a] (n=224)	16.7%[b] (n=126)	17.7% (n=220)
Situation B	47.0% (n=79)	50.5% (n=268)	45.8%[b] (n=434)	52.1% (n=392)	55.0%[a] (n=682)
Situation C	23.8% (n=40)	22.0% (n=117)	21.9% (n=208)	24.0% (n=181)	20.9% (n=259)
Situation D	7.1% (n=12)	6.6% (n=35)	6.8% (n=64)	5.3% (n=40)	4.1%[b] (n=51)
Situation E	3.0% (n=5)	2.4% (n=13)	1.9% (n=18)	1.9% (n=14)	2.3% (n=28)

$\chi^2 = 35.9$, df = 16, $p = 0.003$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 33. Preferred situation for area (Q6) by sex (Q46).

	Male		Female	
Situation A	17.0%[a]	(n=414)	23.5%[b]	(n=288)
Situation B	51.1%	(n=1246)	51.2%	(n=628)
Situation C	23.4%[b]	(n=570)	19.1%[a]	(n=234)
Situation D	6.3%[b]	(n=153)	3.9%[a]	(n=48)
Situation E	2.3%	(n=56)	2.3%	(n=28)

$\chi^2 = 33.2$, df = 4, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 34. Preferred situation for area (Q6) by income from farming or beekeeping (Q39).

	All or part of income comes from farming or beekeeping		All or part of income does NOT come from farming or beekeeping	
Situation A	18.2%	(n=35)	19.2%	(n=662)
Situation B	43.8%[a]	(n=84)	51.6%[b]	(n=1781)
Situation C	32.3%[b]	(n=62)	21.6%[a]	(n=747)
Situation D	3.1%	(n=6)	5.5%	(n=189)
Situation E	2.6%	(n=5)	2.1%	(n=74)

$\chi^2 = 13.6$, df = 4, $p = 0.009$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Intolerable level of bear/human interactions

Most respondents (68%) found situation D (24%) or E (44%) intolerable (the situation would cause them to ask/tell an authority to do something about the bear/human interactions) (Figure 38).

As with the preferred situation, the situations that respondents found intolerable varied by region of residence, BSI Level, experiences with bears in North Carolina, participation in wildlife-related activities, participation in hunting, participation in black bear hunting, current knowledge of black bears, income from farming or beekeeping, and sex (Table 35, Table 36, Table 37, Table 38, Table 39, Table 40, Table 41, Table 43, Table 44).

Overall, there were not significant differences between tolerance for bear/human interactions and area of residence, although suburban residents (22%) were significantly less likely and rural residents (27%) significantly more likely to be intolerant of Situation D than expected (Table 42).

Figure 38

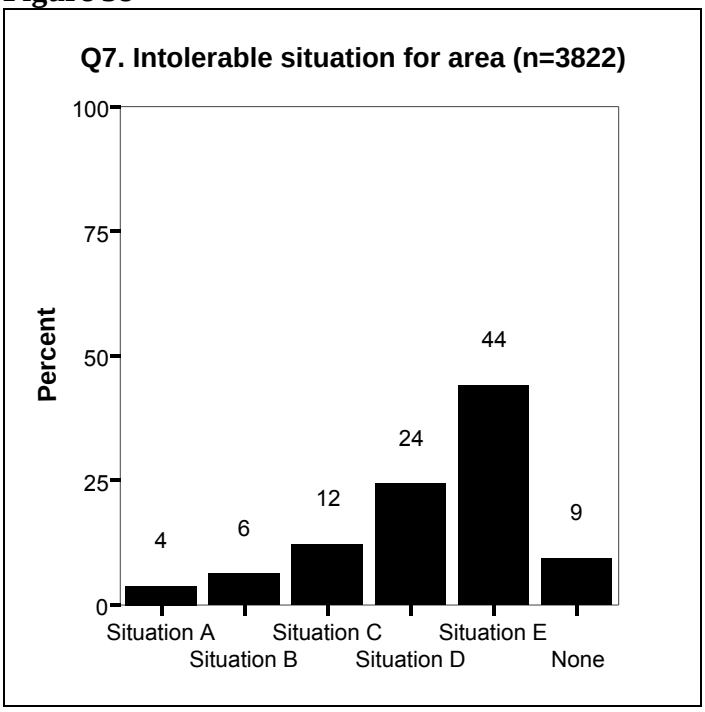


Table 35. Intolerable situation for area (Q7) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Situation A	2.9% (n=18)	1.1%[a] (n=7)	2.3% (n=24)	3.4% (n=17)	5.1%[b] (n=27)	4.2% (n=20)
Situation B	3.5% (n=22)	3.0%[a] (n=19)	4.3% (n=46)	4.4% (n=22)	7.0%[b] (n=37)	7.0%[b] (n=33)
Situation C	10.2% (n=64)	7.4%[a] (n=47)	12.0% (n=127)	10.6% (n=53)	11.5% (n=61)	14.0%[b] (n=66)
Situation D	25.6% (n=160)	20.6%[a] (n=131)	27.9%[b] (n=296)	25.9% (n=130)	24.6% (n=130)	22.4% (n=106)
Situation E	45.0% (n=281)	50.2%[b] (n=319)	43.1% (n=457)	45.7% (n=229)	43.9% (n=232)	44.0% (n=208)
None of the above	12.8% (n=80)	17.6%[b] (n=112)	10.5% (n=111)	10.0% (n=50)	7.9%[a] (n=42)	8.5%[a] (n=40)

$\chi^2 = 99.2$, df = 25, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 36. Intolerable situation for area (Q7) by BSI level (Q5).

	Level 1 (Tolerant of all situations)	Level 2 (Intolerant of Personal Threat)	Level 3 (Intolerant of Frequent Events)	Level 4 (Intolerant of Occasional Events)	Level 5 (Intolerant of Presence of Bear)
Situation A	2.2% (n=14)	0.3%[a] (n=3)	2.7% (n=14)	3.3% (n=30)	10.9%[b] (n=45)
Situation B	2.1%[a] (n=13)	1.0%[a] (n=12)	2.3%[a] (n=12)	5.6% (n=51)	19.1%[b] (n=79)
Situation C	3.8%[a] (n=24)	4.6%[a] (n=53)	13.8%[b] (n=72)	17.5%[b] (n=160)	21.5%[b] (n=89)
Situation D	15.2%[a] (n=96)	25.9% (n=300)	32.8%[b] (n=171)	29.3%[b] (n=268)	18.1%[a] (n=75)
Situation E	47.6% (n=301)	57.0%[b] (n=660)	43.9% (n=229)	39.5%[a] (n=362)	25.8%[a] (n=107)
None of the above	29.2%[b] (n=185)	11.1% (n=129)	4.6%[a] (n=24)	4.9%[a] (n=45)	4.6%[a] (n=19)

$\chi^2 = 897.2$, df = 20, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 37. Intolerable situation for area (Q7) by experiences with bears in NC (Q2).

	Had one or more interactions w/bears		Did NOT have any interactions w/bears	
Situation A	1.8%[a]	(n=35)	3.7%[b]	(n=59)
Situation B	2.7%[a]	(n=54)	6.5%[b]	(n=103)
Situation C	8.4%[a]	(n=166)	13.8%[b]	(n=218)
Situation D	24.9%	(n=494)	25.1%	(n=395)
Situation E	48.7%[b]	(n=967)	41.8%[a]	(n=658)
None of the above	13.6%[b]	(n=271)	9.0%[a]	(n=142)

$\chi^2 = 92.1$, df = 5, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 38. Intolerable situation for area (Q7) by participation in wildlife-related activities (Q25).

	Participated in 1 or more activities		Did NOT participate in any activities	
Situation A	1.9%[a]	(n=55)	5.6%[b]	(n=49)
Situation B	3.6%[a]	(n=104)	8.4%[b]	(n=73)
Situation C	8.9%[a]	(n=257)	17.8%[b]	(n=155)
Situation D	24.5%	(n=712)	26.9%	(n=235)
Situation E	48.1%[b]	(n=1396)	35.2%[a]	(n=307)
None of the above	13.0%[b]	(n=377)	6.1%[a]	(n=53)

$\chi^2 = 170.0$, df = 5, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 39. Intolerable situation for area (Q7) by participation in hunting (Q25).

	Participated in hunting		Did NOT participate in hunting	
Situation A	2.0%	(n=17)	3.0%	(n=87)
Situation B	3.5%	(n=29)	5.0%	(n=148)
Situation C	6.1%[a]	(n=51)	12.3%[b]	(n=361)
Situation D	24.1%	(n=201)	25.4%	(n=746)
Situation E	50.1%[b]	(n=417)	43.7%[a]	(n=1286)
None of the above	14.2%[b]	(n=118)	10.6%[a]	(n=312)

$\chi^2 = 41.2$, df = 5, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 40. Intolerable situation for area (Q7) by participation in black bear hunting (Q26).

	Has participated in black bear hunting		Has NOT participated in black bear hunting	
Situation A	1.9%	(n=7)	2.9%	(n=100)
Situation B	2.7%	(n=10)	4.9%	(n=168)
Situation C	6.5%[a]	(n=24)	11.4%[b]	(n=390)
Situation D	20.2%[a]	(n=75)	25.6%[b]	(n=872)
Situation E	51.1%[b]	(n=190)	44.5%[a]	(n=1516)
None of the above	17.7%[b]	(n=66)	10.6%[a]	(n=362)

$\chi^2 = 34.7$, df = 5, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 41. Intolerable situation for area (Q7) by current knowledge of black bears (Q27).

	Very little knowledge	Some knowledge	Average knowledge	Much knowledge	Expert knowledge[a]
Situation A	5.1%[b] (n=64)	2.2% (n=22)	1.2%[c] (n=15)	1.6% (n=4)	- -
Situation B	8.9%[b] (n=112)	2.5%[c] (n=25)	3.1%[c] (n=38)	1.6%[c] (n=4)	- -
Situation C	16.0%[b] (n=202)	10.2% (n=103)	7.8%[c] (n=97)	3.7%[c] (n=9)	- -
Situation D	25.7% (n=324)	26.8% (n=270)	24.5% (n=304)	19.6%[c] (n=48)	- -
Situation E	37.2%[c] (n=469)	48.9%[b] (n=493)	49.2%[b] (n=610)	50.6% (n=124)	- -
None of the above	7.2%[c] (n=91)	9.4%[c] (n=95)	14.3%[b] (n=177)	22.9%[b] (n=56)	- -

$\chi^2 = 251.0$, df = 15 $p = 0.001$

[a] Category not included in crosstabulation due to small numbers of respondents.
[b]Adjusted residual ≥ 2.0.
[c]Adjusted residual ≤ -2.0.

Table 42. Intolerable situation for area (Q7) by area of residence (Q36).

	A town <2,000 people	A town or city 2,000 to 10,000 people	A city >10,000 people	A suburban setting on city edge	A rural setting in the country
Situation A	3.6% (n=6)	3.6% (n=19)	2.9% (n=27)	2.1% (n=16)	2.8% (n=35)
Situation B	3.0% (n=5)	5.4% (n=29)	4.7% (n=44)	4.9% (n=37)	4.1% (n=51)
Situation C	7.7% (n=13)	11.4% (n=61)	11.0% (n=104)	10.5% (n=79)	10.8% (n=133)
Situation D	26.2% (n=44)	24.6% (n=131)	24.7% (n=233)	22.0%[a] (n=166)	27.3%[b] (n=337)
Situation E	47.0% (n=79)	44.1% (n=235)	46.1% (n=435)	47.5% (n=358)	43.9% (n=543)
None of the above	12.5% (n=21)	10.9% (n=58)	10.6% (n=100)	12.9% (n=97)	11.1% (n=137)

$\chi^2 = 16.5$, df = 20, $p = 0.688$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 43. Intolerable situation for area (Q7) by income from farming or beekeeping (Q39).

	All or part of income comes from farming or beekeeping		All or part of income does NOT come from farming or beekeeping	
Situation A	5.2%[a]	(n=10)	2.7%[b]	(n=93)
Situation B	2.6%	(n=5)	4.6%	(n=159)
Situation C	12.6%	(n=24)	10.8%	(n=371)
Situation D	22.0%	(n=42)	25.2%	(n=867)
Situation E	39.8%	(n=76)	46.0%	(n=1583)
None of the above	17.8%[a]	(n=34)	10.8%[b]	(n=371)

$\chi^2 = 16.5$, df = 5, $p = 0.006$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 44. Intolerable situation for area (Q7) by sex (Q46).

	Male		Female	
Situation A	2.8%	(n=69)	3.0%	(n=37)
Situation B	3.7%[a]	(n=91)	6.4%[b]	(n=78)
Situation C	9.9%[a]	(n=241)	12.4%[b]	(n=152)
Situation D	25.7%	(n=626)	23.6%	(n=289)
Situation E	46.4%	(n=1130)	43.5%	(n=532)
None of the above	11.3%	(n=276)	11.1%	(n=136)

$\chi^2 = 20.2$, df = 5, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Views about bear population

Most respondents (67%) were unsure how the bear population in North Carolina had changed during the past 5 years and 22% said the population had increased (Figure 39).

There were differences in views on changes in the bear population in their area based on region of residence (Table 45).

A plurality of respondents (47%) wanted the bear population in their area to remain at its current level (Figure 40).

Rural Mountain (26%) and Rural Piedmont (24%) residents were significantly more likely and New Hanover Coastal Plain residents (15%) were significantly less likely to want bear populations in their areas to increase (Table 46).

Respondents who had had one or more interactions with bears in North Carolina (26%) were significantly more likely than others to want bear populations in their areas to increase (Table 47).

BSI Level was a good predictor of preferences for future bear populations, with significantly higher proportions of Level 1 (40%) and Level 2 (28%) respondents and significantly lower proportions of Level 3 (13%), Level 4 (10%), and Level 5 (3%) respondents wanting the bear population in their areas to increase (Table 48).

Respondents with self-described higher knowledge of black bears were more likely than those with less knowledge to want increases in local bear populations (Table 49).

Figure 39

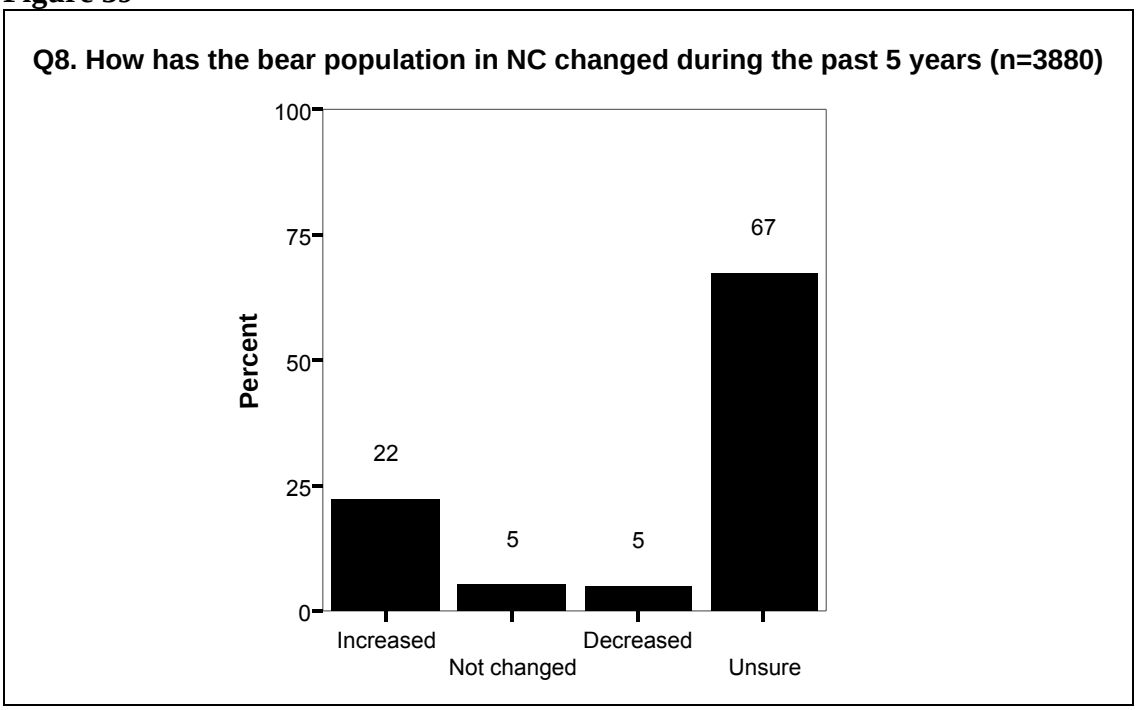


Table 45. How has the bear population in your area changed during the past 5 years (Q9) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Increased	20.7% (n=130)	32.6%[a] (n=208)	24.2%[a] (n=263)	13.5%[b] (n=68)	9.0%[b] (n=48)	5.0%[b] (n=24)
Not changed	21.3%[a] (n=134)	18.3% (n=117)	15.7% (n=170)	10.5%[b] (n=53)	16.0% (n=85)	11.5%[b] (n=55)
Decreased	9.5%[a] (n=60)	5.3% (n=34)	6.1% (n=66)	5.4% (n=27)	3.6%[b] (n=19)	3.8%[b] (n=18)
There are no bears in my area	7.9%[b] (n=50)	6.7%[b] (n=43)	6.2%[b] (n=67)	15.3% (n=77)	21.6%[a] (n=115)	31.4%[a] (n=150)
Unsure	40.5%[b] (n=255)	37.1%[b] (n=237)	47.9% (n=520)	55.4%[a] (n=279)	49.8% (n=265)	48.2% (n=230)

$\chi^2 = 470.1$, df = 20, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Figure 40

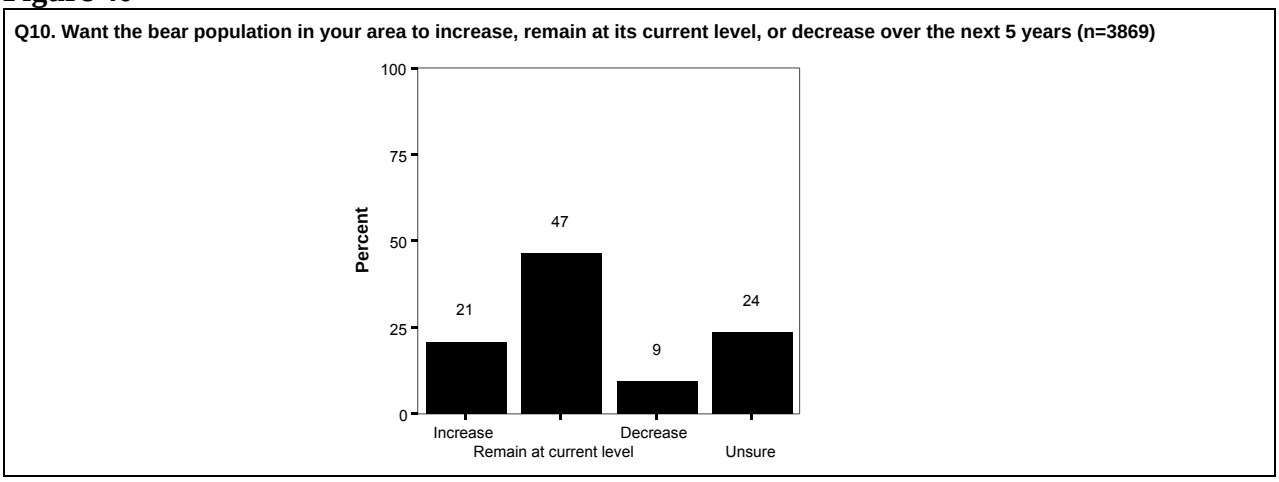


Table 46. Want the bear population in your area to increase, remain at its current level, or decrease over the next 5 years (Q10) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Increase	26.4%[a] (n=166)	18.3% (n=117)	19.4% (n=211)	14.9%[b] (n=75)	23.8%[a] (n=127)	17.5% (n=84)
Remain at current level	48.7% (n=306)	53.3%[a] (n=341)	46.4% (n=504)	46.4% (n=234)	41.8%[b] (n=223)	49.9% (n=239)
Decrease	7.6%[b] (n=48)	13.4%[a] (n=86)	10.9% (n=119)	7.1%[b] (n=36)	10.5% (n=56)	7.9% (n=38)
Unsure	17.2%[b] (n=108)	15.0%[b] (n=96)	23.3% (n=253)	31.5%[a] (n=159)	24.0% (n=128)	24.6% (n=118)

$\chi^2 = 97.9$, df = 15, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 47. Want the bear population in your area to increase, remain at its current level, or decrease over the next 5 years (Q10) by experiences with bears in NC (Q2).

