Visitors’ Travel Behavior and Perceptions of the Allegheny National Forest Region

Prepared by:

Jinyang Deng
Hospitality, Hotel Management and Tourism
Texas A & M University
Professor Emeritus
West Virginia University

Doug Arbogast
WVU Extension Service

Yuan Zhuang
Stephan Goetz
Northeast Regional Center for Rural Development
The Pennsylvania State University

DRAFT: For Review and Discussion Only

2/7/2025

Table of Contents

List of Figures

List of Tables

Funding

This work is supported by the United States Department of Agriculture (USDA) Agriculture and Food Research Initiative, project award no. 2022-68006-36453, and by the USDA McIntire Stennis Program (#WVA00803) and USDA National Institute of Food and Agriculture Multistate Project (NE2251). The Northeast Regional Center for Rural Development, which is funded by U.S. Congress through USDA NIFA's annual appropriations process, also contributed to this work. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and should not be construed to represent any official USDA or U.S. Government determination or policy.

EXECUTIVE SUMMARY

This visitor survey for the Allegheny National Forest area, PA, was conducted using the Prolific online survey platform with a valid sample size of 560 respondents from five cities identified as target tourist markets by local leadership including: Pittsburgh, PA; Buffalo, NY; Rochester, NY; Cleveland, OH; and Philadelphia, PA.

The purpose of this survey was to learn more from visitors to the region about their trip characteristics and their perceptions of the importance and performance of sustainability indicators, destination competitiveness, relationships between humans and the environment, and travel preferences and behaviors post COVID-19.

Results show the Allegheny National Forest (Elk, Warren, McKean Counties) was the most popular attraction in the area. More than two thirds (71.3%) of respondents reported having visited the forest during their most recent trips to the five-county region. Specifically, McKean County (53.7%) was the most visited county in the region, followed by Warren (45.4%). In terms of activities in which visitors participated, hiking (78.6%) and sightseeing (63.7%) were the most frequently cited.

Nearly 17% of respondents reported group spending of $201 to $300/per trip, the largest among all 13 spending segments. Respondents were more likely to stay overnight in the post-COVID-19 (2021, 2022, and 2023) survey years than pre-COVID-19 (2019) as well as during the height of the pandemic (2020). The average number of nights stayed was 2.84. Most respondents stayed in tents or camped (31.1%), followed by hotels/motels/inns (28.8%), with friends and/or relatives (26.2%), and at Airbnb (20.5%) properties.

In terms of respondents' perceptions of environmental, socio-economic, cultural, and institutional sustainability indicators, 92.3% of respondents either moderately (28.1%) or strongly agreed (64.2%) that "environmental quality" was the most important indicator, followed by "protection of the natural environment" (91.9%), and "management of waste" (82.0%). All three indicators relate to the environmental domain of sustainability. As measured by mean (*M*) responses on a Likert scale visitors felt the environmental indicators were most important of four indicators, with an average mean score of 4.12 for the eight items along with the cultural indicators ($M = 3.93$), and they felt less strongly about the institutional ($M = 3.67$) and socio-economic indicators ($M = 3.67$).

An Importance-Performance Analysis (IPA) indicates that six environmental indicators (items 1, 2, 3, 5, 6, and 8), five cultural indicators (items 18, 19, 20, 21, and 24), and one institutional indicator (item 29) are located in the 'keep up the good work' quadrant, while two socio-economic indicators (items 11 and 16), one cultural indicator (item 23), and one institutional indicator (item 30) are located in the 'concentrate here' quadrant, implying that higher priorities for improvement should be placed on these socio-economic, cultural, and institutional indicators.

1. Introduction

Gateway communities in the United States suffer from a similar lack of research-based performance indicators to measure and evaluate their strengths and weaknesses and to clearly identify where additional resources are needed to enhance the tourism and recreation economy. To this end, a multi-state, integrated project team that involves research and extension faculty from West Virginia University, Pennsylvania State University, the University of Vermont, and the University of New Hampshire was formed with support from the Northeast Regional Center for Rural Development to develop an integrated process for measuring and evaluating sustainable tourism performance indicators and competitiveness in rural destinations in the northeast United States. By understanding the factors that make destinations resilient the project will produce policy recommendations and general guidelines for improving destination and gateway community sustainability and well-being. This project was funded through a USDA Agriculture and Food Research Initiative grant and adopts a mixed method approach that involves primary and secondary data collection for three targeted rural case study destinations in northwestern Pennsylvania, the Upper Valley region on the Vermont/New Hampshire border, and the Monongahela National Forest region of West Virginia. This report focuses on findings on visitor profiles, visitor spending, and visitors' perceptions of tourism sustainability indicators in the Allegheny National Forest (ANF) region, Pennsylvania. A companion report focuses on the residents of these communities and their perceptions of the local tourism and recreation economy.

2. Methods

2.1. Questionnaire

A questionnaire was designed based on findings from the literature (e.g., Asmelash & Kumar, 2019; Powell et al., 2017; Vogt, 2021) and with input from the research team as well as external reviewers including tourism leadership in the targeted destinations. This questionnaire consisted of eight sections related to visitors: 1) background information, 2) trip characteristics, 3) perceptions of tourism sustainability indicators: importance, 4) perceptions of tourism sustainability indicators: performance, 5) perceptions of relative competitiveness of the ANF as a tourist or recreational area, 6) post-COVID-19 travel preferences and behaviors, 7) perceptions of the relationship between humans and the environment, and 8) socio-demographics (Appendix A). The questionnaire was built into Qualtrics and reviewed and approved by the West Virginia University Institutional Review Board. The questionnaire was pilot tested on the Prolific online survey platform in December 2022 and finalized based on comments and feedback from 44 participants.

2.2. Data collection and data analysis

The questionnaire adopted a two-step approach: an initial survey that identifies eligible participants and a follow-up full-length survey that targets those who met the screening criteria in the initial survey. The target cities for the study area include: Pittsburgh, PA; Buffalo, NY; Rochester, NY; Cleveland, OH; and Philadelphia, PA. Since the matching participants from Prolific can only be identified at the state level, not at the city level, 5,671 prospective participants were recruited in each targeted state. Specifically, for the initial survey, the purpose of the survey was described as follows:

> This is a short screening survey that only asks you to answer 3 questions. Only those who meet the study criteria will be invited to participate in the follow-up full survey. This study is being conducted by West Virginia University. To enroll in this study, you must: 1) be at least 18 years old, and 2) have travelled at least once to the Allegheny National Forest area in PA in the past 4 years or so (2019-present).
>
> The Allegheny National Forest area includes the national forest itself and its surrounding five counties: Warren, McKean, Forest, Elk, and Cameron.
>
> This initial short survey takes approximately 2 minutes and pays $0.5.

For the follow-up full length survey, the following description was used:

> You recently participated in a short screening survey on tourism resilience and sustainability in the Allegheny National Forest area. You are invited again to participate in the second survey that targets those who met the screening criteria: at least 18 years old and have travelled at least once to the Allegheny National Forest area in PA in the past 4 years or so (2019-present).
>
> This study is being conducted by West Virginia University. You will be asked to answer questions on your trip characteristics, your perceptions of tourism sustainability indicators, and your demographics. This study takes approximately 13 minutes and pays $4.50.

The initial survey started on March 1, 2023, and ended on Mar 24, 2023, with 1,702 participants. Of this number, 674 reported having visited the area in the past 4 years. These eligible participants were then invited again to take the follow-up full length survey, which started on March 1, 2023, and ended on May 19, 2023. Of the 674 participants invited, 602 responded, resulting in a response rate of 89.3%. Of the 602 responses, 42 were removed due to systematic incomplete responses, resulting in 560 valid responses for further analysis.

As mentioned, this report is largely descriptive. Importance-Performance Analysis (IPA) was used for plotting indicator items into each of the four quadrants: keep up the good work, concentrate here, low priority, and possible overkill. The two most common methods of placing crosshairs for establishing the quadrants are: scale-centered, where the scale middle (i.e., 3 on a five-point Likert scale) is used; and data-centered, where the item mean scores are used. This report used the data-centered approach.

3. Results

3.1. Demographics

Of the 560 valid respondents, over half were males (56.2%) while females accounted for 42.1%. In addition, a small percent of respondents identified themselves as non-binary (1.1%) while 0.6% preferred not to say (Figure 1).

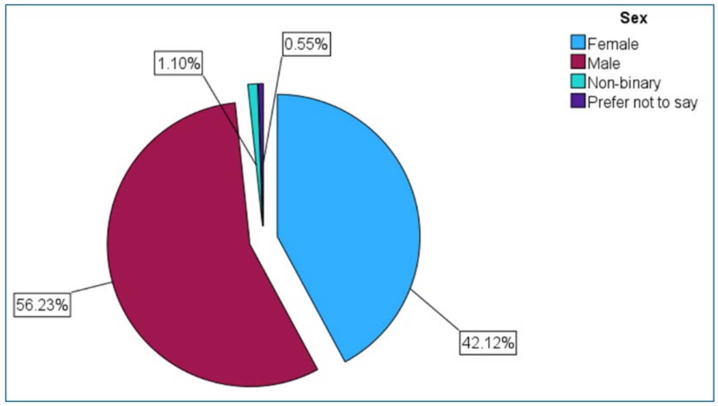

Figure 1. Respondents by sex

Most respondents were young, with nearly three-quarters (74.7%) ranging between 18 and 44 years of age (and 16.4% for age range 18-24, 34.3% for age 25-34, and 24.0% for age 35-44, respectively) (Figure 2). Respondents between 45 and 64 years old accounted for 22.4% while a small percentage of respondents were 65 years old and over (2.6%). In addition, 0.4% of respondents preferred not to tell.

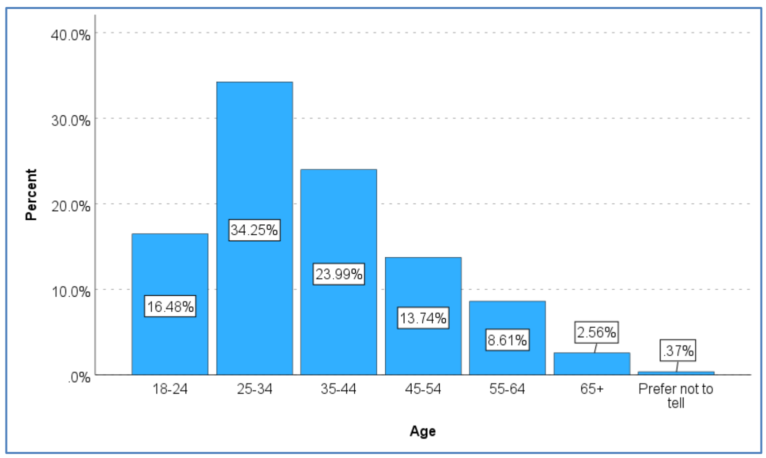

Figure 2. Respondents by age

Figures 3 and 4 present respondents by education and income, respectively. Most respondents were well educated and affluent. Specifically, 84.8% had some level of college education; 23.7% had attended some college, 41.8% held an undergraduate or post-secondary degree, and nearly one in five (19.3%) had a graduate school degree. Also, 14.5% had a high school degree or equivalent while a very small share of respondents (0.7%) had less than a high school degree.

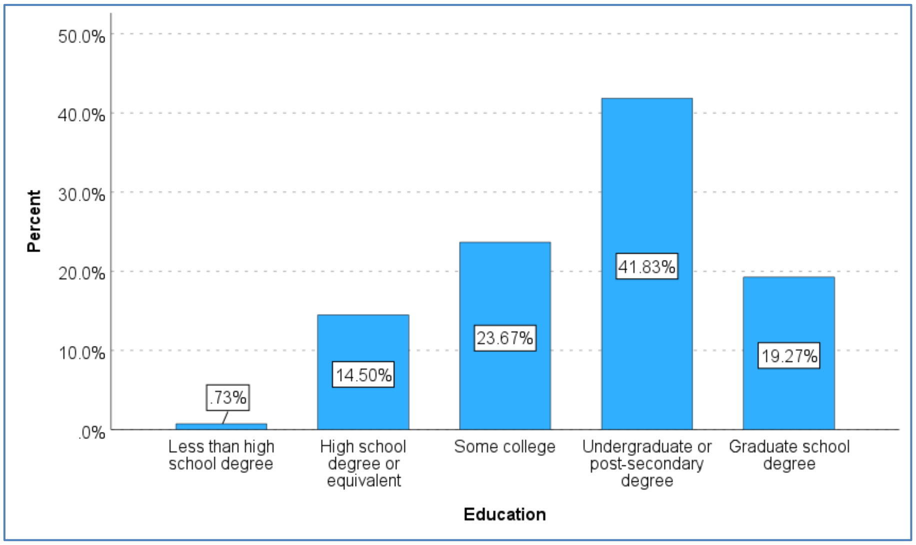

Figure 3. Respondents by education

In terms of pre-tax household income, over half of respondents (59.2%) reported a household income of less than $80,000. The remaining 40.8% reported an income of $80,001 or above (13.2% between $80,001 and $100,000; 17.0% between $100,001 and $150,000, 5.3% between $150,001 and $200,000, 2.8% between $200,001 and $250,000, 1.5% between $250,001 and $300,000, and 1.1% over $300,000, respectively).

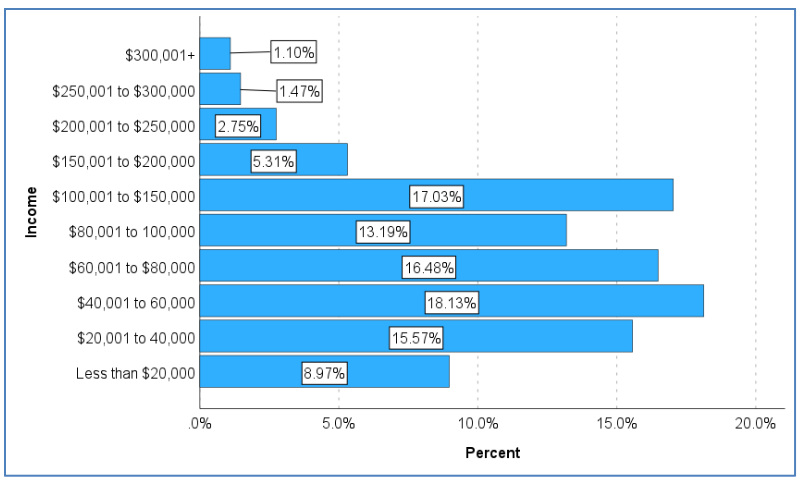

Figure 4. Respondents by income

Survey participants were also asked to indicate the extent to which they were interested in relocating their family or business to the Allegany National Forest area (Figure 5). As the figure shows, about half (47.3%) of respondents reported not being interested at all in relocating to the area, while 10% of respondents were extremely or very interested in relocating. In addition, 17.2% and 25.6% of respondents were either moderately or slightly interested in relocation. Further analysis (such as where they are from and the distance they travelled to reach the area) could reveal characteristics of these visitors that may be helpful for targeted recruitment efforts. In addition, a more rigorous analysis based on a regression of income, education, and other variables can be conducted to predict respondents' interests in relocation.

