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Exploring the Modification of Sunday Hunting Restrictions on Wildlife Management Areas in South Carolina

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REPORT EXECUTIVE SUMMARY, RECOMMENDATIONS, AND FUTURE DIRECTIONS

This report examines Sunday hunting restrictions on Wildlife Management Areas (WMA) in the state of South Carolina, and what person and community level factors may promote and/or inhibit the expansion of hunting to include Sundays. Two sources of data are specifically examined in the report: (1) five listening sessions facilitated by SCDNR leadership across the state of South Carolina, and (2) a web-based questionnaire distributed through multiple channels to both hunters and non-hunters. This report provides the South Carolina Department of Natural Resources (SCDNR) with user-feedback to make evidence based decisions regarding the management of hunting on WMAs in collaboration with partners across the state of South Carolina.

Currently, Sunday hunting is allowed in South Carolina on private land, but not on Wildlife Management Areas (WMA). Interest in Sunday hunting regionally and in the state of South Carolina is growing, and as one of the eleven East Coast states with restrictions, there is mounting pressure to ease or remove the restrictions completely. Recent studies in neighboring states have modeled a fine-scale approach to this request, whereby the state fish and wildlife agencies allow Sunday hunting in some areas.

Across both the listening sessions and web-based survey, respondent engagement was exceptionally high, with over 200 persons attending the listening sessions and over 15,000 responses to the web-based questionnaire in less than a 30-day time span.

HIGHLIGHTS AND INSIGHTS: WEB-BASED QUESTIONNAIRE

Demographics and Descriptives. Respondents to the web-based questionnaire primarily identified as male (86%), white (88%), and identified as hunters (86%). Respondents reported a wide range of obtained education with approximately 46% indicating they had earned a Bachelor's degree or higher, exceeding the census estimated rate of South Carolinians (2019 SC Census Estimate indicates 28% of South Carolinians possessed a bachelor's degree or greater). Similarly, the sample was relatively affluent when compared to SC 2019 census data (median house hold income = \$53,199), with an average income of \$103,128 ($SD = \$61,447$). All 46 counties of South Carolina are represented in the data with Allendale ($n = 13$) representing the lowest response level and Greenville county ($n = 1,121$) representing the largest response frequency. The primary mechanism in which respondents heard about the survey was through SCDNR emails, representing 71% of total responses.

As WMA spaces are often multiuse, respondents were asked to report all activities they participated in on WMAs. Respondents selected an average of 3.30 WMA activities ($SD = 1.914$). Respondents indicated a multitude of uses of WMAs, with hunting (22%), fishing (16%), hiking/trail running (12%), and wildlife observation (11%) representing the most frequent selections. Conversely, birding (4%), biking (4%), nature photography (4%), and horseback riding (2%) representing the least selected activities.

Favorability Towards Sunday Hunting. Respondents were asked to reply to five items regarding their favorability towards hunting at a general level and the focus of the present study, their favorability towards Sunday hunting on WMAs, measured on 1 (Strongly Disagree) to 7 (Strongly Agree) scale where scores lower than 4 indicate lower agreement, and scores greater than 4 indicate greater agreement. On average, respondents were primarily in favor of Sunday hunting on WMAs (Average Score = 4.77, $SD = 2.653$). Responses to this question were primarily bimodal, where approximately 76% of all responses were either strongly disagree ($\approx 27\%$ of responses) or strongly agree ($\approx 50\%$ of responses).

At a county by county level, 36 counties had a majority of "strongly agree" responses, five had a majority "strongly disagree" and two counties (Allendale and Calhoun) mathematically tied between "strongly disagree" and "strongly agree" (colored as teal). **Put simply, at a geographic and frequency level within the web-based survey, responses were approximately 2:1 in favor of Sunday hunting on SCDNR WMAs.**

A deeper exploration of Sunday hunting favorability by WMA user groups suggests a more balanced level of agreement, where 4 groups (Bikers, Birders, Horseback Riders, and Nature Photographers) primarily disagreed with Sunday hunting on WMAs and 5 groups (Campers, Canoe/Kayakers, Anglers, Scouters, and Wildlife Observers) primarily agreed with Sunday hunting on WMAs. When decontextualized from the overall study sample, favorability towards Sunday hunting seems more evenly split, with 35% of responses indicating strongly disagree and 44% of indicating strongly agree. This approach potentially allows for an assessment of WMA stakeholder attitudes by unique WMA use, but also seemingly overcounts responses, where one respondent could potentially “vote” 11 times within the study sample (e.g., 1 respondent could select 11 of 11 activities, and have their selection counted within each activity). Especially, given the average number of selections was 3.30 activities. **Put differently, there is some evidence of balance between those opposed to and in favor of Sunday hunting on WMAs by activity group, but a deeper examination of the data suggests overcounts and should temper this finding.**



Favorability towards Sunday hunting across demographic categories was also explored utilizing a hierarchical multiple regression. Perhaps unsurprisingly, the best predictor of favorability towards Sunday hunting was hunter status, where shifting from non-hunter (score of 0) to hunter (score of 1) led to an average 2.323 ($p < .001$) unit increase in favorability to Sunday hunting score. Conversely, four of the other modelled variables led to significant decreases in favorability to Sunday hunting score. Specifically, when gender shifted from male (score of 0) to female (score of 1), this led to an average decrease of -.860 units ($p < .001$) in favorability to Sunday hunting score. Similarly, respondents possessing a bachelor's degree led to an average decrease of -.346 units in Sunday hunting score ($p < .001$). Respondent household income had no influence on favorability towards Sunday hunting ($p = .646$). Both respondent age in years and number of selected WMA activities also led to a significant decrease (i.e., $p < .01$) in favorability to Sunday hunting score. **Put simply, hunter status led to a powerful increase in level of favorability towards Sunday hunting, but respondents who identified as female, reported higher numbers of WMA activity selections, possessed a bachelor's degree, and/or were higher in age reported lower rates favorability to Sunday hunting.** A post-hoc model utilizing the same predictor variables suggested these results (albeit at moderately weaker levels) are also evident when respondents were asked to rate their support of hunting in general. **Put differently, if you are against Sunday hunting, you are also likely to be against hunting in general.**



HIGHLIGHTS AND INSIGHTS: WEB-BASED QUESTIONNAIRE OPEN-ENDED RESPONSES

The web-based questionnaire included two open-ended questions, where respondents were asked to “please share why you might be in favor of expanding hunting on Sundays on SCDNR WMAs” (i.e., Favorability to Sunday Hunting) and “please share why you might be against expanding hunting to Sundays on SCDNR WMAs” (i.e., Against Sunday Hunting). Through a multiphase content analyses, the responses were analyzed to determine what categories are present across the sample.

When asked about favorability to Sunday hunting, respondents indicated favorability due to **1) Opportunity and Limits On Time**, for those with limited time from work schedules and family commitments on weekends; **2) Equity and Access** of resource use and access for people that do not have the money to pay to hunt on private land on Sunday; **3) Common Sense, Economic, and Reducing Congestion** is a category where respondents indicated modification would support economic growth from selling more hunting licenses, could benefit local economies, spread crowded spaces out over two days and potentially enhance safety due to reduced crowding; **4) necessary Separation of Church and State** category emerged from respondents indicating support for the de-coupling of hunting laws with religion; **5) Increased Participation** and support of new hunters, reactivation of hunters and likelihood of growth in youth hunting; **6) a Rights Perspective**, where respondents believe since hunters purchase a permit and that gives them the right to use the land, more so than others not paying for a permit; and **7) Sound Management** where support for Sunday hunting was predicated on a clear assessment of the potential expanded pressure on wildlife from Sunday hunting.

When asked about their opposition to Sunday hunting, respondents indicated concerns due to **1) Increased Pressure** on the wildlife, the environment and managers; **2) Impact on WMA Recreation** that is not hunting. This category emerged from both hunters and non-hunters that want to keep a hunting free day to enjoy outdoor recreation on the weekend; **3) Religion** and support of Sunday as a holy day; **4) Safety** was a part many other categories, but defined on its own in reference to more caution and thoughtful responses like non-hunters always wearing blaze orange while recreating; **5) respondents were in favor of maintaining The Status Quo**, and shared that current regulations are working and change will likely cause too many problems; **6) Entitled Hunter Behavior** from hunters that communicate more rights to the WMAs than other recreational users, and safety issues created by conflicts in the field by poor or forceful communication.





HIGHLIGHTS AND INSIGHTS: LISTENING SESSIONS: EXTENDING THE WEB-BASED QUESTIONNAIRE OPEN-ENDED RESPONSES

Five listening sessions were held across the state of South Carolina over June and July 2021. Data was collected from transcriptions of the meetings and responses to a paper questionnaire offered to participants. **The analysis of this data was informed by the categories developed from the web-based questionnaire data, to explore any new topics emerging from these groups, and to identify incongruencies with the prior content analyses.** The primacy of listening session respondents also engaged in multiple uses of WMA spaces and approximately 86% of the participants that completed questionnaires identified as hunters, with 80% identifying as WMA hunters.

Listening session questionnaire data revealed reasons for supporting opening South Carolina WMAs to Sunday hunting were 1) to provide **more opportunity** for people with tight work schedules during the week, and family schedules on Saturday, 2) **Increasing participation** and recruitment in hunting 3) **Economic impact/benefits** for the state and small businesses to grow.

Conversely, respondents indicated issues and problems with changing the law to allow Sunday hunting where rates of 1) **conflict** and/or restrictions to other WMA recreational users, may increase; 2) there would be added **pressure on wildlife**, and only in favor of changes if necessary to mitigate detrimental species (i.e., hogs), 3) sustainment of **religious practices** support was strong, and many believed that the system is working and not in need of change and Sunday is a holy day, and finally, 4) **Cost to managers** to staff WMAs to include added time and difficulty for the work they do on

non-hunting days.

The listening session data also illustrated some categories not present in the content analyses, where respondents shared Sunday hunting will facilitate more subsistence hunting, reported interest in participants to travel to other areas to hunt due to the added time, the likely community level economic benefits of this activity to communities and increasing likelihood of out of state revenue from hunting license purchases. Respondents also shared concerns that bag limits be monitored if Sunday hunting on WMAs is allowed, reducing limits, or alternatively alternating closures to midweek to reduce non-hunter concerns.



