

# Examining residents' perceptions and use of Southern Appalachian Region wilderness areas



Report prepared for The Wilderness Society and Southern Environmental Law Center by:

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## **Acknowledgements**

The southern Appalachian region is a special place in our country. The soft, rolling mountains invite one to explore its rich flora and fauna diversity, extravagant waterfalls and rivers, rocky crags, and mountain peaks. It impacts us all. We would sincerely like to thank the Wilderness Society and Southern Environmental Law Center for inviting us to undertake this project in an effort to understand more about the use and demand for southern Appalachian wilderness areas. For numerous reasons this project would not have been possible without these two organizations. It is our hope that this report will be helpful in future decisions concerning the management and planning for visitors to these wonderful wild places.

## Executive summary

The Southern Appalachians Region (SAR) is home to nearly 50 wilderness areas that span roughly 3.7 million acres within the states of Alabama, Georgia, North Carolina, South Carolina, Tennessee, and Virginia. While these wilderness areas are important for their ecological, social, and economic contributions to these states, little is known about how residents of the SAR use and perceive these wilderness areas. The intent of this study was to do just that.

Data were collected through an online survey via Qualtrics and their panel participants during July and August 2018. Residents from Charlotte, NC; Atlanta, GA; Knoxville, TN; Chattanooga, TN; Greenville-Spartanburg, SC; and Asheville, NC were asked to participate. In addition to living in one of the aforementioned cities, two other criteria were required to participate in the study: 1) individuals must have been at least 18 years old; and 2) individuals must have visited a protected natural area within the last five years. Qualtrics insured the quality of our responses, resulting in a total sample of 1250 individuals residing across the six southern metropolitan areas (262 in Charlotte, NC; 261 in Atlanta, GA; 248 in Knoxville, TN; 227 in Greenville-Spartanburg, SC; 148 in Chattanooga, TN; and 104 in Asheville, NC).

The average age of participants was 45 years old, however the largest percentage of participants was between the ages of 50-64 and 18-29 (25% and 24%, respectively). Almost 75% percent of participants were female, while 24% were male and almost 1% were another gender or preferred not to answer. Nearly 40% of participants held at least an undergraduate degree. The majority of participants were White or Caucasian (81%). Seventeen percent were Black or African American, 9.5% were Hispanic/Latino, and 5% were American Indian, Alaska Native, Asian, Native Hawaiian or Pacific Islander. Slightly over half (52%) of the respondents considered their political persuasion as some level of conservatism; the remaining considered themselves liberal (28%) or neither liberal nor conservative (21%). Slightly more than 1 in 10 participants (12%) were members of a conservation organization.

All 1250 respondents were asked questions regarding their beliefs about the environment, their recreational visits to protected areas, and the values they associate with wilderness. In regards to the sample's beliefs about the environment, their strongest level of agreement was with the statements, "it is important to balance human impacts on the environment by protecting areas where natural systems can be unimpaired" and "plants and animals have as much right to exist as humans" (81% and 77% agreed or strongly agreed, respectively).

Local parks, greenways, or nature preserves were the most common protected area visited by the participants (95%), while wilderness areas were the least common area visited (64%)—however well over half of the participants had visited a wilderness area. Even though only half had previously visited a wilderness area, 74% indicated that they were likely or very likely to visit one in the future.

When asked about the value they place on wilderness, participants indicated the highest level of agreement with "I enjoy knowing that natural areas exist for their own sake" (65%) and "I enjoy knowing that future generations will be able to visit and experience wilderness areas" (65%). It is important to note the high level of agreement with each of the items, resulting in no more than 4% of respondents strongly disagreeing with any particular item. Similar to respondents' high value of wilderness, participants also indicated strong support for the preservation of wilderness areas. Eighty-nine percent of participants agreed or strongly agreed with the statement, "in general, I support the preservation of wilderness areas so they will always exist in their natural condition." When it came to actively supporting wilderness protection through writing congressional officials, attending town hall meetings about wilderness, or financially supporting wilderness areas, levels of support fell to 61%, 50%, and 47% respectively.

Most participants (60% and 53%, respectively) strongly agreed that wilderness areas are places where “I can view native plants and animals” and “natural conditions, or forces, dominate.” Seeing/hearing “natural sounds” (89% positively impacted) was the most common scenario to result in feelings of solitude while “motorized/mechanized traffic in the area” and “timber harvesting operations” (74% and 71% negatively impacted, respectively) were the most common items to negatively affect solitude even though they are not technically allowed in wilderness areas.

The most important perceived wilderness benefits were “protecting air quality” and “protecting water quality” (92% and 92% important or highly important, respectively). The most constraining barriers to visiting wilderness were “not enough time” and “outdoor pests (e.g., mosquitos, chiggers, ticks, etc.)” (56% and 52% agreed or strongly agreed, respectively).

Of the 1250 sampled, 844 had visited a wilderness area within the past five years. For this subset of actual wilderness users, the most common motivations for visiting wilderness areas were “to observe the beauty of nature” and “to enjoy the sights, sounds, and smells of nature” (93% and 92% agreed or strongly agreed, respectively).

The most common way these wilderness users heard about wilderness areas was “word-of-mouth from friends or family” (52%). Day hiking (84%), picnicking (78%), and “view, identify or photograph wildlife, fish or natural scenery” (74%) were the most common activities engaged in while visiting wilderness areas.

The highest rated psychological attachment to wilderness items for this subset were “I really enjoy my special wilderness area” and “my special wilderness area means a lot to me” (79% and 71% agreed or strongly agreed, respectively). The psychological needs that were met most often by wilderness visits were “feeling free to visit my special wilderness area in my own way (i.e., where, when, and how)” and “feeling free to make my own decisions when visiting my special wilderness area” (80% and 76% agreed or strongly agreed, respectively).

In regards to matters concerning the future of wilderness, those who had visited wilderness areas within the last five years overwhelmingly agreed with the statement that “more wilderness areas should be protected” and “I would enjoy wilderness areas closer to me” (88% and 83% agreed or strongly agreed, respectively).

In considering three perceptions of wilderness across racial groups, political persuasion, and state of residence, it was apparent that individuals were not only supportive of wilderness but were well aware of the benefits that exist from having such areas. These perceptions ultimately translated into participants’ conveying the need for the expansion of existing and creation of new wilderness areas closer to where they reside.

Based on these results, participants indicated strong support for the preservation of wilderness areas for current and future visitors. The natural qualities inherent in wilderness areas seemed to be their most valuable characteristic. This claim is supported by participants seeing air and water protection as the most important benefits of wilderness areas; their understanding that wilderness areas are places to view flora, fauna, and experience the prevalence of natural conditions; and their primary motivations to visiting wilderness being to observe the beauty, sights, sounds and smells of nature. As such, it is clear that wilderness areas are not only important destinations for outdoor recreation within the Southern Appalachian Region, but also highly valued for their ecosystem services.

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## Study background and purpose

Wilderness areas within the Southern Appalachians Region (SAR) are home to some of the most unique flora, fauna, and outdoor recreation pursuits in North America, owing largely to their placement within one of the oldest mountain ranges on the planet (King, 2015). According to The Wilderness Society (2018), the SAR includes nearly 50 wilderness areas, comprising “3.7 million acres of wild forests,” across the states of Alabama, Georgia, North Carolina, South Carolina, Tennessee, and Virginia.

Within the Southern Appalachians Region, six metropolises can be found that include some of the largest populations within the Southeast: Charlotte, North Carolina (population 859,035); Atlanta, Georgia (486,290); Knoxville, Tennessee (187,347); Chattanooga, Tennessee (179,139); Greenville-Spartanburg, South Carolina (105,717); and Asheville, North Carolina (91,902) (U.S. Census Bureau, 2018). With such populations comes a diversity of perspectives as it relates to attitudes and beliefs about, as well as, use of wilderness areas within the SAR. Contributing to this diversity is a growing concern over land use, development, and encroachment upon wilderness. Couple this with concerns about changes to wilderness designation, shrinking budgets to support wilderness, and overall wilderness management, and it becomes apparent that a wealth of perspectives on wilderness exist among those who live adjacent to such wildlands (Watson, Cordell, Manning, & Martin, 2016).

To the knowledge of the authors, no study has been undertaken that comprehensively examines perspectives of wilderness among residents living within the Southern Appalachian Region. Therefore, the purpose of this document is to report the findings of a study that was undertaken to gauge perspectives of individuals living within the Southern Appalachian Region concerning the environment in general and wilderness specifically, as well as wilderness use among those who had recently visited such areas within the SAR. Results of this study will provide both The Wilderness Society and Southern Environmental Law Center with data helpful to ensure our wilderness areas within the SAR are properly managed and planned for into the future.

## Research methods: Data collection, sampling, and survey instrument

Data collection for this project was undertaken through an online survey with the assistance of Qualtrics and their panel participants. Such an approach allowed for the greatest ability to secure participants throughout the Southern Appalachian Region. Data were collected during July and August of 2018, whereby panel participants were contacted via Qualtrics and asked to participate. Three criteria were necessary for consideration within the sample: 1) individuals had to be at least 18 years of age; 2) live in or near one of the six metro areas mentioned above (Charlotte, NC; Atlanta, GA; Knoxville, TN; Chattanooga, TN; Greenville-Spartanburg, SC; or Asheville, NC); and 3) have visited a protected natural area (i.e., local parks, greenways, or nature preserves, county parks, greenways or nature preserves, state parks or state forests, national parks or national forests, or wilderness areas) within the last five years. As is shown in Table 1, the overall sample included 1250 individuals across the six metro and surrounding areas. Figure 1 below portrays a geographical breakdown of the zip codes reported by sample participants.