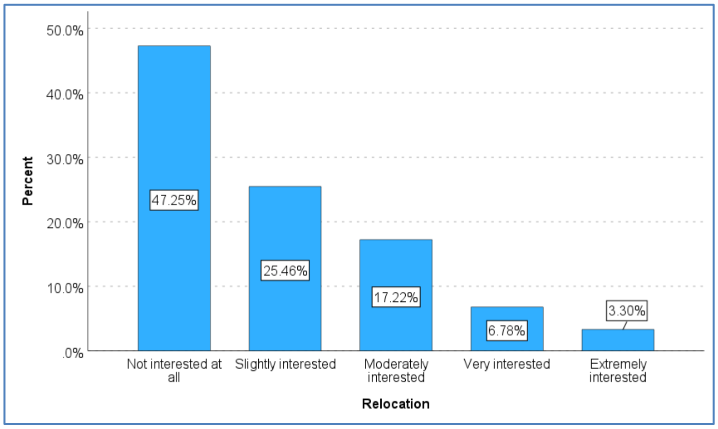

Figure 5. Levels of interest in relocation to the area

3.2. Trip Characteristics

Most recent trip to the area

Participants were asked to indicate the most recent year in which they travelled to the area (2019 to present). Figure 6 shows that one-quarter (25.0%) of respondents visited the area in 2019 (pre-COVID-19), which is higher than the 15.4% in 2020 (during COVID-19) and 20.5% in 2021 (transition year toward post-COVID-19), but lower than 28.0% in 2022 (post-

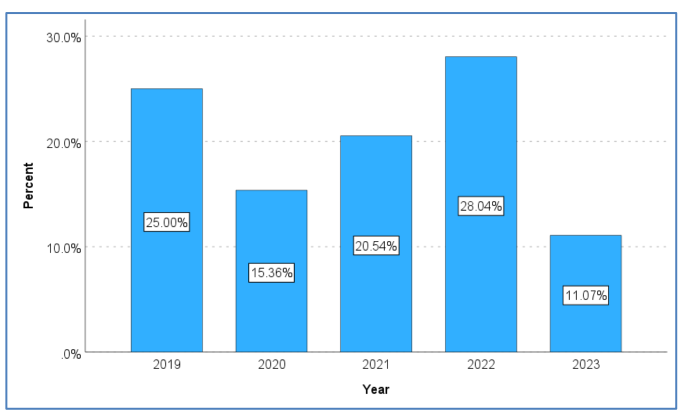

Figure 6. Most recent year travelled to the area

COVID-19). More than one in ten (11.1%) of respondents visited the area most recently in 2023 (as of May 19, 2023, the closing date for the survey).

Origin of Respondents by cities

Figure 7 presents the origin of respondents by state. The five targeted cities—Pittsburgh, Philadelphia, Buffalo, Rochester, and Cleveland—combined accounted for over half of the respondents (51.2%), with 14.6% being from Pittsburgh, which is closely followed by Philadelphia (14.3%). It is worth noting that a large portion of respondents were from places other than the five targeted cities in those states (see Table 1), indicating that visitors travel from a wider region than the leaders had expected when they identified these five cities as major sources. It should be noted that the percentage for each city should not be used as a proxy for market segments for the area because the survey participants were intentionally limited to the five states. A significant number of respondents came from areas outside the five targeted cities in those states (see Table 1).

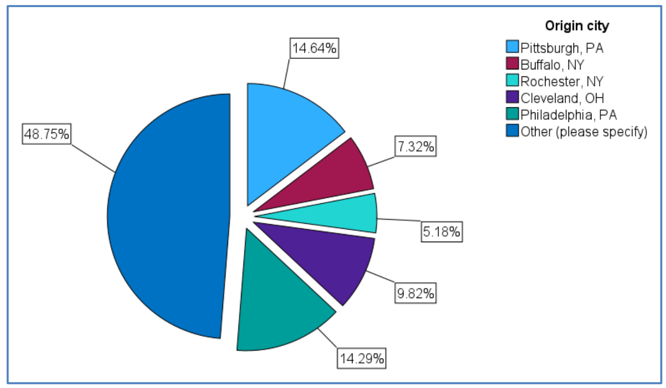

Figure 7. Origin of respondents by city

Table 1: Origin of respondents (Other)

City	Count	City	Count
New York, NY	27	Altoona, PA	2
Columbus, OH	14	Bethlehem, PA	2
Erie, PA	11	Bloomsburg, PA	2
Brooklyn, NY	9	Bronx, NY	2
Cincinnati, OH	8	Dingmans Ferry, PA	2
Harrisburg, PA	7	Dubois, PA	2
Syracuse, NY	7	East Liverpool, OH	2
Dayton, OH	6	Elmira, Ny	2

State College, PA	6	Gettysburg, PA	2
York, PA	6	Lancaster, PA	2
Akron, OH	4	Lansdale, PA	2
Allentown, PA	4	Meadville, PA	2
Athens, OH	4	New Castle, PA	2
Long Island, Ny	4	Roulette, PA	2
Queens, Ny	4	Shippensburg, PA	2
Staten Island, Ny	4	Warren, PA	2
Toledo, OH	4		
Albany, NY	3		
Bradford, PA	3		
St. Marys, PA	3		

Places Visited

Table 2 presents places that respondents visited during their most recent trip to the area. ANF (Elk, Warren, McKean Counties) was the most popular attraction in the area. More than two-thirds (71.3%) of respondents reported having visited the forest during their most recent trip. The second most popular place was Allegheny River (44.1%), and the third most popular place was Logan Falls (14.2%). The least visited places/events included Sinnemahoning Canyon Vista (1.4%), Ridge Road (1.3%), and the Fred Wood Trail (1.3%).

Table 2. Places visited

Places visited	Responses N	Responses %	Percent of cases
Allegheny National Forest (Elk, Warren, McKean)	398	28.5	71.3
Allegheny River	246	17.6	44.1
Logan Falls	79	5.7	14.2
Kinzua Dam (Warren & McKean)	62	4.4	11.1
Kinzua Bridge State Park Visitor Center and Sky Walk (McKean)	62	4.4	11.1
Cook Forest State Park (dark skies camping)	54	3.9	9.7
Clarion River Water Trail (Elk County)	54	3.9	9.7
Rim Rock	47	3.4	8.4
Elk Country Visitor Center (Benezette Township)	42	3.0	7.5
Clarion River Kayaking and Canoeing (Forest County)	42	3.0	7.5
Eldred World War II Museum	39	2.8	7.0
Straub Brewery (Elk County)	36	2.6	6.5
Zippo/Case Museum (McKean County)	33	2.4	5.9

Table Falls	31	2.2	5.6
Tionesta Lake	31	2.2	5.6
Trails at Jake's Rock (Warren)	26	1.9	4.7
Haller's General Store	21	1.5	3.8
Tionesta Market Village	20	1.4	3.6
Twisted Vine Beverage	19	1.4	3.4
Winslow Hill	16	1.1	2.9
Sinnemahoning Canyon Vista	8	0.6	1.4
Ridge Road (Cameron County)	7	0.5	1.3
The Fred Woods Trail (Cameron County)	7	0.5	1.3
Others	18	1.3	3.2
Total	1398	100	250.8

Note: This is a multiple-response question where percent of response is the percentage of each response out of the total number of responses with a sum total of 100, while percent of cases refers to the percent of respondents who visited a given place.

Respondents were also asked to click on the ANF area map to roughly show places they visited during their most recent trip to the area (with a maximum of 10 clicks allowed per respondent). Figure 8 shows the two most popular subregions based on the frequency of clicks. Subregion 1 (between McKean and Warren counties) which features Rimrock Overlook, Dewdrop Campground and Big Bend Overlook, etc. was the most visited, followed by subregion 2 (also between McKean and Warren) that includes places such as Saybrook, Shefield, and Barnes, and subregion 3 (within Forest) that features the Outflow Recreation Area. Accordingly, the top three most-visited counites are McKean (53.7%), Warren (45.4%), and Forest (40.0%) (Table 3).

Table 3. Counties visited

Counties visited	N	Responses %	Percent of cases %
McKean	286	30.5	53.7
Warren	242	25.8	45.4
Forest	213	22.7	40.0
Elk	158	16.9	29.6
Other	30	3.2	5.6
Total	937	100.0	175.8

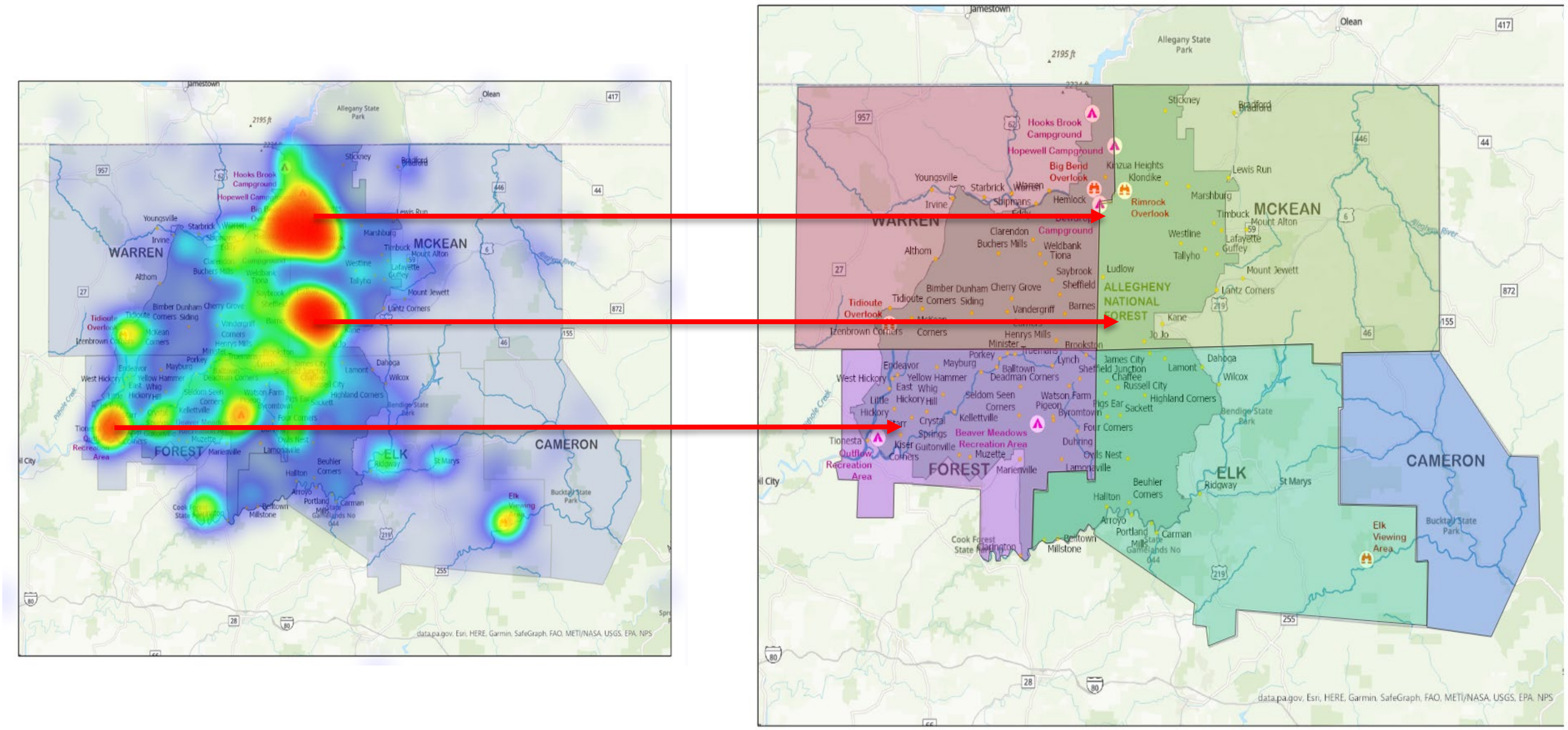

Figure 8. Heatmap showing most visited places in the Allegheny National Forest area

Travel Purposes

In terms of travel purpose (respondents were allowed to choose multiple purposes), most respondents (93.0%) traveled to the ANF area for leisure/holiday/vacation, followed by visiting friends and/or relatives (VFR) (24.8%), and business (2.7%) (see Table 4). A very small number of respondents (3.6%) reported having visited the area for other reasons (e.g., traveling through on a road trip; driving through the state, taking the scenic route; mixing leisure and business; just exploring; picking up a person in another state and spending a few days in the forest, etc.).

Table 4. Travel purposes

Reasons for visiting the area	N	Responses	Percent of cases
Leisure	521	75.0	93.0
Visiting friends/relatives	139	20.0	24.8
Business	15	2.2	2.7
Others	20	2.9	3.6
Total	695	100	124.1

Frequency of Visits

Respondents were asked to report how many times they have visited the ANF area in the past four years or so (2019- present). Responses are displayed in Figure 9. Interestingly, nearly half of respondents (49.8%) reported visiting the area for the first time, followed by 42.3% of respondents who have visited between two and five times. A small number of respondents reported a frequency of visits of 6-10 times (4.5%), or more than 10 times (3.4%), respectively. The average number of visits in the previous 12 months was 1.22 times.

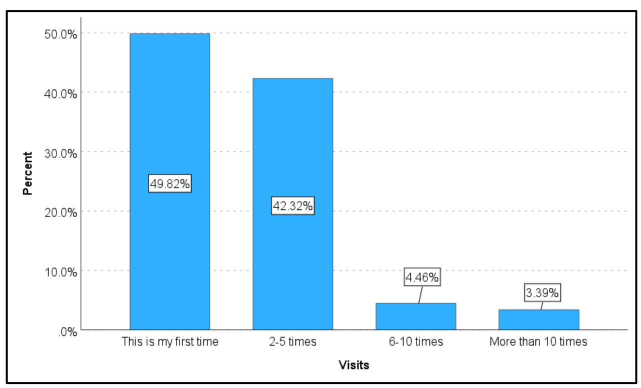

Figure 9. Frequency of visits in the past 3 years

Group Size

By far, most respondents reported visiting the area in groups of two (43.3%) or 3-5 persons (42.9%). Additionally, 5.6% reported having traveled to the area in groups of 6-10 people, and 7.2% traveled alone. A relatively small percentage of respondents traveled with more than 10 people (1.1%) (Figure 10).