WHERE DO WE GO FROM HERE? FUTURE DIRECTIONS AND RECOMMENDATIONS

DATA COMPLEXITY

As noted earlier, the focus of the technical report is deliberately narrow, in many cases focused on a single variable “please rate your level of agreement with the following statement, *I am in favor of Sunday hunting on WMAs.*” Additional data exploration utilizing a more comprehensive analytic framework (i.e., a structure equation model; SEM) may yield a better understanding of sub-group differences (e.g., female hunters compared to female non-hunters compared to male equestrians), as SEM facilitates more complex analyses (i.e., multiple dependent variables; confounding analyses; indirect and direct effects) and will likely better reflect the intricacies of the data. This approach proceeded by a multiphase cluster analysis will aid in the development of a typology of WMA users by activity selection, demographic variables, and attitudes towards hunting. Given the relatively large sample size, both at an overall and subgroup level, the dataset(s) represent an opportunity to further examine how attitudes towards hunting may be geographically bounded (i.e., county level differences and resources) and/or related to a combination of measured variables.

USER COMPROMISE

Across the web-based and listening session data sources, respondents shared potential solutions to “meet halfway” to meet the needs of both hunters/nonhunters. Specifically, respondents shared compromises including: modification of restricted days (i.e., closed on Wednesday to hunting rather than Sundays), provide alternative spaces/exclusion zones for non-hunters (i.e., no non-hunter traffic in certain areas), temporal limitations (i.e., no hunting after 12pm on Sundays), assessment of the economic impact pre/post modification, evidence-based management (i.e., tag limits/restrictions), WMA specific changes, and to delineate “buffer” zones across spaces (i.e., no hunting within a certain distance of a feature/trail). **Crucially the present study reflected an exploratory framework, where solutions/compromises were not deliberately explored. A necessary next step emerging from the project is to explore the data with compromises in mind, develop a comprehensive list, and engage stakeholders on what/why is a favorable outcome and/or modification to the current approach(es) to Sunday hunting.**

MANAGEMENT IMPLICATIONS

Hunters are overwhelmingly in favor of opening up Sunday to hunting on WMAs. However, they are also cautious and understand that other changes may be required of SCDNR managers to adjust to both increased pressure on wildlife and non-hunter experiences. Communication about the rights purchased with the WMA license may help mitigate potential conflicts brought on by a belief that the hunters have more right to WMA lands. This entitled attitude may result in situations where people are genuinely afraid of hunters with these entitled perspectives. Conducting an inventory of recreational users at all WMA sites through observation and/or a census of potential high user conflict sites may yield the best potential compromises. The complexity of WMA user groups demonstrates the importance of a non-binary solution to any changes made to laws governing Sunday hunting. For many respondents, no decision by SCDNR is not tenable, where sustaining restrictions on Sunday hunting will likely be interpreted as supporting a minority viewpoint.



WHO ISN'T HERE?

Respondents who identified as hunters were overrepresented in the data due in part to recruiting strategies, but also due to their level of investment in the study topic. Moreover, and perhaps reflecting the hunter populace of South Carolina, the respondents were primarily white (≈88%) male (≈86%) hunters (≈86%). Deliberate focus on recruiting stakeholders in follow on studies should be a point of emphasis to determine how other user groups may engage in SCDNR spaces. Importantly, diversity in future samples may not necessarily diverge from those within the present study sample but may provide SCDNR leadership with a more complete and prevailing sentiment regarding Sunday hunting modifications.

DISPELLING MYTHS

While not within the primary focus of the present report, the data collected from listening sessions, listening session surveys, and short-answer data in the web-based questionnaire all presented SCDNR with an opportunity to understand what “myths and legends” stakeholders believe about SCDNR policies and practices, and importantly where messaging may be necessary to mitigate these misunderstandings. The data should be explored with these “disconnections” in mind, in addition to beliefs about hunting.

USER CONFLICT MITIGATION

One particularly prominent “theme” communicated by respondents who were not in favor of Sunday hunting on WMAs was a fear of being harmed by hunters. Exploration of media/government artifacts regarding negative interactions between hunters and non-hunters, to include those that reporting violations of a person(s) physical, emotional, or social safety could reduce concerns related to these fears. Put differently, a report describing the levels of user conflict, rather than anecdotal stories, may allay some concerns regarding additional hunter use within WMA zones. Conversely, this analysis may highlight the negative influences of a few bad actors (i.e., entitled hunters) have on the reputation of all hunters in SCDNR spaces.

THE BOTTOM LINE

In both pure frequency, percentage, and across the qualitative data sources, responses were primarily in favor of Sunday hunting on SCDNR WMAs. Future study to assess compromises, modifications, and potential sustainment of Sunday hunting restrictions is necessary to inform SCDNR management decisions.



METHOD

INSTITUTIONAL REVIEW BOARD APPROVAL

This project was reviewed and approved through Clemson University's Institutional Review Board under the title of Examining the Impact of Repealing Sunday Hunting Restrictions on Public Land in South Carolina. Approval was determined on June 15, 2021; reference number: IRB2021-0433. Data collection began June 17, 2021.



DATA COLLECTION

Data collected for this study comes from a web-based questionnaire and listening sessions held throughout South Carolina over an approximately 45-day period in the summer of 2021. The web-based questionnaire provided scaled and numerical data, as well as open-ended response data. The listening sessions were attended, recorded, and were supplemented by paper questionnaires collecting demographic data and the sentiments of attendees regarding Sunday hunting. To ensure the best possible level of engagement with the process, SCDNR employed a multimethod strategy to engage respondents in both listening sessions and the web-based questionnaire. The task of drawing the public's attention to these listening sessions was given to SCDNR's Office of Media Outreach (OMO). The OMO kept close count of level of interaction with the information posted on their social media and web-based interfaces. SCDNR social media has 220,000 followers across their three major social media pages, Facebook, Instagram, and Twitter. The OMO created eight posts between July 7th and July 26th across these platforms in order to inform their followers of the listening sessions and electronic survey. These posts resulted in over 4,000 engagements with the listening session information and/or electronic survey. Information was also accessible on the SCDNR website which was accessed over 900 times. Mass e-mails were also sent out via a GovDelivery system in order to get the information to those on the SCDNR's web-mailing lists. Approximately 423,000 e-mails were sent via this system. In total, these methods resulted in a total of 15,502 responses to the web-based questionnaire and attendance of 206 people across the five listening sessions.

WEB BASED QUESTIONNAIRE: DESCRIPTION

Designed in Qualtrics, the 33-item questionnaire was built to inform decision making for SCDNR regarding easing restrictions on Sunday hunting on Wildlife Management Areas (WMA). The approximately 12-15 minute survey captured both levels of agreement with statements about Sunday hunting and was open for 20 days to respondents.

WEB-BASED QUESTIONNAIRE: DATA PROCESSING AND ANALYSES

Prior to analyses, the data were explored for missingness, extreme values, outliers, and eligibility. Respondents who did not complete at least 20% of items within the survey were removed from the study ($n = 2,200$). As SC residents were the primary focus of the study, respondents who did not provide which county they reside in were next screened out of the study sample ($n = 839$). Finally, respondents who did provide residency data, but indicated they did not reside within SC were removed from additional analyses ($n = 487$). Next, the data were screened for outliers utilizing a combination of multivariate kurtosis and the chi-square distribution function ($p < .001$). This approach was selected as it is contextualized within the data set and allows for a multi-variable approach to determine if/what data criteria should remain based on the structure of the data itself. This analysis indicated 682 respondents (5.7%) were multivariate non-normal and were thus removed from additional analyses. The data were then explored with a relatively narrow focus to assess the potential demographic (e.g., gender, education level) and descriptive (e.g., hunter status, WMA use level) differences between, across, and within stakeholder groups regarding their favorability towards Sunday hunting, utilizing a combination of covariance (i.e., correlations) and regression based approaches. The data were also explored for frequency level differences contextualized within the larger study sample, and within their own categorical group(s).

WEB-BASED QUESTIONNAIRE CONTENT ANALYSIS: PROCEDURES AND METHODS

The web-based questionnaire included two open-ended questions, where respondents were asked to “please share why you might be in favor of expanding hunting on Sundays on SCDNR WMAs” (i.e., Favorability to Sunday Hunting) and “please share why you might be against expanding hunting to Sundays on SCDNR WMAs” (i.e., Against Sunday Hunting). Through a multiphase content analyses, the responses were analyzed to determine what categories are present across the sample. To assess short-answer data, 10% of responses from each question were randomly selected. Out of the eligible sample, 947 responses were selected for Favorability to Sunday Hunting item, and 908 responses from the Against Sunday Hunting. Responses were read and coded for most emphasized and/or salient information. The codes were clear topic areas such as *opportunity*, and *limits on time*. The analysis used codes to denote the emphasis in a comment, and when necessary, a secondary code was used to identify the responses that made a point for more than one stated reason. The codes were combined into categories of related terms for further analyses. For example, the codes of equity and access were combined into one category. Both of these terms focused on the cost of hunting on private land, and its availability on Sunday to only certain groups. Frequencies for these analytical categories were developed, categories were then defined, and representative quotes were selected for reporting in the preceding executive summary and proceeding deeper description in the proceeding report.

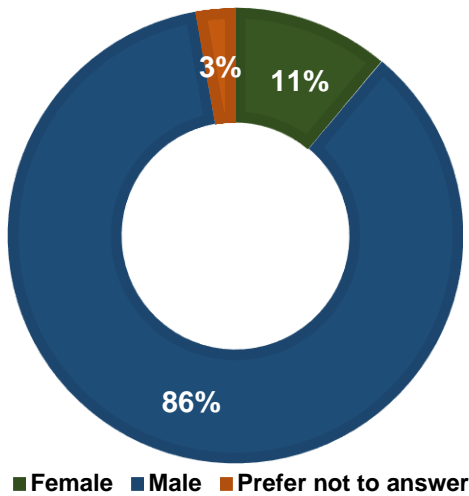
LISTENING SESSION METHODS

Five listening sessions were held throughout South Carolina to provide stakeholders an opportunity to share thoughts and ideas regarding Sunday hunting restrictions on WMA land. Listening sessions were held in the evening to allow for more respondents to attend and were facilitated by SCDNR leadership. Session attendees were provided a handout (Appendix B) by research team members upon their arrival, which contained information about the current Sunday hunting restrictions in the state of South Carolina and a two-page questionnaire made up of eight open-ended questions. These paper questionnaires were transcribed. The listening sessions were recorded in their entirety and transcribed by a member of the research team. The transcripts and the questionnaires collected at each listening session were analyzed as a form of verification strategy for the content analysis data from the web-based survey, where findings were both confirmed, and also extended, where new or contradictory data was incorporated to the study.