	Had one or more interactions w/bears		Did NOT have any interactions w/bears	
Increase	26.2%[a]	(n=524)	13.9%[b]	(n=223)
Remain at current level	49.7%	(n=995)	47.1%	(n=756)
Decrease	8.9%	(n=178)	10.2%	(n=164)
Unsure	15.3%[b]	(n=306)	28.7%[a]	(n=461)

$\chi^2 = 143.4$, df = 3, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 48. Want the bear population in your area to increase, remain at its current level, or decrease over the next 5 years (Q10) by BSI level (Q5).

	Level 1 (Tolerant of all situations)	Level 2 (Intolerant of Personal Threat)	Level 3 (Intolerant of Frequent Events)	Level 4 (Intolerant of Occasional Events)	Level 5 (Intolerant of Presence of Bear)
Increase	39.9%[a] (n=254)	28.1%[a] (n=327)	12.8%[b] (n=67)	9.5%[b] (n=88)	2.8%[b] (n=12)
Remain at current level	40.2%[b] (n=256)	50.9%[a] (n=592)	56.6%[a] (n=297)	53.1%[a] (n=494)	30.8%[b] (n=132)
Decrease	3.9%[b] (n=25)	2.7%[b] (n=31)	7.4%[b] (n=39)	12.3%[a] (n=114)	35.5%[a] (n=152)
Unsure	16.0%[b] (n=102)	18.4%[b] (n=214)	23.2% (n=122)	25.2%[a] (n=234)	30.8%[a] (n=132)

$\chi^2 = 755.2$, df = 12, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 49. Want the bear population in your area to increase, remain at its current level, or decrease over the next 5 years (Q10) by current knowledge of black bears (Q27)

	Very little knowledge	Some knowledge	Average knowledge	Much knowledge	Expert knowledge
Increase	7.0%[a] (n=90)	19.7% (n=200)	28.2%[b] (n=352)	48.6%[b] (n=119)	55.0%[b] (n=11)
Remain at current level	42.4%[a] (n=547)	52.2%[b] (n=530)	51.9%[b] (n=648)	37.6%[a] (n=92)	30.0% (n=6)
Decrease	14.9%[b] (n=192)	7.2%[a] (n=73)	7.2%[a] (n=90)	7.3% (n=18)	15.0% (n=3)
Unsure	35.7%[b] (n=460)	20.9% (n=212)	12.7%[a] (n=159)	6.5%[a] (n=16)	0.0%[a] (n=0)

$\chi^2 = 523.4$, df = 12, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Support or opposition to hunting

For the "pro-hunting" items, agreement ranged between 58% (hunting helps people understand and appreciate natural processes) and 68% (hunting is an acceptable human activity) (Figure 41, Figure 42, Figure 43).

For the "anti-hunting" items, 25% of respondents agreed that hunting makes people insensitive to suffering and 23% agreed that hunting is cruel and inhumane to animals (Figure 44, Figure 45).

The majority of survey respondents (60%) were pro-hunting and 16% were anti-hunting (Figure 46).

Rural Mountain (38%) and Rural Coastal Plain (38%) residents were significantly more likely to be strongly pro-hunting and Buncombe Mountain (25%) and Urban Piedmont (30%) residents were significantly less likely to be strongly pro-hunting than expected (Table 50).

Figure 41

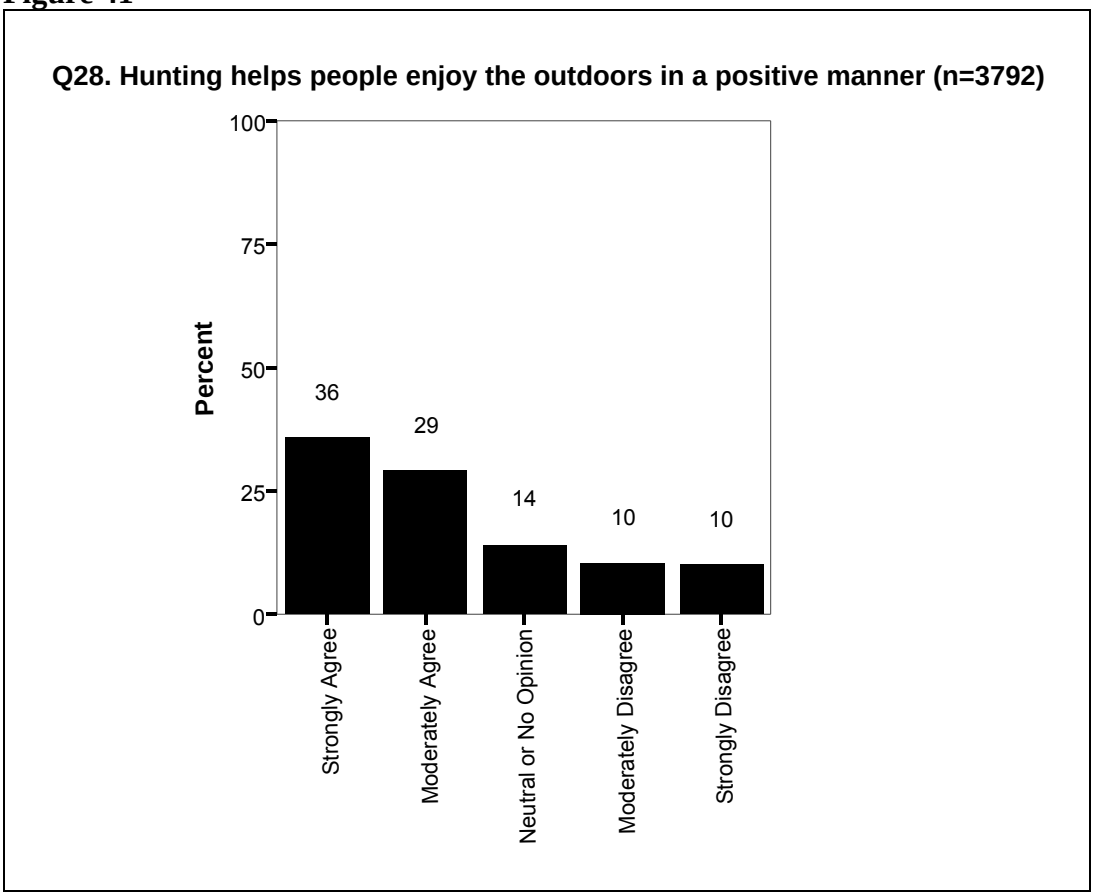


Figure 42

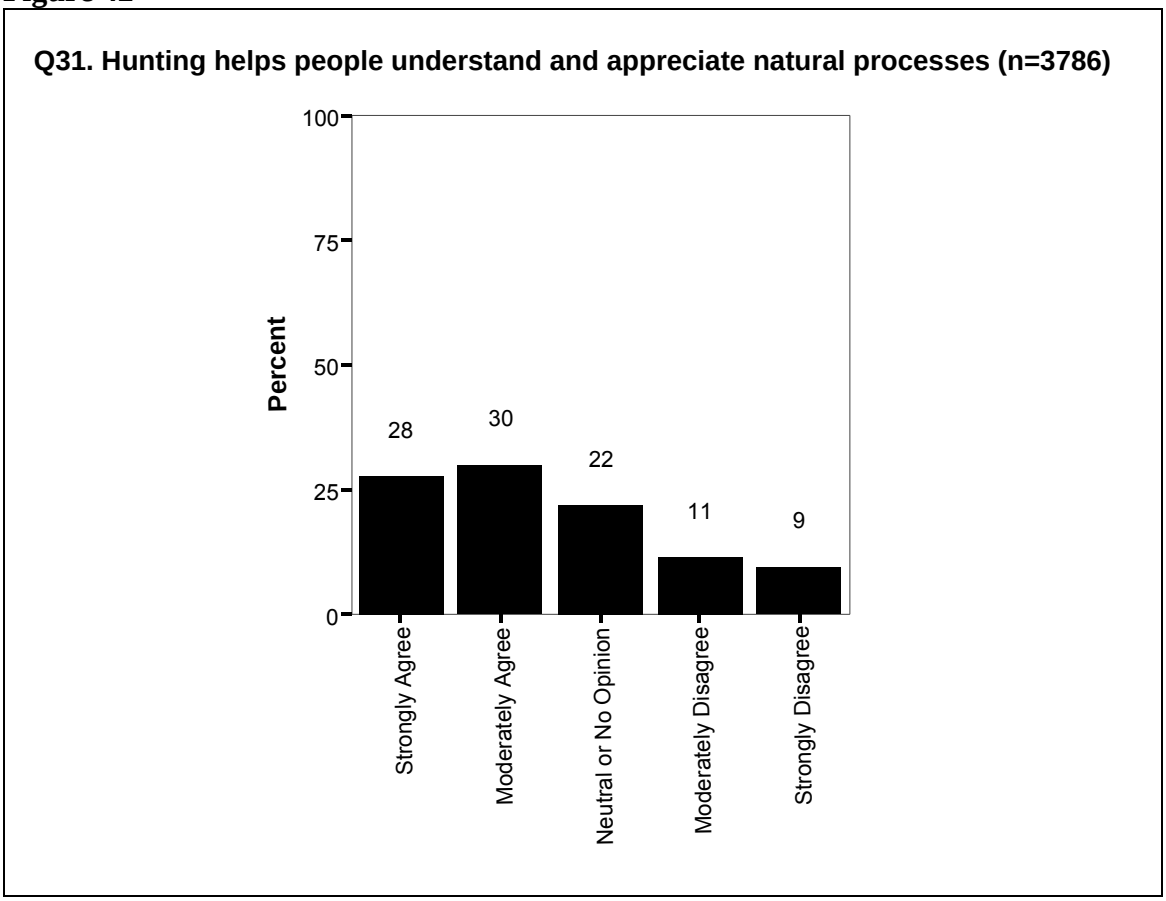

Q31. Hunting helps people understand and appreciate natural processes (n=3786)
Percent
100
75
50
25
0
28
30
22
11
9
Strongly Agree
Moderately Agree
Neutral or No Opinion
Moderately Disagree
Strongly Disagree

Figure 43

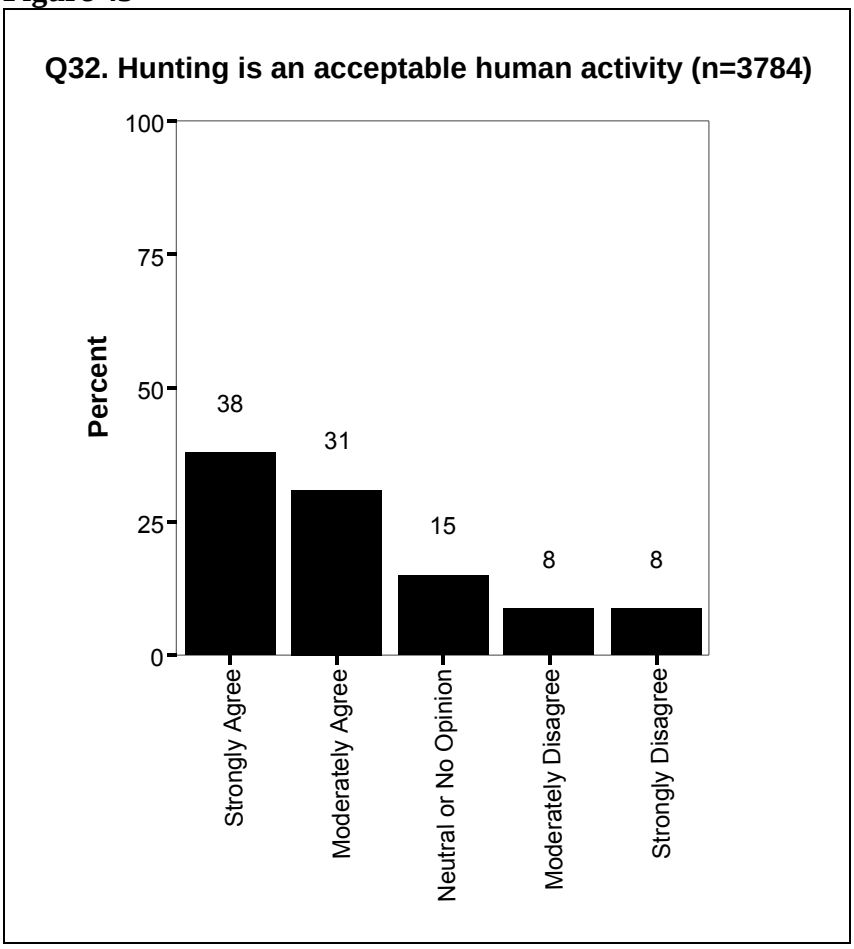

Q32. Hunting is an acceptable human activity (n=3784)
Percent
100
75
50
25
0
38
31
15
8
8
Strongly Agree
Moderately Agree
Neutral or No Opinion
Moderately Disagree
Strongly Disagree

Figure 44

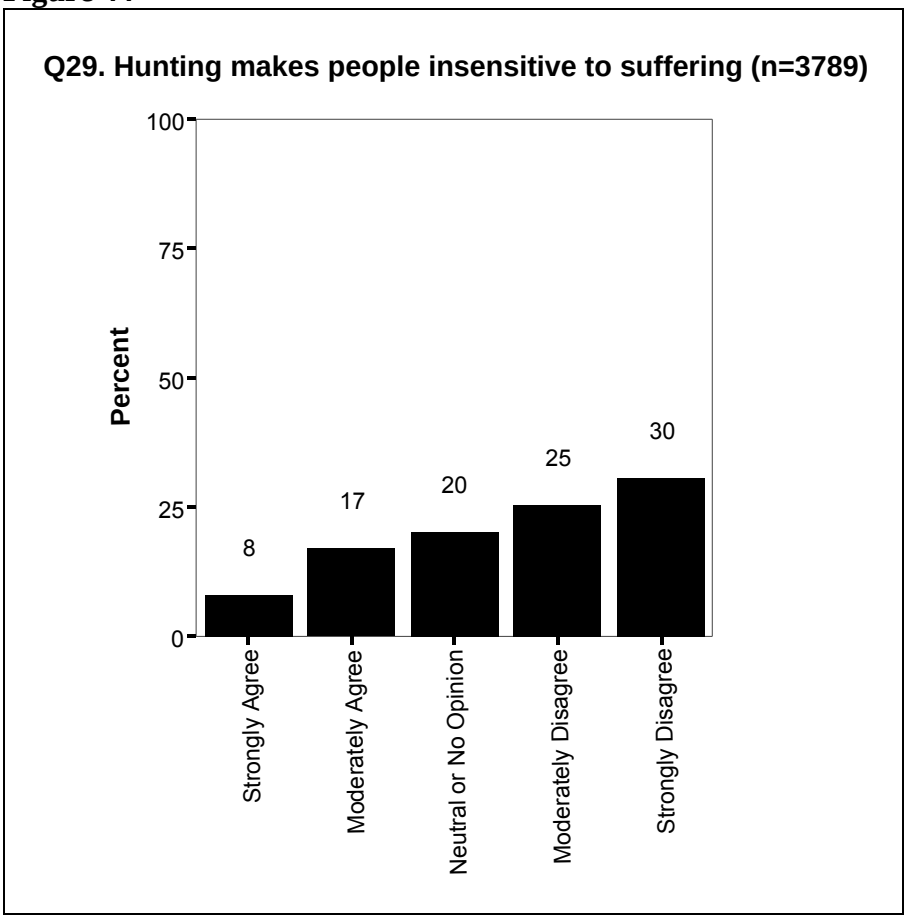

Q29. Hunting makes people insensitive to suffering (n=3789)
Percent
100
75
50
25
0
8
17
20
25
30
Strongly Agree
Moderately Agree
Neutral or No Opinion
Moderately Disagree
Strongly Disagree