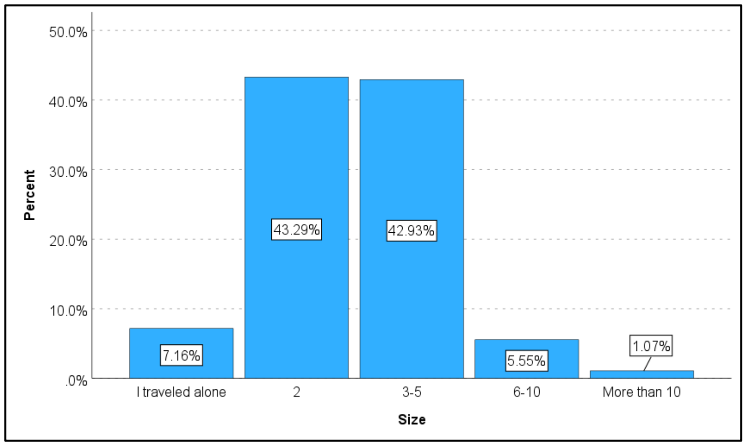

Figure 10. Group size

Activities Participated In

Table 5 presents activities that respondents participated in during their most recent trip to the region. Not surprisingly, hiking was the most frequently reported activity, with the most responses (78.6 %), closely followed by sightseeing (63.7%). These two activities were also reported as the primary activity by 49.6% and 19.9% of respondents (Table 5). Other popular activities included viewing wildlife (56.6%), picnicking (46.7%), and shopping (35.9%). In contrast, activities such as hunting (2.9%), performing arts (2.9%), snowmobiling/ATV/UTV riding (2.0%), downhill skiing/snowboarding (1.3%), and XC skiing (0.9%) were the least commonly reported activities.

Table 5. Activities participated in

Activities participated in	N	Responses	Percent of cases
Hiking	431	15.9	78.6
Sightseeing	349	12.9	63.7
Viewing wildlife	310	11.5	56.6
Picnicking	256	9.5	46.7
Shopping	197	7.3	35.9
Food & drink experiences	181	6.7	33.0
Fishing	142	5.3	25.9
Swimming	124	4.6	22.6
Farms/farmer's markets	117	4.3	21.4
Canoeing/Kayaking	114	4.2	20.8
Backpacking	102	3.8	18.6
Fairs & events	57	2.1	10.4
Nightlife	42	1.6	7.7
Leaf peeping	40	1.5	7.3
Mountain Biking	35	1.3	6.4
Factory tours	29	1.1	5.3
Whitewater Rafting	29	1.1	5.3
Geocaching	27	1.0	4.9
Rail-trail/Road Biking	26	1.0	4.7
Rock Climbing/Bouldering	26	1.0	4.7
Hunting	16	0.6	2.9
Performing arts	16	0.6	2.9
Other	14	0.5	2.6
Snowmobiling/ATV/UTV riding	11	0.4	2.0
Downhill Skiing/Snowboarding	7	0.3	1.3
XC Skiing	5	0.2	0.9
Total	2,703	100.0	493.2

Table 6. Primary activities reported

Primary activities	N	Responses	Percent of cases
Hiking	264	36.6	49.6
Sightseeing	106	14.7	19.9
Viewing wildlife	40	5.5	7.5
Picnicking	28	3.9	5.3
Food & drink experiences	27	3.7	5.1
Fishing	25	3.5	4.7
Mountain Biking	21	2.9	3.9
Swimming	19	2.6	3.6
Backpacking	18	2.5	3.4
Other (please specify)	17	2.4	3.2
Canoeing/Kayaking	15	2.1	2.8
Fairs & events	15	2.1	2.8
Rail-trail/Road Biking	14	1.9	2.6
Shopping	14	1.9	2.6
Hunting	13	1.8	2.4
Leaf peeping	11	1.5	2.1
Whitewater Rafting	11	1.5	2.1
Nightlife	9	1.2	1.7
Factory tours C	8	1.1	1.5
Geocaching	8	1.1	1.5
Snowmobiling/ATV/UTV riding	8	1.1	1.5
Rock Climbing/Bouldering	7	1.0	1.3
Downhill Skiing/Snowboarding	6	0.8	1.1
Farms/farmer's markets	6	0.8	1.1
Performing arts	6	0.8	1.1
XC Skiing	6	0.8	1.1
Total	722	100.0	135.7

Spending

Figure 11 presents the distribution of group spending/per trip reported by respondents. As shown, 16.8% of respondents reported a group spending of $201 to $300/per trip, the largest percentage among all spending segments, followed by the group spending less than $100 (15.4%) and $101 to $200 (14.1%).

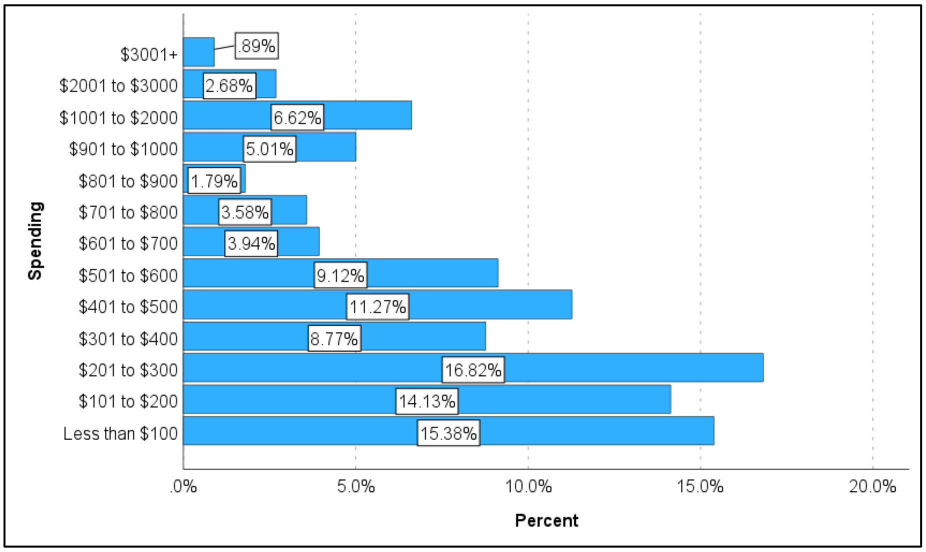

Figure 11. Group spending/per trip

Figure 12 presents the percentage of spending across various ranges from 2019 to 2023. Notably, most respondents spent less $300, with a peak in 2020 in the range of $101 to $200. The years 2019 and 2021 showed similar patterns, particularly in the lower spending categories, with a gradual decrease in the percentages at higher spending intervals. In 2022 and 2023, a noticeable decline occurred in the percentage of spending in most categories compared to previous years; this is especially notable because inflation also increased in these years, while at the same time any COVID-related stimulus funds received by households may have been exhausted. The least frequently reported spending interval across all years was in the highest category, $3,000 and above. The data indicates varying consumer spending patterns over the five years, with a significant peak in the lower spending brackets during 2020.

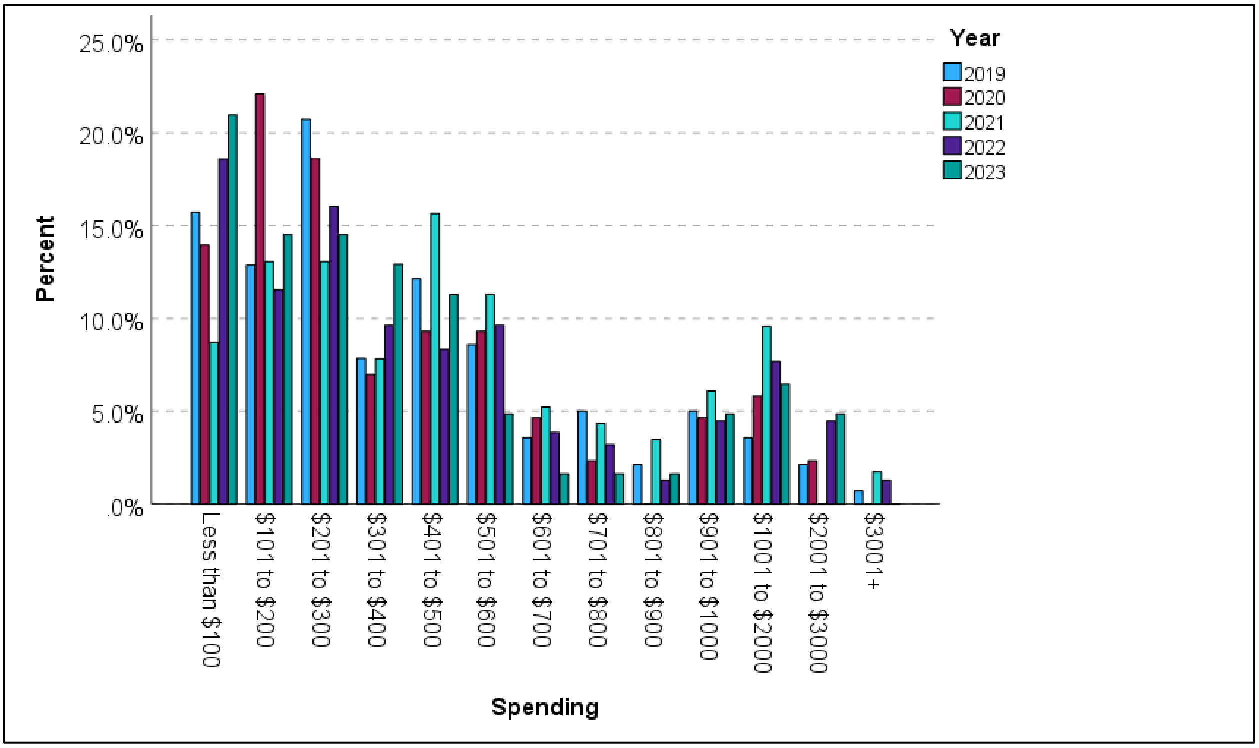

Figure 12. Group spending/per trip by year

Overnight Stays

The spending pattern shown in Figures 11 and 12 generally corresponds with most respondents being overnight visitors (62.8% vs. 37.2% being day trippers) as shown in Figure 13. Interestingly, respondents were more likely to stay overnight post-COVID-19 (2021, 2022, and 2023) than pre-COVID-19 (2019) and during the height of the pandemic in 2020 (Figure 14). The average number of nights stayed was 2.84.

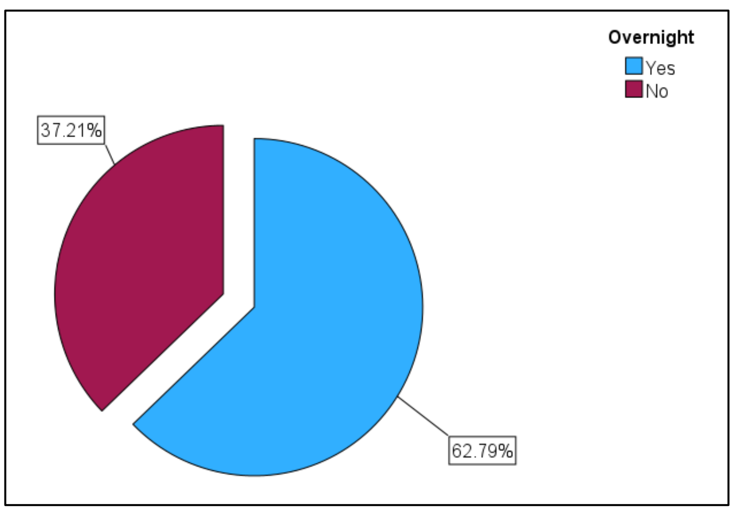

Figure 13. Overnight visitors vs. day trippers

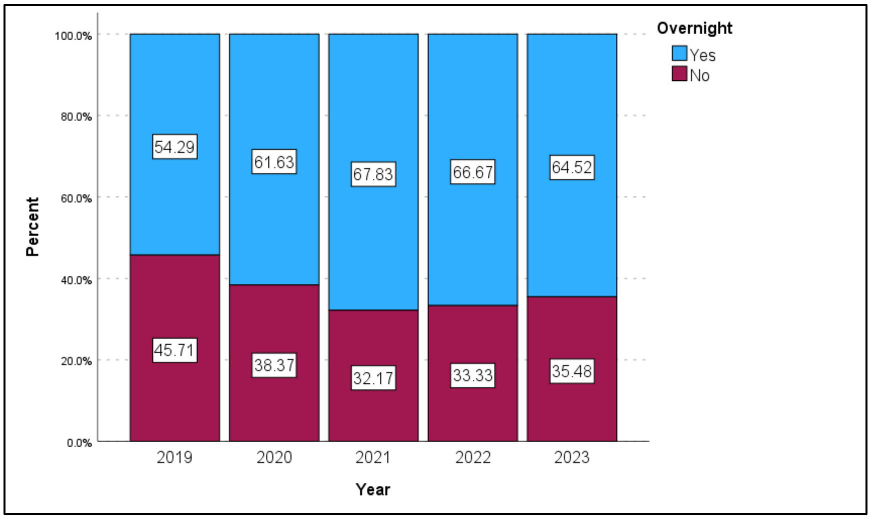

Figure 14. Overnight visitors vs. day trippers by year

Table 7 presents responses on where respondents stayed during their most recent trip to the Allegheny National Forest area (note; as with their responses on travel purposes, respondents were also allowed to choose multiple lodging types). As shown, most visitors stayed in tents or camped (31.1%), followed by hotel/motel/inns (28.8%), friends/relatives (26.2%), and Airbnb (20.5%). A small number of respondents stayed in youth hostels (1.4%), homestays (0.6%), and timeshare (0.3%).

Table 7. Respondents by lodging types

Lodging types	Responses N	Responses %	Percent of cases %
Camping/tent	109	24.7	31.1
Hotel	101	22.9	28.8
Friends and/or relatives	92	20.8	26.2
Airbnb	72	16.3	20.5
RV	19	4.3	5.4
Rented house/apartment/VRBO	14	3.2	4.0
Second home	14	3.2	4.0
Bed & Breakfast	8	1.8	2.3
Youth hostel	5	1.1	1.4
Other (please specify)	5	1.1	1.4
Homestays	2	0.5	0.6
Timeshare	1	0.2	0.3
Total	442	100	125.9

Respondents were also asked to indicate which town(s) they stayed in (Table 7). Warren (20.9%), Bradford (10.3%), and Bear Lake (9.4%) were the top three towns with the most overnight visitors, followed by Hickory Township (6.9%), Kane (6.9%), and Port Allegany (6.6%). A smaller percentage of respondents reported having stayed in Emporium (1.1%) and Smethport (0.6%), while nearly 20% of respondents reported having stayed at other places.