WEB-BASED QUESTIONNAIRE: RESPONDENT DEMOGRAPHICS AND DESCRIPTIVES

Respondents were primarily male (86%), were an average of 51.59 years old (SD = 14.65 years) reflected a wide age range (18-80+ years), and primarily identified as white (88.4%) with prefer not to answer (7.9%), and multiple race (1.1%) as the next largest groups.

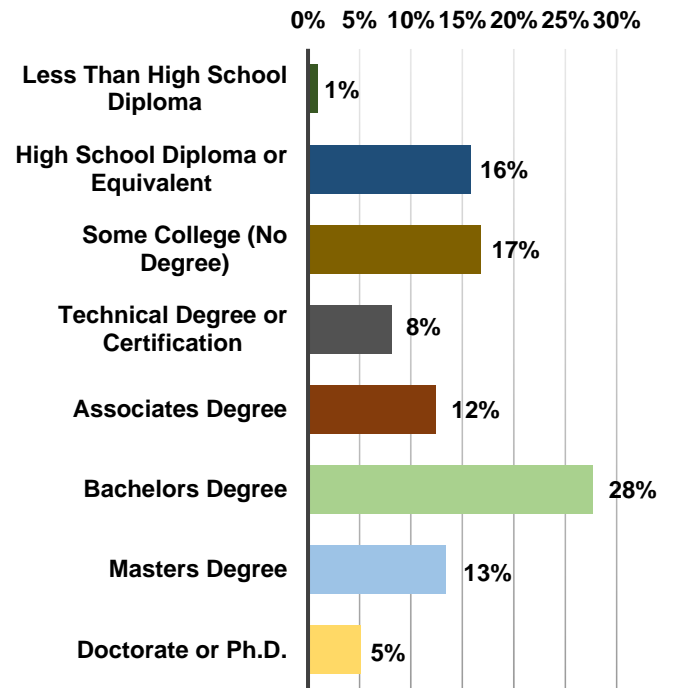
Respondent Gender



As a majority respondents had some form of education beyond high school (83% indicated training beyond high school), where 28% reported a bachelor's degree, with next largest group reporting some college with no degree (17%), and 16% reported a high school diploma or equivalent. When compared to South Carolina census level education (US Census, 2019), respondents in the data set were higher than census levels in terms of bachelor's degree or above, with approximately 72% of South Carolinians indicating no bachelor's degree, but the study sample indicating 46% of respondents in possession of a bachelor's degree.

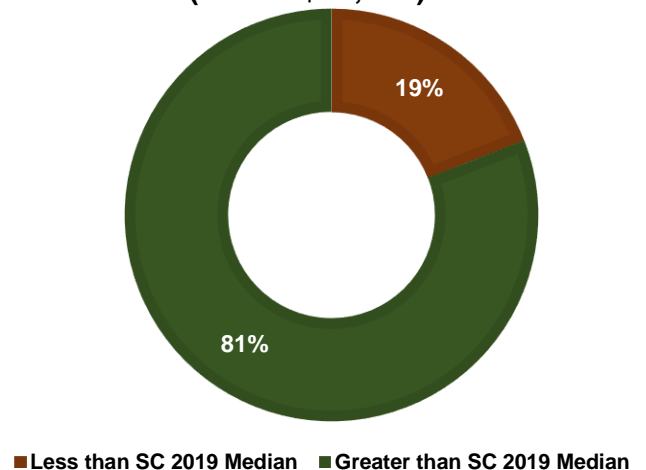


Respondent Education Level



Respondents reported a relatively high household income, with an average level reported of \$103,128 (SD = \$61,447), nearly doubling the South Carolina 2019 median income of \$53,199. Approximately 81% of respondents were above the South Carolina 2019 median income and 19% were under this threshold.

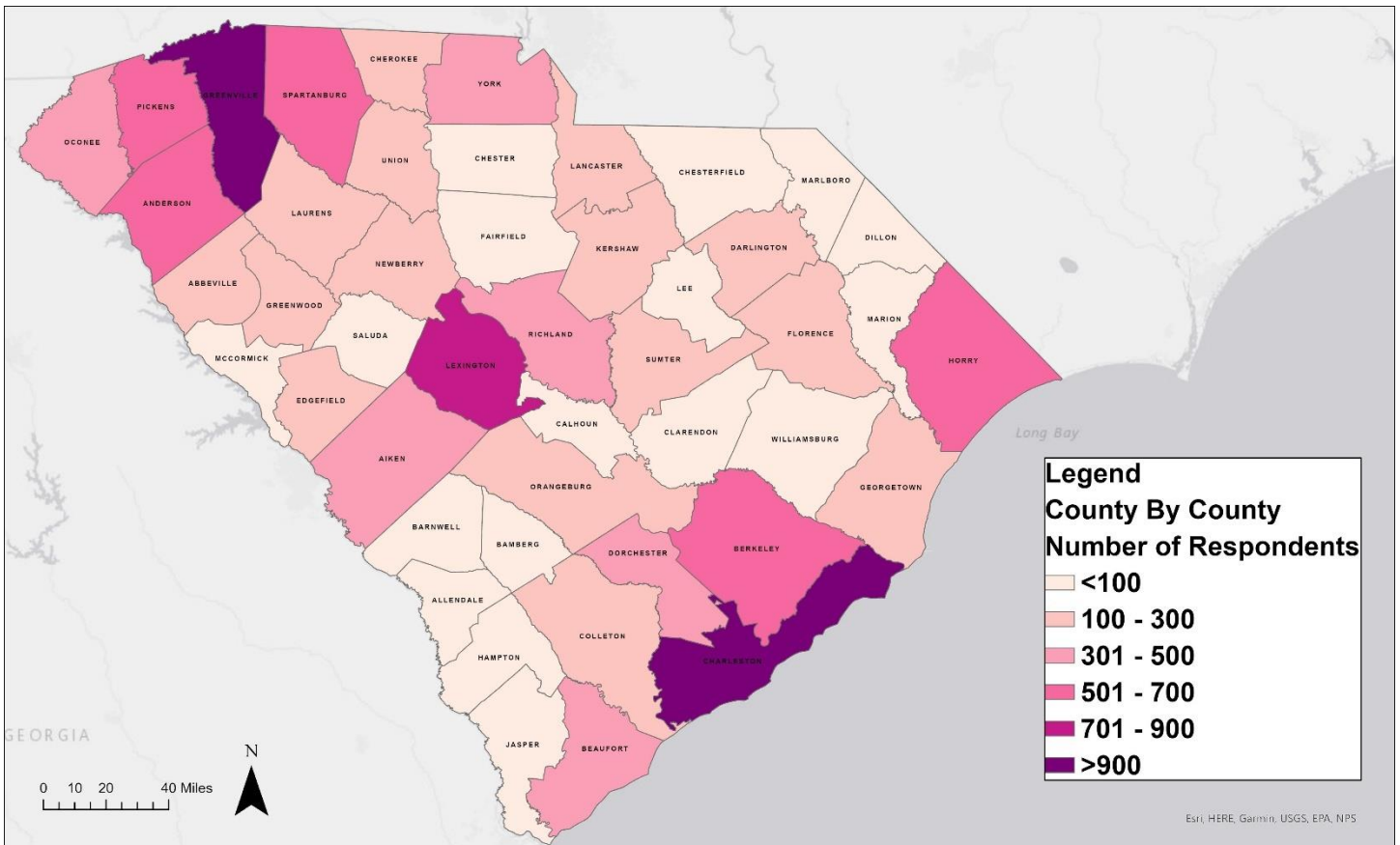
Percent of Income Under/Over SC 2019 Median Income (Mdn = \$53,199)



WEB-BASED QUESTIONNAIRE: RESPONDENT LOCATION



All of South Carolina's 46 counties are represented in the data set. Counties with the least number of respondents are Allendale ($n = 13$), Bamberg ($n = 23$), Dillon ($n = 25$), Marlboro ($n = 26$), and Barnwell ($n = 28$). The counties with the highest number of respondents are Anderson ($n = 616$), Berkeley ($n = 697$), Lexington ($n = 702$), Charleston ($n = 1,070$), and Greenville ($n = 1,121$). Greenville County, the county with the highest number of respondents in the study, makes up 9% of the total number of responses to the web-based questionnaire.