Figure 45

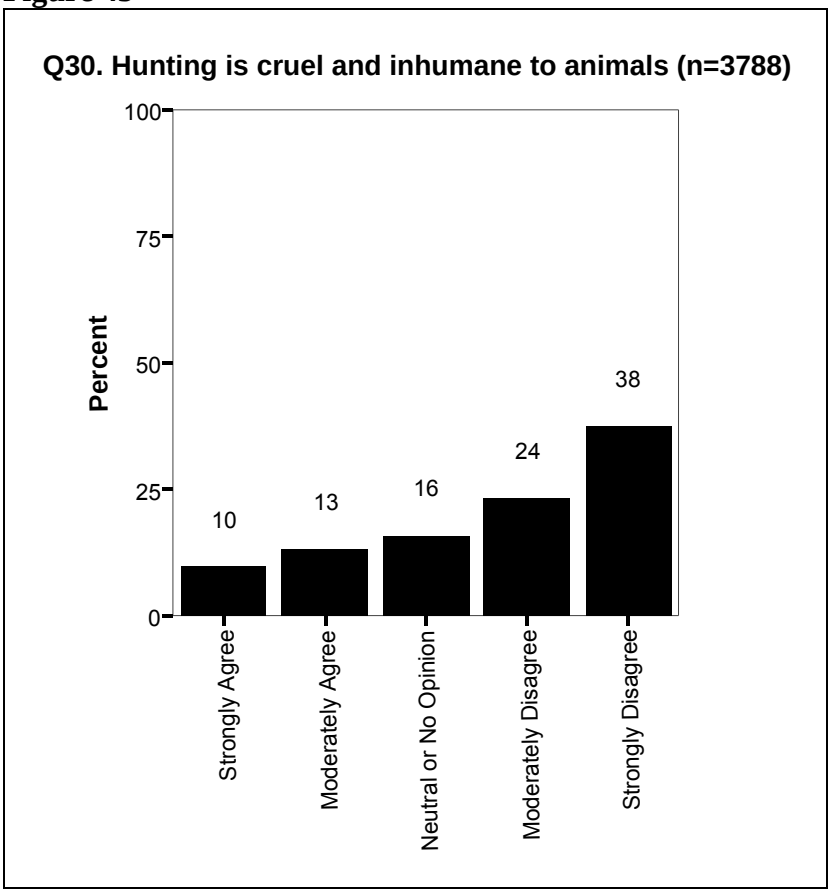

Q30. Hunting is cruel and inhumane to animals (n=3788)
Percent
100
75
50
25
0
10
13
16
24
38
Strongly Agree
Moderately Agree
Neutral or No Opinion
Moderately Disagree
Strongly Disagree

Figure 46

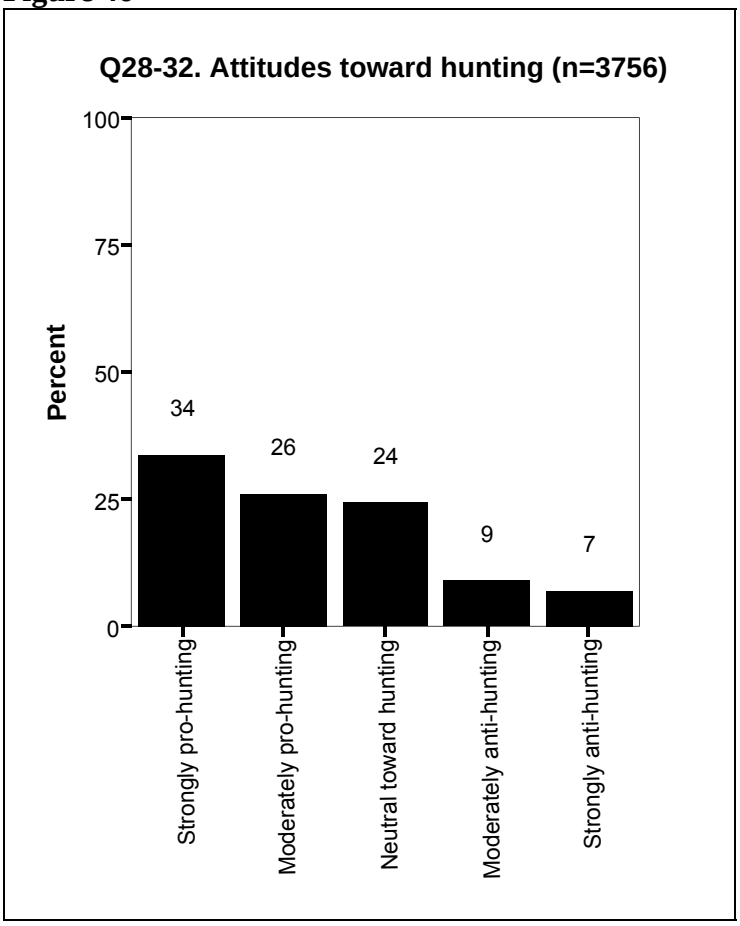


Table 50. Attitudes toward hunting (Q28-Q32) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Strongly pro-hunting	37.6%[a] (n=226)	25.3%[b] (n=158)	38.1%[a] (n=402)	33.3% (n=166)	35.8% (n=186)	29.8%[b] (n=139)
Moderately pro-hunting	25.5% (n=153)	24.4% (n=152)	27.8% (n=293)	25.5% (n=127)	27.2% (n=141)	24.5% (n=114)
Neutral toward hunting	21.8% (n=131)	27.1% (n=169)	22.1% (n=233)	26.7% (n=133)	23.7% (n=123)	25.5% (n=119)
Moderately anti-hunting	9.3% (n=56)	14.4%[a] (n=90)	7.0%[b] (n=74)	9.2% (n=46)	8.5% (n=44)	10.1% (n=47)
Strongly anti-hunting	5.8% (n=35)	8.8%[a] (n=55)	5.0%[b] (n=53)	5.4% (n=27)	4.8% (n=25)	10.1%[a] (n=47)

$\chi^2 = 79.6$, df = 20, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Support or opposition to bear hunting

Most (74%) respondents said they would support regulated bear hunting in their area if wildlife managers determined it was necessary (Figure 47).

Support for regulated bear hunting varied based on region of residence, BSI level, attitudes toward hunting, and sex (Table 51, Table 52, Table 53, Table 54).

A majority (≥ 53%) of residents in all regions were unsure about the legality of bear hunting (Table 55).

Figure 47

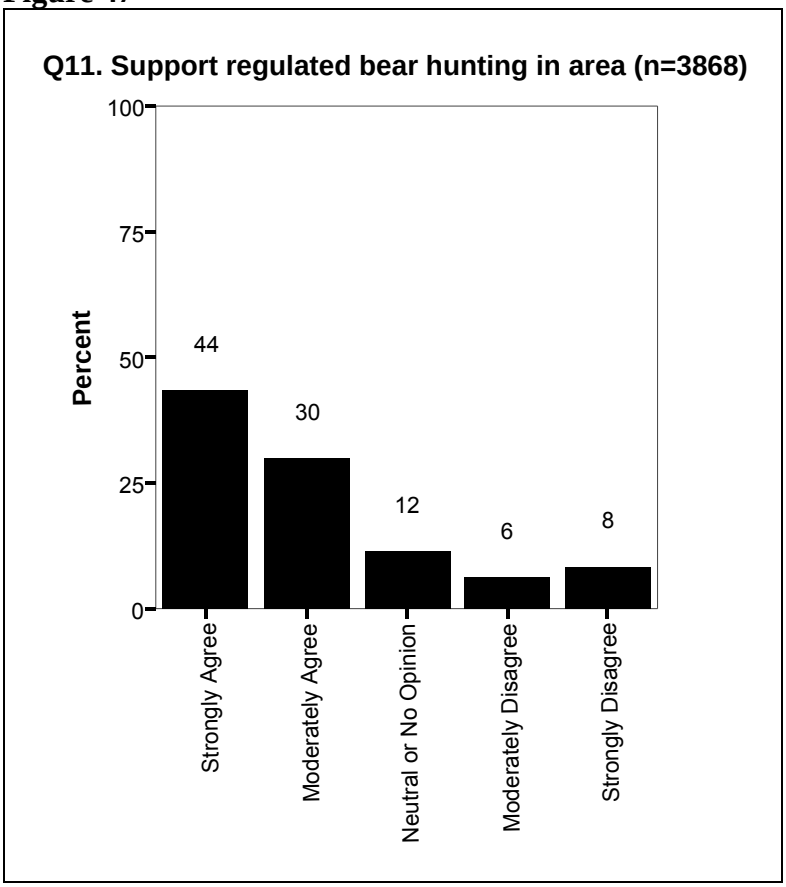


Table 51. Support regulated bear hunting in area (Q11) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Strongly Agree	42.8% (n=269)	35.8%[a] (n=229)	51.2%[b] (n=555)	45.0% (n=227)	47.1% (n=253)	38.8%[a] (n=185)
Moderately Agree	34.6%[b] (n=217)	33.6% (n=215)	27.9%[a] (n=302)	31.5% (n=159)	29.1% (n=156)	30.2% (n=144)
Neutral or No Opinion	7.6%[a] (n=48)	10.2% (n=65)	10.5% (n=114)	10.1% (n=51)	10.2% (n=55)	14.3%[b] (n=68)
Moderately Disagree	7.0% (n=44)	7.7%[b] (n=49)	4.5%[a] (n=49)	5.1% (n=26)	4.8% (n=26)	8.0% (n=38)
Strongly Disagree	8.0% (n=50)	12.7%[b] (n=81)	5.9%[a] (n=64)	8.3% (n=42)	8.8% (n=47)	8.8% (n=42)

$\chi^2 = 81.4$, df = 20, $p = 0.001$

[a]Adjusted residual ≤ -2.0.
[b]Adjusted residual ≥ 2.0.

Table 52. Support regulated bear hunting in area (Q11) by BSI level (Q5).

	Level 1 (Tolerant of all situations)	Level 2 (Intolerant of Personal Threat)	Level 3 (Intolerant of Frequent Events)	Level 4 (Intolerant of Occasional Events)	Level 5 (Intolerant of Presence of Bear)
Strongly Agree	42.8% (n=273)	43.3% (n=503)	46.9% (n=246)	45.7% (n=425)	44.1% (n=188)
Moderately Agree	29.2% (n=186)	34.9%[a] (n=405)	34.9%[a] (n=183)	30.1% (n=280)	21.4%[b] (n=91)
Neutral or No Opinion	8.5% (n=54)	6.8%[b] (n=79)	6.5%[b] (n=34)	11.4% (n=106)	23.7%[a] (n=101)
Moderately Disagree	8.2%[a] (n=52)	7.2%[a] (n=84)	4.8% (n=25)	5.6% (n=52)	2.3%[b] (n=10)
Strongly Disagree	11.4%[a] (n=73)	7.8% (n=91)	7.0% (n=37)	7.2% (n=67)	8.5% (n=36)

$\chi^2 = 152.6$, df = 16, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 53. Support regulated bear hunting in area (Q11) by attitudes toward hunting (Q28-Q32).

	Strongly pro-hunting	Moderately pro-hunting	Neutral toward hunting	Moderately anti-hunting	Strongly anti-hunting
Strongly Agree	78.8%[a] (n=1001)	41.2%[b] (n=400)	22.3%[b] (n=199)	11.5%[b] (n=41)	8.8%[b] (n=21)
Moderately Agree	16.1%[b] (n=204)	46.0%[a] (n=446)	38.1%[a] (n=340)	35.7%[a] (n=127)	15.0%[b] (n=36)
Neutral or No Opinion	2.0%[b] (n=26)	7.7%[b] (n=75)	24.4%[a] (n=218)	12.9% (n=46)	5.8%[b] (n=14)
Moderately Disagree	1.1%[b] (n=14)	2.2%[b] (n=21)	9.0%[a] (n=80)	17.1%[a] (n=61)	18.8%[a] (n=45)
Strongly Disagree	2.0%[b] (n=25)	2.9%[b] (n=28)	6.3%[b] (n=56)	22.8%[a] (n=81)	51.7%[a] (n=124)

$\chi^2 = 2016.6$, df = 16, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 54. Support regulated bear hunting in area (Q11) by sex (Q46).

	Male		Female	
Strongly Agree	50.8%[a]	(n=1247)	31.9%[b]	(n=396)
Moderately Agree	31.2%	(n=766)	30.5%	(n=378)
Neutral or No Opinion	8.4%[b]	(n=207)	13.4%[a]	(n=166)
Moderately Disagree	4.1%[b]	(n=101)	9.8%[a]	(n=121)
Strongly Disagree	5.5%[b]	(n=135)	14.4%[a]	(n=179)

$\chi^2 = 207.2$, df = 4, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Table 55. Can black bear be legally hunted in your county (Q12) by region of residence.

	Rural Mountain	Buncombe Mountain	Rural Coastal Plain	New Han. Coastal Plain	Rural Piedmont	Urban Piedmont
Yes	42.0%[a] (n=264)	30.3%[a] (n=193)	39.4%[a] (n=427)	14.9%[b] (n=75)	5.1%[b] (n=27)	2.9%[b] (n=14)
No	4.8%[b] (n=30)	4.7%[b] (n=30)	5.0%[b] (n=54)	9.9% (n=50)	22.1%[a] (n=117)	16.6%[a] (n=79)
Unsure	53.3%[b] (n=335)	65.0% (n=414)	55.7%[b] (n=604)	75.1%[a] (n=378)	72.8%[a] (n=385)	80.5%[a] (n=384)

$\chi^2 = 581.1$, df = 10, $p = 0.001$

[a]Adjusted residual ≥ 2.0.
[b]Adjusted residual ≤ -2.0.

Dealing with bear/human conflicts

A bear is sighted in a residential area

If a bear were sighted in a residential area, 91% of respondents said that educating the public would be acceptable, 51% found frightening the bear acceptable, and only 17% said that destroying the bear would be acceptable (Figure 48, Figure 49, Figure 50).