Table 8. Towns stayed in

Towns stayed in	Responses		Percent of cases
	N	%	%
Warren	73	16.6	20.9
Bradford	36	8.2	10.3
Bear Lake	33	7.5	9.4
Hickory Township	24	5.4	6.9
Kane	24	5.4	6.9
Port Allegany	23	5.2	6.6
Ridgway	22	5.0	6.3
Clarendon	20	4.5	5.7
St. Marys	18	4.1	5.1
Youngsville	14	3.2	4.0
Sugar Grove	13	2.9	3.7
Eldred	12	2.7	3.4
Barnett Township	10	2.3	2.9
Driftwood	10	2.3	2.9
Tidioute	10	2.3	2.9
Lewis Run	9	2.0	2.6
Mount Jewett	8	1.8	2.3
Johnsonburg	7	1.6	2.0
Emporium	4	0.9	1.1
Smethport	2	0.5	0.6
Other	69	15.6	19.7
Total	441	100	126.0

3.3. Perceptions of Sustainability Indicators

So-called indicators of sustainability related to various aspects of tourism and recreation are used increasingly to assess longer-term prospects for tourism development in different communities. These are usually rated on a 5-point (Likert) scale ranging from strong agreement that an indicator is important or performing well to neutral and strong disagreement. In addition to rating the importance of difference indicators in a destination, visitors are then also asked how the destination is performing on the indicator. When a given indicator is rated as important and at the same the community is rated as performing well on that indicator, no further action is needed. On the other hand, if the community is rated as underperforming, that particular indicator points to an important area for potential improvement. Here we consider four broad categories (also referred to as dimensions) of indicators, including those related to the environment, socioeconomic conditions, cultural factors, and institution-related items. Within these four broad categories, more specific and measurable sub-indicators are examined. This section reports results from the visitor survey in the ANF area.

Descriptive Analysis

Table 9 presents respondents' assessment of current levels or the state of the 32 sustainable tourism indicators. More than 9 in 10 (92.3%) of respondents either moderately agreed (28.1%) or strongly agreed (64.2%) that "environmental quality" (item 3) is an important indicator (M = 4.53), followed by "protection of the natural environment" (item 1) (91.9%) (M = 4.58), and "management of waste" (item 6) (82.0%) (M = 4.27). Here M refers to the mean or average score, and all three of these indicators relate to the environmental domain of sustainability. In contrast, "opportunities for visitors to reflect on religious or other spiritual values" (item 22) was rated the lowest with 41.3% of respondents moderately agreeing (24.8%) or strongly agreeing (16.5%) that it is an important indicator (M = 3.14), followed by "Evidence of links and engagement with other bodies" (item 25) (48.5%) (M = 3.39), and "Existence of a regional collaboration and marketing organization" (item 26) (46.6%) (M = 3.33).

Table 9. Visitors' assessment of the importance of the tourism sustainability indicators

Items	Strongly disagree (SD) (%)	Mildly disagree (MD) (%)	Neutral (N) (%)	Mildly agree (MA) (%)	Strongly agree (SA) (%)	MA+ SA	Mean	Std Dev
1. Protection of the natural environment	1.4	0.9	5.8	22.5	69.4	91.9	4.58	0.75
3. Environmental quality	0.9	1.3	5.6	28.1	64.2	92.3	4.53	0.74
6. Management of waste	1.5	4.2	12.4	30.4	51.6	82	4.27	0.93
17. A policy and system to evaluate, rehabilitate, and conserve cultural assets, including built heritage and cultural landscapes	0.9	4.4	17.7	35	42.1	77.1	4.13	0.92
20. Guidelines for visitor behavior at sensitive sites and cultural events being made available to visitors	1.6	4.4	17.3	33	43.6	76.6	4.13	0.98
5. Control of negative impacts through long-term planning	0.7	5.5	18.6	33.6	41.6	75.2	4.1	0.95
18. Celebration and protection of intangible cultural heritage, including local traditions, arts, music, language, food and other aspects of local identity and distinctiveness	2.4	5.6	17.4	34.3	40.3	74.6	4.05	1.01
21. Optimize visitor flow and minimize adverse impacts in cultural sites	1.4	4.5	21.2	35.5	37.3	72.8	4.03	0.96
19. Accurate interpretative material that informs visitors of the significance of the cultural and natural aspects of the sites they visit	1.3	6.4	17.3	38.9	36.2	75.1	4.02	0.99
16. A system to monitor, prevent, publicly report, and respond to crime, safety, and health hazards that addresses the needs of both visitors and residents	1.8	6.2	19.7	34.2	38	72.2	4.01	1.00
24. Safeguarding cultural identify of local community	2	6.2	18.3	35.5	38	73.5	4.01	1.02
8. Management of overcrowding	2.2	6.6	22.1	32.8	36.3	69.1	3.95	1.03
11. Improvement of the well-being of rural communities from tourism development	1.3	5.8	22.2	38.4	32.3	70.7	3.95	0.94
29. A risk reduction, crisis management and emergency response plan	2.4	5.5	22.2	35.2	34.8	70	3.95	1.01
2. Rural authenticity	2.5	7.8	19	34.1	36.6	70.7	3.94	1.05
23. Cultural/heritages sites accessible to physically disabled tourists	2.4	7.3	20	35	35.2	70.2	3.93	1.05
14. Contribution to community and sustainability initiatives in a responsible manner from enterprises, visitors, and the public	2.7	5.8	21.5	38.5	31.5	70	3.9	0.99
30. A system to monitor and respond to socio-economic, cultural and environmental issues and impacts arising from tourism	2	6.9	24.4	35.9	30.8	66.7	3.87	0.99
4. Reduction of energy consumption and improvement of efficiency in its use	2.9	7	25.1	36.1	28.9	65	3.81	1.02
31. Public participation in sustainable destination planning and management	2.2	8.2	23.1	40.1	26.4	66.5	3.8	1.01
7. Reduction of greenhouse gas emissions	3.3	12.1	21.2	30.6	32.8	63.4	3.77	1.13
32. The destination management strategy/plan clearly visible and available online	2.6	10.4	23.4	34.4	29.3	63.7	3.77	1.08
9. Economic opportunities from tourism development	3.1	9.9	27.6	36	23.4	59.4	3.67	1.01
27. Local leaders' support for tourism development	4	10.6	27.3	33.4	24.6	58	3.64	1.09
28. Quality of public-private partnership in tourism	4.4	9.9	29.5	33.7	22.5	56.2	3.6	1.04
12. Marketing and promotion of tourism assets to visitors	5.6	9.9	29.7	33.6	21.2	54.8	3.55	1.09
13. More investment in tourism development	4	12.1	30.6	33.5	19.7	53.2	3.53	1.06
15. Career opportunities and training in tourism	5	14.3	31.2	31.5	18	49.5	3.43	1.09
10. High-paying jobs from tourism development	4.6	13.9	36.1	28.9	16.5	45.4	3.39	1.06
25. Evidence of links and engagement with other bodies	4.3	18.9	28.2	30.2	18.3	48.5	3.39	1.11
26. Existence of a regional collaboration and marketing organization	5.9	19.6	27.9	28.7	17.9	46.6	3.33	1.17
22. Opportunities for visitors to reflect on religious or other spiritual values	12.5	19.1	27.1	24.8	16.5	41.3	3.14	1.25

Note. Items 1-8: environmental; items 9-16: socio-economical; items 17-24: cultural; items 25-32: institutional

Overall, visitors were more positive on the environmental indicators with an average mean score of 4.12 for the eight items and cultural indicators ($M = 3.93$), while being less positive on the institutional ($M = 3.67$) and the socio-economic indicators ($M = 3.67$).

Table 10 presents visitors' perceptions of the *performance* of the 32 sustainability indicators. Three environmental indicators — item 1 'protection of the natural environment' (90.7%), item 2 'rural authenticity' (86.7%), and item 3 'environmental quality' (88.7%) — were perceived to perform well, with mean scores of 4.44, 4.32, and 4.41, respectively. Similar to respondents' assessment of the socio-economic and institutional indicators being less important than the other two dimensions of sustainability, visitors noted that the indicators in these two categories or dimensions performed worse than those in the environmental and cultural dimensions. For instance, the average performance scores for the environmental indicators and cultural indicators were 4.12 and 3.83, respectively, which are higher than the socio-economic indicators (M = 3.69) and institutional indicators (M = 3.77).

Several items were perceived to perform poorly, including item 10 'high-paying jobs from tourism development' (M = 3.39), item 15 'career opportunities and training in tourism' (M = 3.53), item 22 'opportunities for visitors to reflect on religious or other spiritual values' (M = 3.51), item 25 'evidence of links and engagement with other bodies' (M = 3.67), and item 26 'Existence of a regional collaboration and marketing organization' (M = 3.67).

Table 10. Visitors' perceptions of the performance of the tourism sustainability indicators

Items	Strongly disagree (SD) (%)	Mildly disagree (MD) (%)	Neutral (N) (%)	Mildly agree (MA) (%)	Strongly agree (SA) (%)	MA+ SA	Mean	Std Dev
1. Protection of the natural environment	0.7	1.7	7.0	34.3	56.4	90.7	4.44	0.77
3. Environmental quality	0.6	1.5	9.2	34.2	54.5	88.7	4.41	0.77
2. Rural authenticity	0.8	1.5	11.0	38.3	48.4	86.7	4.32	0.76
6. Management of waste	1.0	3.7	19.4	39.8	36.2	76.0	4.07	0.88
8. Management of overcrowding	1.2	5.8	20.9	39.0	33.1	72.1	3.97	0.94
20. Guidelines for visitor behavior at sensitive sites and cultural events being made available to visitors	2.0	3.8	23.0	39.2	31.9	71.1	3.95	0.95
18. Celebration and protection of intangible cultural heritage, including local traditions, arts, music, language, food and other aspects of local identity and distinctiveness	1.0	5.7	22.0	41.0	30.2	71.2	3.94	0.90
5. Control of negative impacts through long-term planning	0.9	6.3	24.0	37.7	31.2	68.9	3.92	0.92
29. A risk reduction, crisis management and emergency response plan	1.6	7.5	22.6	37.3	31.0	68.3	3.89	1.00
21. Optimize visitor flow and minimize adverse impacts in cultural sites	1.0	5.8	25.1	40.5	27.6	68.1	3.88	0.92
19. Accurate interpretative material that informs visitors of the significance of the cultural and natural aspects of the sites they visit	1.0	6.8	24.4	38.5	29.3	67.8	3.88	0.94
24. Safeguarding cultural identify of local community	1.1	4.2	27.3	40.2	27.3	67.5	3.88	0.90
32. The destination management strategy/plan clearly visible and available online	1.4	7.0	24.9	36.3	30.5	66.8	3.87	0.99
4. Reduction of energy consumption and improvement of efficiency in its use	1.5	6.0	28.1	35.0	29.4	64.4	3.85	0.97
14. Contribution to community and sustainability initiatives in a responsible manner from enterprises, visitors, and the public	1.5	5.8	26.8	38.1	27.7	65.8	3.85	0.95

17. A policy and system to evaluate, rehabilitate, and conserve cultural assets, including built heritage and cultural landscapes	1.7	5.6	26.3	39.4	27.0	66.4	3.84	0.93
7. Reduction of greenhouse gas emissions	2.2	7.0	28.3	32.8	29.7	62.5	3.81	1.02
16. A system to monitor, prevent, publicly report, and respond to crime, safety, and health hazards that addresses the needs of both visitors and residents	1.1	7.4	27.7	38.9	24.9	63.8	3.79	0.93
27. Local leaders' support for tourism development	1.4	7.8	28.5	35.6	26.7	62.3	3.78	1.04
30. A system to monitor and respond to socio-economic, cultural and environmental issues and impacts arising from tourism	0.7	7.9	29.0	37.6	24.7	62.3	3.78	0.97
11. Improvement of the well-being of rural communities from tourism development	1.8	7.3	28.6	36.9	25.5	62.4	3.77	0.96
12. Marketing and promotion of tourism assets to visitors	1.8	8.0	28.3	35.7	26.3	62.0	3.77	0.97
9. Economic opportunities from tourism development	1.1	8.1	27.9	39.9	23.1	63.0	3.76	0.93
31. Public participation in sustainable destination planning and management	3.0	7.6	26.4	36.5	26.6	63.1	3.76	0.95
23. Cultural/heritages sites accessible to physically disabled tourists	1.5	9.5	26.2	39.0	23.8	62.8	3.74	0.96
28. Quality of public-private partnership in tourism	2.1	7.8	28.9	36.2	25.0	61.2	3.74	0.98
26. Existence of a regional collaboration and marketing organization	1.6	11.5	28.2	35.3	23.4	58.7	3.67	1.01
25. Evidence of links and engagement with other bodies	2.1	8.6	32.3	35.7	21.1	56.8	3.67	0.96
13. More investment in tourism development	1.9	10.6	30.7	35.3	21.4	56.7	3.64	1.01
15. Career opportunities and training in tourism	3.6	13.9	29.8	31.3	21.4	52.7	3.53	1.11
22. Opportunities for visitors to reflect on religious or other spiritual values	4.9	13.0	30.3	30.3	21.5	51.8	3.51	1.09
10. High-paying jobs from tourism development	3.6	15.3	35.7	28.8	16.5	45.3	3.39	1.07

Note. Items 1-8: environmental; items 9-16: socio-economical; items 17-24: cultural; items 25-32: institutional

Gap analysis

From Tables 9 and 10 a so-called gap-analysis can be performed between the importance and performance for each of the 32 indicators (Table 11). Among the eight pairs of environmental indicators, five consistently show performance significantly lower than their importance rating. Additionally, four pairs of socio-economic and four institutional indicators are significantly different with performance being lower than importance. On the cultural dimension, all eight pairs of indicators are significantly different from one another, with performance consistently rated as lower than importance.