**Table 1. City and surrounding area of sample participants**

<i>Metro area (N = 1250)</i>	<i>n</i>	<i>%</i>
Charlotte, NC and area	262	21.0
Atlanta, GA and area	261	20.9
Knoxville, TN and area	248	19.8
Greenville-Spartanburg, SC and area	227	18.2
Chattanooga, TN and area	148	11.8
Asheville, NC and area	104	8.3



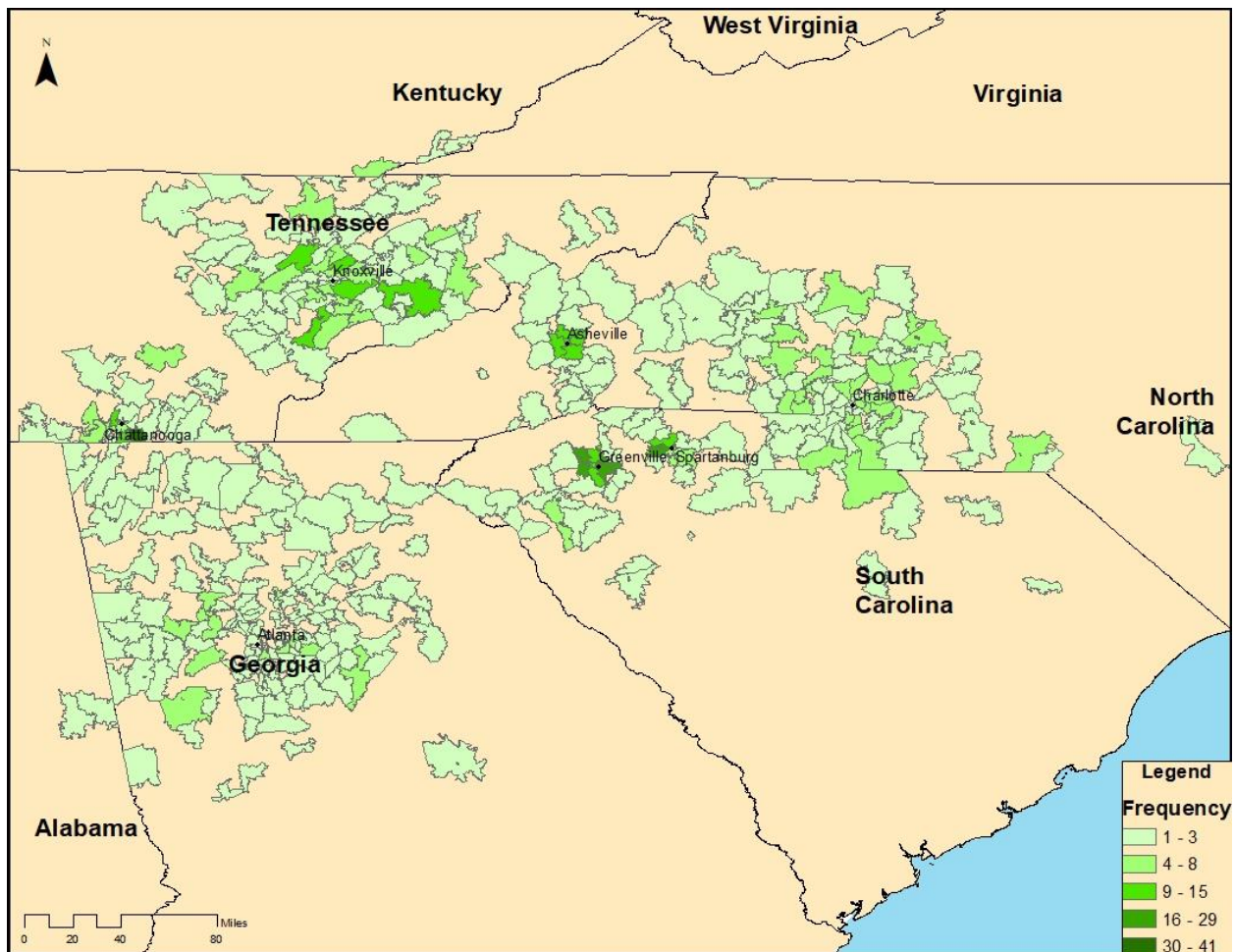


Figure 1. Frequency map of sample participants' zip codes

Prior to administering the questionnaire (Appendix A), the research team formulated variables and psychometric scales from existing literature (as well as input from representatives of The Wilderness Society and the Southern Environmental Law Center) which aided in the development of questions. The online questionnaire was comprised of 26 questions, presented in three main sections for participants. Those sections and pertinent questions were: 1) perceptions and attitudes concerning wilderness (e.g., values of wilderness, support for preservation of wilderness, perceptions of wilderness areas providing wilderness “character,” expectations of solitude experience, perceived potential benefits of wilderness attributes, constraints for visiting wilderness areas in past, and likelihood of visiting wilderness areas in near future); 2) degree of experience in visiting wilderness areas in recent past (e.g., whether visited wilderness areas in last five years—overall and in Southern Appalachian Region, particular wilderness areas visited, how individuals had heard about wilderness areas to visit, activities engaged in while visiting wilderness, motivations for visiting wilderness areas, place attachment to wilderness areas, ability of wilderness areas to meet psychological needs, preference for wilderness in future); and 3) demographics (e.g., zip code, age, gender, education, race/ethnicity, political persuasion, membership in environmental/conservation group) and general beliefs about the environment.

The following results are presented below in three main sections: sample demographics; wilderness perceptions among full sample of participants; and wilderness use among those who had visited a wilderness area within the last five years. As will be noted, a smaller subset of the sample ( $n = 844$ ) had visited a wilderness area within the last five years.

### **Definition of symbols**

Within the following sections, a number of symbols and terms are used to explain particular statistics. The following are such symbols with corresponding definitions:

- $N$  = overall sample size
- $n$  = number of respondents that answered a particular question (typically presented within the report accompanying %, or the percentage associated with that particular  $n$  value)
- $M$  = mean; mathematical average score
- Median = number appearing exactly in the middle of the data distribution for that particular question

### **Sample demographics**

As seen from Table 2, age ( $M = 44.53$  years) was fairly evenly distributed across the six age categories, with the largest percentage of participants falling between 50-64. Nearly three of four participants identified as females (74.9%). A preponderance of the sample (60.2%) had less than an undergraduate degree from a four-year college or university. In terms of race, the sample was comprised primarily of Caucasians (81.4%) and African Americans (17.2%), with 9.5% of individuals identifying themselves as Hispanic or Latino. In terms of political persuasion, the sample was slightly more conservative leaning in their political affiliations with 51.5% self-identifying as slightly conservative, conservative, or very conservative with 27.5% self-identifying as slightly liberal, liberal, or very liberal. Twenty-one percent responded that they were neither liberal nor conservative. Slightly more than one in 10 individuals (11.8%) indicated they were members of an environmental/conservation group.

**Table 2. Descriptive summary of sample participants**

<i>Socio-demographic variable</i>	<i>n</i>	<i>%</i>
Age ( <i>n</i> = 1250; <i>M</i> = 44.53 years of age)		
18-29	297	23.8
30-39	235	18.8
40-49	224	17.9
50-64	314	25.1
65-74	148	11.8
75+	32	2.6
Gender ( <i>n</i> = 1250)		
Female	936	74.9
Male	302	24.2
Other	3	0.2
Prefer not to answer	9	0.7
Education level ( <i>n</i> = 1250; Median = Technical, vocational or trade school)		
Primary/elementary school	16	1.3
Secondary/high school certificate/diploma/GED	454	36.3
Technical, vocational or trade school	282	22.6
Four-year college (BA, BS, BFA)	316	25.3
Master's (MA, MS, MFA, MArch, MBA)	150	12.0
PhD/professional (MD, JD, DVM, DDM)	32	2.5
Race/ethnicity		
White or Caucasian	1018	81.4 <sup>a</sup>
Black or African American	215	17.2
American Indian or Alaska Native	27	2.2
Asian	27	2.2
Native Hawaiian or Pacific Islander	12	1.0
Hispanic/Latino ( <i>n</i> = 1250)		
No	1131	90.5
Yes	119	9.5
Political persuasion ( <i>n</i> = 1250; <i>M</i> = 4.45 <sup>b</sup> , Median = Neither liberal nor conservative)		
Very liberal	76	6.1
Liberal	143	11.4
Slightly liberal	125	10.0
Neither liberal and nor conservative	263	21.0
Slightly conservative	247	19.8
Conservative	237	19.0
Very conservative	159	12.7
Member of environmental/conservation group ( <i>n</i> = 1250)		
No	1102	88.2
Yes	148	11.8

<sup>a</sup> Percentages do not sum to 100 given nature of 'check all that apply' question format

<sup>b</sup> Item asked on a scale of 1 to 7, where 1 = *very liberal* and 7 = *very conservative*

Table 3 presents findings concerning study participants' general beliefs about the environment based on the *New Environmental Paradigm* (NEP) scale developed by Dunlap, Van Liere, Mertig, and Jones (2000) and recently used by Landon, Woosnam, and Boley (2018) and van Riper and Kyle (2014). Given the means found in the last column of the table, the two items that individuals indicated the

strongest level of agreement with were: “It is important to balance human impacts on the environment by protecting areas where natural systems can be unimpaired” ( $M = 4.19$ ) and “Plants and animals have as much right to exist as humans” ( $M = 4.09$ ). The two items that that individuals stated the strongest disagreement with were: “Humans were meant to rule over the rest of nature” ( $M = 2.88$ ) and “We are approaching the limit of the number of people the Earth can support” ( $M = 3.28$ ).

**Table 3. General beliefs about the environment**

<i>Belief items about the environment<sup>a</sup></i>	Strongly disagree	Disagree	Neither	Agree	Strongly agree	<i>M</i>
It is important to balance human impacts on the environment by protecting areas where natural systems can be unimpaired ( $n = 1250$ )	1.0%	1.3%	17.0%	39.5%	41.2%	4.19
Plants and animals have as much right to exist as humans ( $n = 1250$ )	3.4%	4.3%	14.9%	34.3%	43.0%	4.09
When humans interfere with nature, it often produces disastrous consequences ( $n = 1250$ )	1.9%	4.1%	17.2%	43.8%	33.0%	4.02
The balance of nature is very delicate and easily upset ( $n = 1250$ )	2.1%	5.4%	18.9%	42.6%	31.0%	3.95
Nature and natural areas are part of my heritage ( $n = 1250$ )	1.0%	6.0%	28.7%	38.5%	25.8%	3.82
Economic development and environmental protection can go hand-in-hand ( $n = 1250$ )	2.4%	6.9%	27.7%	44.0%	19.0%	3.70
The Earth is like a spaceship with very limited room/resources ( $n = 1250$ )	5.1%	12.3%	30.2%	31.6%	20.7%	3.50
We are approaching the limit of the number of people the Earth can support ( $n = 1250$ )	7.8%	14.7%	34.8%	26.4%	16.2%	3.28
Humans were meant to rule over the rest of nature ( $n = 1250$ )	16.3%	21.7%	31.0%	20.1%	11.0%	2.88

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

### Results: Wilderness perceptions among full sample participants

As indicated above, to be eligible for inclusion in this study, individuals had to have visited a protected area within the last five years. In order to determine such eligibility, participants reported their frequency of visits at protected areas ranging from local parks, greenways, or nature preserves through wilderness areas. Such frequency counts were based on a 5-point ordinal scale (from 1 = *never* to 5 = *more than 15 times*) and are reported in Table 4. As is noted from the findings, the median (or value found directly in the middle of the distribution) for each type of protected area was either 1-5 visits (for four types of areas) or 6-10 visits (for “local parks, greenways, or nature preserves”). One other finding to point out is that it appears that frequency of visits to protected areas decreased with the distance the protected area is from the metropolitan area. For example, respondents more frequently visit local and county parks compared to national parks, national forests, or wilderness areas which require them to travel greater distances.