Figure 48

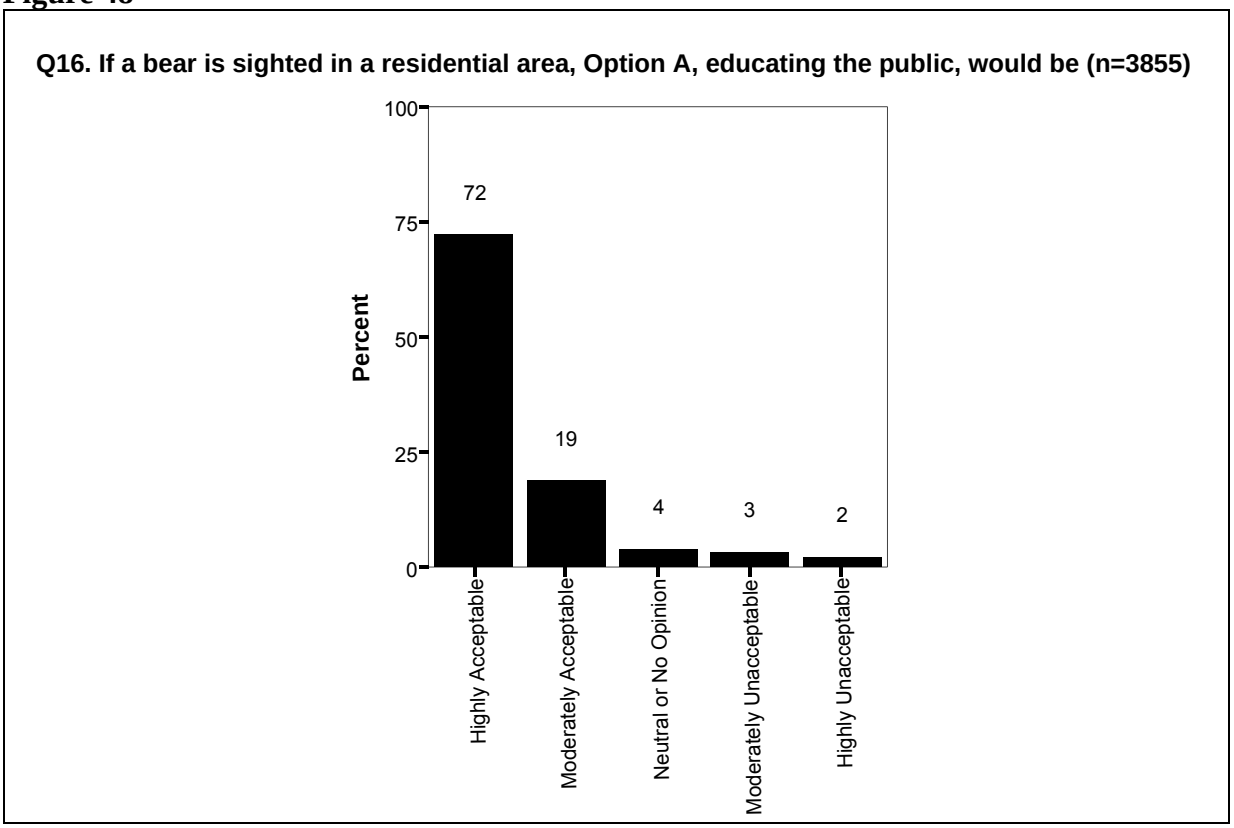


Figure 49

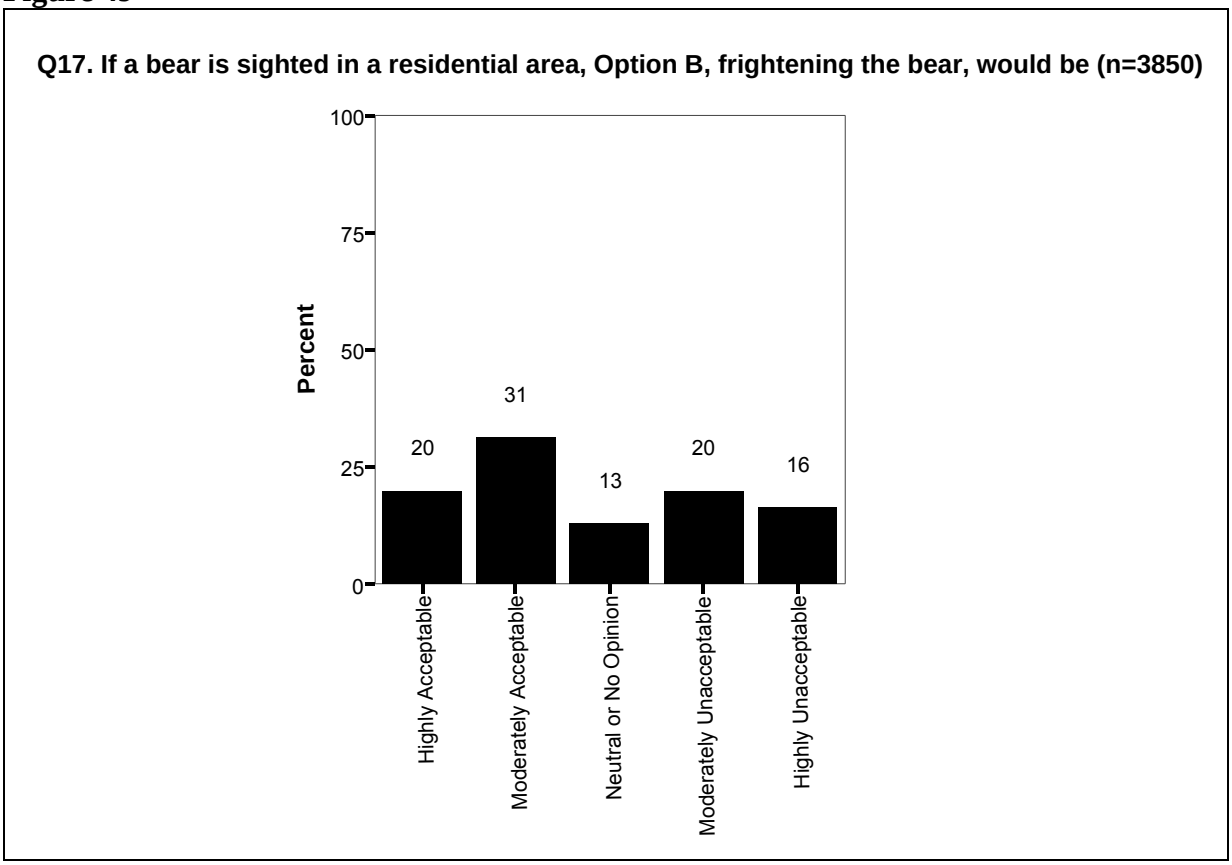
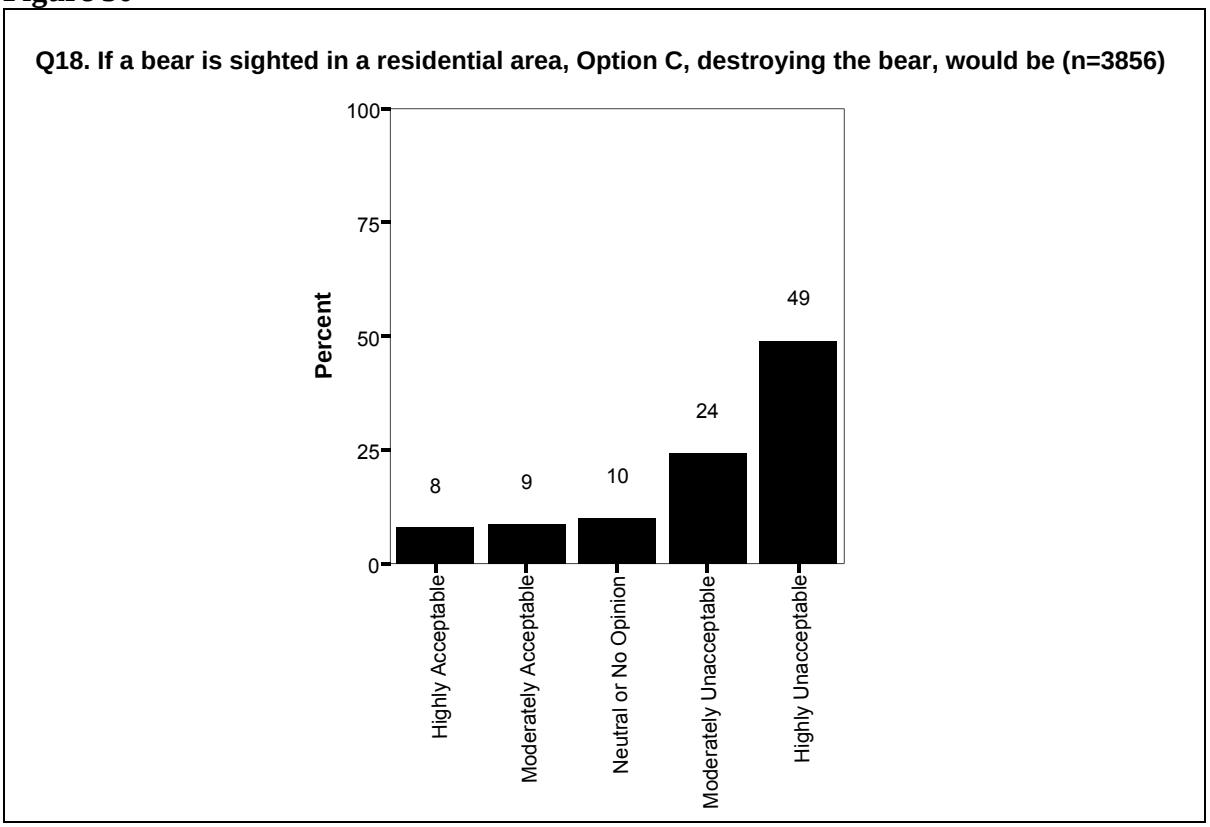

Q17. If a bear is sighted in a residential area, Option B, frightening the bear, would be (n=3850)
Percent
100
75
50
25
0
20
31
13
20
16
Highly Acceptable
Moderately Acceptable
Neutral or No Opinion
Moderately Unacceptable
Highly Unacceptable

Figure 50



A bear chases a pet in a residential area

If a bear chases a pet in a residential area, 80% of respondents said that educating the public would be acceptable, 59% said that frightening the bear would be acceptable, and 22% said that destroying the bear would be acceptable (Figure 51, Figure 52, Figure 53).

Figure 51

Q19. If a bear chases a pet in a residential area, Option A, educating the public, would be (n=3824)

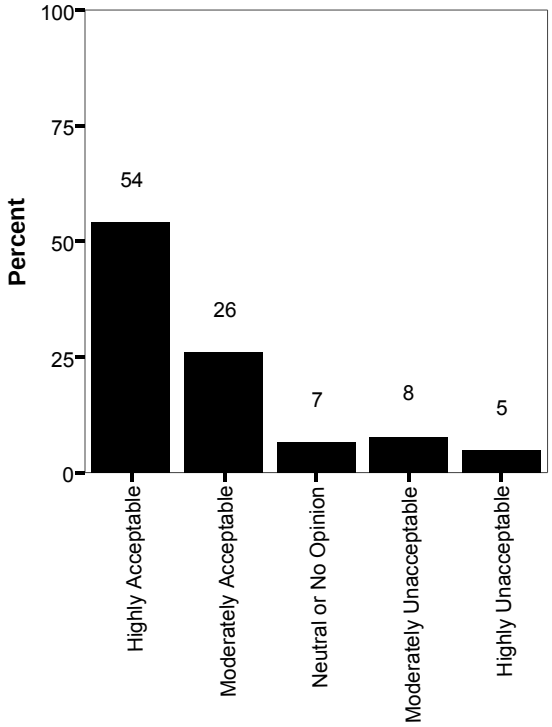


Figure 52

Q20. If a bear chases a pet in a residential area, Option B, frightening the bear, would be (n=3822)

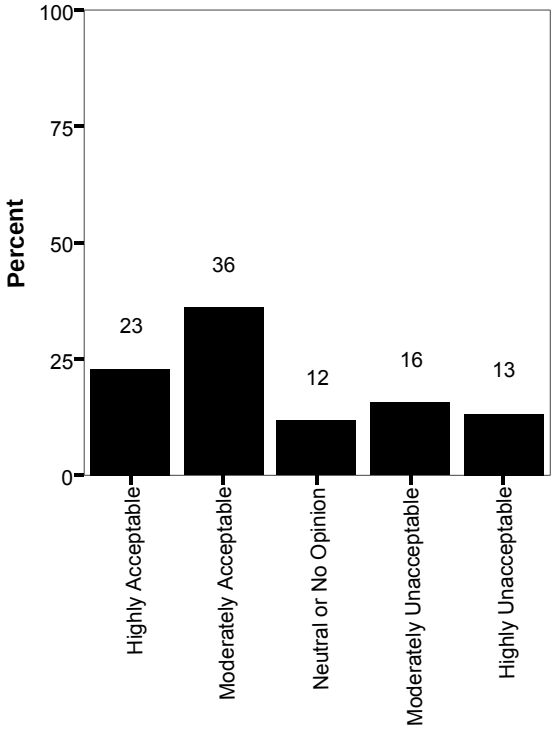
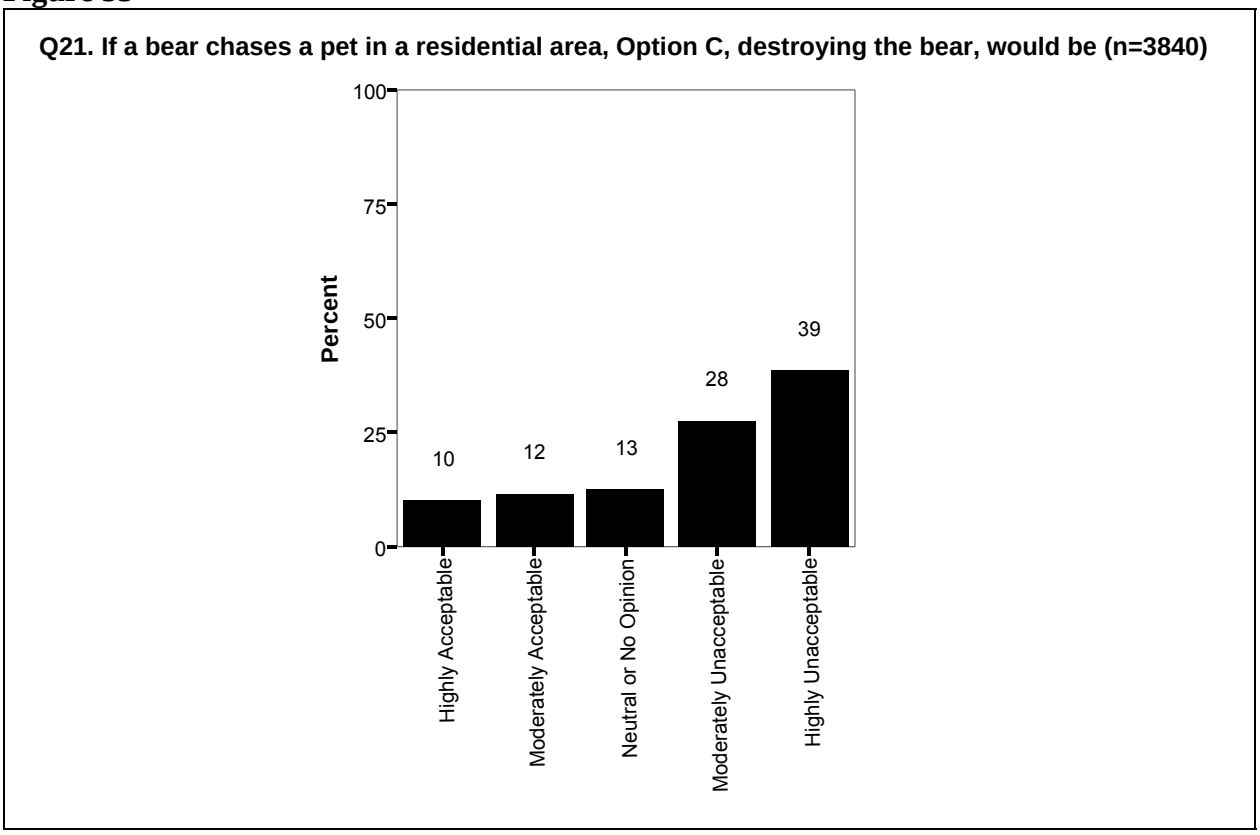


Figure 53



A bear attempts to enter a person's home

If a bear attempts to enter a person's home, 67% of respondents found educating the public acceptable, 63% said that frightening the bear would be acceptable, and 50% said that destroying the bear would be acceptable (Figure 54, Figure 55, Figure 56).

Figure 54

Q22. If a bear attempts to enter a person's home, Option A, educating the public, would be (n=3834)

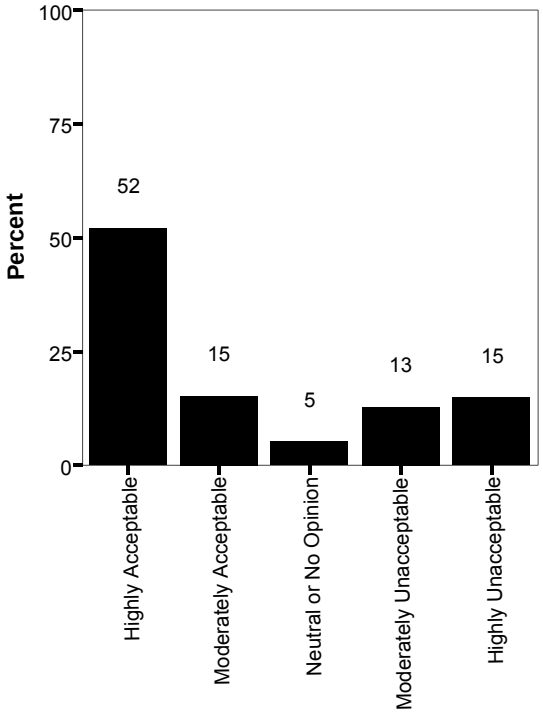


Figure 55

Q23. If a bear attempts to enter a person's home, Option B, frightening the bear, would be (n=3832)

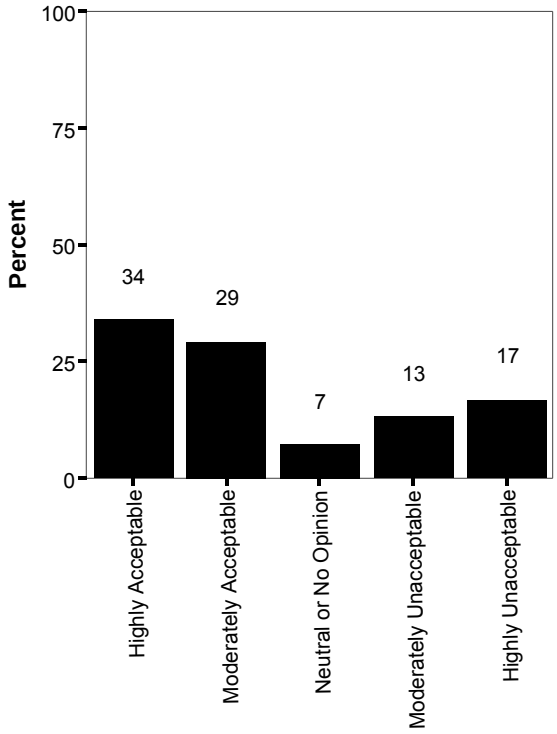
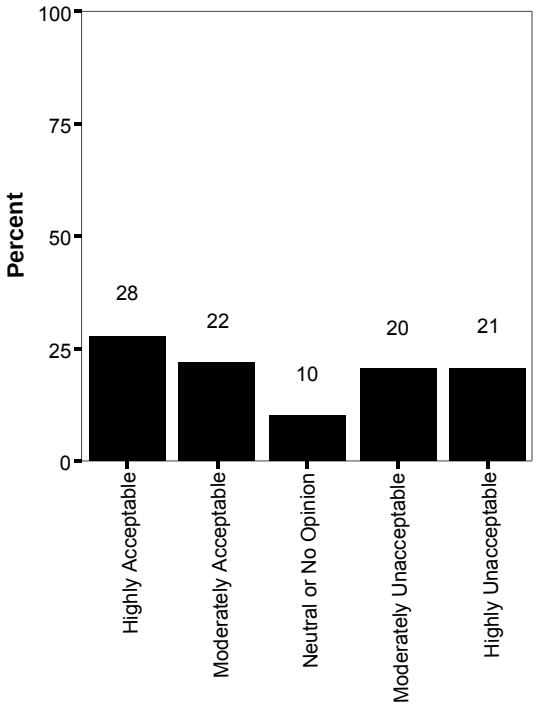


Figure 56

Q24. If a bear attempts to enter a person's home, Option C, destroying the bear, would be (n=3836)



A bear, unprovoked, injures a human

If a bear, unprovoked, injures a human, educating the public would be acceptable to 64% of respondents, frightening the bear would be acceptable to 46% of respondents, and 61% of respondents found destroying the bear acceptable (Figure 57, Figure 58, Figure 59).