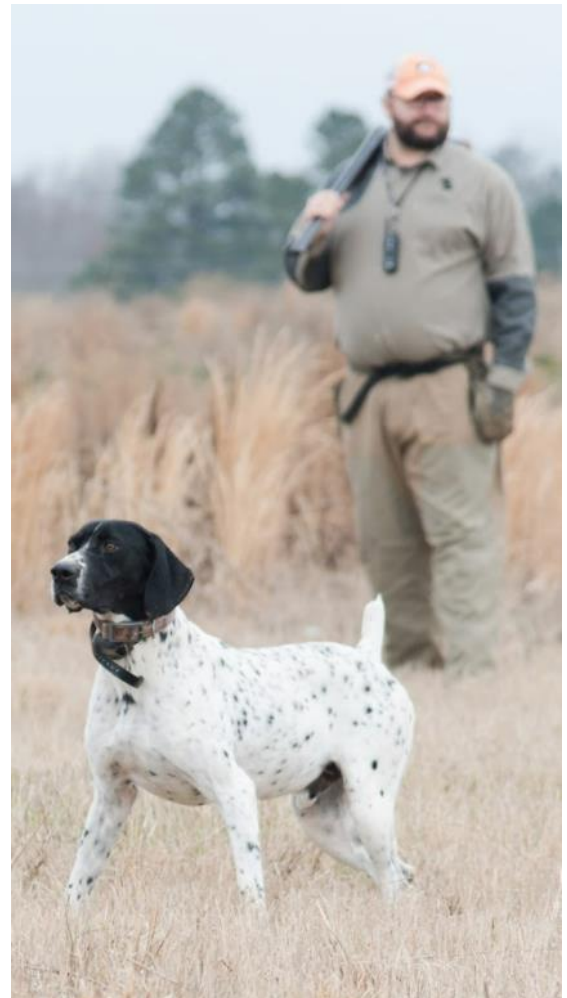
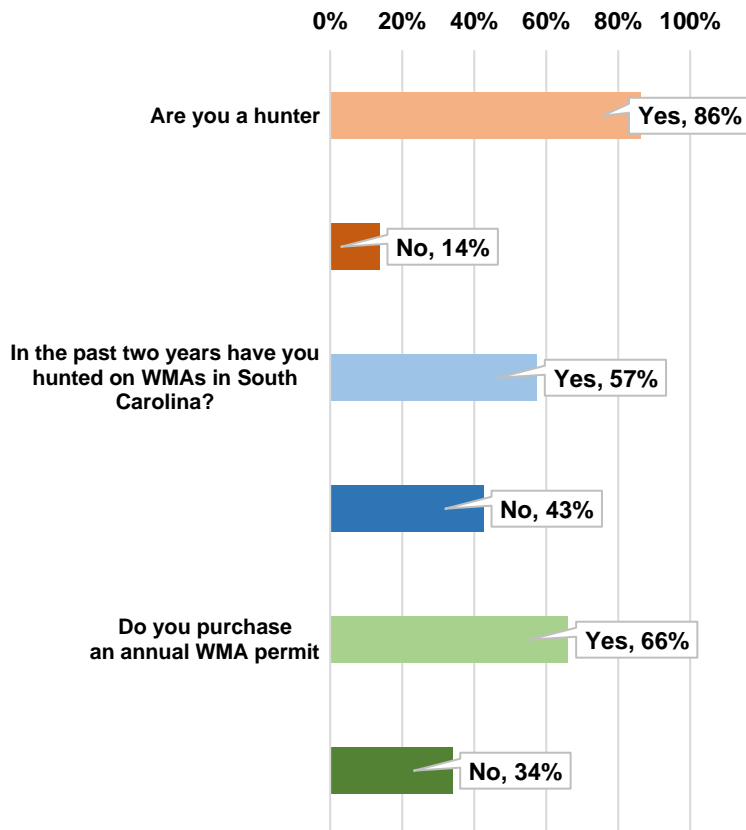
HOW RESPONDENTS HEARD ABOUT THE WEB-BASED QUESTIONNAIRE



The primacy of respondents to the web-based questionnaire (71%, $n = 7,977$) heard about the questionnaire through an SCDNR email, with next largest groups hearing about it from a friend (13%, $n = 1,441$), and a news story (3%, $n = 310$). The SCDNR Website (1.8%, $n = 198$) and Activity Advocacy Groups (1.38%, $n = 155$) also represent statistically meaningful cohorts within the sample.

RESPONDENT WMA BACKGROUND

The majority of the study sample had purchased an annual WMA permit (66%), hunted a South Carolina WMA in the past two years (57%), and identified as hunters (86%).



WMA ACTIVITY SELECTION: WHO IS IN OUR SAMPLE AND HOW DO THEY USE WMAS

Respondents were asked to report what activities they participate in on WMAs (see Figure 1). Given the multiuse nature of these spaces, respondents were asked to select all activities they participate in on these spaces (i.e., “select all that apply”).

When **recreating** in South Carolina on WMA lands, what activities do you participate in? (Select all that apply)

<input type="checkbox"/> Biking	<input type="checkbox"/> Fishing	<input type="checkbox"/> Nature Photography
<input type="checkbox"/> Birding	<input type="checkbox"/> Hiking/Trail Running	<input type="checkbox"/> Scouting
<input type="checkbox"/> Camping	<input type="checkbox"/> Horseback Riding	<input type="checkbox"/> Wildlife Observation
<input type="checkbox"/> Canoeing/Kayaking	<input type="checkbox"/> Hunting	

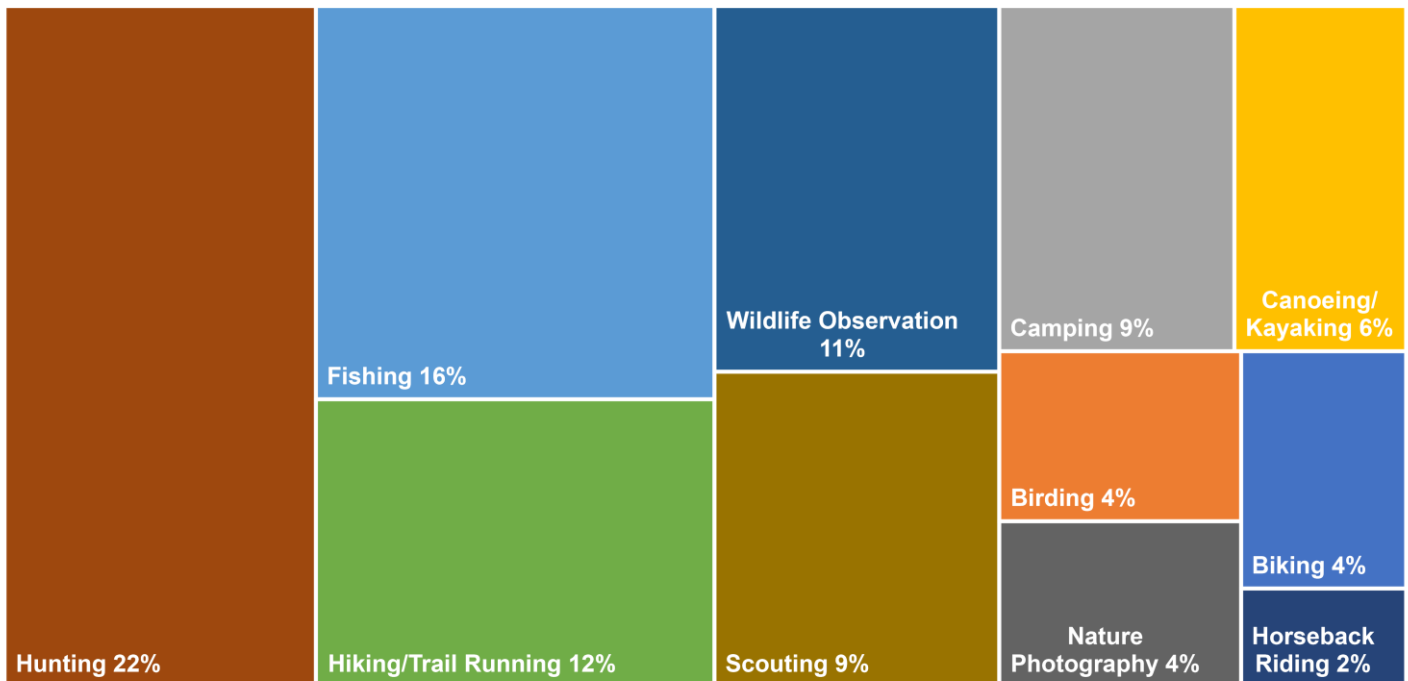
Figure 1. WMA Activity Selection, Respondent View

Respondents selected an average of 3.30 activities (SD = 1.914), and the majority (80.4%) of the sample indicated they participated in 2 or more activities on WMAs. For analyses, responses were coded as 1 (I participate in the activity) or 0 (not selected). As illustrated in Table 1 and Figure 2, the most frequently selected activities were Hunting (22%), Fishing (16%), and Hiking/Trailing Running (12%). Conversely, the least selected activities were Horseback Riding (2%), Biking (4%), and Nature Photography (4%).

Table 1.

WMA Activities Selected by Respondents	
Activity	Percent Selected
Biking	4%
Birding	4%
Camping	9%
Canoeing/Kayaking	6%
Fishing	16%
Hiking/Trail Running	12%
Horseback Riding	2%
Hunting	22%
Nature Photography	4%
Scouting	9%
Wildlife Observation	11%

Figure 2: WMA Activities Selected by Respondents



FAVORABILITY TOWARDS SUNDAY HUNTING

Respondents were asked to reply to five items regarding their favorability towards hunting at a general level and the focus of the present study, their favorability towards Sunday hunting on WMAs. Measured on 1 (Strongly Disagree) to 7 (Strongly Agree) scale where scores lower than 4 indicate lower agreement, and scores greater than 4 indicate greater agreement with the item statements. On average, respondents were primarily in favor of Sunday hunting on WMAs (Average Score = 4.77, SD = 2.653), supportive of the expansion of hunting to all 7 days of the week (Average Score = 4.73, SD = 2.646), and supportive of the expansion of Sunday hunting within 50 miles of their home address (Average Score = 4.66, SD = 2.633). As demonstrated in Table 2, and Figure 3 responses to these items was bimodal, where approximately 76% of all responses were either strongly disagree ($\approx 27\%$ of responses) or strongly agree ($\approx 48\%$ of responses).

When reflecting the bimodal nature of the responses the data suggest for every **7** responses indicating they strongly disagreed with Sunday hunting on WMAs, **13** respondents indicated they strongly agreed with Sunday hunting on WMAs.