Table 11. Paired-sample t-tests for mean differences between performance and importance

Item	Mean		Mean difference	*p*
	Performance	Importance		
1. Protection of the natural environment	4.44	4.58	-.140	<.001***
2. Rural authenticity	4.32	3.94	.333	<.001***
3. Environmental quality	4.41	4.53	-.120	.001***
4. Reduction of energy consumption and improvement of efficiency in its use	3.85	3.81	-.033	.532
5. Control of negative impacts through long-term planning	3.92	4.10	-.179	<.001***
6. Management of waste	4.07	4.27	-.230	<.001***
7. Reduction of greenhouse gas emissions	3.81	3.77	-.007	.904
8. Management of overcrowding	3.97	3.95	.027	.606
9. Economic opportunities from tourism development	3.76	3.67	.022	.666
10. High-paying jobs from tourism development	3.39	3.39	-.061	.301
11. Improvement of the well-being of rural communities from tourism development	3.77	3.95	-.208	<.001***
12. Marketing and promotion of tourism assets to visitors	3.77	3.55	.169	.001***
13. More investment in tourism development	3.64	3.53	.007	.897
14. Contribution to community and sustainability initiatives in a responsible manner from enterprises, visitors, and the public	3.85	3.90	-.098	.048*
15. Career opportunities and training in tourism	3.53	3.43	.022	.692
16. A system to monitor, prevent, publicly report, and respond to crime, safety, and health hazards that addresses the needs of both visitors and residents	3.79	4.01	-.246	<.001***
17. A policy and system to evaluate, rehabilitate, and conserve cultural assets, including built heritage and cultural landscapes	3.84	4.13	-.276	<.001***
18. Celebration and protection of intangible cultural heritage, including local traditions, arts, music, language, food and other aspects of local identity and distinctiveness	3.94	4.05	-.156	.001***
19. Accurate interpretative material that informs visitors of the significance of the cultural and natural aspects of the sites they visit	3.88	4.02	-.167	<.001***
20. Guidelines for visitor behavior at sensitive sites and cultural events being made available to visitors	3.95	4.13	-.176	<.001***
21. Optimize visitor flow and minimize adverse impacts in cultural sites	3.88	4.03	-.141	.006**
22. Opportunities for visitors to reflect on religious or other spiritual values	3.51	3.14	.244	<.001***
23. Cultural/heritages sites accessible to physically disabled tourists	3.74	3.93	-.230	<.001***
24. Safeguarding cultural identify of local community	3.88	4.01	-.149	.002**
25. Evidence of links and engagement with other bodies	3.67	3.39	.109	.044*
26. Existence of a regional collaboration and marketing organization	3.67	3.33	.224	<.001***
27. Local leaders' support for tourism development	3.76	3.64	.056	.271
28. Quality of public-private partnership in tourism	3.74	3.60	.005	.926
29. A risk reduction, crisis management and emergency response plan	3.87	3.95	-.114	.019*
30. A system to monitor and respond to socio-economic, cultural and environmental issues and impacts arising from tourism	3.78	3.87	-.109	.035*
31. Public participation in sustainable destination planning and management	3.78	3.80	-.074	.149
32. The destination management strategy/plan clearly visible and available online	3.89	3.77	.016	.733
Average	3.86	3.85	N/A	**N/A**

$*p < .05$, $**p < .01$, $***p <= .001$.

Importance-Performance Analysis

Figure 15 displays the distribution of the 32 indicators in the I-P grid, which essentially plots the rankings of importance vs. performance of each sub-indicator. Six environmental indicators (items 1, 2, 3, 5, 6, and 8), five cultural indicators (items 18, 19, 20, 21, and 24), and one institutional indicator (item 29) are located in the ‘keep up the good work’ quadrant, while two socio-economic indicators (items 11 and 16), one cultural indicator (item 23), and one institutional indicator (item 30) are located in the ‘concentrate here’ quadrant, implying that higher priority could be paid to these socio-economic, cultural, and institutional indicators to make the destination more attractive to visitors.

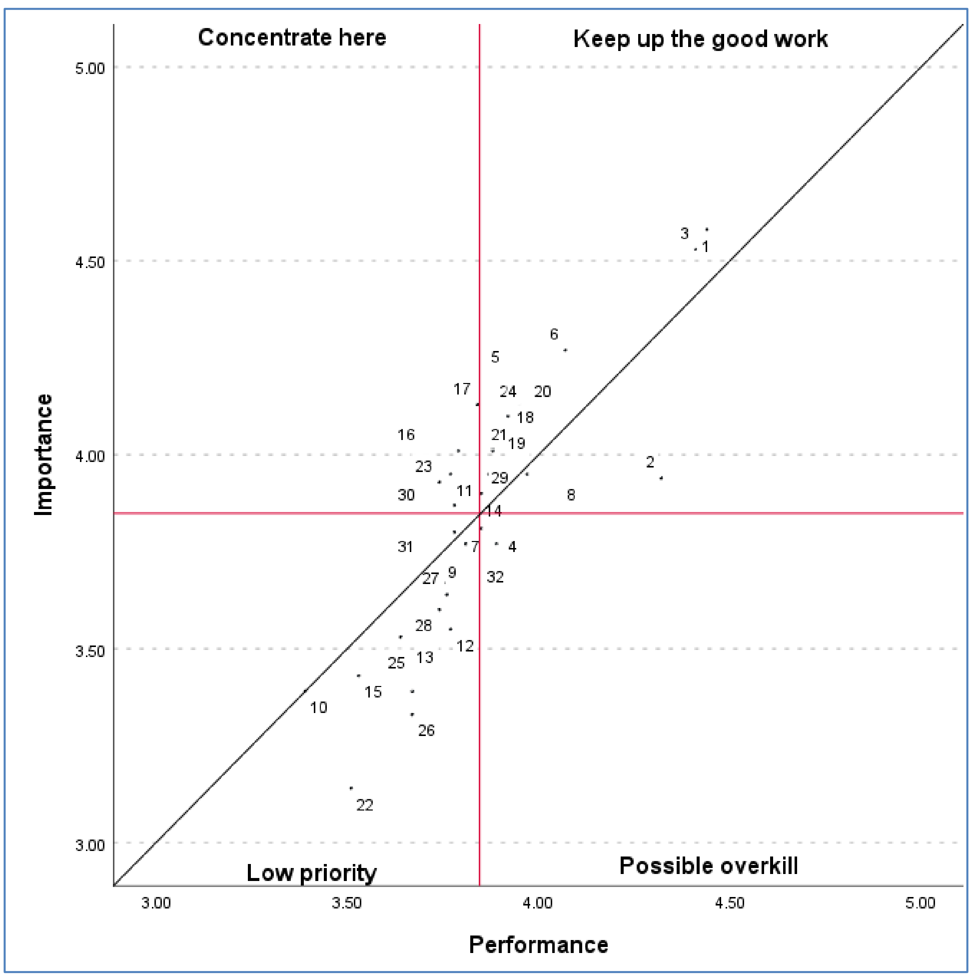

Figure 15. Importance-performance analysis of sustainability indicators

3.4. Perceptions of Relative Competitiveness

Similar Rural Areas Visited

Participants were asked to indicate if they have visited any other rural destination(s) similar to the ANF area in the past 4 years or so (2019-present). Over half of the respondents (57.8%) reported having visited at least one rural area similar to the study area. Similar areas visited include national parks, national forests, state parks, state forests, heritage areas/recreations, trails, resorts, and more. Table 12 presents similar areas that were reported by respondents at least twice.

Table 12. Similar destinations compared to the Allegheny National Forest area

Similar places	Counts	Percentage (%)
Hocking Hills	14	14.58
Cuyahoga	12	12.50
Smoky Mountains	11	11.46
Adirondack Mountains	10	10.42
Finger Lakes	10	10.42
Poconos	8	8.33
Mon national forest	6	6.25
Catskills	5	5.21
New River Gorge, WV	5	5.21
Wayne National Forest	5	5.21
Yellowstone	5	5.21
Shenandoah	3	3.13
White Mountains, NH	2	2.08
Total	96	100.0

Most Negative Aspects Affecting Visitors' Experience

To gain a deeper understanding of visitors' overall experience at the destination, respondents were asked to indicate both the most negative and the most positive aspects of their most recent visit to the area. Results are presented in Tables 13 and 14. A total of 261 valid responses were provided regarding what most negatively affected their overall experience. These responses are grouped into 13 categories (Table 13). The most frequently mentioned negative aspect was crowding, accounting for 16.5% of all responses (e.g., too many people and people who litter and do not appreciate the parks; too many people; it was very crowded, etc.). The second most common negative aspect was weather/bugs (16.1%) (e.g., getting bitten by mosquitoes; really it was just the weather, we had a bad day but overall was a very nice visit; the bugs were relentless!). This was followed by roads/accessibility (14.9%) (e.g., rural roads and paths not being accessible; very little care taken for disability access in most outdoor spaces. Areas where access is available, it is not maintained), littering (11.5%) (e.g., too many people and people who litter and do not appreciate the parks; I was disappointed with the amount of litter I found on the ground), food/lodging (8.4%) (e.g., the only negative aspect were the lack of stores for basic necessities nearby; limited locations restaurants), and hospitality (6.1%) (e.g., a lot of people smoke and don't have the best manners; visible political opinions), which is tied with lack of information (6.1%) (e.g., easy to get lost if not paying attention to where destination is; I feel like the only thing was that I felt a little lost, but we had family with us who lived around the area. I don't know that I would have figured it out by myself).

Table 13. Most negative aspects of visitors' most recent visit to the area. *

No.	Category	Selected negative comments	Counts**	%
1	Crowding	My only complaint from the trip was slight overcrowding. That being said it was the busy season so it's to be expected; Too many people and people who litter and do	43	16.5

		not appreciate the parks; too many people; it was very crowded.		
2	Weather /bugs	Getting bitten by mosquitoes; Really it was just the weather, we had a bad day but overall is was a very nice visit; the bugs were relentless!	42	16.1
3	Roads/accessibility	The drive there; Rural roads and paths not being accessible; Very little care taken for disability access in most outdoor spaces. Areas where access is available, it is not maintained; Traveling from one place to another; Having to find last-minute lodgings due to the constraints of the road trip.	39	14.9
4	Littering	Littering, but sadly that's expected in the US; Too many people and people who litter and do not appreciate the parks; I was disappointed with the amount of litter I found on the ground. It seemed like something that wasn't being kept up with very well.	30	11.5
5	Food/lodging	Poor service; The only negative aspect were the lack of stores for basic necessities nearby; Limited locations restaurants; Limited selection for shopping and food unless you drive to Olean or Buffalo.	22	8.4
6	Hospitality	A lot of people smoke and don't have the best manners; Visible political opinions; A racist person; Occasionally come across rude visitors.	16	6.1
7	Lack of information	Easy to get lost if not paying attention to where destination is; I feel like the only thing was that I felt a little lost, but we had family with us who lived around the area. I don't know that I would have figured it out by myself; Scarcity of people that can be of assistance with providing information.	16	6.1
8	Price/cost	Prices are a little high in the area; The accommodations in the area were really expensive to me! prices were very high compared to just a couple years ago.	11	4.2
9	Lack of activities	Night life; Not enough to do during the night; just not as much to do.	10	3.8
10	Lack of preservation	Invasive species; soil erosion; urban encroachment; fracking	9	3.5
11	Cell phone service	Lack of cell service; The most negative aspect was the Wifi and Cell phone usage was limited but that is to be expected; No cell phone service (but isn't that actually a good thing sometimes?).	7	2.7
12	Covid-19	; I felt like there were a bit too many unnecessary restrictions lingering from COVID. At least from the areas that I visited; The uncertainty surrounding COVID-19. There were guidelines in place at most businesses and shops but there were a lot of "unknowns", and not everyone agreed on the seriousness of the pandemic and the measures being; Covid restrictions.	3	1.2
13	Others	The blueberry patch at Beaver Meadows isn't maintained (fence is broken) so there are a lot less blueberries than previous years. Obviously that's pretty minor. We always enjoy our visits! Say I had a specific negative impact I just expected that the natural beauty would be just something that everyone would want to protect; Downed	13	5.0

		trees along trail; the sounds of animals; I think my carbon footprint due to my driving habit; The only negative thing I can think of, is when we were hiking on Fred Woods Trail, I noticed there were no birds. I did not hear or see a bird on the entire hike, which was very odd. Driving through some areas with my brother some areas looked rough and unsafe. There are some serious economic issues in some areas and those places are run down; When I went to Fairfax, it was just really boring there but it was not overcrowded, where as it felt it was in Allegheny; Needs more authenticity but it is a beautiful area; I didn't see any elk! people not reading signs- but that happens everywhere; Overall cohesiveness of the area and experience; (I'm assuming we are talking about Ohiopyle and not Allegheny National Forest? Not sure from the wording, but answering as such) I think the worst aspect of Ohiopyle is just that it is so rural and there isn't a ton to do in the surrounding areas. You have to drive a decent distance to get to any food/lodging/drinks/etc.		
Total			**261**	**100.0**

*Some respondents provided more than one negative aspect; **the category "others" include all responses on a single negative aspect with fewer than 3 counts.

Most Positive Aspects Affecting Visitors' Experience

Table 14 presents the 642 most positive experiences reported by respondents during their most recent visit to the area. These responses are categorized into 16 groups. The most frequently mentioned positive experience was scenery/nature/scenic views, accounting for 50.6% of all responses (e.g., the view from Kinzua Skybridge during the fall foliage transition; outdoor scenery; good sightseeing; connection with nature; the beautiful landscape; a beautiful place). The second most positive aspect was outdoor/recreational opportunities (9.8%) (e.g., hiking the nature trails; the availability of fresh, local fruit/veg in Marienville, easy access to a variety of activities; the rafting and nature; my friends and I wanted to go white water rafting and it was a blast!). This is followed by rural character (7.3%) (e.g., escape from the hustle of the city; I love the nature and the animals and the relaxing vibes I get; it was really pretty and had good conservation efforts), and wildlife (6.1%) (e.g., the employees telling tourists about the wildlife; The elk and wildlife; the most positive park was the beautiful sightseeing and animal watching).

Other positive aspects include hospitality (4.8%), tranquility (4.5%), relaxing (3.8%), weather (1.9%), fresh air (1.9%), accessibility (1.9%), memorial experience (1.9%). Additionally, 13 positive responses (each with fewer than three mentions) are grouped as “others”, accounting for 2.0% of total responses.