Figure 57

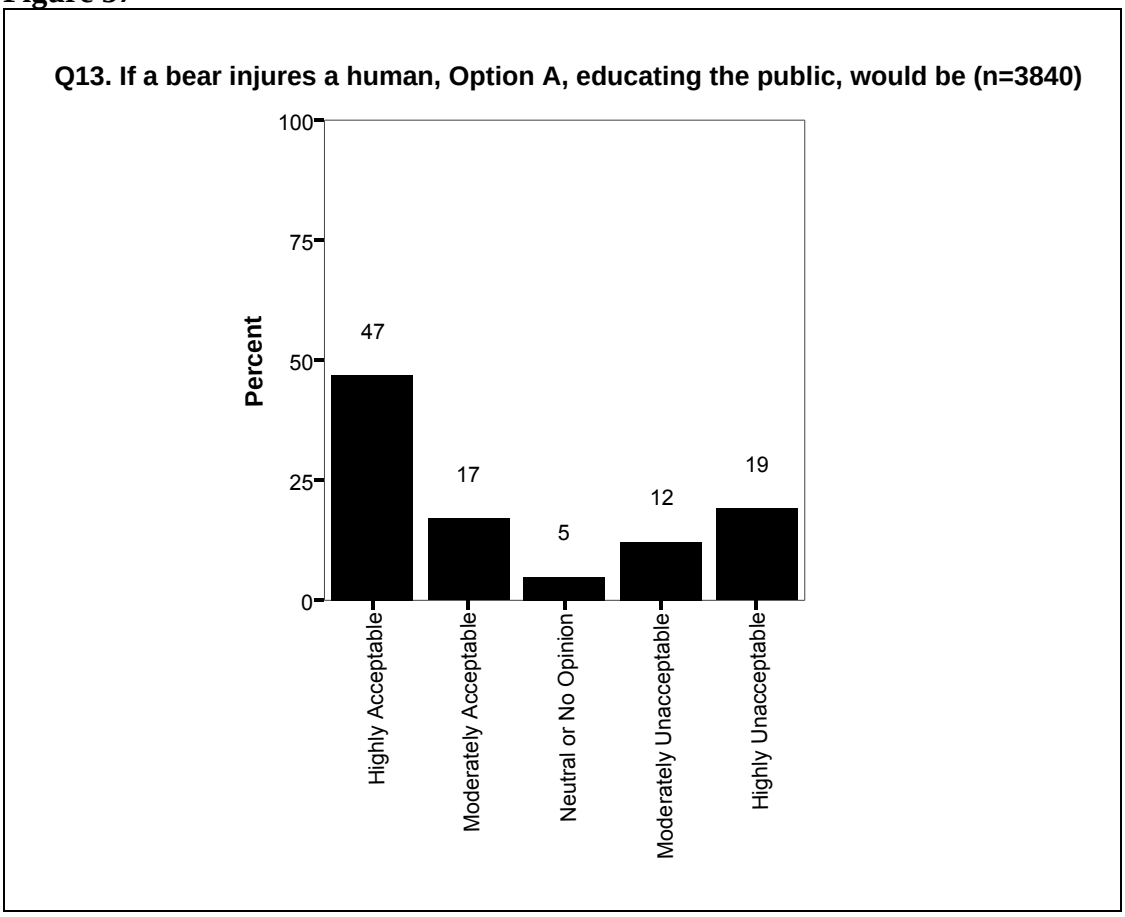


Figure 58

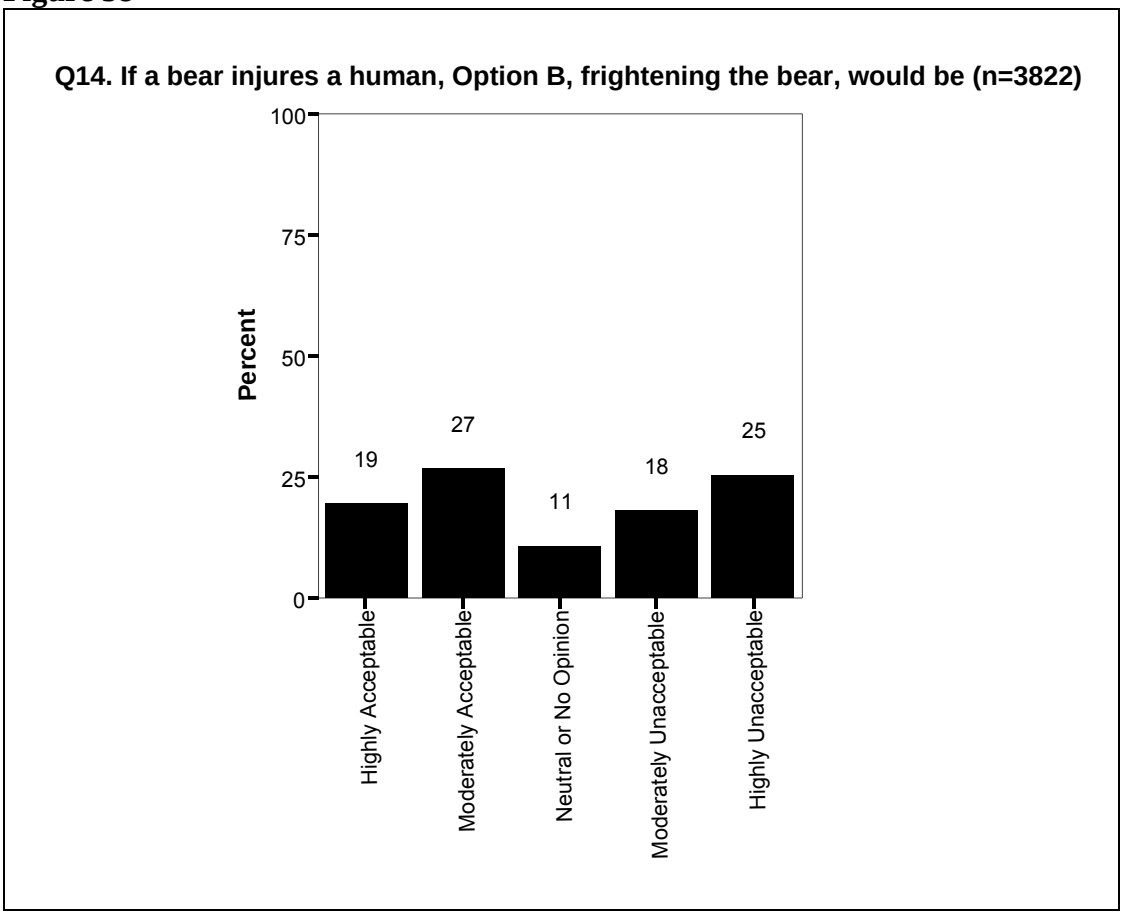
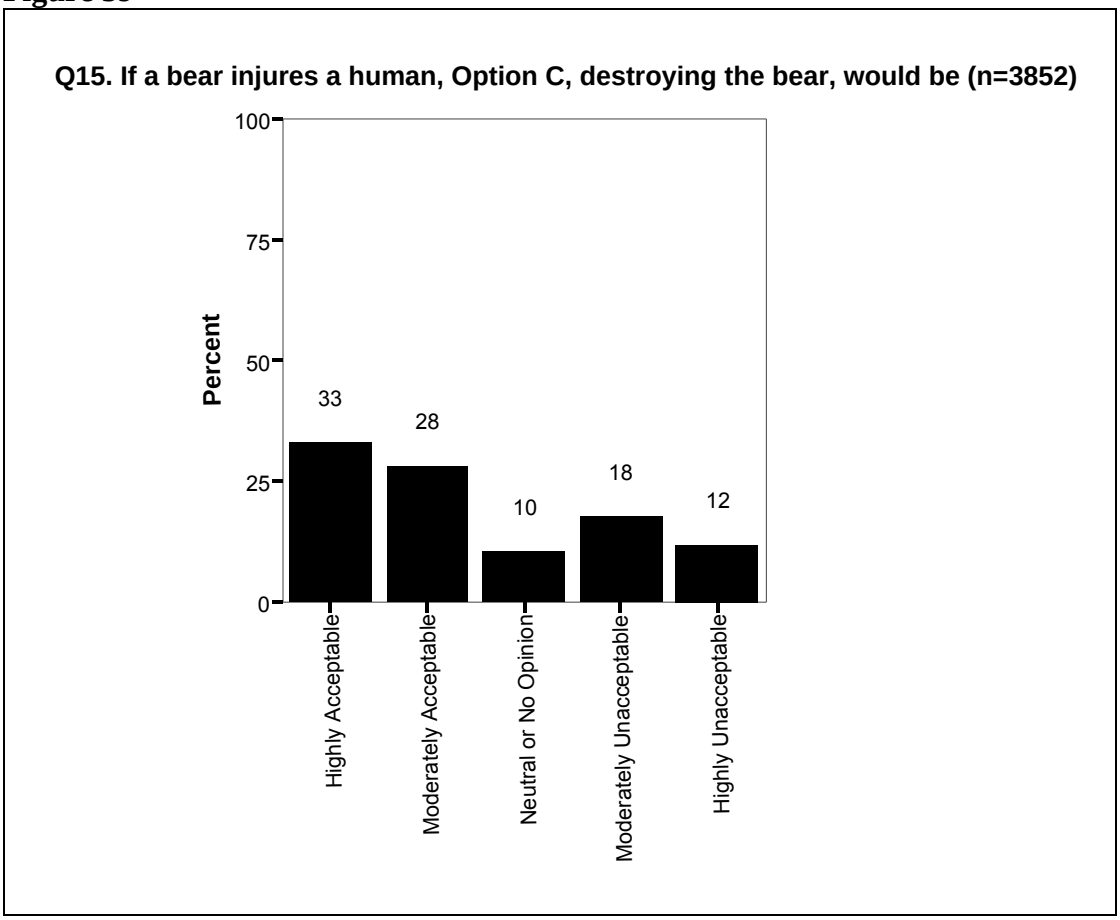

Q14. If a bear injures a human, Option B, frightening the bear, would be (n=3822)
Percent
100
75
50
25
0
19
27
11
18
25
Highly Acceptable
Moderately Acceptable
Neutral or No Opinion
Moderately Unacceptable
Highly Unacceptable

Figure 59



Mean acceptability of dealing with bear/human conflicts

The mean acceptability of educating the public decreased with situations that were more threatening to humans (1.6 if a bear is sighted in a residential area to 0.6 if a bear injures a human), while destroying the bear became more acceptable the higher the threat to people (-1.0 if a bear is sighted in a residential area to 0.5 if a bear injures a human); the mean acceptability of frightening the bear ranged from 0.0 (a bear injures a human) to 0.5 (a bear attempts to enter a person's home) (Figure 60).

For all situations presented, there were significant differences by region for the acceptability of destroying the bear, with Buncombe Mountain residents generally having lower mean acceptability scores and Rural Piedmont residents generally having higher mean acceptability scores for destroying bears (Table 56).

Regardless of the situation presented, respondents with higher levels of intolerance (BSI Levels) generally had lower mean acceptability for educating the public than those with lower levels of intolerance. Also, for all situations, respondents with higher levels of intolerance generally had higher mean acceptability for destroying the bear than those with lower intolerance (Table 57).

For a bear attempts to enter a person's home ($\bar{x}$ = 0.3) and a bear injures a human ($\bar{x}$ = 0.8), hunters had significantly higher mean acceptance scores for destroying the bear than non-hunters (Table 58).

For all situations, respondents who were more anti-hunting generally had higher mean acceptance for educating the public than respondents who were more pro-hunting. Also, respondents who were more anti-hunting generally had lower mean acceptance for destroying the bear than more pro-hunting respondents, regardless of the situation (Table 59).

Mean acceptability was different between levels of knowledge of black bears. For all situations, except a bear injures a human, the mean acceptability for destroying the bear was significantly higher for respondents with very little knowledge than those with much knowledge (Table 60).

Female respondents had significantly lower mean acceptability scores for frightening the bear for all situations, except a bear injures a human (Table 61).

Figure 60

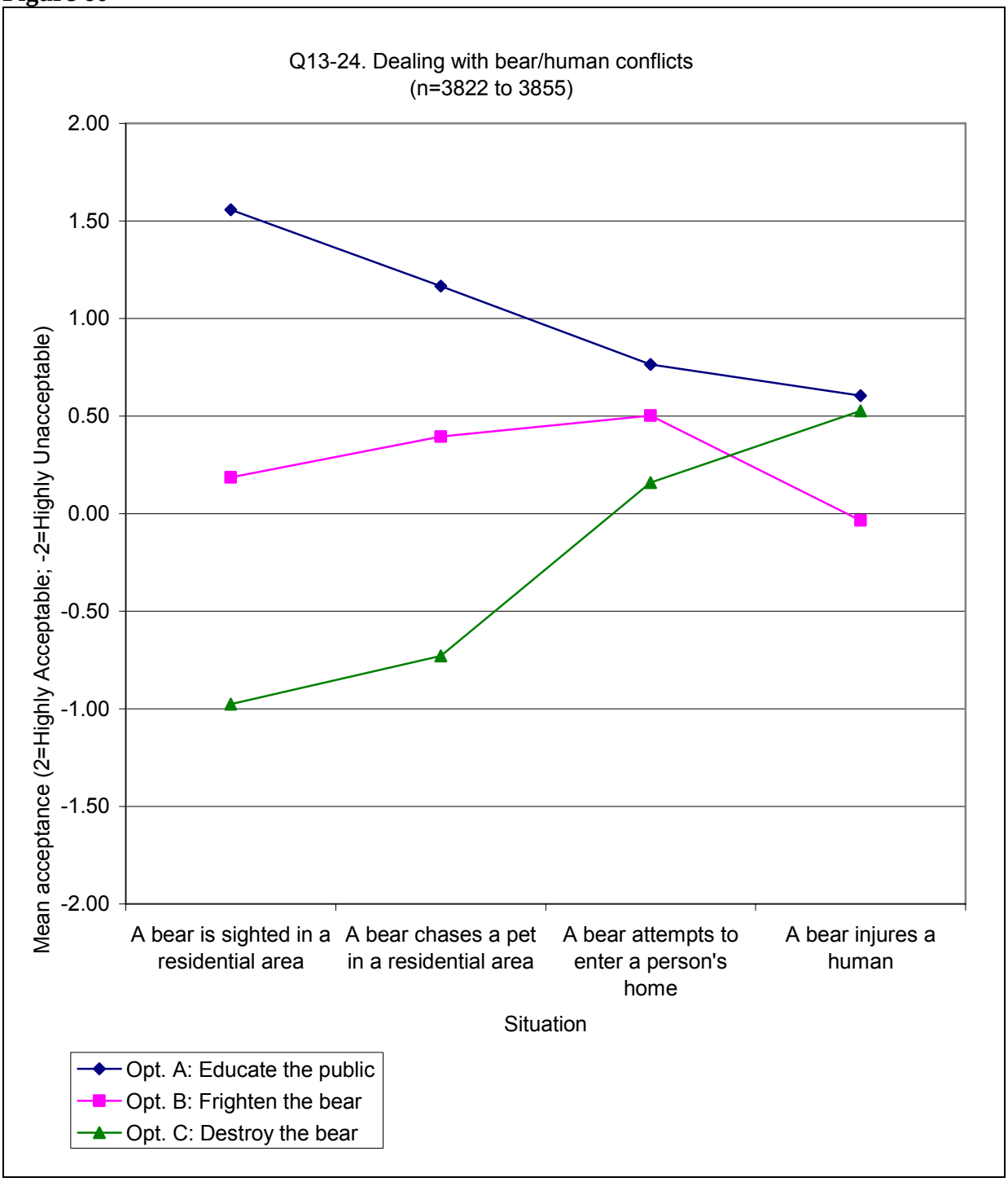

Q13-24. Dealing with bear/human conflicts
(n=3822 to 3855)
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
Mean acceptance (2=Highly Acceptable; -2=Highly Unacceptable)
A bear is sighted in a residential area
A bear chases a pet in a residential area
A bear attempts to enter a person's home
A bear injures a human
Situation
Opt. A: Educate the public
Opt. B: Frighten the bear
Opt. C: Destroy the bear

Table 56. Mean acceptability of management actions in various situations (Q13-Q24) by region of residence.

Situation	Management Action	Rural Mountain $\bar{x}$	Rural Mountain 95% C.I.	Buncombe Mountain $\bar{x}$	Buncombe Mountain 95% C.I.	Rural Coastal Plain $\bar{x}$	Rural Coastal Plain 95% C.I.	New Hanover Coastal Plain $\bar{x}$	New Hanover Coastal Plain 95% C.I.	Rural Piedmont $\bar{x}$	Rural Piedmont 95% C.I.	Urban Piedmont $\bar{x}$	Urban Piedmont 95% C.I.	ANOVA (df between groups = 5) df w/in groups	ANOVA (df between groups = 5) F
A bear is sighted in a residential area	Q16. Opt. A: Educate the public	1.61 (n= 633)	1.55-1.68	1.68 (n= 634)	1.63-1.74	1.59 (n= 1080)	1.54-1.64	1.56 (n= 503)	1.49-1.64	1.51 (n= 530)	1.44-1.59	1.55 (n= 478)	1.47-1.63	3852	2.9[a]
	Q17. Opt. B: Frighten the bear	0.18 (n= 630)	0.07-0.29	0.06 (n= 633)	-0.05-0.16	0.13 (n= 1081)	0.05-0.21	0.20 (n= 503)	0.09-0.32	0.16 (n= 528)	0.05-0.28	0.23 (n= 478)	0.11-0.36	3847	1.2
	Q18. Opt. C: Destroy the bear	-1.12 (n= 633)	-1.22--1.03	-1.38 (n= 635)	-1.47--1.30	-0.94 (n= 1080)	-1.02--0.87	-1.08 (n= 504)	-1.19--0.98	-0.89 (n= 530)	-1.00--0.78	-0.98 (n= 478)	-1.10--0.86	3853	13.4[a]
A bear chases a pet in a residential area	Q19 Opt. A: Educate the public	1.26 (n= 622)	1.17-1.35	1.37 (n= 629)	1.29-1.45	1.12 (n= 1065)	1.04-1.19	1.14 (n= 504)	1.04-1.25	1.08 (n= 529)	0.98-1.18	1.21 (n= 473)	1.10-1.32	3816	5.7[a]
	Q20. Opt. B: Frighten the bear	0.39 (n= 623)	0.29-0.50	0.39 (n= 627)	0.28-0.49	0.35 (n= 1063)	0.26-0.43	0.45 (n= 505)	0.34-0.56	0.42 (n= 526)	0.30-0.53	0.40 (n= 475)	0.28-0.52	3813	0.5
	Q21. Opt. C: Destroy the bear	-0.83 (n= 620)	-0.94--0.73	-1.12 (n= 634)	-1.21--1.04	-0.72 (n= 1070)	-0.80--0.64	-0.81 (n= 505)	-0.93--0.70	-0.66 (n= 529)	-0.78--0.55	-0.72 (n= 478)	-0.85--0.60	3830	10.2[a]
A bear attempts to enter a person's home	Q22. Opt. A: Educate the public	0.84 (n= 623)	0.72-0.96	0.85 (n= 631)	0.73-0.96	0.63 (n= 1067)	0.54-0.73	0.81 (n= 504)	0.67-0.94	0.66 (n= 530)	0.53-0.79	0.87 (n= 475)	0.73-1.00	3824	3.2[a]
	Q23. Opt. B: Frighten the bear	0.62 (n= 624)	0.51-0.74	0.66 (n= 631)	0.55-0.77	0.45 (n= 1070)	0.36-0.54	0.47 (n= 504)	0.35-0.60	0.42 (n= 528)	0.29-0.55	0.55 (n= 475)	0.41-0.68	3826	2.8[a]
	Q24. Opt. C: Destroy the bear	0.07 (n= 626)	-0.05-0.19	-0.23 (n= 633)	-0.34--0.11	0.28 (n= 1065)	0.19-0.37	0.03 (n= 501)	-0.10-0.17	0.22 (n= 529)	0.09-0.35	0.13 (n= 476)	-0.01-0.27	3824	9.7[a]

[a] $p < 0.05$.