**Table 4. Experience in visiting protected areas in last five years**

<i>Protected area type<sup>a</sup></i>	Never	1-5 visits	6-10 visits	11-15 visits	More than 15 visits	<i>Median</i>
Local parks, greenways, or nature preserves ( <i>n</i> = 1250)	5.4%	43.8%	17.1%	8.8%	24.8%	3.00
County parks, greenways, or nature preserves ( <i>n</i> = 1250)	14.1%	43.8%	17.0%	8.2%	16.9%	2.00
State parks or state forests ( <i>n</i> = 1250)	15.4%	47.3%	15.5%	9.4%	12.4%	2.00
National parks or national forests ( <i>n</i> = 1250)	26.6%	43.4%	11.8%	7.6%	10.6%	2.00
Wilderness areas ( <i>n</i> = 1250)	36.4%	34.4%	9.9%	7.4%	11.9%	2.00

<sup>a</sup> Items asked on frequency scale of 1 to 5, where 1 = *never* and 5 = *more than 15 visits*.

One of the first questions that participants were asked was their values pertaining to wilderness (both existing and bequest). Such items within the scale were informed by the National Survey on Recreation and the Environment (NSRE) module on wilderness. As with most other scale questions on the survey instrument, each item was presented on a scale of 1-5 (where 1 = *strongly disagree*; 5 = *strongly agree*). With that said, each item was rated with a mean of at least 4.0 (see Table 5) indicating respondents place a high value on both existence of wilderness as well as its value for future generations. Participants indicated the highest degree of agreement with two items: “I enjoy knowing that natural areas exist for their own sake” (*M* = 4.42) and “I enjoy knowing that future generations will be able to visit and experience wilderness areas” (*M* = 4.41). Across all five items concerning values of wilderness, less than 5% of individuals indicated they strongly disagreed with any item.

**Table 5. Values (existing and bequest) of wilderness in general**

<i>Value items concerning wilderness<sup>a</sup></i>	Strongly disagree	Disagree	Neither	Agree	Strongly agree	<i>M</i>
I enjoy reading about and viewing pictures, videos, TV shows and movies featuring wilderness areas ( <i>n</i> = 1250)	4.2%	4.5%	13.2%	38.0%	40.2%	4.06
I enjoy visiting areas to experience wilderness or knowing that I could do so in the future ( <i>n</i> = 1250)	4.2%	4.9%	12.2%	31.8%	47.0%	4.13
I enjoy knowing that other people are currently able to visit wilderness ( <i>n</i> = 1250)	3.4%	3.3%	12.5%	27.6%	53.3%	4.24
I enjoying knowing that future generations will be able to visit and experience wilderness areas ( <i>n</i> = 1250)	3.8%	2.0%	8.6%	20.7%	64.9%	4.41
I enjoy knowing that natural areas exist for their own sake ( <i>n</i> = 1250)	3.8%	1.8%	8.1%	21.6%	64.8%	4.42

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

Following the set of questions about wilderness values, sample participants were asked about their level of support for the preservation of wilderness, as well as if they would actively participate in

supporting wilderness through writing congressional officials, attending town hall meetings, and donating money towards the protection of wilderness. These items were formulated from the NSRE module pertaining to wilderness. As is evidenced from Table 6, the first item which asked about general support was rated with the highest level of agreement ( $M = 4.47$ ). The remaining three items focused on being actively involved in supporting wilderness protection were rated with lower levels of agreement. Much like the items pertaining to perceived values of wilderness, less than 5% of individuals indicated a level of strong disagreement with the four support items.

**Table 6. Support for the preservation of wilderness**

<i>Support for wilderness preservation items<sup>a</sup></i>	Strongly disagree	Disagree	Neither	Agree	Strongly agree	<i>M</i>
In general, I support the preservation of wilderness areas so they will always exist in their natural condition ( $n = 1250$ )	2.5%	1.1%	7.5%	24.8%	64.1%	4.47
I would write a letter to my local congressional official to support the protection of wilderness ( $n = 1250$ )	3.4%	8.3%	27.2%	31.5%	29.5%	3.75
I would attend town hall meetings to support the protection of wilderness ( $n = 1250$ )	4.1%	12.9%	32.6%	30.5%	19.9%	3.49
I would financially support efforts for the protection of wilderness ( $n = 1250$ )	3.9%	10.6%	38.1%	30.6%	16.8%	3.46

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

With an understanding that “wilderness” means many things to different people, participants were presented with ten items that speak to character of “wilderness.” Results for how individuals perceived wilderness character (based on items generated from Watson, Martin, Christensen, Fauth, & Williams, 2015) are presented in Table 7. Participants agreed with eight of the ten items, with “A place where I can view native plants and animals” ( $M = 4.49$ ) and “A place where natural conditions, or forces, dominate” ( $M = 4.38$ ) rated with the highest level of agreement. As expected (based on responses to these items), the two items that received the lowest level of agreement were: “A place with opportunities for unrestrained or unconfined recreation” ( $M = 3.33$ ) and “A place with no (or few) restrictions on my behavior” ( $M = 3.13$ ).

**Table 7. Perceptions of wilderness character**

<i>Wilderness character items<sup>a</sup></i>	Strongly disagree	Disagree	Neither	Agree	Strongly agree	<i>M</i>
A place where I can view native plants and animals ( <i>n</i> = 1250)	1.0%	1.0%	6.5%	31.8%	59.8%	4.49
A place where natural conditions, or forces, dominate ( <i>n</i> = 1250)	1.0%	1.1%	10.2%	34.6%	53.2%	4.38
A place with relatively clean air ( <i>n</i> = 1250)	0.6%	1.9%	8.8%	40.6%	48.0%	4.33
A place where human influences are relatively unnoticeable ( <i>n</i> = 1250)	1.4%	2.7%	12.1%	41.8%	42.0%	4.20
A place with pure water ( <i>n</i> = 1250)	0.9%	2.7%	15.4%	42.7%	38.2%	4.15
A place where I do not see/hear motorized/mechanized equipment ( <i>n</i> = 1250)	2.5%	3.8%	13.1%	39.4%	41.1%	4.13
A place with only natural sounds ( <i>n</i> = 1250)	2.2%	6.1%	14.5%	43.6%	33.7%	4.01
A place I can go with relatively few people ( <i>n</i> = 1250)	1.4%	4.7%	18.4%	44.4%	31.1%	3.99
A place with opportunities for unrestrained or unconfined recreation ( <i>n</i> = 1250)	9.0%	14.8%	28.4%	30.1%	17.7%	3.33
A place with no (or few) restrictions on my behavior ( <i>n</i> = 1250)	9.3%	23.3%	28.7%	22.5%	16.2%	3.13

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

Closely related to wilderness character is the sense of solitude for many who have either been to wilderness or those who have an idea about these places. As such, six items concerning expectations of solitude in a wilderness context were presented to the sample participants. These items were developed based on the NSRE wilderness module and Hall's (2001) work. Results are presented in Table 8. As can be seen from the results, the scenarios that most negatively impacts solitude for participants is, "seeing/hearing timber harvesting operations" ( $M = 1.94$ ) and "seeing/hearing motorized/mechanized traffic in the area" ( $M = 2.01$ ). On the other hand, the one scenario that most positively impacts solitude for individuals is "seeing/hearing natural sounds (e.g., bird, rushing water, etc.)" ( $M = 4.56$ ).

**Table 8. Expectations of solitude experience in wilderness**

<i>Solitude expectations items<sup>a</sup></i>	Negatively impact	Somewhat negatively impact	Neither	Somewhat positively impact	Positively impact	<i>M</i>
Seeing/hearing natural sounds (e.g., birds, rushing water, etc.) ( <i>n</i> = 1250)	2.6%	1.4%	7.3%	15.0%	73.7%	4.56
Seeing/hearing resource managers (e.g., rangers, trail workers, etc.) ( <i>n</i> = 1250)	4.9%	12.1%	45.8%	25.2%	12.0%	3.27
Seeing/hearing other visitors around me ( <i>n</i> = 1250)	4.8%	22.9%	52.3%	12.5%	7.5%	2.95
Seeing modern built structures around ( <i>n</i> = 1250)	40.2%	25.1%	21.1%	7.8%	5.8%	2.14
Seeing/hearing motorized/mechanized traffic in area ( <i>n</i> = 1250)	41.5%	32.9%	13.9%	6.5%	5.2%	2.01
Seeing/hearing timber harvesting operations ( <i>n</i> = 1250)	51.5%	19.5%	17.4%	6.2%	5.4%	1.94

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *negatively impact* and 5 = *positively impact*.

The next host of questions that participants were presented with concerned the benefits of wilderness attributes (i.e., how important each was considered). The 13 formulated items were done so by following similar questions presented on the NSRE wilderness module. Results can be found in Table 9. It should be noted that most items were considered ‘important’ to ‘highly important’ with averages near 4.5. The wilderness benefits that were rated as being the most important were “protecting water quality” ( $M = 4.60$ ) and “protecting air quality” ( $M = 4.58$ ). The two lowest rated benefits were “providing spiritual inspiration” ( $M = 3.78$ ) and “supporting local economies” ( $M = 3.78$ ).

**Table 9. Wilderness benefits**

<i>Benefits of wilderness items<sup>a</sup></i>	Not at all important	Minimally important	Somewhat important	Important	Highly important	<i>M</i>
Protecting wildlife habitat ( $n = 1250$ )	0.4%	1.0%	6.5%	18.2%	73.9%	4.64
Protecting water quality ( $n = 1250$ )	0.9%	1.1%	6.2%	20.2%	71.6%	4.60
Protecting rare and endangered species ( $n = 1250$ )	0.6%	1.6%	7.0%	19.6%	71.1%	4.59
Protecting air quality ( $n = 1250$ )	0.2%	1.2%	6.7%	24.1%	67.8%	4.58
Preserving unique wild plants and animals ( $n = 1250$ )	0.4%	1.2%	8.1%	22.6%	67.7%	4.56
Knowing that future generations will have wilderness areas ( $n = 1250$ )	0.4%	2.3%	8.2%	24.0%	65.0%	4.51
Providing scenic beauty ( $n = 1250$ )	0.6%	2.0%	10.2%	28.6%	58.6%	4.42
Just knowing that wilderness and primitive areas exist ( $n = 1250$ )	0.8%	1.7%	10.7%	29.5%	57.3%	4.41
Knowing that in the future I will have the option to visit a wilderness area (or primitive area) of my choice ( $n = 1250$ )	0.4%	2.5%	11.6%	28.9%	56.6%	4.39
Providing natural areas for scientific study ( $n = 1250$ )	2.6%	5.9%	20.5%	34.2%	36.8%	3.97
Providing recreation opportunities ( $n = 1250$ )	1.0%	7.4%	22.2%	35.5%	33.8%	3.94
Providing spiritual inspiration ( $n = 1250$ )	3.7%	9.8%	23.8%	29.9%	32.7%	3.78
Supporting local economies ( $n = 1250$ )	2.7%	9.8%	24.6%	32.3%	30.6%	3.78

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *not at all important* and 5 = *highly important*.