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Ratio of Respondents who **Strongly Disagree** to those who **Strongly Agree** with Sunday hunting on WMAs

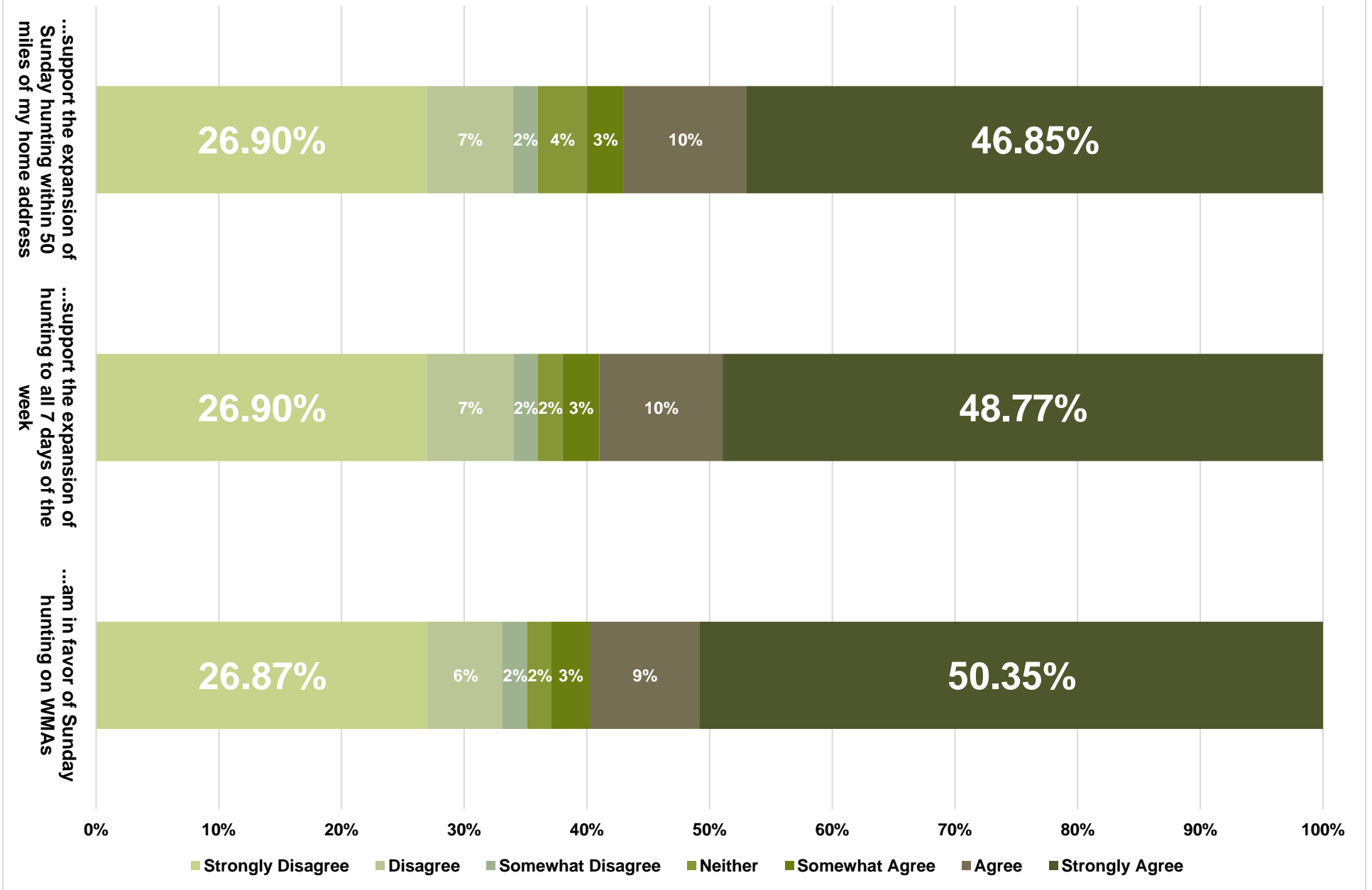


Table 2.

Breakdown of Favorability Towards Hunting in General and Hunting on Sundays

	Strongly Disagree	Disagree	Somewhat Disagree	Neither	Somewhat Agree	Agree	Strongly Agree
...support hunting in general	451 4%	75 0.70%	96 0.80%	180 1.60%	262 2.30%	1507 13.30%	8724 77.20%
...am in favor of Sunday hunting on WMAs	3035 26.90%	723 6.40%	243 2.20%	213 1.90%	332 2.90%	1062 9.40%	5687 50.30%
...support the expansion of hunting to all 7 days of the week	3038 26.90%	761 6.70%	270 2.40%	249 2.20%	367 3.20%	1101 9.70%	5509 48.80%
...support the expansion of Sunday hunting within 50 miles of my home address	3038 26.90%	809 7.20%	242 2.10%	480 4.20%	313 2.80%	1121 9.90%	5292 46.90%
...support hunting that is regulated	400 3.50%	168 1.50%	123 1.10%	454 4%	709 6.30%	2747 24.30%	6694 59.30%

Figure 3: Favorability Towards Sunday Hunting



BY COUNTY FAVORABILITY TOWARDS SUNDAY HUNTING

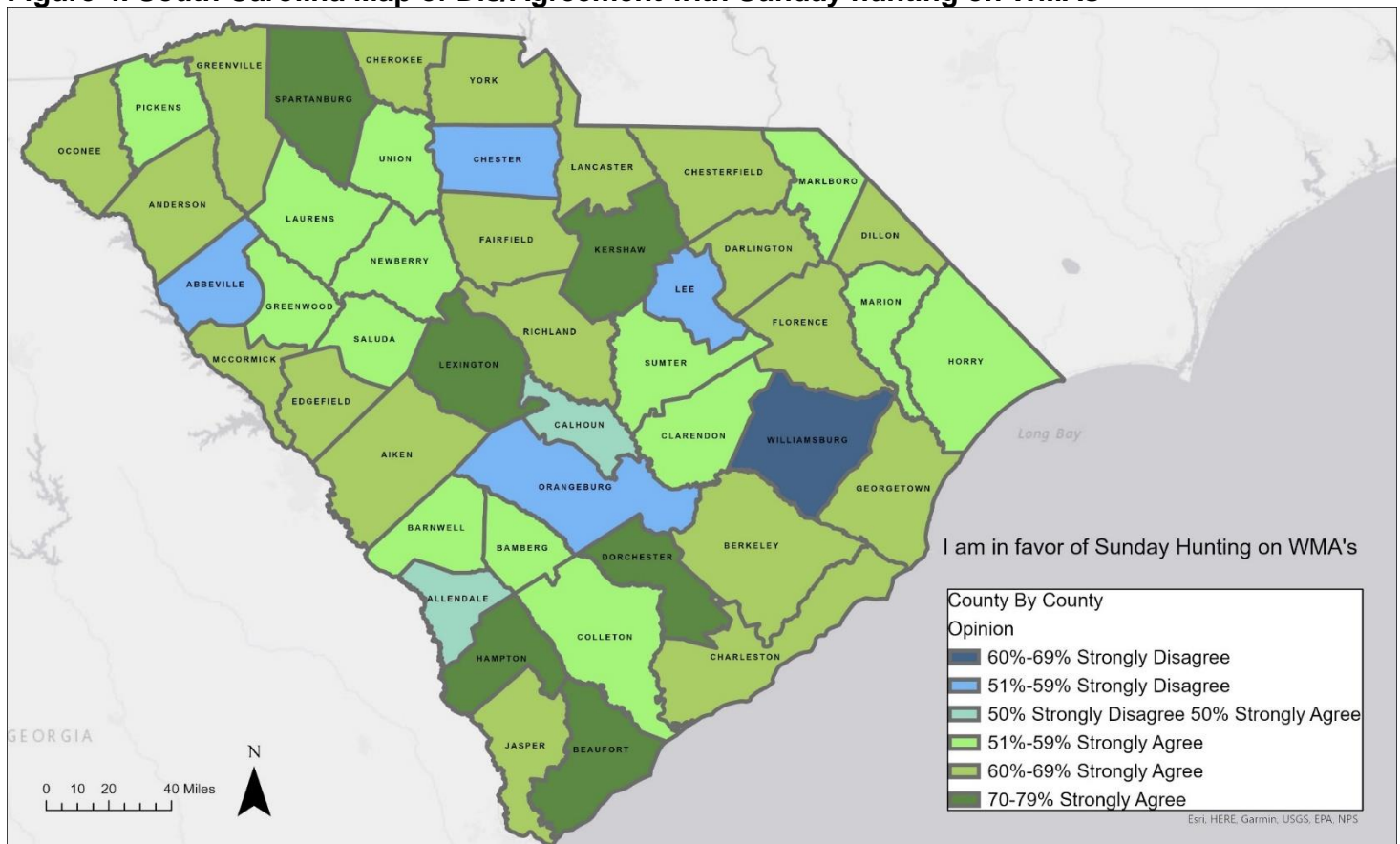
To assess and visualize differences across the state of South Carolina regarding attitudes towards Sunday hunting on SCDNR WMAs a county by county by map of participant agreement with the statement “I am in favor of Sunday hunting on WMAs.” As illustrated in Figure 4, counties shaded in blue indicate higher rates of disagreement than agreement with darker blues indicating greater rates of disagreement. Similarly, counties shaded in green indicate higher rates of agreement than disagreement with darker shades indicating greater rates of agreement. A more discrete county by county breakdown is provided in Appendix A.

Overall, 36 counties had a majority of “strongly agree” responses, five had a majority “strongly disagree” and two counties (Allendale and Calhoun) mathematically tied between “strongly disagree” and “strongly agree” (colored as teal).

The counties with the highest percentages of “strongly disagree” responses were Chester (56%), Lee (57%), and Williamsburg (67%).

The counties with the highest percentages of “strongly agree” responses were Beaufort (75%), Hampton (76%), and Kershaw (76%).

Figure 4. South Carolina Map of Dis/Agreement with Sunday hunting on WMAs



EXAMINING POTENTIAL PREDICTORS OF SUNDAY HUNTING FAVORABILITY ON WMAS

To examine where potential differences within selected WMA activity groups were present, participant responses to the key study question, “Please rate your agreement with the statement, I am in favor of Sunday Hunting on WMAs” were analyzed. As illustrated in Table 3 and Figure 5, and paralleling the data presented earlier, responses were again primarily bimodal, where approximately 80% of respondents selected either strongly disagree or strongly agree. When decontextualized from the overall study sample, favorability towards Sunday hunting seems more evenly split, with 35% of responses indicating strongly disagree and 44% of indicating strongly agree.

This approach potentially allows for an assessment of WMA stakeholder attitudes by unique WMA use, **but also seemingly overcounts responses**, where one respondent could potentially “vote” 11 times within the study sample (e.g., 1 respondent could select 11 of 11 activities, and have their selection counted within each activity).