Table 14. Most positive aspects of visitors’ most recent visit to the area. *

No.	Category	Sample positive comments	Counts**	Percent (%)
1	Scenery/nature/scenic views	The view from Kinzua Skybridge during the fall foliage transition; outdoor scenery; good sightseeing; connection with nature; the beautiful landscape; a beautiful place.	325	50.6
2	Outdoor/recreational opportunities	Hiking the nature trails; the availability of fresh, local fruit/veg in Marienville, easy access to a variety of activities; the rafting and nature; My friends and I wanted to go white water rafting and it was a blast! Our tour guide was incredible, making sure we all stayed safe and had a good time and he was hilarious; It's a nice area. Lots of trails and it's enjoyable to be out in the forest. We love the area; so much area to explore.	63	9.8
3	Rural character	Escape from the hustle of the city; I love the nature and the animals and the relaxing vibes I get; it was really pretty and had good conservation efforts.	47	7.3
4	Wildlife	The employees telling tourists about the wildlife; The elk and wildlife; the most positive park was the beautiful sightseeing and animal watching.	39	6.1
5	Hospitality	Good people; the people were nice and helpful; locals friendly.	31	4.8
6	Tranquility	Lots of quiet spaces further from basic civilization; quiet, peaceful, beautiful; verdant and quite.	29	4.5
7	Relaxing	Nature and relaxing; being in nature and away from phones, work, and the business of life in general; the peacefulness and seclusion of the area.	21	3.3
8	Weather	I loved the weather and the bike trails; fun petting the animals and weather was beautiful; really beautiful, great weather, and good food.	12	1.9
9	Fresh air	The overall beauty and greenery. Being surrounded by nature and the fresh air. It felt like there was a lot left to explore even as I was leaving; Being out in nature and getting fresh air.	12	1.9
10	Accessibility	I like that it's got a reasonably small footprint, so it's easy to visit in a day and not feel as though you've missed something. It's also closer to me, so it's less of a time commitment; Close to home, easy trip with kids.	12	1.9
11	Memorial experience	I got good pictures out of it; overall experience; memories and entertainment; it was fun experiencing new stuff; it was memorable; it's been	12	1.9

		a thoroughly enjoyable time in the area and we're planning to go again soon; it was a nice time; we had fun; I would say the fact that it is very consistent. All of the places I loved to visit a the previous summer were still a great experience.		
12	Family	Got to meet my boyfriend's family/ see where he grew up; got to see my family; I had good time with my family; spending time with family; visiting family and them showing us around their favorite places. Since they live there, they knew the best parts for hiking and biking.	8	1.2
13	Food	Really beautiful, great weather, and good food; the food there was amazing! I really enjoyed my pulled pork sandwich; cheap hotels.	7	1.1
14	Inexpensive	People were friendly and the area was reasonably priced; prices; no need for a lot of money.	6	0.9
15	Remote	Remote! Perfect to get away for the day; very remote & beautiful.	5	0.8
16	Others	The entire trip was positive; the incredible area; I hung out with lots of friends; the shopping; I loved visiting and going shopping; everything about it; nice place, access to webcams.	13	2.0
Total			**642**	**100.0**

*Some respondents provided more than one positive aspect; **the category "others" includes responses on a single positive aspect with fewer than 3 counts.

Things to be Done to Increase Destination Competitiveness

Visitors were further asked to indicate what specifically could this region do to be more competitive as a tourism destination. A summary of their responses is presented in Table 15. Their responses are categorized into 15 groups. Most respondents (35.4%) thought that more advertising is needed (e.g., More advertising to let people know about the destination; they can improve advertisement; to become more competitive as a tourism destination, this region could focus on improving the infrastructure, such as roads and trails, and offering more attractions, activities, and amenities for visitors; they could also work to create a unified marketing campaign to promote the region and its attractions), followed by more attractions (15.9%) (e.g., They could offer events such as fairs or other outdoor activities; more trails; more events to draw tourists there.), stay authentic (11.8%), and more amenities (10.4%). In addition, 13 responses (fewer than 3 counts each) are grouped as "others", accounting for 2.5% of total responses.

Table 15. Responses on what to be Done to Increase Destination Competitiveness. *

No.	Category	Sample responses	Counts**	Percent (%)
1	Advertise	More advertising to let people know about the destination; they can improve advertisement; To become more competitive as a tourism destination, this region could focus on improving the infrastructure, such as roads and trails, and offering more attractions, activities, and amenities for visitors. They could also work to create a unified marketing campaign to promote the region and its attractions. They could also collaborate with local businesses, such as hotels and restaurants, to create package deals for visitors. Finally, they could work to improve their online presence and create an easily navigable website to make it easier for visitors to plan their trips.	183	35.4
2	More attractions	They could offer events such as fairs or other outdoor activities; more trails; more events to draw tourists there.	82	15.9
3	Stay authentic	I think if more people knew about this area, it might diminish its charm and keeping it preserved and maintained. However, if there were a plan in place to keep everything almost the same, but have more tourism, that would be a plus as well; I think they do a good job of combining the tourist aspect and the nature. I don't think there's a ton they should change; Stay rooted in its authenticity and really ensure that local businesses are in safe hands for future generations to enjoy. I think remaining authentic is more important that swift innovation unless it is absolutely necessary to continue operating as an outdoor getaway/tourist location.	61	11.8
4	More amenities	Better nightlife; to clean up their image and start marketing better and adding more restaurants that are new; More restrooms, it wasn't ideal to find restrooms.	54	10.4
5	More lodging	Offer more lodging such as cabins; Build some nicer accommodations for people who are looking for less 'outdoorsy' overnight options; I feel like it would be hard to disperse the crowding without losing visitors. Maybe making more lodging so people could be further apart, but logistically I don't know how you'd accomplish that.	41	7.9
6	Better roads/accessibility	More roads leading into the area and more hotels; I'm not sure if this is something that is managed at the regional level or by the state of PA, but the road infrastructure in/around the region felt poorly maintained and in some areas unsafe.	13	2.5
7	Improve infrastructure	More infrastructure; as I said last time, infrastructure as well as marketing. Pennsylvanians LOVE national parks and related destinations. We also aren't that far from West Virginia. Running a TV add and then using money from tourism to make things accessible to everyone, you'd have yourself a gold mine!	13	2.5
8	Lower prices	Lower prices of things and also more resources to show what your tourism destination offers; Cheaper prices, seasonal events; it is already a great tourist destination but better prices could always help.	12	2.3
9	Protect environment	Re-examine waste management procedures; better clean-up; advertise more. Develop a green plan and a sustainability focused places to stay.	11	2.1

10	Hospitality	It could get rid of the racists / far right stuff in the country areas. People from the city are uncomfortable around that kind of stuff; Be more friendly and welcoming... and less bigoted.	11	2.1
11	Crowd control	It tends to get too crowded for my tastes during certain parts of the season especially the fall; less crowds; I don't feel that the community residents would want to have constant tourists more than already	9	1.7
13	Guides	I think offering more tour guides; Offer more guides for people who aren't familiar with the area.	8	1.5
14	Signs	Better road signs; more signage alerting tourists what things are available to do. This or a welcome center would have been helpful during our time there.	6	1.2
15	Others	I don't know. Honestly, I don't know many people in my area who have been there. Maybe it's too far or not we'll known enough; i think they do a great job at promoting it because they a lot of good places to go to and the damn it great and also Allegany state park is wonderful and the camping is great all over no matter where you want to go; have more serious fines for littering; I'm not really sure. It seems to offer most of what someone would want for this type of tourism; the hours of operation, more hours open in the off season; Give visas out more and easily; I live farther away now, but I use to live less than 2 hours away from Benezette, and it was so surprising to me that 100% of the people I talked to in the area I lived in had no idea whatsoever that there were elk herds so close by. Obviously, outreach and education are lacking for starters; the ability of a destination to increase visitor arrivals and tourist spending by providing them with satisfying; I don't really know how competitive it could be in terms of a tourist destination, because you have to live relatively in the Pennsylvania area for it to be worthwhile to drive there. I suppose just maintaining the quality of the parks and other trails as a whole; I'm unsure if you are talking about Fairfax or Allegheny, but I don't think Allegheny needs to improve on a consumers' end, I just want to ensure it can improve lives of its residents; I think this region could promote more diversity in their tourism sector; Better rule enforcement, more tourism aspects; Maybe put a few elk in pens so visitors are guaranteed to see some live animals.	13	2.5
Total			517	

*Some respondents provided more than one recommendation; **the category "others" includes responses on a single aspect with fewer than 3 counts.

Perceptions of Competitiveness

Participants were then asked to indicate how competitive the Allegheny National Forest area is as compared to the similar rural area(s) they have visited in the past 4 years or so (2019-present). Most participants regarded the study area as equally competitive when compared to similar areas they had visited (Table 16). For instance, over 50% rated the area as 'about the same' for all attributes except on item 12, 'prices'; item 15, 'level of crowding' ; item 11, 'local food /eatery' and 10 'festivals and events’, while over 60% rated the area 'about the same' in terms of resource consideration (61.1%) (item 9), heritage and cultural assets (60.2%) (item 9), and security and safety (66.6%) (item 7). Additionally, one-half (50.0%) of participants considered the area to be 'about the same' in terms of overall competitiveness (item 18). These are important findings, and they could be emphasized in marketing the ANF region. For example, the price competitiveness, lack of crowding and abundant outdoor recreational opportunities are all strong selling points for the region. On the other hand, the perceived weaknesses of lacking infrastructure, and shopping and entertainment or night-life could be considered as key development opportunities.

Table 16. Perceptions of competitiveness

Items	MW (%)	SW (%)	AS (%)	SB (%)	MB (%)	SB + MB	Mean	Std Dev
12. Prices	1	12.1	44.9	32.2	9.9	42.1	3.38	0.88
15. Level of crowding	1.3	15	41.7	29.9	12.1	42.0	3.37	0.93
13. Outdoor recreation opportunities	0.6	9.2	51.3	29.3	9.6	38.9	3.38	0.83
1. Natural	1.9	9.2	50.6	29.3	8.9	38.2	3.34	0.87
3. Rural tranquility and authenticity	0.6	8.0	53.5	27.7	10.2	37.9	3.39	0.82
4. Hospitability and friendliness of local residents	1.0	7.3	54.1	28.7	8.9	37.6	3.37	0.78
11. local food/eatery	2.5	18.5	44.3	26.1	8.6	34.7	3.20	0.94
10. Festivals and events	2.2	19.1	45.5	26.4	6.7	33.1	3.16	0.90
6. Accessibility	1.6	11.1	55.4	21.3	10.5	31.8	3.28	0.87
9. Resource conservation	0.6	6.7	61.1	23.6	8.0	31.6	3.32	0.75
17. Lodging	2.2	12.1	54.8	21.3	9.6	30.9	3.24	0.88
2. Heritage and cultural assets	1.6	8.6	60.2	23.2	6.4	29.6	3.24	0.78
18. Overall competitiveness	1.0	11.5	58.0	23.9	5.7	29.6	3.22	0.78
7. Security and safety	0.6	3.8	66.6	22.9	6.1	29.0	3.30	0.69
5. Diversity and uniqueness of local products	1.6	10.8	58.6	23.2	5.7	28.9	3.21	0.79
8. Infrastructure	1.6	15.0	56.1	21.7	5.7	27.4	3.15	0.82
16. Shopping	3.8	18.5	52.9	19.1	5.7	24.8	3.04	0.89
14. Entertainment and night life	5.7	20.1	50.6	17.8	5.7	23.5	2.98	0.91

Note, MW = much worse, SW = somewhat worse, AS = about the same, SB = somewhat better, MB = much better

3.5. Post COVID-19 Travel Preferences and Behaviors

Respondents were also asked to indicate how much they disagreed or agreed with 16 statements measuring their perceptions of travel preferences and behaviors post-COVID-19. Results are presented in Table 17. Most respondents either mildly or strongly agreed that they care more about hygiene and safety in future trips (69.2%). This was followed by their intention to 'search for less crowded places' (65.6%) and 'give more attention to reviews about the cleanliness of accommodations' (65.5%), express ‘more interest in nature-based tourism' (65.2%), and 'spend more time searching for information about the destination' (62.5%).

Table 17. Perceptions of travel preferences and behaviors post COVID-19

Items	SD (%)	MD (%)	N (%)	MA (%)	SA (%)	MA+SA (%)	Mean
7. Care more about hygiene and safety in future trips	5.3	7.3	18.1	41	28.2	69.2	3.79
2. Search for less crowded places	8.2	11.5	14.7	37.4	28.2	65.6	3.66
13. Give more attention to the reviews about the accommodation cleanness	4.6	7.9	22	39.7	25.8	65.5	3.74
8. More interested in nature-based tourism	4.4	7.3	23.1	37.7	27.5	65.2	3.77
9. Spend more time searching for information about the destination	5.1	7.5	24.9	38.5	24	62.5	3.69
16. Use mobile payment options more	5.7	9.7	23.1	39	22.5	61.5	3.63
3. Prefer rural areas over urban areas	6.6	8.1	24.2	33.5	27.7	61.2	3.68
5. Prefer to travel with family members or relatives	7.1	8.1	27.5	31.5	25.8	57.3	3.61
12. Prefer to travel domestically	7.7	11.2	24.5	32.2	24.4	56.6	3.54
4. Travel to places closer to home	9.3	12.8	23.3	37	17.6	54.6	3.41
1. More cautious about travelling	11.7	15.6	18.3	38.3	16.1	54.4	3.32
10. Travel less compared to the period before the pandemic	9.7	19	20.7	30.4	20.1	50.5	3.32
14. Look for booking a flight ticket with more flexibility	6.8	11.4	32.6	31.5	17.8	49.3	3.42
15. More likely to share travel experience and write reviews on social media platforms	11.5	18.7	27.3	29.3	13.2	42.5	3.14

11. Prefer to stay at a small hotel rather than a big one	9.3	17.9	36.4	24.5	11.7	36.2	3.11
6. Prefer to stay in short-term rentals over other lodging types	11.5	19	33.5	24.5	11.4	35.9	3.05

SD = Strongly Disagree, MD = Mildly Disagree, N = Neutral, MA = Mildly Agree, SA = Strongly Agree

3.6. Perceptions of the Relationship between Humans and the Environment

Table 18 presents visitors' perceptions of the relationship between humans and the environment measured by the New Ecological Paradigm (NEP) (Dunlap et al., 2000). Participants' responses were most positive for Item 9, 'Despite our special abilities, humans are still subject to the laws of nature' (85.9%), Item 7, 'Plants and animals have as much right as humans to exist' (81.6%), and Item 5, 'Humans are severely abusing the environment' (80.6%). It should be noted that nearly 60% of respondent either agreed or strongly agreed with Item 6, 'The earth has plenty of natural resources if we just learn how to develop them' with a mean value of 2.54 out of 5, the lowest among all the 15 items (note: as with other even-numbered items, this item was also reverse recoded).