Though a plethora of wilderness benefits exist, not everyone has the same ability to visit wilderness, let alone experience such benefits. As such, it is important to gauge individuals’ constraints for visiting wilderness. Once more with the help of NSRE wilderness module questions, 16 items were formulated that each address unique constraints for visiting wilderness. Table 10 yields results for how participants perceived these constraints. As can be seen, a preponderance of items fell within the ‘neither’ category, indicating that the sample did not have a strong opinion one way or another (i.e., many items were likely not too constraining). However, the two items that individuals agreed with the most were, “not enough time” ( $M = 3.47$ ) and “outdoor pests (e.g., mosquitos, chiggers, ticks, etc.)” ( $M = 3.38$ ). On the other hand, items that individuals that disagreed with most were, “feel unwelcome or uncomfortable” ( $M = 2.42$ ) and “fear of remoteness of area” ( $M = 2.66$ ). Following the series of questions presented to participants regarding their perspectives of wilderness, individuals were asked the likelihood of visiting wilderness areas in the near future (on a scale of 1-5, where 1 = very unlikely and 5 = very likely). Results indicated that 73.9% of participants ( $n = 1250$ ) were either ‘likely’ or ‘highly likely’ ( $M = 4.05$ ) to visit wilderness areas in the near future.



**Table 10. Constraints for visiting wilderness areas**

<i>Constraint items<sup>a</sup></i>	Strongly disagree	Disagree	Neither	Agree	Strongly agree	<i>M</i>
Not enough time ( <i>n</i> = 1250)	5.3%	11.3%	27.7%	42.4%	13.4%	3.47
Outdoor pests (e.g., mosquitos, etc.) ( <i>n</i> = 1250)	7.2%	15.3%	25.1%	36.9%	15.5%	3.38
Not enough money ( <i>n</i> = 1250)	7.7%	19.0%	27.0%	32.3%	14.0%	3.26
Inadequate info about places to visit ( <i>n</i> = 1250)	10.8%	22.8%	27.5%	29.1%	9.8%	3.04
Not close enough to my home ( <i>n</i> = 1250)	12.3%	22.9%	27.0%	28.8%	9.0%	2.99
Crowded activity areas ( <i>n</i> = 1250)	10.4%	22.6%	34.4%	23.4%	9.2%	2.98
No one to do activities with ( <i>n</i> = 1250)	12.7%	25.2%	26.2%	26.4%	9.4%	2.95
Worried about safety in area ( <i>n</i> = 1250)	11.6%	27.1%	26.5%	26.1%	8.7%	2.93
Inadequate facilities in area ( <i>n</i> = 1250)	8.3%	27.4%	33.9%	23.6%	6.8%	2.93
Poorly maintained activity areas ( <i>n</i> = 1250)	11.3%	28.6%	32.6%	19.5%	7.9%	2.84
Personal health reasons ( <i>n</i> = 1250)	16.4%	26.7%	24.3%	22.6%	9.9%	2.83
Do not feel knowledgeable or prepared ( <i>n</i> = 1250)	12.9%	27.8%	29.7%	23.0%	6.6%	2.83
Physical limitations ( <i>n</i> = 1250)	17.3%	27.1%	23.8%	21.8%	10.0%	2.80
Inadequate transportation ( <i>n</i> = 1250)	18.1%	31.4%	24.6%	17.1%	8.8%	2.67
Fear of remoteness of area ( <i>n</i> = 1250)	18.0%	29.8%	26.9%	18.9%	6.5%	2.66
Feel unwelcome or uncomfortable ( <i>n</i> = 1250)	21.8%	36.0%	26.7%	9.4%	6.2%	2.42

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

### Results: Wilderness use among those who had recently visited a wilderness area

As mentioned above, the sample participants were asked if they had visited wilderness areas in the last five years. To that question, 67.5% (*n* = 844) of the individuals indicated that they had visited such areas during the time frame. As such, the following results will be presented based on a subsample size of 844 individuals. Of those 844 individuals, 775 (91.8%) indicated that they had visited wilderness areas within the Southern Appalachian Region throughout the last five years. Participants were further asked which of the 48 wilderness areas (from a listing) they had visited across Alabama, Georgia, North Carolina, South Carolina, Tennessee, and Virginia. The most commonly listed areas were: 1) *Southern Nantahala* (NC and GA; *n* = 87 times mentioned); 2) *Shining Rock* (NC; *n* = 76 times mentioned); 3) *Linville Gorge* (NC; *n* = 72 times mentioned); 4) *Big Laurel Branch* (TN; *n* = 67 times mentioned); 5) *Bald River Gorge* (TN; *n* = 66 times mentioned); 6) *Brasstown* (GA; *n* = 64 times mentioned); 7) *Cohutta* (GA and TN; *n* = 61 times mentioned); 8) *Blood Mountain* (GA; *n* = 52 times mentioned); 9) *Big Frog* (GA and TN; *n* = 51 times mentioned); and 10) *Ellicott Rock* (NC, GA, and SC; *n* = 48 times mentioned). Figure 1 shows each of the wilderness areas along with a color-coded, GIS map based on how often each area was mentioned among the participants. A listing of each Southern Appalachian Region wilderness area and the number of times participants selected each are found in Appendix B.

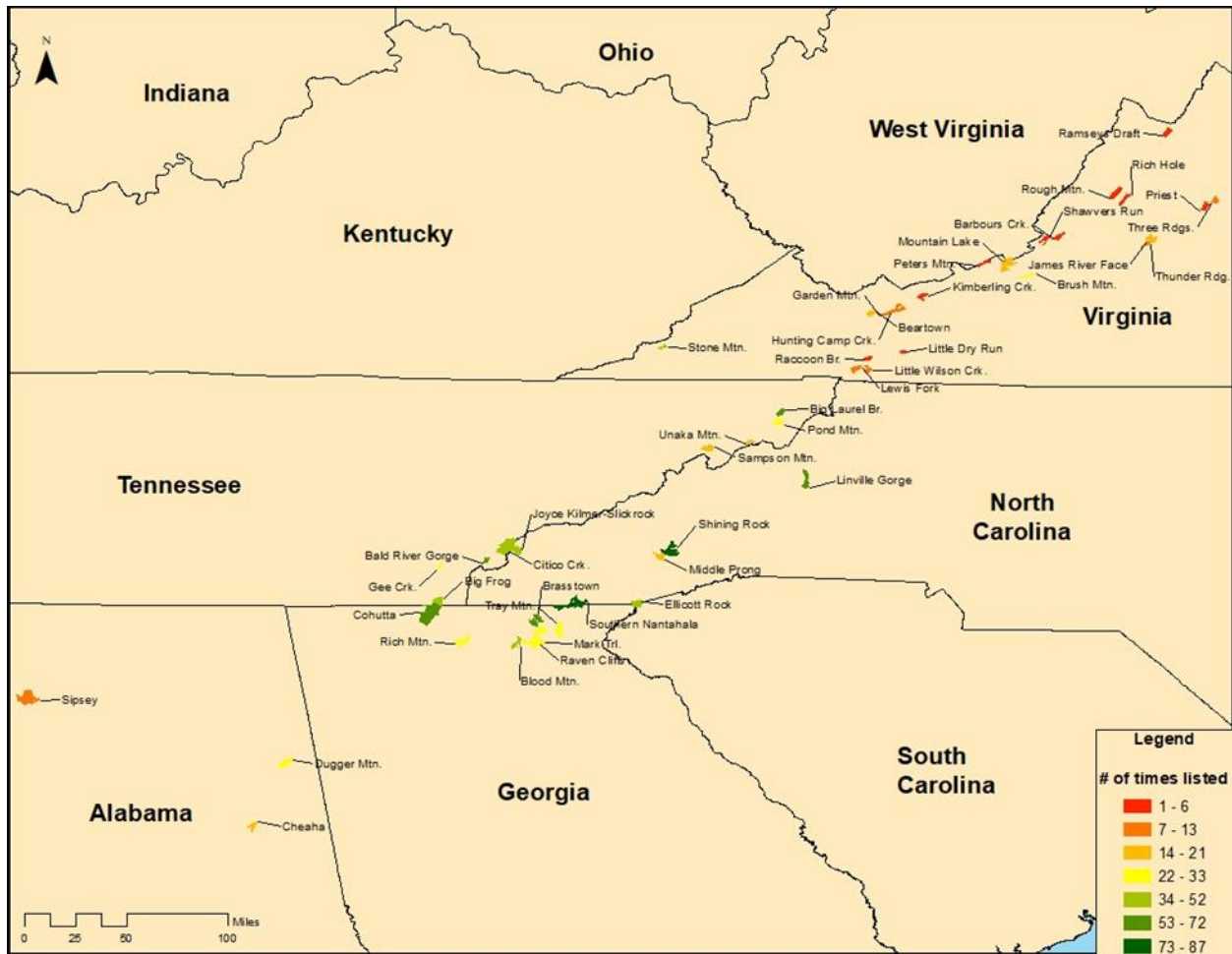


Figure 2. Map of Southern Appalachian Region wilderness areas and number of times participants listed

Participants were also asked about how they heard of wilderness areas to visit, considering eight distinct avenues. All 844 individuals who had visited wilderness areas throughout the last five years responded. Results are found in Table 11. The top three ways in which participants had heard about wilderness areas to visit were: “word-of-mouth from friends and family” (52.3% of individuals); “always knew about them” (35.5% of individuals); and “social media” (24.9% of individuals).