Table 56 (cont.). Mean acceptability of management actions in various situations (Q13-Q24) by region of residence.

		Rural Mountain		Buncombe Mountain		Rural Coastal Plain		New Hanover Coastal Plain		Rural Piedmont		Urban Piedmont		ANOVA (df between groups = 6)	
Situation	Management Action	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	df w/in groups	F
A bear injures a human	Q13. Opt. A: Educate the public	0.64 (n= 627)	0.52-0.77	0.64 (n= 630)	0.51-0.76	0.61 (n= 1079)	0.51-0.70	0.70 (n= 498)	0.56-0.84	0.52 (n= 529)	0.39-0.66	0.65 (n= 476)	0.50-0.79	3833	0.7
	Q14. Opt. B: Frighten the bear	0.00 (n= 625)	-0.12-0.12	0.02 (n= 627)	-0.09-0.14	0.14 (n= 1069)	-0.23--0.05	0.06 (n= 502)	-0.07 0.19-	0.01 (n= 522)	-0.12-0.13	-0.05 (n= 477)	-0.18-0.09	3816	1.8
	Q15. Opt. C: Destroy the bear	0.54 (n= 635)	0.42-0.65	0.43 (n= 633)	0.31-0.54	0.65 (n= 1078)	0.57-0.74	0.44 (n= 504)	0.32 0.56-	0.56 (n= 527)	0.44-0.68	0.47 (n= 479)	0.34-0.60	3850	3.0[a]

[a] $p < 0.05$.

Table 57. Mean acceptability of management actions in various situations (Q13-Q24) by BSI level.

		Level 1 (Tolerant of all situations)		Level 2 (Intolerant of Personal Threat)		Level 3 (Intolerant of Frequent Events)		Level 4 (Intolerant of Occasional Events)		Level 5 (Intolerant of Presence of Bear)		ANOVA (df between groups = 4)	
Situation	Management Action	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	df w/in groups	F
A bear is sighted in a residential area	Q16. Opt. A: Educate the public	1.71 (n= 630)	1.66-1.76	1.75 (n= 1157)	1.71-1.78	1.58 (n= 526)	1.51-1.64	1.53 (n= 930)	1.47-1.58	1.20 (n= 429)	1.08-1.32	3667	40.6[a]
	Q17. Opt. B: Frighten the bear	0.07 (n= 630)	-0.04-0.17	0.29 (n= 1156)	0.21-0.36	0.24 (n= 525)	0.13-0.36	0.13 (n= 930)	0.04-0.22	-0.12 (n= 429)	-0.26-0.03	3665	8.2[a]
	Q18. Opt. C: Destroy the bear	-1.41 (n= 633)	-1.49--1.33	-1.46 (n= 1157)	-1.51--1.41	-1.05 (n= 526)	-1.15--0.95	-0.92 (n= 928)	-1.00--0.84	0.16 (n= 430)	0.01-0.30	3669	180.5[a]
A bear chases a pet in a residential area	Q19 Opt. A: Educate the public	1.46 (n= 622)	1.38-1.53	1.44 (n= 1157)	1.39-1.48	1.20 (n= 520)	1.11-1.29	0.95 (n= 925)	0.86-1.03	0.67 (n= 419)	0.52-0.82	3638	57.1[a]
	Q20. Opt. B: Frighten the bear	0.33 (n= 622)	0.23-0.43	0.58 1154)	0.51-0.65	0.52 (n= 521)	0.41-0.63	0.30 (n= 925)	0.21-0.39	0.00 (n= 417)	-0.15-0.15	3634	17.9[a]
	Q21. Opt. C: Destroy the bear	-1.30 (n= 624)	-1.39--1.22	-1.28 (n= 1157)	-1.34--1.22	-0.79 (n= 523)	-0.90--0.69	-0.50 (n= 926)	-0.58--0.41	0.37 (n= 420)	0.23-0.51	3645	191.4[a]
A bear attempts to enter a person's home	Q22. Opt. A: Educate the public	1.19 (n= 623)	1.09-1.29	0.81 (n= 1155)	0.73-0.89	0.82 (n= 523)	0.69-0.95	0.52 (n= 926)	0.41-0.63	0.46 (n= 421)	0.29-0.63	3643	23.0[a]
	Q23. Opt. B: Frighten the bear	0.66 (n= 624)	0.55-0.77	0.79 (n= 1153)	0.72-0.87	0.59 (n= 524)	0.47-0.71	0.34 (n= 929)	0.24-0.44	-0.01 (n= 420)	-0.17-0.15	3645	29.7[a]
	Q24. Opt. C: Destroy the bear	-0.57 (n= 623)	-0.69--0.45	-0.18 (n= 1153)	-0.26--0.09	0.20 (n= 522)	0.08-0.33	0.40 (n= 925)	0.31-0.50	1.08 (n= 421)	0.96-1.21	3639	102.3[a]

[a] $p < 0.05$.

Table 57 (cont.). Mean acceptability of management actions in various situations (Q13-Q24) by BSI level.

		Level 1 (Tolerant of all situations)		Level 2 (Intolerant of Personal Threat)		Level 3 (Intolerant of Frequent Events)		Level 4 (Intolerant of Occasional Events)		Level 5 (Intolerant of Presence of Bear)		ANOVA (df between groups = 4)	
Situation	Management Action	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	df w/in groups	*F*
A bear injures a human	Q13. Opt. A: Educate the public	1.03 (n= 631)	0.92-1.13	0.60 (n= 1154)	0.51-0.69	0.60 (n= 524)	0.46-0.73	0.47 (n= 925)	0.36-0.58	0.43 (n= 424)	0.27-0.60	3653	14.2[a]
	Q14. Opt. B: Frighten the bear	0.20 (n= 622)	0.09-0.31	0.13 (n= 1150)	0.05-0.22	0.02 (n= 522)	-0.11-0.14	-0.25 (n= 921)	-0.35--0.15	-0.34 (n= 425)	-0.50--0.19	3635	17.4[a]
	Q15. Opt. C: Destroy the bear	-0.02 (n= 631)	-0.13-0.10	0.40 (n= 1156)	0.32-0.48	0.58 (n= 524)	0.47-0.70	0.81 (n= 929)	0.72-0.89	1.12 (n= 429)	1.00-1.24	3664	58.0[a]

[a] $p < 0.05$.

Table 58. Mean acceptability of management actions in various situations (Q13-Q24) by participation in hunting (Q25).

Situation	Management Action	Participated in hunting $\bar{x}$	Did NOT participate in hunting $\bar{x}$	95% C.I. of the difference	df	*t*
A bear is sighted in a residential area	Q16. Opt. A: Educate the public	1.59 (n=826)	1.60 (n=2977)	-0.05-0.08	1288.1	0.3
	Q17. Opt. B: Frighten the bear	0.29 (n=826)	0.12 (n=2973)	-0.28--0.07	1313.9	-3.2[a]
	Q18. Opt. C: Destroy the bear	-1.15 (n=828)	-1.05 (n=2975)	0.01-0.19	1390.5	2.1[a]
A bear chases a pet in a residential area	Q19 Opt. A: Educate the public	1.18 (n=833)	1.20 (n=2973)	-0.07-0.10	1372.8	0.3
	Q20. Opt. B: Frighten the bear	0.50 (n=833)	0.36 (n=2970)	-0.24--0.04	1374.9	-2.7[a]
	Q21. Opt. C: Destroy the bear	-0.84 (n=837)	-0.81 (n=2982)	-0.06-0.13	1362.4	0.7
A bear attempts to enter a person's home	Q22. Opt. A: Educate the public	0.65 (n=832)	0.79 (n=2982)	0.02-0.26	1302.1	2.3[a]
	Q23. Opt. B: Frighten the bear	0.58 (n=832)	0.51 (n=2985)	-0.18-0.04	1349.7	-1.2
	Q24. Opt. C: Destroy the bear	0.29 (n=836)	0.05 (n=2979)	-0.36--0.12	1358.1	-4.0[a]
A bear injures a human	Q13. Opt. A: Educate the public	0.50 (n=823)	0.67 (n=2960)	0.04-0.29	1292.8	2.7[a]
	Q14. Opt. B: Frighten the bear	-0.11 (n=818)	-0.01 (n=2948)	-0.01-0.22	1303.2	1.8
	Q15. Opt. C: Destroy the bear	0.82 (n=827)	0.45 (n=2972)	-0.48--0.27	1411.7	-7.1[a]

[a] $p < 0.05$.

Table 59. Mean acceptability of management actions in various situations (Q13-Q24) by attitudes toward hunting (Q28-Q32).

		Strongly pro-hunting		Moderately pro-hunting		Neutral toward hunting		Moderately anti-hunting		Strongly anti-hunting		ANOVA (df between groups = 4)	
Situation	Management Action	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	df w/in groups	F
A bear is sighted in a residential area	Q16. Opt. A: Educate the public	1.61 (n= 1265)	1.57-1.66	1.56 (n= 972)	1.51-1.62	1.51 (n= 893)	1.45-1.57	1.66 (n= 351)	1.58-1.75	1.79 (n= 241)	1.71-1.87	3717	6.5[a]
	Q17. Opt. B: Frighten the bear	0.22 (n= 1262)	0.15-0.30	0.23 (n= 973)	0.15-0.32	0.04 (n= 894)	-0.05-0.13	0.06 (n= 351)	-0.09-0.21	-0.07 (n= 240)	-0.26-0.12	3715	5.1[a]
	Q18. Opt. C: Destroy the bear	-1.12 (n= 1264)	-1.19--1.06	-0.97 (n= 972)	-1.05--0.89	-0.87 (n= 896)	-0.96--0.78	-1.36 (n= 353)	-1.47--1.25	-1.59 (n= 240)	-1.71--1.46	3720	24.3[a]
A bear chases a pet in a residential area	Q19 Opt. A: Educate the public	1.20 (n= 1257)	1.14-1.27	1.13 (n= 961)	1.06-1.20	1.16 (n= 888)	1.09-1.24	1.28 (n= 351)	1.16-1.40	1.40 (n= 238)	1.26-1.54	3690	3.4[a]
	Q20. Opt. B: Frighten the bear	0.46 (n= 1256)	0.39-0.54	0.45 (n= 962)	0.37-0.53	0.27 (n= 887)	0.18-0.36	0.40 (n= 350)	0.26-0.54	0.22 (n= 237)	0.02-0.41	3687	4.2[a]
	Q21. Opt. C: Destroy the bear	-0.83 (n= 1258)	-0.90--0.76	-0.67 (n= 968)	-0.75--0.59	-0.70 (n= 891)	-0.78--0.61	-1.12 (n= 352)	-1.25--0.99	-1.31 (n= 238)	-1.46--1.16	3702	18.4[a]
A bear attempts to enter a person's home	Q22. Opt. A: Educate the public	0.62 (n= 1254)	0.53-0.71	0.74 (n= 969)	0.65-0.84	0.83 (n= 889)	0.73-0.92	0.87 (n= 352)	0.71-1.03	1.24 (n= 238)	1.07-1.42	3697	9.5[a]
	Q23. Opt. B: Frighten the bear	0.52 (n= 1256)	0.43-0.60	0.60 (n= 968)	0.51-0.69	0.46 (n= 890)	0.36-0.55	0.53 (n= 350)	0.38-0.69	0.58 (n= 239)	0.39-0.77	3698	1.3
	Q24. Opt. C: Destroy the bear	0.31 (n= 1257)	0.22-0.39	0.23 (n= 965)	0.14-0.32	0.09 (n= 890)	-0.01-0.19	-0.42 (n= 351)	-0.58--0.26	-0.77 (n= 236)	-0.97--0.57	3694	38.1[a]

[a] $p < 0.05$.

Table 59 (cont.). Mean acceptability of management actions in various situations (Q13-Q24) by attitudes toward hunting (Q28-Q32).

		Strongly pro-hunting		Moderately pro-hunting		Neutral toward hunting		Moderately anti-hunting		Strongly anti-hunting		ANOVA (df between groups = 4)	
Situation	Management Action	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	df w/in groups	*F*
A bear injures a human	Q13. Opt. A: Educate the public	0.47 (n= 1258)	0.38-0.56	0.55 (n= 964)	0.45-0.65	0.74 (n= 893)	0.64-0.84	0.66 (n= 349)	0.49-0.82	1.12 (n= 239)	0.94-1.30	3698	10.7[a]
	Q14. Opt. B: Frighten the bear	-0.12 (n= 1259)	-0.20--0.04	0.01 (n= 961)	-0.08-0.10	-0.02 (n= 884)	-0.11-0.08	0.11 (n= 346)	-0.04-0.27	0.06 (n= 240)	-0.13-0.26	3685	2.3
	Q15. Opt. C: Destroy the bear	0.86 (n= 1264)	0.78-0.93	0.63 (n= 970)	0.55-0.71	0.45 (n= 894)	0.36-0.54	-0.06 (n= 351)	-0.21-0.09	-0.45 (n= 241)	-0.65--0.26	3715	68.4[a]

[a] $p < 0.05$.

Table 60. Mean acceptability of management actions in various situations (Q13-Q24) by current knowledge of black bears (Q27).

		Very little knowledge		Some knowledge		Average knowledge		Much knowledge		Expert knowledge		ANOVA (df between groups = 4)	
Situation	Management Action	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	df w/in groups	*F*
A bear is sighted in a residential area	Q16. Opt. A: Educate the public	1.49 (n= 1287)	1.44-1.54	1.64 (n= 1019)	1.59-1.68	1.64 (n= 1236)	1.60-1.68	1.72 (n= 242)	1.63-1.81	1.75 (n=20)	1.45-2.05	3799	8.2[a]
	Q17. Opt. B: Frighten the bear	0.03 (n= 1287)	-0.05-0.10	0.20 (n= 1017)	0.11-0.28	0.22 (n= 1234)	0.14-0.29	0.31 (n= 241)	0.14-0.48	0.20 (n=20)	-0.58-0.98	3794	4.5[a]
	Q18. Opt. C: Destroy the bear	-0.68 (n= 1284)	-0.75--0.61	-1.19 (n= 1016)	-1.26--1.12	-1.29 (n= 1241)	-1.35--1.23	-1.49 (n= 243)	-1.62--1.37	-0.90 (n=20)	-1.66--0.14	3799	54.3[a]
A bear chases a pet in a residential area	Q19 Opt. A: Educate the public	1.05 (n= 1281)	0.98-1.11	1.25 (n= 1021)	1.18-1.31	1.27 (n= 1241)	1.21-1.33	1.32 (n= 244)	1.19-1.45	1.60 (n=20)	1.13-2.07	3802	8.6[a]
	Q20. Opt. B: Frighten the bear	0.25 (n= 1281)	0.17-0.33	0.45 (n= 1021)	0.37-0.53	0.46 (n= 1237)	0.39-0.53	0.50 (n= 245)	0.34-0.67	0.90 (n=20)	0.21-1.59	3799	6.0[a]
	Q21. Opt. C: Destroy the bear	-0.42 (n= 1290)	-0.49--0.35	-0.92 (n= 1021)	-1.00--0.84	-1.05 (n= 1243)	-1.12--0.99	-1.23 (n= 247)	-1.38--1.09	-0.20 (n=20)	-1.03-0.63	3816	51.2[a]
A bear attempts to enter a person's home	Q22. Opt. A: Educate the public	0.76 (n= 1286)	0.67-0.85	0.78 (n= 1023)	0.68-0.87	0.74 (n= 1244)	0.66-0.83	0.71 (n= 243)	0.52-0.90	1.50 (n=20)	0.96-2.04	3811	1.3
	Q23. Opt. B: Frighten the bear	0.37 (n= 1288)	0.29-0.45	0.57 (n= 1025)	0.48-0.65	0.61 (n= 1241)	0.53-0.69	0.66 (n= 244)	0.48-0.84	1.30 (n=20)	0.71-1.89	3813	6.7[a]
	Q24. Opt. C: Destroy the bear	0.39 (n= 1289)	0.30-0.47	0.03 (n= 1021)	-0.06-0.12	-0.09 (n= 1245)	-0.18-0.00	-0.11 (n= 245)	-0.31-0.09	0.39 (n=18)	-0.41-1.19	3813	18.1[a]

[a] $p < 0.05$.

Table 60 (cont.). Mean acceptability of management actions in various situations (Q13-Q24) by current knowledge of black bears (Q27).