Table 18. Perceptions of the relationship between humans and the environment

Items	SD (%)	MD (%)	N (%)	MA (%)	SA (%)	MA+SA (%)	Mean
9. Despite our special abilities humans are still subject to the laws of nature	0.4	2.9	10.8	38.5	47.4	85.9	4.30
7. Plants and animals have as much right as humans to exist	1.5	5.1	11.7	27.8	53.8	81.6	4.27
5. Humans are severely abusing the environment	1.5	5.5	12.5	34.6	46.0	80.6	4.18
3. When humans interfere with nature it often produces disastrous consequences	1.5	6.4	14.7	43.0	34.4	77.4	4.03
13. The balance of nature is very delicate and easily upset	1.6	6.6	16.8	42.3	32.6	74.9	3.98
15. If things continue on their present course, we will soon experience a major ecological catastrophe	3.3	5.7	18.3	34.1	38.6	72.7	3.99
10. The so-called "ecological crisis" facing humankind has been greatly exaggerated	7.1	14.3	15.6	21.6	41.4	63.0	3.76
11. The earth is like a spaceship with very limited room and resources	9.5	13.0	15.2	39.2	23.1	62.3	3.53
1. We are approaching the limit of the number of people the earth can support	13.6	14.7	16.7	35.5	19.6	55.1	3.33
12. Humans were meant to rule over the rest of nature	6.8	16.1	23.3	23.3	30.6	53.9	3.55
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations	7.5	17.4	23.3	30.2	21.6	51.8	3.41
2. Humans have the right to modify the natural environment to suit their needs	6.4	20.9	22.9	31.5	18.3	49.8	3.34
14. Humans will eventually learn enough about how nature works to be able to control it	5.7	22.5	28.8	23.6	19.4	43.0	3.29
4. Human ingenuity will ensure that we do NOT make the earth unlivable	9.0	21.2	32.2	24.9	12.6	37.5	3.11

6. The earth has plenty of natural resources if we just learn how to develop them	19.8	37.4	18.9	17.4	6.6	24.0	2.54

Note: Agreement with the eight odd-numbered items and disagreement with the seven even-numbered items, which were reverse worded, indicate pro-NEP responses. The seven-numbered items were recoded in the same direction as the eight-numbered items so that higher percentages/means indicate more support for the environment.

4. Discussion and Conclusions

While the development of recreation economies in gateway communities near public lands has been a longstanding practice in the US, it is only recently that the possibility has emerged as a national priority for rural community development. To capitalize on this momentum, the Allegheny National Forest, in partnership with local destination marketing organizations, has brought together diverse stakeholders to create a shared vision for promoting and developing recreation economies in the region. This regional approach for rural development can be better implemented with an understanding of how the recreation economy is perceived from the perspective of visitors, particularly those from the major tourism markets of the region.

This study identified 32 sustainability indicators with inputs from the research team and by drawing upon findings from the literature. These 32 indicators were selected to reflect the four dimensions of sustainability – environmental, socio-economic, cultural, and institutional – with eight items for each. A gap analysis between importance and performance for all 32 indicators revealed that performance scores are significantly lower than importance scores, indicating a need and opportunity for improving sustainability indicators for the five-county region. It is worth noting that in the tourism literature attributes are often rated high in importance but low in performance (Deng et al., 2017).

A further Importance-Performance Analysis (IPA) indicates that six environmental indicators (items 1, 2, 3, 5, 6, and 8), five cultural indicators (items 18, 19, 20, 21, and 24), and one institutional indicator (item 29) are located in the 'keep up the good work' quadrant, while two socio-economic indicators (items 11 and 16), one cultural indicator (item 23), and one institutional indicator (item 30) are located in the 'concentrate here' quadrant, implying that higher priorities should be paid to these socio-economic, cultural, and institutional indicators when developing management plans and strategies.

Findings from the IPA show that visitors cared more about the environmental sustainability than the other three sustainability dimensions, particularly the socio-economic sustainability. This finding is consistent with the literature. For example, previous studies also reported that tourists scored significantly higher on environmental attributes than on social and economic attributes (Deng & Bender, 2007; Gezici, 2006). This suggests that visitors tended to value their experiences (e.g., rural authenticity and the natural environment) more than the potential benefits for local communities from tourism development (e.g., economic gains for gateway communities).

In summary, survey results in this report provide useful information on visitors' profiles, and their perceptions of destination competitiveness and importance, and the performance of sustainability indicators. This research-based information is critical for developing sustainable recreational economies in national forest areas, thus strengthening the links between recreation for community well-being and forest resource management, a primary goal for the USDA.

5. References

Bureau of Economic Analysis of the U.S. Department of Commerce. (2021). *Outdoor Recreation Satellite Account, U.S. and States, 2020*. https://www.bea.gov/news/2021/outdoor-recreation-satellite-account-us-and-states-2020

Dean Runyan Associates. (2022). The economic impact of travel in West Virginia. https://wvtourism.com/wp-content/uploads/2022/11/WV_FinalRpt_2021-1.pdf

Deng, J., McGill, D., Arbogast, D. (2017). Perceptions of challenges and opportunities facing rural communities: an importance-performance analysis. *Tourism Analysis, 22*, 219-236.

Dunlap, R.E., Van Liere, K.D., Mertig, A.G., & Jones, R.E. (2000). Measuring endorsement of the new ecological paradigm: A revised NEP scale. *Journal of Social Issues, 56*, 425–442.

Lam, L.W. (2012). Impact of competitiveness on salespeople's commitment and performance. *Journal of Business Research, 65*, 1328–1334.

Li, J., Zhong Y., Li, Y., Hu, W., Deng, J., Pierskalla, C., & Zhang, F. (2022). Past Experience, Motivation, Attitude, and Satisfaction: A Comparison between Locals and Tourists for Taihu Lake International Cherry Blossom Festival. *Forests, 13*, 1608, https://doi.org/10.3390/f13101608

Luo, Y., Deng, J., Pierskalla, C., Lee, J.-h., & Tang, J. (2022). New Ecological Paradigm, Leisure Motivation, and Wellbeing Satisfaction: A Comparative Analysis of Recreational Use of Urban Parks before and after the COVID-19 Outbreak. *Land, 11*, 1224. https://doi.org/10.3390/land11081224

Oppermann, M. (2000). Tourism destination loyalty. Journal of Travel Research, 39, 78–84.

Raggiotto, F., & Scarpi, D. (2021). This must be the place: A destination-loyalty model for extreme sporting events. *Tourism Management, 83*, 104254.

Rose, C. (2023). The Monongahela National Forest: The land of many uses happens to also be West Virginia's largest tourism asset. *Compass, 22*(3), 6.

Travel and Tour World. (2023). West Virginia's tourism industry records highest-ever tourism economic impact at $5 billion. https://www.travelandtourworld.com/news/article/west-virginias-tourism-industry-records-highest-ever-tourism-economic-impact-at-5-billion/

UNWTO & ADB. (2021). Big data for better tourism policy, management, and sustainable recovery from COVID-19. https://www.e-unwto.org/doi/epdf/10.18111/9789284423095

USDA. (2022). Reimagine Recreation. https://www.fs.usda.gov/sites/default/files/fs_media/fs_document/Reimagine-Recreation.pdf

USDA. (2023). USDA to Create Plan to Expand Recreation Economies and Help People Thrive Across Rural America. https://www.rd.usda.gov/media/file/download/usda-rd-sa-recreationeconomy-mou.pdf

Williams, A.M., & Balaz, V. (2015). Tourism risk and uncertainty: Theoretical reflections. *Journal of Travel Research, 54*(3), 271-287.

Yang, E., Kim, J., Pennington-Gray, L., & Ash, K. (2021). Does tourism matter in measuring community resilience? *Annals of Tourism Research, 89*, 103222.

Yuan, J., Li, J., Deng, J., & Arbogast, D. (2021). Past Experience and Willingness to Pay: A Comparative Examination of Destination Loyalty in Two National Parks, China. *Sustainability, 13*, 8774. https://doi.org/10.3390/su13168774.

Appendix A: Survey questionnaire - See next section

Appendix A: Survey questionnaire

PA Visitors Survey

Start of Block: Section 1: Consent and Eligibility

Q1 1. Below is a map (which is not interactive) that shows the Allegheny National Forest and its surrounding area in Pennsylvania (shaded region). This study targets the region that includes the 4 counties in close proximity to the Forest (Warren, McKean, Elk, and Cameron). If you wish to zoom in or out on the map, please click here. (note, please do not close the google maps window after you viewed the map, to return to the survey, simply click the left arrow on your Browser bar). This study only targets those who have visited any places in this four-county area **in the past 4 years or so (2019-present)**. If your answer in the next question is "Yes", you are eligible for this survey. Otherwise, the survey will end.

End of Block: Section 1: Consent and Eligibility

Start of Block: Screener Validation

Q2 2. Have you visited any places in the Allegheny National Forest and its surrounding area (Warren, McKean, Elk, and Cameron) in Pennsylvania (shaded region) in the past 4 years or so (2019-present)?

- ○ Yes (1)
- ○ No (2)

End of Block: Screener Validation

Start of Block: Cover Letter

Q3 3. Cover Letter

End of Block: Cover Letter

Start of Block: Consent

Q4 4. You will be offered $5 for completing this survey. If you agree to participate in this survey, please check "Yes" below:

○ Yes (1)

○ No (2)

End of Block: Consent

Start of Block: Background Information

Page Break

Q5 5. Please check the year in which you made **your most recent trip** to the area.

- ○ 2019 (1)
- ○ 2020 (2)
- ○ 2021 (3)
- ○ 2022 (4)
- ○ 2023 (5)

Page Break

Q6
6. What city do you currently reside in?

- ○ Pittsburgh, PA (1)
- ○ Buffalo, NY (2)
- ○ Rochester, NY (3)
- ○ Cleveland, OH (4)
- ○ Philadelphia, PA (5)
- ○ None of Above (6)

Page Break

Q7 7. Please choose from the following list of places you have visited in the area **during your most recent trip** (Click to choose **all** that apply). If the places your visited are not on the list, please write down in the blank space provided.

- ☐ Allegheny National Forest (Elk, Warren, McKean) (23)
- ☐ Allegheny River (24)
- ☐ Clarion River Water Trail (Elk) (25)
- ☐ Eldred World War II Museum (29)
- ☐ Elk Country Visitor Center (Benezette Township) (26)
- ☐ Kinzua Bridge State Park Visitor Center and Sky Walk (McKean) (27)
- ☐ Kinzua Dam (Warren & McKean) (28)
- ☐ Ridge Road (Cameron County) (30)
- ☐ Rim Rock (31)
- ☐ Sinnemahoning Canyon Vista (39)
- ☐ Straub Brewery (Elk County) (34)
- ☐ Table Falls (32)
- ☐ The Fred Woods Trail (Cameron County) (33)
- ☐ Trails at Jake's Rock (Warren) (37)
- ☐ Twisted Vine Beverage (38)
- ☐ Zippo/Case Museum (McKean County) (36)
- ☐ Winslow Hill (40)

☐ **Others (Please specify)** (42)

____

Q8 8. Following the previous question, please click on the map to roughly show places you have visited during your **most recent trip** to the area (Maximum 10 clicks. To delete a point, put the cursor on the point, then left click. To move the point, put the cursor on the point, left click, hold and drag. if you use a mobile device, simply finger touch the map area, touch again to delete. To move the point, touch, hold and drag).

End of Block: Background Information

Start of Block: Prolific ID

Q9 9. What is your Prolific ID?
Please note that this response should auto-fill with the correct ID

____

End of Block: Prolific ID

Start of Block: Section 2: Trip Characteristics

Q11
Section 2: Trip Characteristics
1. Please check where appropriate to indicate your reason(s) for visiting the region that includes the four counties (Warren, McKean, Elk, and Cameron) which are in close proximate to the Allegheny National Forest during **your most recent visit**.

- ▢ Leisure/holiday/vacation (1)
- ▢ Visiting friends and/or relatives (2)
- ▢ Business (3)
- ▢ Others (please specify) (4) ____

Page Break

Q12 2. Including your most recent visit, how many times have you visited the region that includes the four counties (Warren, McKean, Elk, and Cameron) that are in close proximate to the Allegheny National Forest **in the past 4 years or so (2019-present)?**

- This is my first time (1)
- 2-5 times (2)
- 6-10 times (3)
- More than 10 times (4)

Page Break

*

Q13 3. Including your most recent visit, how many times have you visited the four-county region **in the previous 12 months**? (Numbers only, please enter 0 if you have not visited the area in the past 12 months).

____

Page Break

Q14 4. **Including yourself**, how many people were traveling with you during your most recent trip to the area?

- ○ I traveled alone (1)
- ○ 2 (2)
- ○ 3-5 (3)
- ○ 6-10 (4)
- ○ More than 10 (5)

Page Break

Q15 5. What activities have you participated in during your most recent trip to the four-county region?

	Select **all** activities you participated in during your most recent trip to the area	Select the **one** activity that was the primary activity you participated during your most recent trip to the area.
	Click all that apply (1)	Choose only ONE (1)

Hiking (4)	☐	☐
Mountain Biking (5)	☐	☐
Rail-trail/Road Biking (6)	☐	☐
Fishing (7)	☐	☐
Canoeing/Kayaking (8)	☐	☐
Whitewater Rafting (9)	☐	☐
Downhill Skiing/Snowboarding (10)	☐	☐
XC Skiing (11)	☐	☐
Rock Climbing/Bouldering (12)	☐	☐
Swimming (13)	☐	☐
Picnicking (14)	☐	☐
Backpacking (15)	☐	☐
Shopping (29)	☐	☐
Farms/farmer's markets (17)	☐	☐
Sightseeing (18)	☐	☐

Performing arts (19)	☐	☐
Fairs & events (20)	☐	☐
Viewing wildlife (21)	☐	☐
Food & drink experiences (22)	☐	☐
Nightlife (23)	☐	☐
Hunting (24)	☐	☐
Factory tours (25)	☐	☐
Snowmobiling/ATV/UTV riding (26)	☐	☐
Leaf peeping (27)	☐	☐
Geocaching (28)	☐	☐
Other (please specify) (16)	☐	☐

Page Break

Q16 6. During your most recent trip to the four-county region how much have you or your group spent in the area? (If you traveled as a group, enter the estimated spending for the whole group. If you traveled alone, enter the spending for yourself).

- ○ Less than $100 (1)
- ○ $101 to $200 (2)
- ○ $201 to $300 (3)
- ○ $301 to $400 (4)
- ○ $401 to $500 (5)
- ○ $501 to $600 (6)
- ○ $601 to $700 (7)
- ○ $701 to $800 (8)
- ○ $801 to $900 (9)
- ○ $901 to $1000 (10)
- ○ $1001 to $2000 (11)
- ○ $2001 to $3000 (12)
- ○ $3001+ (13)

Page Break

Q17

7. Have you stayed overnight in the four-county region (anywhere in the region defined above including the forest and/or any of the towns near the forest) during your most recent trip?

- Yes (2)
- No (3)

Skip To: End of Block If 7. Have you stayed overnight in the four-county region (anywhere in the region defined above incl... = No

Page Break

Q18 8. During your most recent trip to the four-county region, how many nights have you stayed in the area? (number only)

____

Page Break

Q19 9. Please indicate your main type(s) of accommodation in the four-county region during your most recent trip.