**Table 11. How sample participants had heard about wilderness areas to visit**

<i>Items</i>	<i>n</i>	<i>%</i>
Word-of-mouth from friends or family	447	52.3 <sup>a</sup>
Always knew about them	300	35.5
Social media	210	24.9
Traditional media (e.g., web, print, radio, etc.)	171	20.3
Guide books	144	17.1
USFS office	76	9.0
Other	38	4.5
Saw blank spot on map and wanted to explore	33	3.9

<sup>a</sup> Percentages do not sum to 100 given nature of ‘check all that apply’ question format

Individuals that had visited wilderness areas ( $n = 844$ ) over the last five years were then asked which activities they had participated in during their visits. Eleven items from the NSRE wilderness module were presented to individuals for selection. The three most commonly reported activities were: “day hiking” (83.9% of individuals); “picnicking” (77.5% of individuals); and “viewing, identifying or photographing wildlife, fish or natural scenery” (74.2% of individuals). The least commonly reported activities were: “canoeing or kayaking” (25.4% of individuals); “horseback riding on trails, backcountry roads or cross country” (26.1% of individuals) and “gathering mushrooms, berries, firewood or other natural products” (26.1% of individuals).

**Table 12. Activities engaged in while visiting wilderness area during last five years**

<i>Activities</i>	<i>n</i>	<i>%</i>
Day hiking	708	83.9 <sup>a</sup>
Picnicking	654	77.5
View, identify or photograph wildlife, fish or natural scenery	626	74.2
Swimming in streams, lakes or ponds	464	55.0
Camping	408	48.3
Fishing in mountain rivers, lakes or streams	321	38.0
Rafting, tubing, or any other type of floating on rivers of other flowing water	296	35.1
Backpacking on trails or cross country	277	32.8
Gathering mushrooms, berries, firewood or other natural products	220	26.1
Horseback riding on trails, backcountry roads or cross country	220	26.1
Canoeing or kayaking	214	25.4

<sup>a</sup> Percentages do not sum to 100 given nature of ‘check all that apply’ question format

Next, participants were asked about their motivations for visiting wilderness areas over the last five years. Fourteen items, asked on a 5-point agreement scale (where 1 = *strongly disagree* and 5 = *strongly agree*) were used based on the work of Graefe, Thapa, Confer, and Absher (2000). Top motivating factors for sample participants included: “to observe the beauty of nature” ( $M = 4.50$ ) and “to enjoy the sights, sounds, and smells of nature” ( $M = 4.45$ ). The least motivating factors were: “to be alone” ( $M = 3.27$ ) and “to meet friendly people” ( $M = 3.32$ ). Based on such findings, one can infer that participants are drawn to wilderness areas by the “pull” factors associated with the pristine natural environment found in southern wilderness areas; whereas they are lesser concerned with “pull” factors focused on the social (or asocial) aspect afforded by visiting wilderness.

**Table 13. Motivations for visiting wilderness areas**

<i>Motivation items<sup>a</sup></i>	Strongly disagree	Disagree	Neither	Agree	Strongly agree	<i>M</i>
To observe the beauty of nature ( <i>n</i> = 844)	0.5%	0.7%	6.0%	33.4%	59.4%	4.50
To enjoy the sights, sounds, and smells of nature ( <i>n</i> = 844)	1.1%	1.3%	6.0%	35.2%	56.4%	4.45
To have a good time ( <i>n</i> = 844)	0.6%	0.8%	7.1%	45.4%	46.1%	4.36
To get away from everyday routine of life	0.8%	1.4%	9.1%	45.1%	43.5%	4.29
To relieve tension ( <i>n</i> =844)	2.0%	2.7%	13.7%	49.1%	32.5%	4.07
To recreate (for mental, psychological, or physical health and well-being) ( <i>n</i> = 844)	1.9%	3.2%	18.7%	42.7%	33.5%	4.03
To learn about the countryside ( <i>n</i> = 844)	1.8%	7.5%	22.3%	43.5%	25.0%	3.82
To do things with other people ( <i>n</i> = 844)	3.3%	7.6%	19.3%	52.3%	17.5%	3.73
To get away from other people ( <i>n</i> = 844)	3.4%	9.8%	26.8%	36.0%	23.9%	3.67
To be with people of similar interests ( <i>n</i> = 844)	3.3%	9.7%	29.5%	40.5%	16.9%	3.58
To gain knowledge or practice primitive skills ( <i>n</i> = 844)	4.7%	16.6%	32.2%	27.6%	18.8%	3.39
To pass on gained knowledge to others ( <i>n</i> = 844)	5.0%	15.3%	34.7%	28.7%	16.4%	3.36
To meet friendly people ( <i>n</i> = 844)	4.5%	14.5%	37.8%	30.9%	12.3%	3.32
To be alone ( <i>n</i> = 844)	8.1%	18.4%	28.9%	27.8%	16.8%	3.27

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

To gain a sense of the psychological attachment participants have to wilderness areas, they were presented with 13 items based on the work of Kyle, Mowen and Tarrant (2004) and Kyle, Jun, and Absher (2014). Participants were asked to rate each item using a 5-point agreement scale (where 1 = *strongly disagree* and 5 = *strongly agree*). Results are found in Table 14. Participants indicated they were psychologically attached to their most special wilderness areas with means ranging from 3.40 to 4.06. The highest rated items were: “I really enjoy my special wilderness area” (*M* = 4.06) and “My special wilderness area means a lot to me” (*M* = 3.91).

**Table 14. Psychological attachment to wilderness**

<i>Wilderness attachment items<sup>a</sup></i>	Strongly disagree	Disagree	Neither	Agree	Strongly agree	<i>M</i>
I really enjoy my special wilderness area ( <i>n</i> = 844)	0.7%	1.5%	18.8%	49.3%	29.6%	4.06
My special wilderness areas means a lot to me ( <i>n</i> = 844)	0.9%	2.7%	25.7%	45.3%	25.4%	3.91
Visiting my special wilderness area allows me to spend time with my family and friends ( <i>n</i> = 844)	2.0%	4.3%	23.0%	45.6%	25.1%	3.88
I feel a strong sense of belonging with my special wilderness area ( <i>n</i> = 844)	1.1%	4.9%	34.1%	35.5%	24.4%	3.77
I identify with my special wilderness area ( <i>n</i> = 844)	1.5%	4.7%	31.6%	39.1%	23.0%	3.77
The time spent in my special wilderness area allows me to bond with my family ( <i>n</i> = 844)	2.4%	6.9%	25.1%	44.3%	21.3%	3.75
I feel my special wilderness area is part of me ( <i>n</i> = 844)	1.7%	8.5%	33.3%	35.3%	21.2%	3.66
I enjoy visiting my special wilderness area more than other areas ( <i>n</i> = 844)	1.8%	8.5%	32.5%	38.3%	19.0%	3.64
My special wilderness area is the best place for the recreational activities that I enjoy ( <i>n</i> = 844)	1.7%	7.9%	34.6%	37.8%	18.0%	3.63
I cannot imagine a better place for what I like to do than my special wilderness area ( <i>n</i> = 844)	2.8%	9.2%	32.8%	33.9%	21.2%	3.61
Visiting my special wilderness area says a lot about who I am ( <i>n</i> = 844)	2.5%	8.4%	36.4%	34.6%	18.1%	3.57
I feel that my identity is reflected in my special wilderness area ( <i>n</i> = 844)	3.1%	10.8%	38.9%	30.2%	17.1%	3.47
I associate people in my life with my special wilderness area ( <i>n</i> = 844)	1.8%	14.8%	41.1%	25.9%	16.4%	3.40

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

For many individuals, visiting and forging experiences in wilderness areas can meet particular needs. Such needs can be physical, mental, or psychological in nature. Considering the psychological, participants were asked to respond to nine items (borrowed from the work of Niven & Markland, 2016) addressing the extent that wilderness potentially meets their psychological needs being met. As with previous scales, items were presented on a 5-point agreement scale (where 1 = *strongly disagree* and 5 = *strongly agree*). Results are found in Table 15. Participants indicated that they ‘agreed’ with each item (i.e., means hovering around 4.0). The psychological needs that were met most through visiting wilderness were: “feeling free to visit my special wilderness area in my own way (i.e., where, when, and how)” (*M* = 4.06) and “feeling free to make my own decisions when visiting my special wilderness area” (*M* = 4.01).

**Table 15. Wilderness meeting psychological needs**

<i>Meeting psychological needs items<sup>a</sup></i>	Strongly disagree	Disagree	Neither	Agree	Strongly agree	<i>M</i>
I feel free to visit my special wilderness area in my own way (i.e., where, when, how) ( <i>n</i> = 844)	0.9%	3.2%	16.0%	48.9%	30.9%	4.06
I feel free to make my own decisions when I visit my special wilderness area ( <i>n</i> = 844)	0.4%	3.7%	19.5%	47.4%	29.0%	4.01
I feel like I am in charge of my own decisions when I visit my special wilderness area ( <i>n</i> = 844)	0.8%	3.4%	22.6%	45.1%	28.0%	3.96
I feel that I am able to complete activities that challenge me when I visit my special wilderness area ( <i>n</i> = 844)	1.3%	5.6%	28.3%	41.9%	22.9%	3.80
I feel confident that I can do personally challenging activities when I visit my special wilderness area ( <i>n</i> = 844)	1.2%	6.8%	27.3%	41.4%	23.5%	3.79
I feel confident in my ability to perform activities that challenge me when I visit my special wilderness area ( <i>n</i> = 844)	0.9%	6.2%	29.9%	41.7%	21.3%	3.76
I feel like I share a common bond with people who are important to me when we visit my special wilderness area ( <i>n</i> = 844)	1.3%	4.4%	27.6%	45.5%	21.2%	3.81
I feel connected to people who I interact with while we visit my special wilderness area ( <i>n</i> = 844)	1.3%	5.2%	28.2%	44.8%	20.5%	3.78
I feel like I get along well with other people who I interact with while we visit my special wilderness area ( <i>n</i> = 844)	1.4%	2.5%	27.4%	46.8%	21.9%	3.85

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

The last set of items asked those who had visited wilderness areas about their perspectives of wilderness in the future. Four items were presented on a 5-point agreement scale (where 1 = *strongly disagree* and 5 = *strongly agree*). Findings can be found in Table 16. While participants ‘agreed’ with all items, they indicated the strongest level of agreement with the items: “more wilderness areas should be protected” (*M* = 4.41) and “I would enjoy wilderness areas closer to me” (*M* = 4.26).