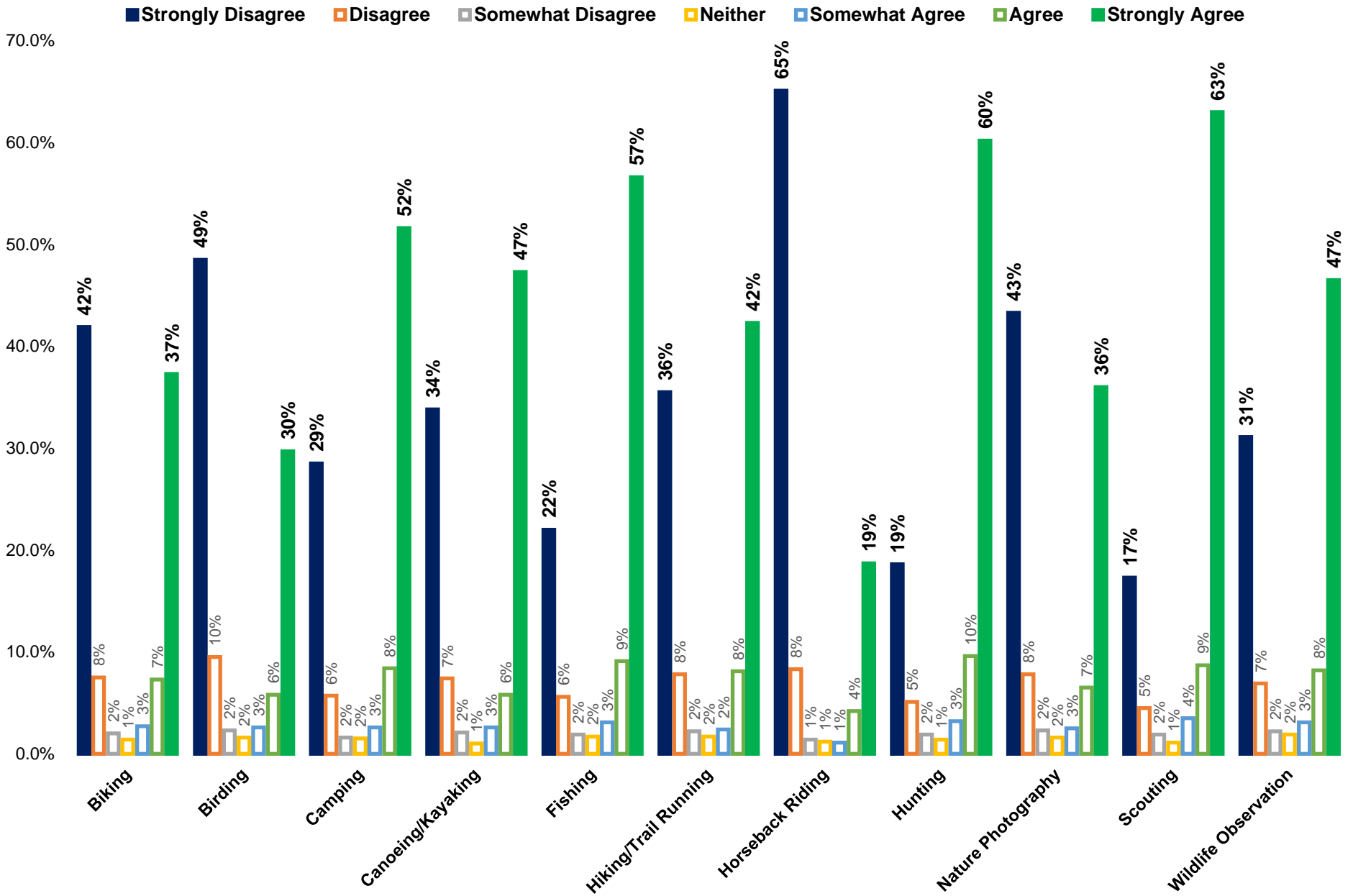
To examine the potential influence of overcounts on agreement level to the “I am in favor of Sunday hunting on WMAs” item, a linear regression was conducted, which suggested for every one unit increase in WMA activity selection, agreement level decreased by -.024 units ($\beta = -.033$, $t = -3.559$, $R^2 = .001$, $p < .001$). Put differently, more WMA activities selected is related to lower rates of favorability towards Sunday hunting on WMAs. However, this effect is relatively small and potentially an artifact of the large study sample size.

Table 3

Participation in activity agreement with statement “I am in favor of Sunday hunting on WMAs”

	Strongly Disagree	Disagree	Somewhat Disagree	Neither	Somewhat Agree	Agree	Strongly Agree
Biking	41.9%	7.5%	2.0%	1.4%	2.7%	7.3%	37.3%
Birding	48.5%	9.5%	2.3%	1.6%	2.6%	5.8%	29.7%
Camping	28.50%	5.70%	1.60%	1.50%	2.60%	8.40%	51.60%
Canoeing/ Kayaking	33.80%	7.40%	2.10%	1.00%	2.60%	5.80%	47.30%
Fishing	22.00%	5.60%	1.90%	1.70%	3.10%	9.10%	56.60%
Hiking/Trail Running	35.50%	7.80%	2.20%	1.70%	2.40%	8.10%	42.30%
Horseback Riding	65.10%	8.30%	1.40%	1.20%	1.10%	4.20%	18.70%
Hunting	18.60%	5.10%	1.90%	1.40%	3.20%	9.60%	60.20%
Nature Photography	43.30%	7.80%	2.30%	1.60%	2.50%	6.50%	36.00%
Scouting	17.30%	4.50%	1.90%	1.10%	3.50%	8.70%	63.00%
Wildlife Observation	31.10%	6.90%	2.20%	1.90%	3.10%	8.20%	46.50%
Averaged Percent of Agreement	35.05%	6.92%	1.98%	1.46%	2.67%	7.43%	44.47%

Figure 5: Percent Favorability of Sunday Hunting on WMAs by WMA Activity Selection



POTENTIAL PREDICTORS OF DIS/FAVORABILITY TO SUNDAY HUNTING ON WMAS

As demographic characteristics have been previously linked to attitudes towards hunting (Casola et al., 2021; MacKay & Campbell, 2004; Wright & Goodale, 1991), relations between the following variables were explored: respondent age in years, respondent annual household income, total number of WMA activities selected, 5-items assessing favorability towards hunting measured on a 1 (strongly disagree) to 7 (Strongly Agree) scale [i.e., (1) I support hunting in general (2) I am in favor of Sunday hunting on WMAs, (3) I support the expansion of hunting to all 7 days a week, (4) I support the expansion of Sunday hunting within fifty miles of my home address, and (5) I support hunting that is regulated], and dummy coded versions of education level (0 = No Bachelors; 1 = Bachelors), gender (0 = Male; 1 = Female), and hunter status (0 = Non-Hunter; 1 = Hunter). Variables were dummy coded to allow for covariance/regression-based analyses with otherwise categorical variables.

To examine relations across the 11 variables, between variable correlations were tested. As illustrated within Table 4, the three items (I am in favor of Sunday hunting on WMAs, I support the expansion of hunting to all 7 days a week, and I support the expansion of Sunday hunting within fifty miles of my home address) correlated at an extremely high level (ranging between .944 to .980; $p < .001$). This suggests respondents perceived these three items as measuring the same latent construct, support for Sunday hunting.

Moreover, the other two hunting support related items (i.e., I support hunting in general and I support hunting that is regulated) were also correlated with the Sunday hunting items, albeit at more moderate levels (ranging from .277 to .336, $p < .001$), potentially demonstrating respondents were perceiving the (intended) difference between these two item groups. As anticipated, hunter status (0 = non-hunter; 1 = hunter) had significant positive relations with the 5-items assessing favorability towards hunting. Hunter status was also negatively correlated at a moderate level with respondent gender (0 = Male, 1 = Female) ($r = -.519$, $p < .001$) suggesting female respondents were less like to identify as a hunter. Hunter status was also negatively correlated with bachelor's degree status (0 = no bachelors; 1 = yes bachelors) ($r = -.156$, $p < .001$) and respondent age ($r = -.162$, $p < .001$). This negative relation suggests hunters were less likely to possess a bachelor's degree and were younger than their non-hunting peers.

Paralleling the negative relations between hunter status, gender, and bachelor's degree status, these variables also had negative relations with the 5-items assessing favorability towards hunting. Put differently, respondents who identified as female and/or possessed a bachelor's degree also tended to have lower scores across the five items.



Table 4.

Between Item Correlations

Variable	Mean (SD)	1	2	3	4	5	6	7	8	9	10
1. Support Hunting in General	6.47 (1.350)										
2. In Favor of Sunday Hunting on WMAs	4.77 (2.653)	.336**									
3. Support the expansion of hunting to all 7 days of the week	4.73 (2.646)	.334**	.980**								
4. Support the expansion of Sunday hunting within 50 miles of my home address	4.66 (2.634)	.318**	.946**	.944**							
5. Support hunting that is regulated	6.18 (1.416)	.312**	.272**	.270**	.277**						
6. Number of Activities Selected	3.30 (1.914)	.007	-.033**	-.035**	-.033**	.029**					
7. Dummy Coded Hunter Status (0 = No; 1 = Yes)	-	.327**	.392**	.391**	.374**	.157**	-.055**				
8. Dummy Coded Gender (0 = Male; 1 = Female)	-	-.218**	-.267**	-.271**	-.256**	-.108**	.096**	-.519**			
9. Dummy Coded Bachelors (0 = No; 1 = Yes)	-	-.076**	-.135**	-.139**	-.123**	-.010	.041**	-.156**	.104**		
10. 2021 Household Income	\$103,115 (\$61,437)	-.004	-.021*	-.021*	-.020	.016	-.023*	.009	-.050**	.322**	
11. Age	51.59 (14.65)	-.107**	-.205**	-.195**	-.197**	-.094**	-.148**	-.162**	-.012	.072**	.030**

Note: ** indicates $p < .01$; * indicates $p < .05$. Reported means may differ slightly from those reported earlier due in part to narrowing of sample related to missing data within the correlational analyses.

After examining between item correlations, a hierarchical multiple regression was employed to assess the degree to which demographic and/or descriptive variable(s) may predict attitudes towards Sunday hunting on WMAs utilizing respondent reported household income, gender, degree status, age in years, number of WMA activities selected, and hunter status. The regression results indicated across the six predictor variables, five were statistically significant predictors of the dependent variable (e.g., “I am in favor of Sunday hunting on WMAs”). Specifically, the blocked procedure indicated household income was not a significant or meaningful predictor (change in R² was non-significant with inclusion of income in the model; R^2 change < .001; F Change = .211, $p = .646$). The final five predictor model explained approximately 18.7% of variance in Sunday hunting favorability score (Adj. $R^2 = .187$, $F(5,9370)$, $p < .001$).