		Very little knowledge		Some knowledge		Average knowledge		Much knowledge		Expert knowledge		ANOVA (df between groups = 4)	
Situation	Management Action	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	$\bar{x}$	95% C.I.	df w/in groups	*F*
A bear injures a human	Q13. Opt. A: Educate the public	0.71 (n= 1276)	0.62-0.79	0.62 (n= 1011)	0.52-0.71	0.57 (n= 1236)	0.48-0.66	0.48 (n= 243)	0.28-0.69	1.20 (n=20)	0.53-1.87	3781	2.4
	Q14. Opt. B: Frighten the bear	-0.14 (n= 1276)	-0.22--0.05	0.02 (n= 1006)	-0.07-0.11	0.02 (n= 1225)	-0.07-0.10	0.00 (n= 242)	-0.19-0.20	0.60 (n=20)	-0.09-1.29	3764	3.1[a]
	Q15. Opt. C: Destroy the bear	0.65 (n= 1288)	0.57-0.72	0.47 (n= 1012)	0.38-0.55	0.48 (n= 1239)	0.40-0.56	0.51 (n= 242)	0.32-0.70	0.70 (n=20)	-0.05-1.45	3796	3.2[a]

[a] $p < 0.05$.

Table 61. Mean acceptability of management actions in various situations (Q13-Q24) by sex (Q46).

Situation	Management Action	Male $\bar{x}$	Female $\bar{x}$	95% C.I. of the difference	df	*t*
A bear is sighted in a residential area	Q16. Opt. A: Educate the public	1.59 (n=2449)	1.60 (n=1237)	-0.07-0.05	2379.8	-0.3
	Q17. Opt. B: Frighten the bear	0.26 (n=2445)	-0.04 (n=1235)	0.20-0.39	2375.9	6.0[a]
	Q18. Opt. C: Destroy the bear	-1.08 (n=2447)	-1.06 (n=1240)	-0.10-0.07	2374.9	-0.4
A bear chases a pet in a residential area	Q19 Opt. A: Educate the public	1.19 (n=2432)	1.22 (n=1222)	-0.11-0.05	2342.9	-0.8
	Q20. Opt. B: Frighten the bear	0.48 (n=2432)	0.21 (n=1221)	0.17-0.36	2289.8	5.6[a]
	Q21. Opt. C: Destroy the bear	-0.82 (n=2438)	-0.83 (n=1230)	-0.08-0.10	2426.5	0.2
A bear attempts to enter a person's home	Q22. Opt. A: Educate the public	0.72 (n=2432)	0.87 (n=1231)	-0.26--0.05	2506.0	-2.9[a]
	Q23. Opt. B: Frighten the bear	0.59 (n=2437)	0.41 (n=1229)	0.08-0.29	2396.1	3.5[a]
	Q24. Opt. C: Destroy the bear	0.19 (n=2439)	-0.10 (n=1228)	0.18-0.40	2414.4	5.4[a]
A bear injures a human	Q13. Opt. A: Educate the public	0.56 (n=2437)	0.75 (n=1232)	-0.29--0.08	2540.5	-3.4[a]
	Q14. Opt. B: Frighten the bear	0.00 (n=2431)	-0.10 (n=1219)	0.00-0.21	2416.0	2.0
	Q15. Opt. C: Destroy the bear	0.65 (n=2448)	0.28 (n=1235)	0.28-0.47	2329.0	7.5[a]

[a] $p < 0.05$.

Demographics and background information

Only 10% of respondents (n = 392) reported owning a second recreational home in North Carolina. Of these, most were located in the Rural Coastal Plain (49%) or Rural Mountain (22%) regions (Figure 61).

About one-third of respondents (35%) said they lived in a rural setting and 28% lived in cities with at least 10,000 residents (Figure 62).

Three-quarters (76%) of respondents had lived in their communities for at least 5 consecutive years and most (89%) had lived in North Carolina for at least 5 years (Figure 63, Figure 64).

Only 6% of survey respondents indicated that at least part of their income came from farming or beekeeping. Nearly one-half of farmers or beekeepers said they farmed grain (49%) or livestock (47%) (Figure 65).

Dogs or cats were owned by 63% of respondents and 12% owned other types of domestic animals. Those having children under age 10 who live in their household composed 18% of the respondents.

Figure 61

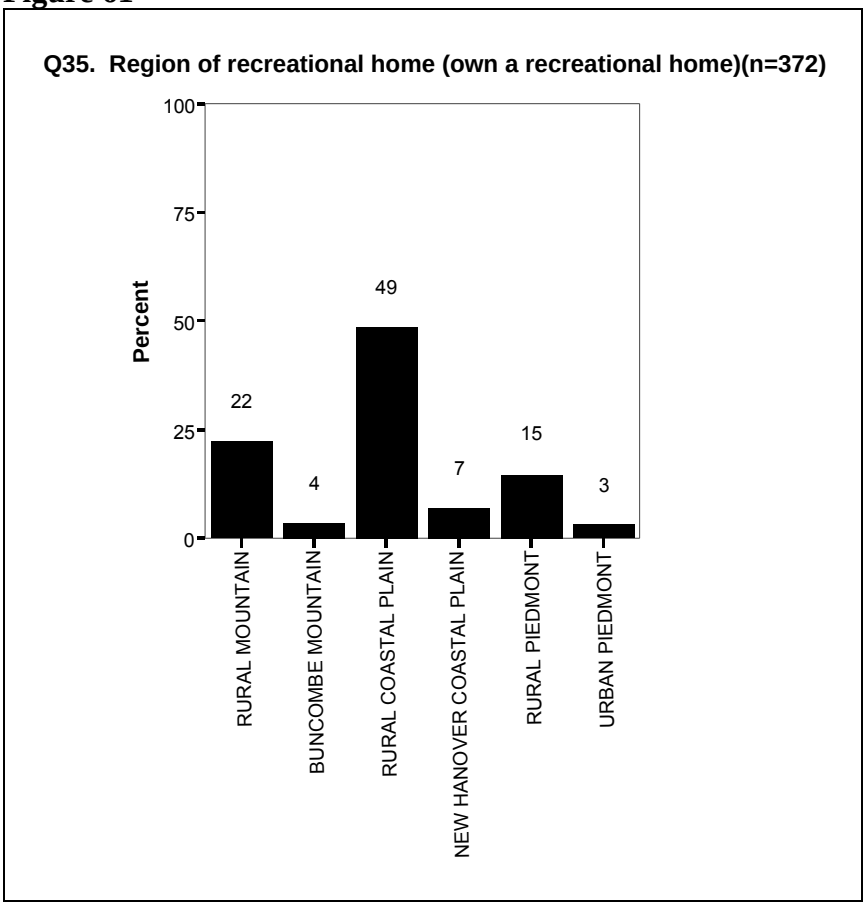


Figure 62

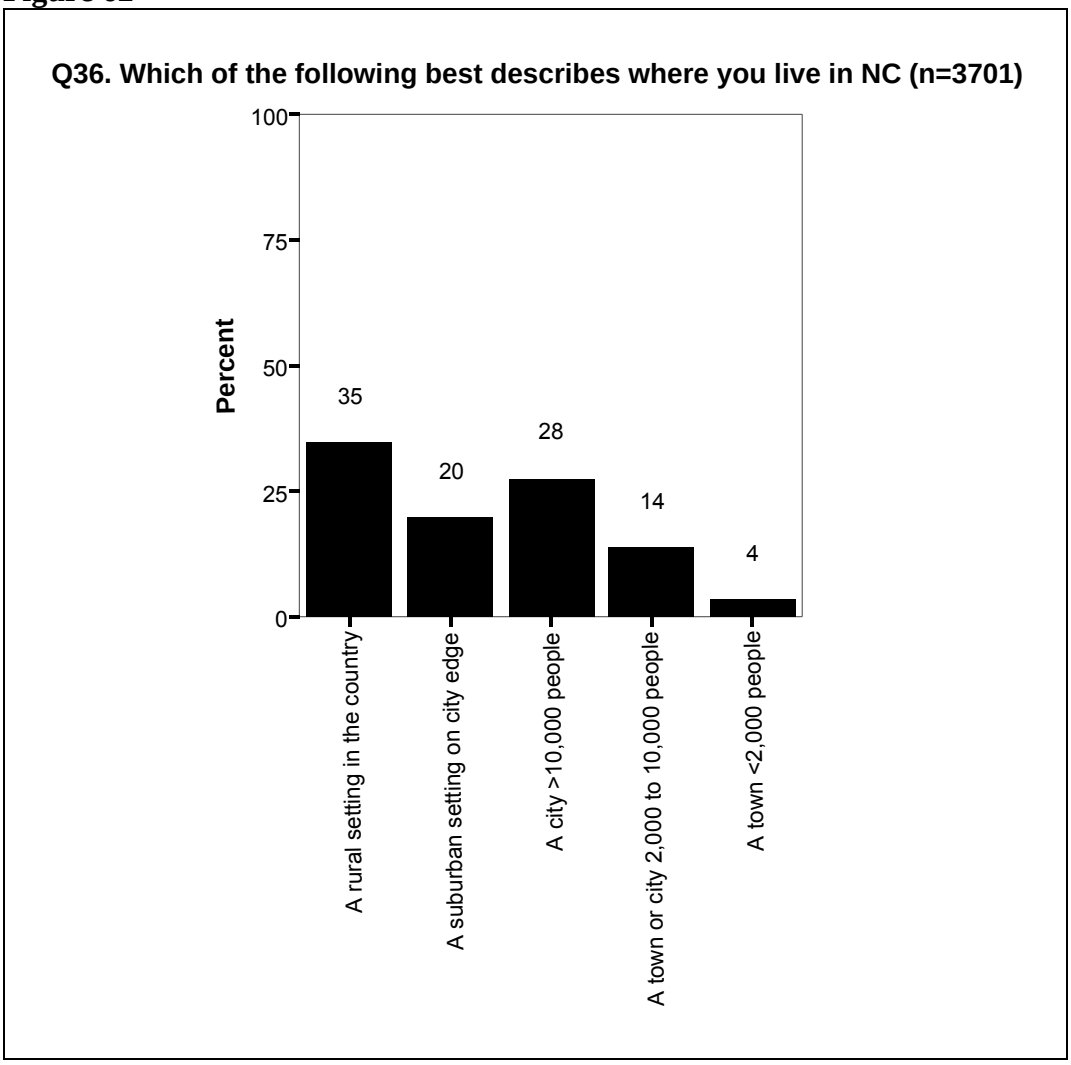

Q36. Which of the following best describes where you live in NC (n=3701)
Percent
100
75
50
25
0
35
20
28
14
4
A rural setting in the country
A suburban setting on city edge
A city >10,000 people
A town or city 2,000 to 10,000 people
A town <2,000 people

Figure 63

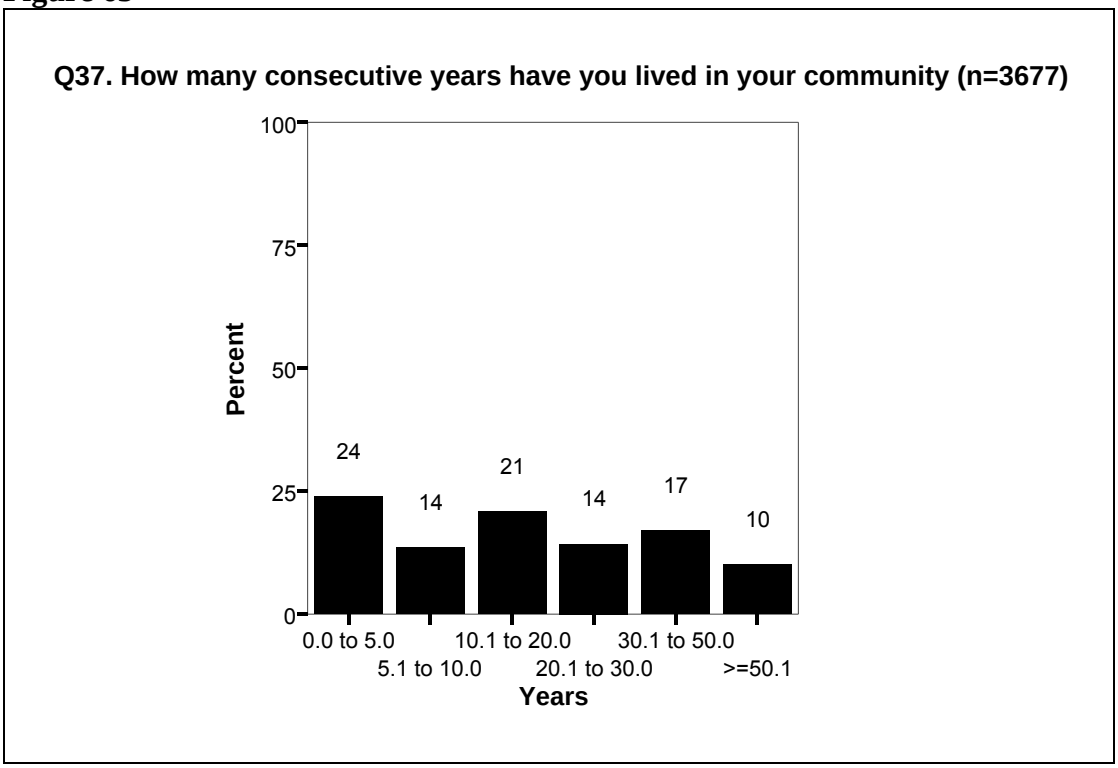


Figure 64

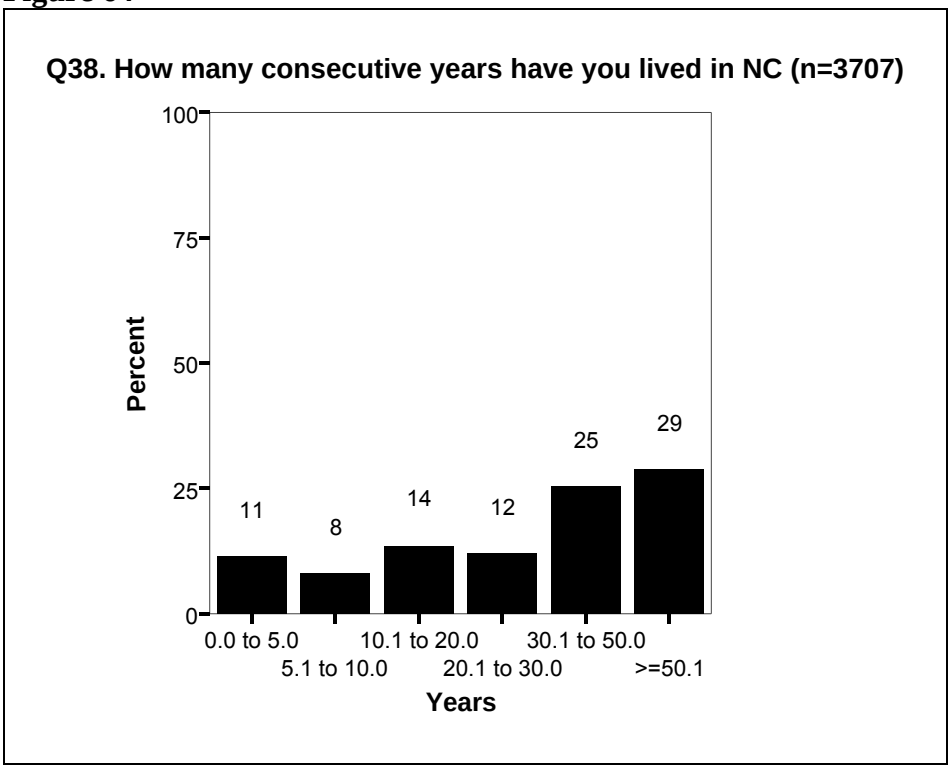
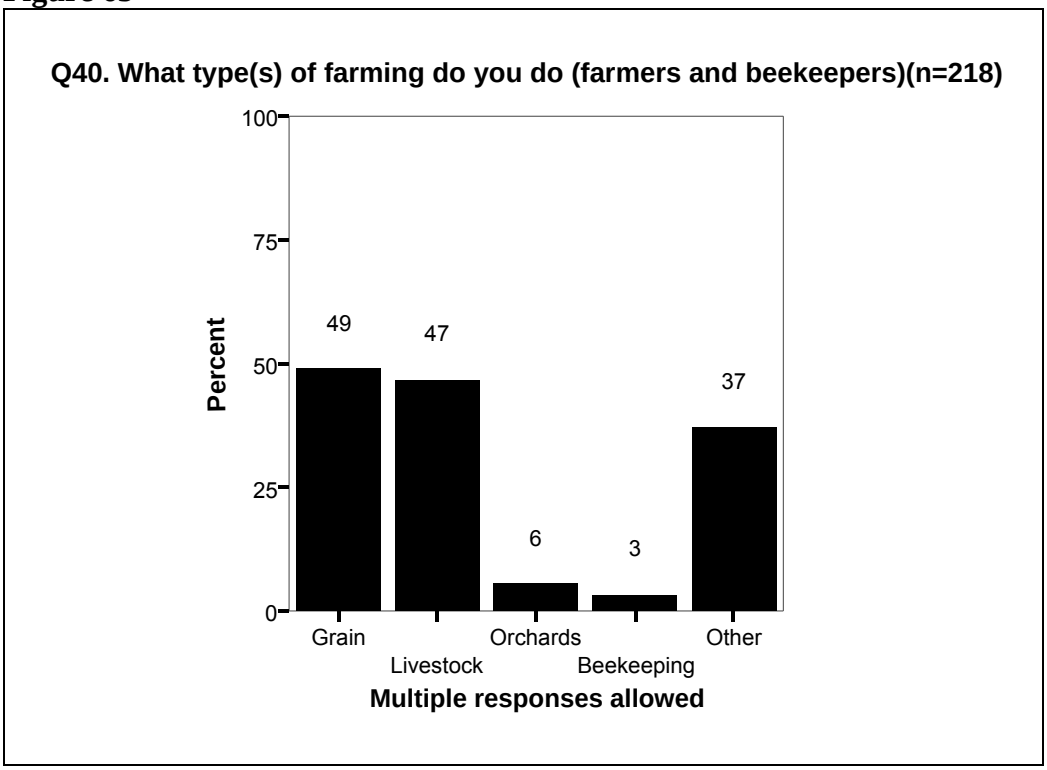


Figure 65



Management Implications

Knowledge, values, and concerns regarding black bears

A majority of survey respondents indicated they believed it was important to have bears in North Carolina. At the same time, most respondents admitted having below average knowledge of black bears. This means that bear conservation efforts in North Carolina are likely to be supported by most North Carolinians. However, there is an opportunity for more efforts, such as *The Bear Facts, The Story of a North Carolina Treasure* documentary, to educate the public about bear ecology, bear management, and minimizing negative bear/human interactions.