**Table 16. Perspectives concerning future of wilderness**

<i>Future of wilderness items<sup>a</sup></i>	Strongly disagree	Disagree	Neither	Agree	Strongly agree	<i>M</i>
More wilderness areas should be protected ( <i>n</i> = 844)	0.4%	1.5%	9.7%	33.4%	55.0%	4.41
I would enjoy wilderness areas closer to me ( <i>n</i> = 844)	0.4%	2.0%	14.2%	38.5%	44.9%	4.26
I would like areas I visit to be managed as wilderness ( <i>n</i> = 844)	0.8%	1.7%	21.3%	39.2%	37.0%	4.10
I would like existing wilderness areas to expand in size ( <i>n</i> = 844)	0.6%	3.8%	25.0%	29.7%	40.9%	4.07

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

## Results: Wilderness perceptions across race, political persuasion, and state

In an effort to more closely examine wilderness perceptions (e.g., support for the preservation of wilderness, benefits of wilderness, and perspectives concerning the future of wilderness), data were considered across three primary demographic variables of participants: race, political persuasion, and state of residence. In so doing, the race variable was recoded into three groups (i.e., White, African American/Black, and other). Political persuasion was recoded into liberal, neutral, and conservative. State of residence was comprised of those living in Georgia, North Carolina, South Carolina, and Tennessee. Tables 17 through 25 provide these results.

As can be seen from Table 17, all races indicated a notable level of agreement in support for wilderness in general. It was only when individuals were asked about their intentional behaviors that means dropped, however all races still agreed that they would write letters, attend town hall meetings, and financially support efforts for the protection of wilderness.

**Table 17. Support for the preservation of wilderness (by race)**

<i>Support for wilderness preservation items<sup>a</sup></i>	White	African American/Black	Other
In general, I support the preservation of wilderness areas so they will always exist in their natural condition ( <i>n</i> = 1250)	4.56	4.07	4.36
I would write a letter to my local congressional official to support the protection of wilderness ( <i>n</i> = 1250)	3.80	3.53	3.76
I would attend town hall meetings to support the protection of wilderness ( <i>n</i> = 1250)	3.52	3.34	3.49
I would financially support efforts for the protection of wilderness ( <i>n</i> = 1250)	3.45	3.42	3.61

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

Means were slightly higher for preservation of wilderness when considering political persuasion (Table 18). However, the first item (i.e., support preservation so they will always exist in natural condition) was rated higher for liberals, neutrals, and conservatives than for races. Similarly, the remaining three items involving behavioral intentions to support wilderness preservation were agreed with less.

**Table 18. Support for the preservation of wilderness (by political persuasion)**

<i>Support for wilderness preservation items<sup>a</sup></i>	Liberal	Neutral	Conservative
In general, I support the preservation of wilderness areas so they will always exist in their natural condition ( <i>n</i> = 1250)	4.64	4.39	4.41
I would write a letter to my local congressional official to support the protection of wilderness ( <i>n</i> = 1250)	4.00	3.52	3.72
I would attend town hall meetings to support the protection of wilderness ( <i>n</i> = 1250)	3.74	3.36	3.42
I would financially support efforts for the protection of wilderness ( <i>n</i> = 1250)	3.66	3.32	3.41

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

Consistent with the last two tables, Table 19 demonstrates the high level of agreement with general support for the preservation of wilderness. Participants from each state tended to agree more with this first item capturing general support than they did with the remaining three items which spoke to more active support for the preservation of wilderness. With that said however, responses of individuals across the four states conveyed a level of agreement with such behavioral intentions to support wilderness preservation.

**Table 19. Support for the preservation of wilderness (by state)**

<i>Support for wilderness preservation items<sup>a</sup></i>	GA	NC	SC	TN
In general, I support the preservation of wilderness areas so they will always exist in their natural condition ( <i>n</i> = 1250)	4.43	4.49	4.53	4.47
I would write a letter to my local congressional official to support the protection of wilderness ( <i>n</i> = 1250)	3.79	3.70	3.74	3.78
I would attend town hall meetings to support the protection of wilderness ( <i>n</i> = 1250)	3.53	3.45	3.45	3.54
I would financially support efforts for the protection of wilderness ( <i>n</i> = 1250)	3.56	3.38	3.39	3.49

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

The benefits of wilderness were next examined in relation to race, political persuasion, and state of residence. Collectively, each of the benefits were rated high by all three racial groups, with whites typically indicating the highest degree of agreement (Table 20). Three of the highest rated benefits across all racial groups were protecting air quality, protecting water quality, and protecting wildlife habitat.

**Table 20. Wilderness benefits (by race)**

<i>Benefits of wilderness items<sup>a</sup></i>	White	African American/Black	Other
Protecting wildlife habitat ( <i>n</i> = 1250)	4.69	4.44	4.53
Protecting water quality ( <i>n</i> = 1250)	4.63	4.49	4.59
Protecting rare and endangered species ( <i>n</i> = 1250)	4.65	4.30	4.59
Protecting air quality ( <i>n</i> = 1250)	4.59	4.48	4.65
Preserving unique wild plants and animals ( <i>n</i> = 1250)	4.62	4.27	4.57
Knowing that future generations will have wilderness areas ( <i>n</i> = 1250)	4.58	4.18	4.44
Providing scenic beauty ( <i>n</i> = 1250)	4.48	4.15	4.45
Just knowing that wilderness and primitive areas exist ( <i>n</i> = 1250)	4.48	4.06	4.32
Knowing that in the future I will have the option to visit a wilderness area (or primitive area) of my choice ( <i>n</i> = 1250)	4.46	4.08	4.32
Providing natural areas for scientific study ( <i>n</i> = 1250)	4.00	3.73	4.19
Providing recreation opportunities ( <i>n</i> = 1250)	3.92	3.98	3.97
Providing spiritual inspiration ( <i>n</i> = 1250)	3.77	3.80	3.92
Supporting local economies ( <i>n</i> = 1250)	3.79	3.72	3.92

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.



Though liberals tended to indicate a higher level of agreement with the wilderness benefits items than those with a more neutral political persuasion or conservatives, all three groups either agreed or strongly agreed with each of the 13 benefits items (Table 21). Consistent across each political persuasion group, providing spiritual inspiration and supporting local economies were the least agreed upon benefits of wilderness (though each still yielded means near 4.0 on a scale of 1-5, with 4.0 representing ‘agree’ with).

**Table 21. Wilderness benefits (by political persuasion)**

<i>Benefits of wilderness items<sup>a</sup></i>	Liberal	Neutral	Conservative
Protecting wildlife habitat ( <i>n</i> = 1250)	4.76	4.65	4.58
Protecting water quality ( <i>n</i> = 1250)	4.72	4.63	4.53
Protecting rare and endangered species ( <i>n</i> = 1250)	4.76	4.53	4.52
Protecting air quality ( <i>n</i> = 1250)	4.74	4.61	4.48
Preserving unique wild plants and animals ( <i>n</i> = 1250)	4.74	4.53	4.47
Knowing that future generations will have wilderness areas ( <i>n</i> = 1250)	4.69	4.48	4.42
Providing scenic beauty ( <i>n</i> = 1250)	4.47	4.40	4.41
Just knowing that wilderness and primitive areas exist ( <i>n</i> = 1250)	4.51	4.43	4.34
Knowing that in the future I will have the option to visit a wilderness area (or primitive area) of my choice ( <i>n</i> = 1250)	4.53	4.36	4.33
Providing natural areas for scientific study ( <i>n</i> = 1250)	4.17	3.88	3.89
Providing recreation opportunities ( <i>n</i> = 1250)	3.92	3.87	3.97
Providing spiritual inspiration ( <i>n</i> = 1250)	3.74	3.76	3.81
Supporting local economies ( <i>n</i> = 1250)	3.76	3.75	3.81

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

Much like with the previous two tables, benefits were consistently rated high across participants from each of the four states (Table 22). Participants from Georgia, North Carolina and Tennessee indicated the highest degree of agreement with benefits items. This may be due in part to the fact that each of the three states possesses many of the wilderness areas (not considering Virginia) throughout the Southern Appalachian Region.

**Table 22. Wilderness benefits (by state)**

<i>Benefits of wilderness items<sup>a</sup></i>	GA	NC	SC	TN
Protecting wildlife habitat ( <i>n</i> = 1250)	4.59	4.67	4.62	4.67
Protecting water quality ( <i>n</i> = 1250)	4.60	4.67	4.60	4.58
Protecting rare and endangered species ( <i>n</i> = 1250)	4.55	4.63	4.59	4.60
Protecting air quality ( <i>n</i> = 1250)	4.62	4.64	4.52	4.56
Preserving unique wild plants and animals ( <i>n</i> = 1250)	4.50	4.58	4.57	4.60
Knowing that future generations will have wilderness areas ( <i>n</i> = 1250)	4.49	4.51	4.45	4.57
Providing scenic beauty ( <i>n</i> = 1250)	4.40	4.44	4.42	4.44
Just knowing that wilderness and primitive areas exist ( <i>n</i> = 1250)	4.34	4.45	4.41	4.44
Knowing that in the future I will have the option to visit a wilderness area (or primitive area) of my choice ( <i>n</i> = 1250)	4.35	4.41	4.33	4.44
Providing natural areas for scientific study ( <i>n</i> = 1250)	3.94	3.98	3.93	4.00
Providing recreation opportunities ( <i>n</i> = 1250)	4.02	3.88	3.92	3.95
Providing spiritual inspiration ( <i>n</i> = 1250)	3.90	3.79	3.56	3.84
Supporting local economies ( <i>n</i> = 1250)	3.87	3.81	3.59	3.83

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

Finally, perspectives concerning the future of wilderness were considered across race, political persuasion, and state of residence. Results for each of these analyses yielded some of the most encouraging findings pertaining to perspectives of wilderness within the study. Consistent across each of the demographics (i.e., race, political persuasion, and state of residence), participants reported high levels of agreement concerning the future of wilderness. The highest rated item for each of the racial groups was, “more wilderness areas should be protected” (Table 23).

**Table 23. Perspectives concerning future of wilderness (by race)**

<i>Future of wilderness items<sup>a</sup></i>	White	African American/Black	Other
More wilderness areas should be protected ( <i>n</i> = 844)	4.44	4.20	4.43
I would enjoy wilderness areas closer to me ( <i>n</i> = 844)	4.29	4.07	4.23
I would like areas I visit to be managed as wilderness ( <i>n</i> = 844)	4.09	4.13	4.15
I would like existing wilderness areas to expand in size ( <i>n</i> = 844)	4.07	3.96	4.13

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

Somewhat expected, those who claimed to be liberal indicated the highest degree of agreement with each of the four items (Table 24). Interestingly enough though, only a subtle difference was revealed between neutrals and conservatives on all four items pertaining to future perspectives of wilderness. This, more than anywhere else within the study, demonstrates a bipartisan support for the future of wilderness throughout the Southern Appalachian Region.