As demonstrated in Table 5 and perhaps unsurprisingly, the best predictor of the favorability to Sunday hunting was hunter status, where shifting from non-hunter (score of 0) to hunter (score of 1) led to an average 2.323 ($p < .001$) unit increase in favorability to Sunday hunting score. Conversely, four of the other modelled variables led to significant decreases in favorability to Sunday hunting score. Specifically, when gender shifted from male (score of 0) to female (score of 1), this led to an average decrease of -.860 units ($p < .001$) in favorability to Sunday hunting score. Similarly, respondents possessing a bachelor’s degree led to an average decrease of -.346 units in Sunday hunting score ($p < .001$). Both respondent age in years and number of selected WMA activities also led to a significant decrease (i.e., $p < .01$) in favorability to Sunday hunting score, but the effects are relatively small and possibly an artifact of the large study sample size.

Table 5.

Influence of Selected Predictor Variables on Sunday Hunting Favorability

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>Sig. Level</i>
Dummy Coded Gender (0 = Male; 1 = Female)	-.860	.085	-.103	-10.059	.000
Dummy Coded Bachelor’s Degree Status (0 = No; 1 = Yes)	-.346	.047	-.065	-7.364	.000
Age in Years	-.028	.002	-.157	-17.526	.000
Number of Activities Selected	-.038	.012	-.028	-3.136	.002
Dummy Coded Hunter Status (0 = No; 1 = Yes)	2.323	.080	.301	28.875	.000

While congruent with prior studies, the regression results in Table 5 don’t explain if the findings are reflective of attitudes towards Sunday hunting on WMAs or simply hunting in general. As such, an additional hierarchical multiple regression was employed exploring the potential effect of the five modelled variables on an additional study item “I support hunting in general”, where respondents also rated their agreement on a 1 (Strongly Disagree) to 7 (Strongly Agree) scale. The model explained approximately 11.4% of variance in support for hunting in general score (Adj. $R^2 = .114$, $F(5,10,764)$, $p < .001$). Similar to the results in Table 5, hunter status was also the best predictor, where hunter status led to an average increase of 1.083 ($p < .001$) units in support for hunting in general. Similar effects of the other modelled variables to those in support of Sunday hunting on WMAs is also demonstrated in Table 6, albeit at lower levels of strength. **Put differently, if you are against Sunday hunting, you are also likely to be against hunting in general.**

Table 6.

Influence of Selected Predictor Variables on Support Towards Hunting in General.

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>Sig. Level</i>
Dummy Coded Gender (0 = Male; 1 = Female)	-.320	.045	-.076	-7.054	.000
Dummy Coded Bachelor’s Degree Status (0 = No; 1 = Yes)	-.059	.025	-.022	-2.386	.017
Age in Years	-.005	.001	-.058	-6.197	.000
Number of Activities Selected	.015	.007	.021	2.324	.020
Dummy Coded Hunter Status (0 = No; 1 = Yes)	1.083	.043	.276	25.333	.000

CONTENT ANALYSES: OPEN-ENDED WEB-BASED QUESTIONNAIRE DATA

Open-ended response data from two short answer questions within the web-based questionnaire provided an opportunity for respondents to elaborate how they felt and thought about Sunday hunting on SCDNR WMAs. Specifically, respondents were asked to “please share why you might be in favor of expanding hunting on Sundays on SCDNR WMAs” (i.e., Favorability to Sunday Hunting) and “please share why you might be against expanding hunting to Sundays on SCDNR WMAs” (i.e., Against Sunday Hunting). **Evidence of respondents’ enthusiasm for the topic is demonstrated by the exceptionally high level of responses to both questions, where approximately 80% of respondents provided data for both questions.** In more typical survey research, responses to short answer questions often hover around 30% of total samples. To assess short-answer data, 10% of responses from each question were randomly selected from each group. Out of the eligible sample, 947 responses were selected for **Favorability to Sunday Hunting** item, and 908 responses from the **Against Sunday Hunting**.

Why are respondents of South Carolina in favor of Sunday hunting?

What we learned from the responses was that by far the most important factor for the support of Sunday hunting was if the respondent or a close friend or family member had a work schedule that greatly **limited their time** to only Saturday hunting, or even to one Saturday during hunting season. There were stories of competing child sports on Saturday, and no hunting in a season due to bad weather on the Saturday. All other categories combined were not as prevalent as the limits on time and the need for more opportunity to accommodate a M-F work schedule. The following quote reflects this sentiment.

I work Monday thru Friday. I hunt on Saturdays, but sometimes other plans come up or the WMA is closed for other reasons on a Saturday. There are times when I haven't been able to hunt for months because I missed a Saturday or two. I can only hunt after work during daylight saving time. After that, it's just too dark by the time I get off.

The primary categories developed from the data are found below in Figure 6. Although other categories are represented at lower percentages, they elucidate important issues for managers to note. Specifically, the support for subsistence hunting, the ability to increase participation in the sport of hunting, and finally some hunters believing that they have more rights to the space than other recreationists, through their purchase of WMA permits. A deeper analysis of what categories are more prevalent in different regions of the state may provide a tool for proactive fine-scaled management related to this topic.



Figure 6. Primary Categories From Content Analysis of question “Why might you be in favor of expanding Sunday hunting on SCDNR WMAs?”

Opportunity & Limits On Time

- Will provide more opportunity to hunt with the purchase of a hunting license.
- Allows for people with M-F work schedules another day beyond Saturday.
- Hunters with families note the popularity of activities on Saturday, and Sunday is only day they can hunt.

Equity and Access

- People can not afford to hunt on private land, can't hunt on Sunday
- Subsistence hunters are often restricted to Saturday only.
- Access to WMA land is often limited to one day due the cost and schedules.

Common Sense, Economic, Reducing Congestion

- Pressure on game lands will be reduced with two days open on weekends
- Communities serving hunters will gain more customers
- Reduces confusion if laws governing public and private spaces are the same

Seperation of Church and State

- Religion should not influence laws and regulations
- There are other religions in the state with different holy days, it is important to keep the hunting laws separate.
- Other recreational activities happen on Sunday, why not hunting

Increased Participation

- Sunday hunting will encourage new and novice hunters, reactivation, and isupport youth hunters
- Hunters expressed interest in taking children and grandchildren hunting, but find it hard with only one possible day available (Sat.)

Rights Perspective

- Some hunters believe by paying for WMA permits, they have paid for the right to WMA land
- These respondants suggested all users of WMA land have a permit
- Suggest non-hunters stay out of WMAs during hunting season

Sound Management

- In favor of Sunday hunting if undertaken with sound evidence-based management
- Suggest all changes be guided by science and focused on protection of game species

Why are residents of South Carolina opposed to Sunday hunting?

The data analysis revealed two prominent categories (Increased Pressure and Impact on WMA recreation) that represent 37.5% of the responses combined. Hunters and non-hunters alike responded with concerns about the potential negative impact in opening WMAs to Sunday hunting. Pressure on the entire system, from the wildlife to the managers and the environment was cited, along with the idea that it is important to have a day or two off in a hunting season for the entire system. The negative impact on non-hunting WMA recreation came from hunters wanting to scout and enjoying other recreational pursuits, as well as non-hunters that engage in a variety of recreational activities. Respondents citing non-hunting uses of the WMA land also referenced needing time on the weekend to engage in these safely, when there is no chance of interacting with a hunter. The following quote provides an example of this sentiment.

I understand hunting provides access to food, however I believe those who wish to hunt on Sundays are generally sport hunters. Especially mountain biking, and even when wearing bright colors, there are a lot of poor interactions with hunters. I appreciate the ability to ride on Sundays, and mourn the loss of this access in NC state forests. The outdoor recreation industry is a huge economic driver in SC, and maintaining a safer access day for non-armed users is key to continuing to welcome existing and new users to outdoor sports (other than hunting). As a state, we also suffer from large health disparities, and having safe (or perceived safe) access to outdoor spaces is critical to encouraging folks to exercise, and build a tradition of outdoor exercise and appreciation for their children.

This quote mentions the money in the outdoor recreation industry, which is an area that warrants further examination. The categories of Religion, Safety, Status Quo and Entitled Hunters are described below. Entitled Hunters represents only 1.1% of the data, but warrants exploration as the data reveals the potential for real safety concerns. The following quote helps illustrate this.

Between the months of October 1 and Jan 1 Sunday is the only day I feel safe biking or running in the forest. It is extremely dangerous to bike or run in the forest during other days. I have been blocked by hunter from going down certain roads or told not to go in certain areas. This change would severely limit other uses of the forest during hunting season. I am strongly against this change.



Figure 7. Primary Categories From Content Analysis of question “Why might you be against expanding hunting to Sundays on SCDNR WMAs?”

Increased Pressure

- Wildlife needs a break from hunting pressure
- There will be an additional impact on WMA manager schedules and staff; greater costs
- The land and animals need to rest at least a day.
- Hunters affect animal movement, and animals need a day without this stress

Impact on WMA recreation

- Recreation is important on weekends for all citizens, and hunters have six days every hunting season.
- Hunting season is in the fall, and this is an unfair time to exclude other users from WMA land due to safety concerns.
- Hunters use Sunday for scouting and others believe Sunday hunting will discourage non-hunting uses of the WMAs.

Religion

- Opposition to Sunday hunting due to religious beliefs.
- Concern raised about hunting while people are in church, and disrupting worship

Safety

- Balancing hunting and non-hunting recreation on WMAs on Sunday will be hard
- Belief that hunting will pose a danger if possible both days of the weekend

Status Quo

- Belief that the system is working and any changes will cause problems.
- The system is fine and everyone understands it.

Entitled Hunters

- There was real fear when describing ownership hunters display during hunting season.
- Concern about perceived ownership of WMA with seven days of hunting allowed

LISTENING SESSION DATA ANALYSES: EXTENDING UPON CONTENT ANALYSES

Five Listening sessions were held throughout the state of South Carolina in June and July, (see Table 7 and Figure 8). Data was collected from two sources: (1) verbatim recordings of the sessions and (2) paper questionnaires offered to and completed by the participants. Approximately 206 people attended the sessions. Of the possible 206 questionnaires, 157 were returned from participants to listening session facilitators (Sample questionnaires can be found in Appendix B).

Table 7.