Views about bear hunting

Because bear hunting is the main tool that the WRC can use to manage bear populations, understanding the views of the public about bear management is important. Although most respondents would support bear hunting in their areas to meet population goals, bear hunting would not be without opposition. There was a sizable minority of statewide respondents who were opposed to regulated bear hunting. Opposition to bear hunting is likely to be lowest in the Upper Coastal Plain and highest in Buncombe County. There may be an opportunity to further educate the public relative to the regulated bear hunting seasons in North Carolina as most did not know whether hunting was legal or not in their counties of residence.

Tolerance for bear/human interactions

Buncombe County residents are likely to be more tolerant (have lower BSI Levels) and Urban Piedmont residents are likely to be less tolerant of bear/human interactions than expected. Also,

Rural Piedmont and Urban Piedmont residents were more likely than Rural Mountain and Buncombe Mountain residents to prefer that no bears exist in their areas. These results have management implications because they indicate that residents in areas with higher levels of bear/human interactions have higher tolerance for such interactions than residents who live in areas with fewer bear/human interactions. So, if the expansion of occupied bear range in North Carolina continues, North Carolinians who live in areas currently unoccupied by bears may be more likely than other residents to demand that wildlife managers take steps to prevent bear/human conflicts. It is also important for wildlife managers to understand that people who participate in wildlife-related recreation and males are more likely to be tolerant of bear/human interactions. Higher knowledge of black bears was associated with higher tolerance for bear/human interactions, so this may indicate another reason that education of the public about bears is important.

Respondents with lower BSI Levels (higher tolerance for bear/human interactions) and residents of areas with higher levels of bear/human interactions generally were more likely to prefer situations for their area that involved more frequent sightings of bears and more bear/human conflicts than respondents with higher BSI levels. So, again, residents of regions that currently have few bear/human interactions may be less tolerant of increases in bear/human interactions.

Acceptance of management actions to mitigate bear/human conflicts

There were differences in mean acceptability of management actions to deal with bear/human interactions based on respondents' sex, participation in hunting, and current knowledge of black bears. For example, men, hunters, and those who described themselves as having higher knowledge of black bears were more accepting of destroying a bear that attempts to enter a person's home than expected. These results reinforce the findings of other researchers (e.g., Zinn, Manfredo, and Vaske 2000) that the acceptance capacity of specific management actions can be different for groups with different demographic or background characteristics and can vary based on the contextual factors of the wildlife/human interactions. Implications for wildlife managers include understanding that lethal wildlife management likely will be more acceptable, and more passive actions (e.g., educating the public) less acceptable, for cases where human safety is threatened. Also, some constituent groups (e.g., women) may be more likely than others to oppose lethal wildlife management, regardless of the severity of the situation.

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Appendix A: Survey Instrument

Bears in North Carolina: A Survey of Your Views

This survey is an opportunity for you to let us know about your views on bears in North Carolina. We are interested in your responses *even if you have not had experience with bears or do not participate in outdoor activities*.

Bears and You

1. Before receiving this survey, did you know that black bears live in North Carolina?
   - ☐ 1. Yes → **Continue to question 2.**
   - ☐ 2. No → **Skip to question 3.**

2. Please indicate which experiences you have had with black bears *in North Carolina*. **Check all that apply**.
   - ☐ 1. Observed or photographed a black bear in the wild
   - ☐ 2. Seen evidence of a black bear at your home or campsite
   - ☐ 3. Had a bear/vehicle accident
   - ☐ 4. Experienced other property or crop damage from a black bear
   - ☐ 5. Had a black bear threaten or attack pets or livestock
   - ☐ 6. None of the above

3. Please indicate which experiences you have had with black bears *outside of North Carolina*. **Check all that apply**.
   - ☐ 1. Observed or photographed a black bear in the wild
   - ☐ 2. Seen evidence of a black bear at your home or campsite
   - ☐ 3. Had a bear/vehicle accident
   - ☐ 4. Experienced other property or crop damage from a black bear
   - ☐ 5. Had a black bear threaten or attack pets or livestock
   - ☐ 6. None of the above

4. How strongly do you agree or disagree with the following statements about black bears in North Carolina? **Circle one for each item**.

	Strongly Agree	Moderately Agree	Neutral or No Opinion	Moderately Disagree	Strongly Disagree
a. I am concerned about threats to public safety by black bears.	1	2	3	4	5
b. I am concerned about future bear populations in North Carolina.	1	2	3	4	5
c. I generally support how wildlife managers with the North Carolina Wildlife Resources Commission manage black bears.	1	2	3	4	5
d. Bear hunting, when properly managed, is compatible with viable bear populations.	1	2	3	4	5
e. It is important just knowing that black bears exist in North Carolina.	1	2	3	4	5

	Strongly Agree	Moderately Agree	Neutral or No Opinion	Moderately Disagree	Strongly Disagree
f. I am concerned about bear/vehicle accidents.	1	2	3	4	5
g. The presence of black bears *in North Carolina* increases my overall quality of life.	1	2	3	4	5
h. It is important for people to have opportunities to hunt black bears in North Carolina.	1	2	3	4	5
i. The presence of black bears is a sign of a healthy environment.	1	2	3	4	5
j. I am concerned about damage to personal property or crops by black bears.	1	2	3	4	5
k. It is important to have a healthy, viable population of bears in North Carolina.	1	2	3	4	5
l. It is important for people to have opportunities to view or photograph black bears in the wild in North Carolina.	1	2	3	4	5
m. The money that people spend to view, hunt, or photograph black bears in North Carolina is important to the economy.	1	2	3	4	5
n. I am concerned about threats to pets or livestock by black bears.	1	2	3	4	5
o. By following some simple precautions, people can reduce problems caused by bears.	1	2	3	4	5
p. The presence of black bears *near my home* increases my overall quality of life.	1	2	3	4	5
q. I am concerned that humans are destroying bear habitat.	1	2	3	4	5
r. Black bears play an important role in nature.	1	2	3	4	5
s. People in North Carolina generally have a high knowledge of black bears.	1	2	3	4	5

Bear/Human Interactions

5. When people and bears live in the same area, interactions between people and bears may occur. Sometimes people may ask an authority to take action when they interact with bears. For each situation below, indicate which of the three choices you would most likely make: 1) I would *not* contact any authorities; 2) I would inform the authorities about the bear and ask what I should do; 3) I would ask/tell some authority to do something about the bear. **Circle one for each item**.

Situation	I would *not* contact any authorities.	I would inform the authorities about the bear and ask what I should do.	I would ask/tell some authority to do something about the bear.
a. A bear, unprovoked, chases a pet in your neighborhood once.	1	2	3
b. You see a bear near your home more than once in one week.	1	2	3
c. A bear repeatedly threatens and charges pets near your home.	1	2	3
d. You see a bear near your home one morning.	1	2	3
e. A bear damages several birdfeeders and outdoor grills over a week near your home.	1	2	3
f. You see or hear a bear attempting to enter some part of your home.	1	2	3
g. A bear damages a birdfeeder or outdoor grill near your home once.	1	2	3
h. A local farmer tells you of bear damage to livestock/crops.	1	2	3

Below are five situations that indicate increasing levels of interactions between people and bears.

Situation A	*No* black bears exist
Situation B	Black bears *occasionally* sighted in rural areas
Situation C	*Regular* rural sightings of black bears *Occasional* property damage for rural residents
Situation D	*Regular* rural sightings of black bears *Increasing* property damage for rural residents *Occasional* sightings close to towns Rural residents must take precautions with bird feeders, outdoor grills, garbage, etc. *Occasional* bear/vehicle accidents
Situation E	*Regular* rural sightings of black bears *Increasing* number of sightings close to towns *Occasional* property damage close to towns Rural *and suburban* residents must take precautions with bird feeders, outdoor grills, garbage, etc. *Increasing* number of bear/vehicle accidents

6. Which situation would you *prefer* for your area? **Check one**.

- ☐ 1. Situation A
- ☐ 2. Situation B
- ☐ 3. Situation C
- ☐ 4. Situation D
- ☐ 5. Situation E

7. Which situation would most likely cause you to ask/tell an authority to reduce the number of bear/human interactions in your area? **Check one**.

- ☐ 1. Situation A
- ☐ 2. Situation B
- ☐ 3. Situation C
- ☐ 4. Situation D
- ☐ 5. Situation E
- ☐ 6. None of the above

8. In your opinion, how has the black bear population *in North Carolina* changed during the past five years? **Check one**.
   - ☐ 1. It has increased.
   - ☐ 2. It has not changed.
   - ☐ 3. It has decreased.
   - ☐ 4. I am unsure.

9. In your opinion, how has the black bear population *in your area* changed during the past five years? **Check one**.
   - ☐ 1. It has increased.
   - ☐ 2. It has not changed.
   - ☐ 3. It has decreased.
   - ☐ 4. There are no bears in my area.
   - ☐ 5. I am unsure.

10. Wildlife managers would like to know whether you want the black bear population *in your area* to increase, remain at its current level, or decrease over the next five years. **Check one**.
   - ☐ 1. Increase
   - ☐ 2. Remain at current level
   - ☐ 3. Decrease
   - ☐ 4. I am unsure.

11. How strongly do you agree or disagree with the following statement?

    If wildlife managers determined that regulated hunting was necessary to achieve the desired number of bears in my area, I would support hunters harvesting a limited number of bears. **Circle one**.

Strongly Agree	Moderately Agree	Neutral or No Opinion	Moderately Disagree	Strongly Disagree
1	2	3	4	5

12. Currently, can black bear be legally hunted in your county? **Check one**.

- ☐ 1. Yes
- ☐ 2. No
- ☐ 3. I am unsure.

Dealing with Bear/Human Conflicts

When people and bears live in the same area, conflicts may occur. The following are some actions that wildlife managers can take when a bear enters an area where people live. Please note that with each action there are some things to consider.

	Option	Considerations
Option A	Educate the public on dealing with bear problems	People must take extra precautions to avoid problems.
Option B	Frighten the bear with tools such as rubber bullets or fireworks	The bear can be injured. The bear may not be frightened and may stay in the area. The bear can cause problems in other areas. Another bear may enter the area.
Option C	Destroy the bear	Another bear may enter the area.

For questions 13 through 24, please indicate the acceptability or unacceptability of each option.

13. If a bear, unprovoked, injures a human, Option A, educating the public, would be... **Circle one**.

Highly Acceptable	Moderately Acceptable	Neutral or No Opinion	Moderately Unacceptable	Highly Unacceptable
1	2	3	4	5

14. If a bear, unprovoked, injures a human, Option B, frightening the bear, would be... **Circle one**.

Highly Acceptable	Moderately Acceptable	Neutral or No Opinion	Moderately Unacceptable	Highly Unacceptable
1	2	3	4	5

15. If a bear, unprovoked, injures a human, Option C, destroying the bear, would be... **Circle one**.

Highly Acceptable	Moderately Acceptable	Neutral or No Opinion	Moderately Unacceptable	Highly Unacceptable
1	2	3	4	5

16. If a bear is sighted in a residential area, Option A, educating the public, would be... **Circle one**.

Highly Acceptable	Moderately Acceptable	Neutral or No Opinion	Moderately Unacceptable	Highly Unacceptable
1	2	3	4	5

17. If a bear is sighted in a residential area, Option B, frightening the bear, would be... **Circle one**.

Highly Acceptable	Moderately Acceptable	Neutral or No Opinion	Moderately Unacceptable	Highly Unacceptable
1	2	3	4	5

18. If a bear is sighted in a residential area, Option C, destroying the bear, would be... **Circle one**.

Highly Acceptable	Moderately Acceptable	Neutral or No Opinion	Moderately Unacceptable	Highly Unacceptable
1	2	3	4	5

19. If a bear chases a pet in a residential area, Option A, educating the public, would be... **Circle one**.

Highly Acceptable	Moderately Acceptable	Neutral or No Opinion	Moderately Unacceptable	Highly Unacceptable
1	2	3	4	5

20. If a bear chases a pet in a residential area, Option B, frightening the bear, would be... **Circle one**.

Highly Acceptable	Moderately Acceptable	Neutral or No Opinion	Moderately Unacceptable	Highly Unacceptable
1	2	3	4	5

21. If a bear chases a pet in a residential area, Option C, destroying the bear, would be... **Circle one**.

Highly Acceptable	Moderately Acceptable	Neutral or No Opinion	Moderately Unacceptable	Highly Unacceptable
1	2	3	4	5

22. If a bear attempts to enter a person's home, Option A, educating the public, would be... **Circle one**.

Highly Acceptable	Moderately Acceptable	Neutral or No Opinion	Moderately Unacceptable	Highly Unacceptable
1	2	3	4	5

23. If a bear attempts to enter a person's home, Option B, frightening the bear, would be... **Circle one**.

Highly Acceptable	Moderately Acceptable	Neutral or No Opinion	Moderately Unacceptable	Highly Unacceptable
1	2	3	4	5

24. If a bear attempts to enter a person's home, Option C, destroying the bear, would be... **Circle one**.

Highly Acceptable	Moderately Acceptable	Neutral or No Opinion	Moderately Unacceptable	Highly Unacceptable
1	2	3	4	5

Wildlife-related Activities

25. In which of the following activities do you regularly participate? **Check all that apply**.

- ☐ 1. Wildlife watching or photography
- ☐ 2. Wildlife feeding
- ☐ 3. Hiking
- ☐ 4. Fishing
- ☐ 5. Hunting
- ☐ 6. None of the above

26. Have you ever hunted black bear?

- ☐ 1. Yes
- ☐ 2. No

Knowledge of Bears

27. How would you rate your current knowledge of black bears? **Check one**.

- ☐ 1. Very little knowledge
- ☐ 2. Some knowledge
- ☐ 3. Average knowledge
- ☐ 4. Much knowledge
- ☐ 5. Expert knowledge

Attitudes about Hunting

Please indicate the extent to which you agree or disagree with the following statements about hunting.

28. Hunting helps people enjoy the outdoors in a positive manner. **Circle one**.

Strongly Agree	Moderately Agree	Neutral or No Opinion	Moderately Disagree	Strongly Disagree
1	2	3	4	5

29. Hunting makes people insensitive to suffering. **Circle one**.

Strongly Agree	Moderately Agree	Neutral or No Opinion	Moderately Disagree	Strongly Disagree
1	2	3	4	5

30. Hunting is cruel and inhumane to animals. **Circle one**.

Strongly Agree	Moderately Agree	Neutral or No Opinion	Moderately Disagree	Strongly Disagree
1	2	3	4	5

31. Hunting helps people understand and appreciate natural processes. **Circle one**.

Strongly Agree	Moderately Agree	Neutral or No Opinion	Moderately Disagree	Strongly Disagree
1	2	3	4	5

32. Hunting is an acceptable human activity. **Circle one**.

Strongly Agree	Moderately Agree	Neutral or No Opinion	Moderately Disagree	Strongly Disagree
1	2	3	4	5

Background Information

In order for us to understand people's responses to the previous questions more fully, we need to know a few things about your background. Remember that your responses are completely confidential.

33. In what county in North Carolina do you live?

_____ County

34. Do you own a second recreational home in North Carolina?

- ☐ 1. Yes → **Continue to question 35**.
- ☐ 2. No → **Skip to question 36**.

35. In what county in North Carolina is your recreational home?

_____ County

36. Which of the following statements best describes where you live in North Carolina? **Check one**.

- ☐ 1. Within a town of less than 2,000 people
- ☐ 2. Within a town or city between 2,000 and 10,000 people
- ☐ 3. Within a city of more than 10,000 people
- ☐ 4. A suburban setting on the edge of a city
- ☐ 5. A rural setting in the country, beyond the edge of a town or city

37. How many consecutive years have you lived in your community?

_____ Years

38. How many consecutive years have you lived in North Carolina?

_____ Years

39. Does all or part of your income come from farming or beekeeping?
    - ☐ 1. Yes → **Continue to question 40**.
    - ☐ 2. No → **Skip to question 42**.

40. What type(s) of farming do you do? **Check all that apply**.
    - ☐ 1. Grain (wheat, corn, soybeans, peanuts, etc.)
    - ☐ 2. Livestock
    - ☐ 3. Orchards
    - ☐ 4. Beekeeping
    - ☐ 5. Other _____

41. Approximately what percentage of your income comes from farming or beekeeping?
    _____%

42. Do you own any dogs or cats?
    - ☐ 1. Yes
    - ☐ 2. No

43. Do you own any other types of domestic animals (other than dogs or cats)?
    - ☐ 1. Yes
    - ☐ 2. No

44. Are there any children under age 10 who live in your household?
    - ☐ 1. Yes
    - ☐ 2. No

45. What is the highest level of formal education you have completed? **Check one**.
    - ☐ 1. Less than a high school graduate
    - ☐ 2. High school graduation or GED
    - ☐ 3. Some college or trade school
    - ☐ 4. Associate or trade school degree
    - ☐ 5. Bachelor's or four year degree
    - ☐ 6. Graduate or professional degree

46. Are you male or female?
    - ☐ 1. Male
    - ☐ 2. Female

47. In what year were you born? _____

48. Which of the following best represents your gross household income (before taxes) last year? **Check one**.
    - ☐ 1. Less than $20,000
    - ☐ 2. $20,000 to $39,999
    - ☐ 3. $40,000 to $59,999
    - ☐ 4. $60,000 to $79,999
    - ☐ 5. $80,000 to $99,999
    - ☐ 6. $100,000 or more

Thank you for helping us with this project!

If you have any other comments you would like to share with us, please use the space below.

Please use the enclosed addressed and postage-paid envelope, or return this survey to:

Bear Surveys
N.C. Wildlife Resources Commission
1724 Mail Service Center
Raleigh, NC 27699-1724

Appendix B: Bear Management Units

North Carolina's Black Bear Management Units

Mountains
No Season
Lower Coastal Plain
Neuse
Southern Albemarle
Northern Albemarle
Roanoke