**Table 24. Perspectives concerning future of wilderness (by political persuasion)**

<i>Future of wilderness items<sup>a</sup></i>	Liberal	Neutral	Conservative
More wilderness areas should be protected ( <i>n</i> = 844)	4.61	4.48	4.28
I would enjoy wilderness areas closer to me ( <i>n</i> = 844)	4.36	4.26	4.20
I would like areas I visit to be managed as wilderness ( <i>n</i> = 844)	4.19	4.10	4.05
I would like existing wilderness areas to expand in size ( <i>n</i> = 844)	4.26	3.99	3.99

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

In looking at participants’ perspectives of the future of wilderness across their state of residence, two key observations can be made. First, level of agreement with the four items was high in each state. Second, it is nearly impossible to see much of a difference in perspectives of the future of wilderness in any of the four states. Such collective perspectives of the future of wilderness are not only positive but crucial for the U.S. Congress and managing agencies to consider as decisions are made to expand wilderness areas throughout the Southern Appalachian Region.

**Table 25. Perspectives concerning future of wilderness (by state)**

<i>Future of wilderness items<sup>a</sup></i>	GA	NC	SC	TN
More wilderness areas should be protected ( <i>n</i> = 844)	4.40	4.48	4.39	4.38
I would enjoy wilderness areas closer to me ( <i>n</i> = 844)	4.27	4.29	4.31	4.20
I would like areas I visit to be managed as wilderness ( <i>n</i> = 844)	4.09	4.19	4.08	4.05
I would like existing wilderness areas to expand in size ( <i>n</i> = 844)	4.06	4.12	4.10	4.02

<sup>a</sup> Items asked on an agreement scale of 1 to 5, where 1 = *strongly disagree* and 5 = *strongly agree*.

## Conclusions

This study sought to better understand perceptions and use of wilderness among residents living adjacent to six metropolitan areas close to Southern Appalachian wilderness areas. Age of participants was fairly diverse with the second most common age group comprising those 18-29 years of age. Thus, millennials within this sample see outdoor recreation as a viable option to spend their time. Though wilderness areas were the least visited form of protected area among participants, nearly two of three individuals sampled had visited wilderness within the last five years.

Based on results, participants indicated strong support for the preservation of wilderness areas and other natural systems for current and future visitors. As such, it is clear that wilderness areas remain viable destinations for outdoor recreation. The results also suggest that visitation to local protected areas (e.g., local/county parks and greenways) could help serve as gateways that encourage individuals to venture out to more remote natural areas such as wilderness areas.

The natural qualities inherent in wilderness areas seemed to be their most valuable characteristic. This claim is supported by the participants seeing air and water protection as the most important benefits of wilderness areas; their understanding that wilderness areas are places to view flora, fauna, and experience the prevalence of natural conditions; and their primary motivations to visiting wilderness were to observe the beauty, sights, sounds and smells of nature. These participants experienced a high level of psychological attachment to these wilderness areas, while the areas also satisfied many of their psychological needs.

In considering three perceptions of wilderness across racial groups, political persuasion, and state of residence, it was apparent that individuals were not only supportive of wilderness but were well aware of the benefits that exist from having such areas. Such perceptions then translated into participants' conveying the need for the expansion of existing and creation of new wilderness areas closer to where they live. These findings are crucial to consider moving forward as the U.S. Congress makes decisions about the expansion of wilderness within the Southern Appalachian Region.

Though we are confident in the accurate and rigorous methods utilized through panel surveys such as this, it is apparent that Southern wilderness areas closer to respondents' residences were more frequently mentioned (e.g., those in TN, NC, GA, and SC). As such, wilderness areas in Virginia and Alabama within the Southern Appalachians Region were less mentioned as no data was collected from residents living in these two states. Inclusion of Roanoke, Virginia and Huntsville, Alabama may have added greater variability to our findings. Also, we primarily sampled individuals living either in urban or suburban areas within the six metropolitan areas (though as indicated in Figure 1, our coverage of the region extended to numerous rural areas). Perhaps results concerning perceptions of or use of wilderness areas would differ among those in more rural locations. Last but not least, criteria for sample selection included those individuals who indicated they had visited some form of protected area in the recent past. This was intentional so as to increase the likelihood that individuals had visited wilderness areas during that same time frame and be in position to answer questions pertaining to wilderness use. Despite these limitations, we are confident that our findings are an accurate representation of those living within the Southern Appalachians Region.

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## Appendix A. Questionnaire used for data collection

### 1. Experience in visiting protected areas in recent past

Over the past five years, how often have you visited the following types of protected areas?  
(1 = *never* and 5 = *more than 15 visits*)

	Never	1-5 visits	6-10 visits	11-15 visits	More than 15 visits
Local parks, greenways or nature preserves	1	2	3	4	5
County parks, greenways or nature preserves	1	2	3	4	5
State parks or state forests	1	2	3	4	5
National parks or national forests	1	2	3	4	5
Wilderness areas	1	2	3	4	5

*The Wilderness Act of 1964 allows Congress to preserve certain federal lands in their wild condition. Although these lands cannot be used for purposes such as timber harvesting, developing ski resorts, pipelines, or highways, they are open to primitive and unconfined recreation, including hunting and fishing. To date, Congress has added 765 areas to the National Wilderness Preservation System to protect wildlife, scenery, water, and recreation opportunities, and to keep these areas wild and natural. "Wilderness" is defined as federally-protected areas that are untrammeled, providing opportunities for great solitude, where visitors are welcome. Consider this information as you respond to the following questions concerning wilderness.*

### 2. Values (existing and bequest) of wilderness

Please indicate your level of agreement with each of the following statements concerning your values of wilderness. (1 = *strongly disagree* and 5 = *strongly agree*)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I enjoy reading about and viewing pictures, videos, TV shows and movies featuring wilderness areas.	1	2	3	4	5
I enjoy visiting areas to experience wilderness or knowing that I could do so in the future.	1	2	3	4	5
I enjoy knowing that other people are currently able to visit wilderness.	1	2	3	4	5
I enjoy knowing that future generations will be able to visit and experience wilderness areas.	1	2	3	4	5
I enjoy knowing that natural areas exist for their own sake.	1	2	3	4	5

### 3. Support for preservation of wilderness

Please indicate your level of agreement with each of the following statements concerning your support for the preservation of wilderness. (1 = *strongly disagree* and 5 = *strongly agree*)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
In general, I support the preservation of wilderness areas so they will always exist in their natural condition.	1	2	3	4	5
I would write a letter to my local congressional official to support the protection of wilderness.	1	2	3	4	5
I would attend town hall meetings to support the protection of wilderness.	1	2	3	4	5
I would financially support efforts for the protection of wilderness.	1	2	3	4	5

### 4. Perceptions of wilderness areas providing wilderness “character”

The term, “wilderness” means many things to people. Please indicate your level of agreement with each of the following statements concerning the character of wilderness. (1 = *strongly disagree* and 5 = *strongly agree*)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
A place with only natural sounds	1	2	3	4	5
A place where I do not see/hear motorized/mechanized equipment	1	2	3	4	5
A place I can go with relatively few people	1	2	3	4	5
A place with pure water	1	2	3	4	5
A place with relatively clean air	1	2	3	4	5
A place where human influences are relatively unnoticeable	1	2	3	4	5
A place where I can view native plants and animals	1	2	3	4	5
A place where natural conditions, or forces, dominate	1	2	3	4	5
A place with no (or few) restrictions on my behavior	1	2	3	4	5
A place with opportunity for un-restrained or unconfined recreation	1	2	3	4	5

## 5. Expectations of solitude experience

How might the following encounters impact your opportunities for experiencing solitude in natural areas. (1 = *negatively impact* and 5 = *positively impact*)

	Negatively Impact	Somewhat Negatively Impact	Neither	Somewhat Positively Impact	Positively Impact
Seeing/hearing motorized/mechanized traffic in the area	1	2	3	4	5
Seeing/hearing others visitors around me	1	2	3	4	5
Seeing/hearing resource managers (e.g., rangers, trail workers)	1	2	3	4	5
Seeing/hearing timber harvesting operations	1	2	3	4	5
Seeing modern built structures around	1	2	3	4	5
Seeing/hearing natural sounds (e.g., birds, rushing water)	1	2	3	4	5

## 6. Perceived potential benefits of wilderness attributes

Numerous benefits of wilderness have been noted since the passing of the Wilderness Act of 1964. Please indicate how important you believe each of the following wilderness benefits are. (1 = *not at all important* and 5 = *highly important*)

	Not at all Important	Minimally Important	Somewhat Important	Important	Highly Important
Protecting water quality	1	2	3	4	5
Knowing that future generations will have wilderness areas	1	2	3	4	5
Providing recreation opportunities	1	2	3	4	5
Protecting wildlife habitat	1	2	3	4	5
Providing spiritual inspiration	1	2	3	4	5
Providing natural areas for scientific study	1	2	3	4	5
Preserving unique wild plants and animals	1	2	3	4	5
Knowing that in the future I will have the option to visit a wilderness area (or primitive area) of my choice	1	2	3	4	5
Protecting air quality	1	2	3	4	5
Supporting local economies	1	2	3	4	5
Protecting rare and endangered species	1	2	3	4	5
Providing scenic beauty	1	2	3	4	5
Just knowing that wilderness and primitive areas exist	1	2	3	4	5



## 7. Constraints for visiting wilderness areas in past

Please indicate your level of agreement with each of the following statements concerning constraints you may have faced in past in considering whether or not to visit wilderness areas (1 = *strongly disagree* and 5 = *strongly agree*)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
Not enough time	1	2	3	4	5
Not enough money	1	2	3	4	5
Personal health reasons	1	2	3	4	5
No one to do activities with	1	2	3	4	5
Inadequate transportation	1	2	3	4	5
Crowded activity areas	1	2	3	4	5
Worried about safety in area	1	2	3	4	5
Inadequate facilities in area	1	2	3	4	5
Poorly maintained activity areas	1	2	3	4	5
Inadequate information about places to visit	1	2	3	4	5
Physical limitations	1	2	3	4	5
Outdoor pests (e.g., mosquitos, chiggers, ticks, etc.)	1	2	3	4	5
Feel unwelcome or uncomfortable	1	2	3	4	5
Do not feel knowledgeable or prepared	1	2	3	4	5
Fear of remoteness of area	1	2	3	4	5
Not close enough to my home	1	2	3	4	5

## 8. Likelihood of visiting wilderness areas in near future

“Wilderness” is defined as federally-protected areas that are untrammeled, providing opportunities for great solitude, where visitors are welcome. Given this definition, how likely are you to visit a wilderness area in the next five years? (*Please select one*)

- Very Unlikely
- Unlikely
- Neutral
- Likely
- Very likely

***Keeping in mind that Wilderness areas are those areas that have been federally designated by Congress that are natural and wild, untrammled, providing opportunities for great solitude, where visitors are welcome. Consider this information as you respond to the following questions concerning wilderness.***

**Degree of experience in visiting wilderness areas within the last five years**

9. Have you visited a wilderness area in the past five years? *(Please check one)*

- No (if no, skip to #18)
- Yes

10. Have you visited a wilderness area within the Southern Appalachian region (in AL, GA, NC, SC, TN or VA) in the past five years?