Listening Session Frequencies		
Listening Session Location	Number of Participants	Questionnaires returned
Pickens, SC	75	54
Florence, SC	9	8
Clinton, SC	51	42
Moncks Corner, SC	51	40
Columbia, SC	20	13
Total	206	157

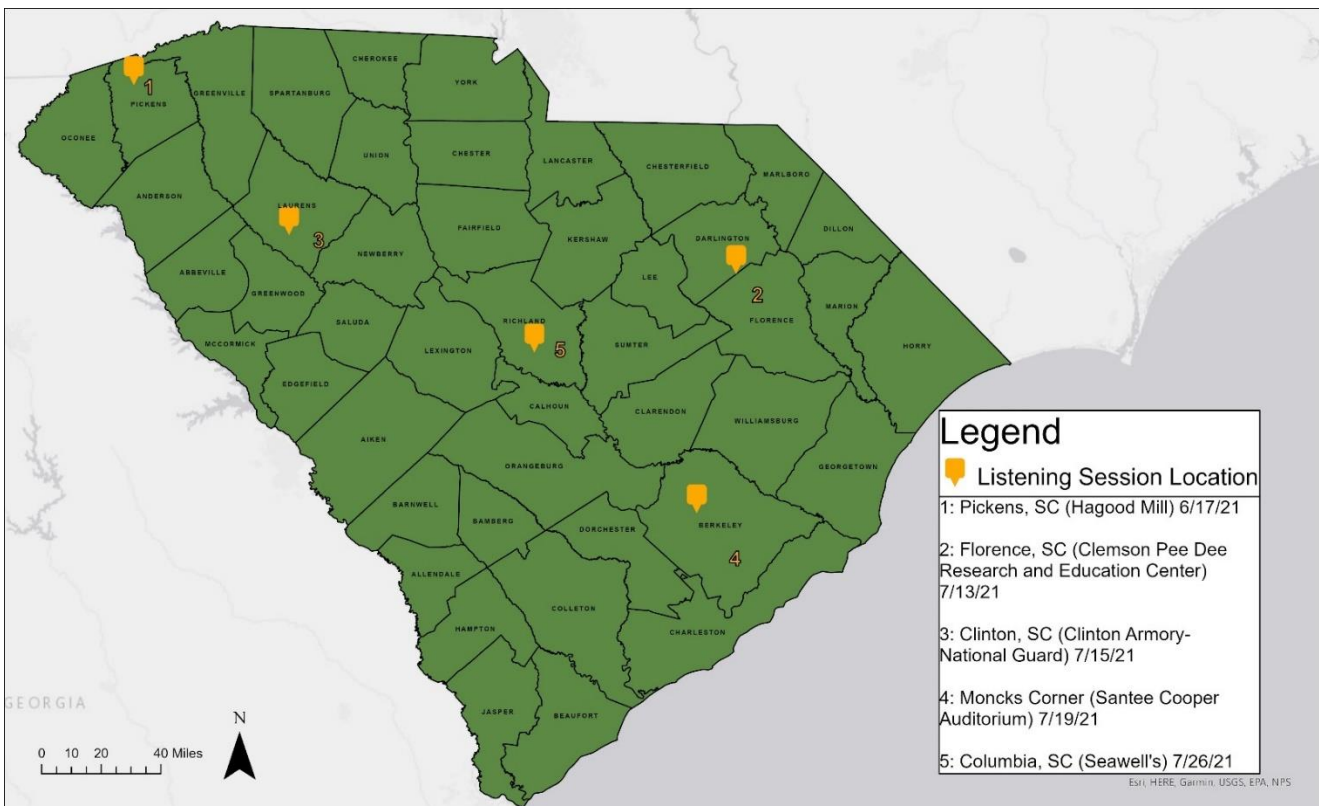


Figure 8. Listening Session Locations

What we learned from the listening session questionnaires and recordings

The questionnaires were designed to allow participants with the ability to share thoughts they may have not felt comfortable communicating publicly and/or for those who find public speaking disagreeable. 86.6% of listening session participants who returned a questionnaire identified as hunters and 80.25% identified specifically as WMA hunters (mirroring the electronic survey data). All but five respondents, (3.2%) were aware of restrictions on Sunday hunting on WMA land. When asked what would change their mind about Sunday hunting, most said nothing, but the ones open to new information cited data and information from managers. Hunters reported benefits from lifting restrictions (e.g., travel to other zones, economic growth, increased participation, and more opportunity for weekly workers), as well as their understanding of potential issues (higher harvest rates, conflicts with non-hunters, safety issues and costs).

What was confirmed across data sets? Favorability to Sunday Hunting on WMAs

This section summarizes the findings from listening sessions as they relate to the open-ended data from the web-based questionnaires. In aggregate, the information gathered from listening session transcripts and questionnaires reinforces the primary reasons for and against the adjustment of Sunday hunting regulations found in the short answer responses in the web-based questionnaires (see Figures 6 and 7). Pro-Sunday hunting codes and categories identified in the content analysis were found across the listening session data, with the issues of opportunity/limits on time, equity and access, and increasing hunter participation being among the most prevalent reasons for supporting Sunday hunting on WMAs among listening session participants. Separation of church and state/freedom to choose activities, economic benefit, and public land hunter rights were also mentioned but did not appear to be as prevalent.



What was confirmed across data sets?

Across listening sessions, approximately 75% of participants were in favor of hunting on Sunday, but many with stipulations. These stipulations included the need to further monitor and limit pressure that would impact game numbers and health in a negative way. There were suggestions of alternative days off from hunting, opening Sunday only to certain species, and changing the bag limits. The listening session respondents highlighted the increased potential for conflict with non-hunters, issues with equestrians, costs to SCDNR, and the limited ability of land managers to work on their land during hunting season. For those opposed, safety remained a primary concern with remaining views reflecting the categories developed in the content analysis.

The issue of **safety** was prevalent in the comments at both the listening session and in the web-based questionnaire responses. This category reflected the majority of statements made by those who disagree with hunting on Sundays in the listening sessions. Listening session participants perceived, and sometimes provided anecdotes outlining, fear that they experience while being in the forest at the same time as hunters. They also stated that Sunday is the only day they feel safe pursuing activities on public game lands. The listening session offered participants to identify areas with the potential for conflict based on the other common uses of WMAs. **Religious reasons** and worry regarding the lack of a day of rest for game species were also cited often. The religious reasons were present in the survey data, but less so when compared to the importance placed on this category in the listening sessions. Specifically, in the first listening session (Pickens, SC), the discussion about religion led some to shared beliefs related to the spirituality of hunting. This in turn led to a robust discussion about religion and the separation of church and state.

What was new, or had a more robust focus in the listening sessions as compared to the content analysis?

The listening sessions were an interactive environment and did allow for new categories not well represented in the content analysis data. One was the argument that Sunday hunting should be allowed on WMAs because the **extra day would help people feed their families** with meat that they could have additional chances to harvest on Sundays. Although subsistence was mentioned in survey data, the importance was more pronounced at the listening sessions. This is captured in the category Equity and Access. As one participant stated, *this is not a hobby for me. This is how I feed myself.*

Management of “nuisance species” (i.e., hogs) was seen as a benefit of Sunday hunting. Respondents shared that these species may be better managed with an additional day of hunting. This focus on nuisance species was also uncovered in the content analyses, but to a less prominent degree. An additional prominent anti-Sunday hunting viewpoint shared was related to noise. Specifically, the **noise created by hunters** discharging their weapons. Those who live near WMAs, or any other hunting land, said that they would like one day where they do not have to listen to guns firing throughout the day. Although represented in the content analyses, the emphasis on noise was highlighted at the sessions. **Over-harvest of game** concern was found in both content analysis and listening session data. The listening sessions, however, made clear the worry that game is not only being over-pressured, but over harvested, and that an additional day of hunting could lower the populations of popular game animals, especially turkey, to dangerously low levels. Stories confirmed this as an overall, but mostly game specific (mostly Turkey), concern.

The listening sessions provided a chance for the discussion on rights and responsibilities associated with the use of the WMA land. It is clear from the listening sessions that many hunters believe they pay for the WMA land with their permits and thus have the right to be on the land, more so than other recreational user groups. The funding for WMAs was explained at sessions, but this remains a point of confusion for hunters, many of whom believe **that they alone fund public land management and WMAs** through the purchase of permits and hunting licenses. Other recreational users gave reasons of fairness (e.g., “hunters have six days and we have our one”), but they rarely mentioned paying taxes as a reason for securing their right/access to the public land in SC. Where this supports the survey data, we found a reason in favor of Sunday hunting to be based on rights of hunters, and then on the opposing side we found people describing fear related to hunters that communicate ownership of areas and threaten other users. This is an area that warrants more research and more focused communication to mitigate potential conflicts and real safety issues noted in the data. The quotes in Figure 9 illustrate some opposing views, where green responses indicate favorability to Sunday hunting, blue responses indicate a lack of support, and teal indicates a potential compromise.

The listening sessions created an atmosphere of engagement with the SCDNR officials, providing an opportunity for dialogue between the SCDNR representatives and the public. This in turn led to ideas being presented to the listening sessions in a more robust way than in the surveys. Specifically, with the discussion format, respondents were able to scaffold upon other participant ideas.



Figure 9. Alternative Viewpoints on Sunday Hunting Modifications

Sunday is usually one of the only days I'm not working. There is no good reason Sunday hunting should not be allowed. The vast majority of private hunting clubs hunt Sunday. Sundays are days I can spend with my kids and hopefully grandkids.

They already have 6 days to hunt. We can't have 1 day to recreate without the fear of injury or intimidation by the dozens of hunters lined up alongside the roads doing dog hunts? Seems patently unfair to allow one group access to the forest 100% of the time and another group no access at all without fear.

Extra day in the woods, maybe it rained on Saturday. Maybe a front went through and the game is moving. Maybe the wife had plans for us Saturday, !! Kids soccer games Always Saturday!!!!

There are a lot of reasons but the largest two are 1) game needs a rest day and 2) until SC limits out-of-state residents to a lottery permit system for turkey and deer the additional weekend day of hunting will mostly benefit out-of-state hunters at the expense of in-state hunters and nature lovers.

Hunting on Sundays should absolutely be allowed on WMA's, less fortunate people who do not own private land have less opportunity therefore are less inclined to spend more time in the woods/parks/lakes/streams.

I'm not in favor of it, but if people really want Sunday hunting, then perhaps the rule could be that hunting is allowed on some but not all Sundays (ie the 1st Sunday of the month hunting is allowed). This would be a nice compromise that would expand the days for hunters but also keep some days for non-hunters.

-end-