- No (if no, skip to #12)
- Yes

11. Which of the following Southern Appalachian Wilderness areas have you visited within the last five years *(Check all that apply)*

Alabama

- Sipsey
- Dugger Mountain
- Cheaha

Georgia

- Cohutta (GA & TN)
- Blood Mountain
- Rich Mountain
- Raven Cliffs
- Mark Trail
- Tray Mountain
- Brasstown

North Carolina

- Linville Gorge
- Shining Rock
- Middle Prong
- Southern Nantahala (NC & GA)
- Joyce Kilmer-Slickrock (NC & TN)

South Carolina

- Ellicott Rock (NC, GA, & SC)

Tennessee

- Big Frog (GA & TN)
- Little Frog
- Citico Creek
- Gee Creek
- Bald River Gorge
- Sampson Mountain
- Pond Mountain
- Big Laurel Branch
- Unaka Mountain

Virginia

- Barbours Creek
- Beartown
- Brush Mountain
- Garden Mountain
- Hunting Camp Creek
- James River Face
- Kimberling Creek
- Lewis Fork
- Little Dry Run
- Little Wilson Creek
- Mountain Lake
- Peters Mountain
- Priest
- Raccoon Branch
- Ramseys Draft
- Rich Hole
- Rough Mountain
- Saint Mary's
- Shawvers Run
- Stone Mountain
- Three Ridges
- Thunder Ridge

Other (name of area outside Southern Appalachian region or other identifying information as best you recall)

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*(please write in)*

**12. How did you hear about wilderness areas to visit? (Please check all that apply)**

- Always knew about them
- Social media
- Traditional media (e.g., web, print, radio)
- Word-of-mouth from friends or family members
- U.S. Forest Service office
- Guide books
- Saw blank spot on map and wanted to explore
- Other \_\_\_\_\_ (Please write in)

**13. Activities engaged in while visiting wilderness areas over the last five years**

Please indicate which of the following activities you have engaged in while visiting wilderness areas over the last five years. (Please circle a response for each activity)

Horseback riding on trails, backcountry roads or cross country?	Yes	No
Picnicking?	Yes	No
Day hiking?	Yes	No
Backpacking on trails or cross country?	Yes	No
Camping?	Yes	No
Gather mushrooms, berries, firewood or other natural products?	Yes	No
View, identify, or photograph wildlife, fish or natural scenery?	Yes	No
Fishing in mountain rivers, lakes, or streams?	Yes	No
Canoeing or kayaking?	Yes	No
Rafting, tubing, or any other type of floating on rivers or other flowing water?	Yes	No
Swimming in streams, lakes, or ponds?	Yes	No

**14. Motivations for visiting wilderness areas over the last five years**

Please indicate your level of agreement with each of the following statements concerning your motivations for visiting wilderness areas over the last five years. (1 = *strongly disagree* and 5 = *strongly agree*)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
To be with people of similar interests	1	2	3	4	5
To do things with other people	1	2	3	4	5
To meet friendly people	1	2	3	4	5
To get away from other people	1	2	3	4	5
To be alone	1	2	3	4	5
To relieve tension	1	2	3	4	5
To get away from everyday routine of life	1	2	3	4	5
To recreate (for mental, psychological, or physical health and well-being)	1	2	3	4	5
To have a good time	1	2	3	4	5
To observe the beauty of nature	1	2	3	4	5
To enjoy the sights, sounds, and smells of nature	1	2	3	4	5
To gain knowledge or practice primitive skills	1	2	3	4	5
To pass on gained knowledge to others	1	2	3	4	5
To learn about the countryside	1	2	3	4	5

### 15. Place attachment to your special wilderness area

Considering a Wilderness area that is most special to you, please indicate your level of agreement with each of the following statements (1 = *strongly disagree* and 5 = *strongly agree*)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I identify with my special Wilderness area.	1	2	3	4	5
I feel my special Wilderness area is part of me.	1	2	3	4	5
I feel that my identity is reflected in my special Wilderness area.	1	2	3	4	5
Visiting my special Wilderness area says a lot about who I am.	1	2	3	4	5
I cannot imagine a better place for what I like to do than my special Wilderness area.	1	2	3	4	5
My special Wilderness area is the best place for the recreational activities that I enjoy.	1	2	3	4	5
I enjoy visiting my special Wilderness area more than other areas.	1	2	3	4	5
My special Wilderness area means a lot to me.	1	2	3	4	5
I really enjoy my special Wilderness area.	1	2	3	4	5
I feel a strong sense of belonging with my special Wilderness area.	1	2	3	4	5
I associate people in my life with my special Wilderness area.	1	2	3	4	5
The time spent in my special Wilderness area allows me to bond with my family.	1	2	3	4	5
Visiting my special Wilderness area allows me to spend time with my family and friends.	1	2	3	4	5

### 16. Your special wilderness area meeting psychological needs

Considering a Wilderness area that is most special to you, please indicate your level of agreement with each of the following statements (1 = *strongly disagree* and 5 = *strongly agree*)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I feel free to visit my special Wilderness area in my own way (i.e., where, when, how).	1	2	3	4	5
I feel free to make my own decisions when I visit my special Wilderness area.	1	2	3	4	5
I feel like I am in charge of my own decisions when I visit my special Wilderness area.	1	2	3	4	5
I feel that I am able to complete activities that challenge me when I visit my special Wilderness area.	1	2	3	4	5
I feel confident that I can do personally challenging activities when I visit my special Wilderness area.	1	2	3	4	5
I feel confident in my ability to perform activities that challenge me when I visit my special Wilderness area.	1	2	3	4	5
I feel like I share a common bond with people who are important to me when we visit my special Wilderness area.	1	2	3	4	5
I feel connected to people who I interact with while we visit my special Wilderness area.	1	2	3	4	5
I feel like I get along well with other people who I interact with while we visit my special Wilderness area.	1	2	3	4	5

**17. What you would like to see for the future of wilderness areas**

Please indicate your level of agreement with each of the following statements concerning what you would prefer for the future of wilderness areas (1 = *strongly disagree* and 5 = *strongly agree*)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
More wilderness areas should be protected	1	2	3	4	5
I would enjoy wilderness areas closer to me	1	2	3	4	5
I would like areas I visit to be managed as wilderness	1	2	3	4	5
I would like existing wilderness areas to expand in size	1	2	3	4	5

**Demographics**

18. What is your zip code? *(Please write in number)*

\_\_\_\_\_

19. In what year were you born?

\_\_\_\_\_ *(Please write in year)*

20. With what gender do you identify? *(Please select one)*

- Male
- Female
- Other \_\_\_\_\_ *(Please write in)*
- Prefer not to answer

21. What is the highest level of education you have completed? *(Please select one)*

- Primary / Elementary school
- Secondary / High school certificate/ diploma / GED
- Technical, vocational or trade school
- Four-year college (B.A., B.S., B.F.A.)
- Master's Degree (M.A., M.S., M.F.A., M.Arch., M.B.A.)
- Ph.D. / Professional (M.D., J.D., D.V.M., D.D.M.)

22. What is your race/ethnicity? *(Please check all that apply)*

- American Indian or Alaska Native
- Asian
- Black or African American
- Native Hawaiian or Pacific Islander
- White
- Two or more of the above

23. Would you consider yourself Hispanic/Latino? *(Please select one)*

- No
- Yes

24. When it comes to politics, do you consider yourself liberal, conservative, or somewhere between?

(Please select one)

- Very conservative
- Conservative
- Slightly conservative
- Neither conservative or liberal
- Slightly liberal
- Liberal
- Very liberal

25. Are you a member of an environmental group or conservation group? (Please select one)

- No
- Yes

**26. General beliefs about the environment**

Please indicate your level of agreement with each of the following statements concerning your beliefs about the environment. (1 = *strongly disagree* and 5 = *strongly agree*)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
We are approaching the limit of the number of people the earth can support.	1	2	3	4	5
When humans interfere with nature, it often produces disastrous consequences.	1	2	3	4	5
Plants and animals have as much right to exist as humans.	1	2	3	4	5
The earth is like a spaceship with very limited room and resources.	1	2	3	4	5
The balance of nature is very delicate and easily upset.	1	2	3	4	5
Humans were meant to rule over the rest of nature.	1	2	3	4	5
Economic development and environmental protection can go hand in hand.	1	2	3	4	5
Nature and natural areas are a part of my heritage.	1	2	3	4	5
It's important to balance human impacts on the environment by protecting areas where natural systems can be unimpaired.	1	2	3	4	5

**Appendix B. Number of times SAR wilderness areas were mentioned as visited**

<i>SAR wilderness area (state)</i>	<i>n<sup>a</sup></i>
Southern Nantahala (NC and GA)	87
Shining Rock (NC)	76
Linville Gorge (NC)	72
Big Laurel Branch (TN)	67
Bald River Gorge (TN)	66
Brasstown (GA)	64
Cohutta (GA and TN)	61
Blood Mountain (GA)	52
Big Frog (GA and TN)	51
Ellicott Rock (NC, GA, and SC)	48
Stone Mountain (VA)	43
Other	43
Joyce Kilmer-Slickrock (NC and TN)	42
Citico Creek (TN)	41
Little Frog (TN)	37
Pond Mountain (TN)	33
Dugger Mountain (AL)	32
Raven Cliffs (GA)	31
Mark Trail (GA)	29
Brush Mountain (VA)	29
Rich Mountain (GA)	28
Tray Mountain (GA)	26
Gee Creek (TN)	25
Unaka Mountain (TN)	21
Cheaha (AL)	20
Mountain Lake (VA)	20
Middle Prong (NC)	19
James River Face (VA)	17
Sampson Mountain (TN)	17
Beartown (VA)	16
Hunting Camp Creek (VA)	13
Garden Mountain (VA)	9
Thunder Ridge (VA)	9
Three Ridges (VA)	9
Lewis Fork (VA)	8
Little Wilson Creek (VA)	8
Sipsey (AL)	8
Little Dry Run (VA)	6
Raccoon Branch (VA)	6
Barbours Creek (VA)	5
Kimberling Creek (VA)	5
Ramseys Draft (VA)	5
Shawvers Run (VA)	4
Peters Mountain (VA)	3
Rich Hole (VA)	2
Rough Mountain (VA)	2
Priest (VA)	1
Saint Mary's (VA)	1

<sup>a</sup> Numbers do not add to total sample size given the nature of 'check all that apply' question format.