- ☐ Friends and/or relatives (1)
- ☐ Youth hostel (2)
- ☐ RV (3)
- ☐ Homestays (4)
- ☐ Hotel/motel/inn (5)
- ☐ Second home (6)
- ☐ Camping/tent (7)
- ☐ Timeshare (8)
- ☐ Airbnb (9)
- ☐ Bed & Breakfast (10)
- ☐ Rented house/apartment/VRBO (11)
- ☐ Other (please specify) (12) ____

Q20
10. What town/area have you stayed overnight in during your most recent visit to the area? Please check all that apply

- Bear Lake (14)
- Bradford (11)
- Clarendon (20)
- Driftwood (23)
- Eldred (25)
- Emporium (24)
- Johnsonburg (15)
- Kane (26)
- Lewis Run (17)
- Mount Jewett (21)
- Port Allegany (22)
- Ridgway (18)
- Smethport (12)
- ST Marys (10)
- Sugar Grove (16)
- Tidioute (13)
- Youngsville (19)
- Warren (9)
- **Others (please specify)** (27)

End of Block: Section 2: Trip Characteristics

Start of Block: Section 3: Perceptions of Tourism Sustainability Indicators

Q21 **Section 3: Perceptions of Tourism Sustainability Indicators: Importance**

1. Listed below are phrases about your perceptions of the aspects of tourism sustainability in

rural destinations as a whole. Please using the following scale to indicate how important (**1 = least important, 5 = most important**) each indicator is to measure tourism sustainability.

	1 (1)	**2** (2)	**3** (3)	**4** (4)	**5** (5)	**N/A** (6)
1. Protection of the natural environment (1)	○	○	○	○	○	○
2. Rural authenticity (11)	○	○	○	○	○	○
3. Environmental quality (12)	○	○	○	○	○	○
4. Reduction of energy consumption and improvement of efficiency in its use (13)	○	○	○	○	○	○
5. Control of negative impacts through long-term planning (14)	○	○	○	○	○	○
6. Management of waste (15)	○	○	○	○	○	○
7. Reduction of greenhouse gas emissions (16)	○	○	○	○	○	○
8. Management of overcrowding (17)	○	○	○	○	○	○
9. Economic opportunities from tourism development (39)	○	○	○	○	○	○
10. High-paying jobs from tourism development (40)	○	○	○	○	○	○
11. Improvement of the well-being of rural communities from tourism development (41)	○	○	○	○	○	○
12. Marketing and promotion of tourism assets to visitors (42)	○	○	○	○	○	○

13. More investment in tourism development (43)	○	○	○	○	○	○
14. Contribution to community and sustainability initiatives in a responsible manner from enterprises, visitors, and the public (44)	○	○	○	○	○	○
15. Career opportunities and training in tourism (45)	○	○	○	○	○	○
16. A system to monitor, prevent, publicly report, and respond to crime, safety, and health hazards that addresses the needs of both visitors and residents (46)	○	○	○	○	○	○
17. A policy and system to evaluate, rehabilitate, and conserve cultural assets, including built heritage and cultural landscapes (47)	○	○	○	○	○	○
18. Celebration and protection of intangible cultural heritage, including local traditions, arts, music, language, food and other aspects of local identity and distinctiveness (48)	○	○	○	○	○	○

19. Accurate interpretative material that informs visitors of the significance of the cultural and natural aspects of the sites they visit (49)	○	○	○	○	○	○
20. Guidelines for visitor behavior at sensitive sites and cultural events being made available to visitors (50)	○	○	○	○	○	○
21. Optimize visitor flow and minimize adverse impacts in cultural sites (51)	○	○	○	○	○	○
22. Opportunities for visitors to reflect on religious or other spiritual values (52)	○	○	○	○	○	○
23. Cultural/heritages sites accessible to physically disabled tourists (53)	○	○	○	○	○	○
24. Safeguarding cultural identify of local community (54)	○	○	○	○	○	○
25. Evidence of links and engagement with other bodies (55)	○	○	○	○	○	○
26. Existence of a regional collaboration and marketing organization (56)	○	○	○	○	○	○
27. Local leaders' support for tourism development (57)	○	○	○	○	○	○
28. Quality of public-private partnership in tourism (58)	○	○	○	○	○	○

29. A risk reduction, crisis management and emergency response plan (59)	○	○	○	○	○	○
30. A system to monitor and respond to socio-economic, cultural and environmental issues and impacts arising from tourism (60)	○	○	○	○	○	○
31. Public participation in sustainable destination planning and management (61)	○	○	○	○	○	○
32. The destination management strategy/plan clearly visible and available online (62)	○	○	○	○	○	○

Page Break

Q22 **Section 4: Perceptions of Tourism Sustainability Indicators: Performance**

1. Listed below are phrases about your perceptions of the aspects of tourism sustainability **specifically related to the Allegheny National Forest area.** Please using the following scale

to indicate how satisfied **(1 = very dissatisfied, 5 = very satisfied)** with the performance of each indicator in the area.

	1 (1)	**2** (2)	**3** (3)	**4** (4)	**5** (5)	**Unsure** (6)
1. Protection of the natural environment (1)	○	○	○	○	○	○
2. Rural authenticity (11)	○	○	○	○	○	○
3. Environmental quality (12)	○	○	○	○	○	○
4. Reduction of energy consumption and improvement of efficiency in its use (13)	○	○	○	○	○	○
5. Control of negative impacts through long-term planning (14)	○	○	○	○	○	○
6. Management of waste (15)	○	○	○	○	○	○
7. Reduction of greenhouse gas emissions (16)	○	○	○	○	○	○
8. Management of overcrowding (17)	○	○	○	○	○	○
9. Economic opportunities from tourism development (39)	○	○	○	○	○	○
10. High-paying jobs from tourism development (40)	○	○	○	○	○	○
11. Improvement of the well-being of rural communities from tourism development (41)	○	○	○	○	○	○
12. Marketing and promotion of tourism assets to visitors (42)	○	○	○	○	○	○

13. More investment in tourism development (43)	○	○	○	○	○	○
14. Contribution to community and sustainability initiatives in a responsible manner from enterprises, visitors, and the public (44)	○	○	○	○	○	○
15. Career opportunities and training in tourism (45)	○	○	○	○	○	○
16. A system to monitor, prevent, publicly report, and respond to crime, safety, and health hazards that addresses the needs of both visitors and residents (46)	○	○	○	○	○	○
17. A policy and system to evaluate, rehabilitate, and conserve cultural assets, including built heritage and cultural landscapes (47)	○	○	○	○	○	○
18. Celebration and protection of intangible cultural heritage, including local traditions, arts, music, language, food and other aspects of local identity and distinctiveness (48)	○	○	○	○	○	○

19. Accurate interpretative material that informs visitors of the significance of the cultural and natural aspects of the sites they visit (49)	○	○	○	○	○	○
20. Guidelines for visitor behavior at sensitive sites and cultural events being made available to visitors (50)	○	○	○	○	○	○
21. Optimize visitor flow and minimize adverse impacts in cultural sites (51)	○	○	○	○	○	○
22. Opportunities for visitors to reflect on religious or other spiritual values (52)	○	○	○	○	○	○
23. Cultural/heritages sites accessible to physically disabled tourists (53)	○	○	○	○	○	○
24. Safeguarding cultural identify of local community (54)	○	○	○	○	○	○
25. Evidence of links and engagement with other bodies (55)	○	○	○	○	○	○
26. Existence of a regional collaboration and marketing organization (56)	○	○	○	○	○	○
27. Local leaders' support for tourism development (57)	○	○	○	○	○	○
28. Quality of public-private partnership in tourism (58)	○	○	○	○	○	○

29. A risk reduction, crisis management and emergency response plan (59)	○	○	○	○	○	○
30. A system to monitor and respond to socio-economic, cultural and environmental issues and impacts arising from tourism (60)	○	○	○	○	○	○
31. Public participation in sustainable destination planning and management (61)	○	○	○	○	○	○
32. The destination management strategy/plan clearly visible and available online (62)	○	○	○	○	○	○

End of Block: Section 3: Perceptions of Tourism Sustainability Indicators

Start of Block: SECTION 5: Perceptions of Relative Competitiveness

Q23 **Section 5: Perceptions of Relative Competitiveness for Allegheny National Forest Area**

1. Have you visited a rural destination(s) similar to the region that includes the four counties (Warren, McKean, Elk, and Cameron) in the Allegheny National Forest Area in the past **4 years or so (2019-present)**?

○ Yes (1)

○ No (2)

Skip To: Q26 If Section 5: Perceptions of Relative Competitiveness for Allegheny National Forest Area 1. Have you... = No

Page Break

Q24 2. Please list up to three rural destinations you are comparing to the region that includes the four counties (Warren, McKean, Elk, and Cameron) in the Allegheny National Forest area (text only) (please list the name of the destination and state).

- ○ 1 (4) ____
- ○ 2 (5) ____
- ○ 3 (6) ____

Page Break

Q25

3. Listed below are phrases about your perceptions of how competitive the region that includes the four counties (Warren, McKean, Elk, and Cameron) in the Allegheny National Forest area is

as compared to a similar rural area(s) you have visited in the past **4 years or so (2019-present)**.

	Much Worse (1)	Somewhat Worse (2)	About the Same (3)	Somewhat Better (4)	Much Better (5)
1. Natural attraction (1)	○	○	○	○	○
2. Heritage and cultural assets (2)	○	○	○	○	○
3. Rural tranquility and authenticity (3)	○	○	○	○	○
4. Hospitability and friendliness of local residents (4)	○	○	○	○	○
5. Diversity and uniqueness of local products (5)	○	○	○	○	○
6. Accessibility (6)	○	○	○	○	○
7. Security and safety (7)	○	○	○	○	○
8. Infrastructure (8)	○	○	○	○	○
9. Resource conservation (9)	○	○	○	○	○
10. Festivals and events (10)	○	○	○	○	○
11. local food/eatery (11)	○	○	○	○	○
12. Prices (12)	○	○	○	○	○
13. Outdoor recreation opportunities (13)	○	○	○	○	○

14. Entertainment and night life (14)	○	○	○	○	○
15. Level of crowding (15)	○	○	○	○	○
16. Shopping (16)	○	○	○	○	○
17. Lodging (17)	○	○	○	○	○
18. Overall competitiveness (18)	○	○	○	○	○

Page Break

Q26 4. What was the most negative aspect of your most recent visit to this area, if any?

____

Q27 5. What was the most positive aspect of your most recent visit to this area, if any?

____

Q28 6. What specifically could this region do to be more competitive as a tourism destination?

____

____

____

____

____

End of Block: SECTION 5: Perceptions of Relative Competitiveness

Start of Block: Section 6: Post COVID-19 Travel Preferences and Behaviors

Q29 **Section 6: Post COVID-19 Travel Preferences and Behaviors**

1. List below are phrases on your **post-**COVID-19 travel preferences and attitudes *as*

compared to **pre-**COVID-19. Please use the following scale to indicate how much you agree or disagree with each item (**1 = strongly disagree, 5 = strongly agree**).

	Strongly Disagree (1)	**Somewhat Disagree** (2)	**Neither Disagree nor Agree** (3)	**Somewhat Agree** (4)	**Strongly Agree** (5)
1. More cautious about travelling (1)	○	○	○	○	○
2. Search for less crowded places (2)	○	○	○	○	○
3. Prefer rural areas over urban areas (3)	○	○	○	○	○
4. Travel to places closer to home (4)	○	○	○	○	○
5. Prefer to travel with family members or relatives (5)	○	○	○	○	○
6. Prefer to stay in short-term rentals over other lodging types (6)	○	○	○	○	○
7. Care more about hygiene and safety in future trips (7)	○	○	○	○	○
8. More interested in nature-based tourism (8)	○	○	○	○	○
9. Spend more time searching for information about the destination (17)	○	○	○	○	○
10. Travel less compared to the period before the pandemic (18)	○	○	○	○	○

11. Prefer to stay at a small hotel rather than a big one (9)	○	○	○	○	○
12. Prefer to travel domestically (10)	○	○	○	○	○
13. Give more attention to the reviews about the accommodation cleanness (12)	○	○	○	○	○
14. Look for booking a flight ticket with more flexibility (13)	○	○	○	○	○
15. More likely to share travel experience and write reviews on social media platforms (15)	○	○	○	○	○
16. Use mobile payment options more (16)	○	○	○	○	○

End of Block: Section 6: Post COVID-19 Travel Preferences and Behaviors

Start of Block: Section 7: Perceptions of the Relationship between Humans and the Environment

Q30 **Section 7: Perceptions of the Relationship between Humans and the Environment**

1.Please rate the extent to which you disagree or agree with each statement below.

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
1. We are approaching the limit of the number of people the earth can support (1)	○	○	○	○	○
2. Humans have the right to modify the natural environment to suit their needs (2)	○	○	○	○	○
3. When humans interfere with nature it often produces disastrous consequences (3)	○	○	○	○	○
4. Human ingenuity will ensure that we do NOT make the earth unlivable (4)	○	○	○	○	○
5. Humans are severely abusing the environment (6)	○	○	○	○	○
6. The earth has plenty of natural resources if we just learn how to develop them (5)	○	○	○	○	○

7. Plants and animals have as much right as humans to exist (7)	○	○	○	○	○
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations (8)	○	○	○	○	○
9. Despite our special abilities humans are still subject to the laws of nature (9)	○	○	○	○	○
10. The so-called “ecological crisis” facing humankind has been greatly exaggerated (10)	○	○	○	○	○
11. The earth is like a spaceship with very limited room and resources (11)	○	○	○	○	○
12. Humans were meant to rule over the rest of nature (12)	○	○	○	○	○

13. The balance of nature is very delicate and easily upset (13)	○	○	○	○	○
14. Humans will eventually learn enough about how nature works to be able to control it (14)	○	○	○	○	○
15. If things continue on their present course, we will soon experience a major ecological catastrophe (15)	○	○	○	○	○

End of Block: Section 7: Perceptions of the Relationship between Humans and the Environment

---

Start of Block: SECTION 8: Socio-demographics

X→

Q31
Section 8: Socio-demographics

1. What is your gender?

- ○ Female (1)
- ○ Male (2)
- ○ Non-binary (4)
- ○ Other (5)
- ○ Prefer not to say (3)

Page Break

Q32 2. What is your age?

- ○ 18-24 (1)
- ○ 25-34 (2)
- ○ 35-44 (3)
- ○ 45-54 (4)
- ○ 55-64 (5)
- ○ 65+ (7)
- ○ Prefer not to tell (8)

Page Break

X→

Q33 3. What is the highest level of education you have completed?

- ○ Less than high school degree (1)
- ○ High school degree or equivalent (2)
- ○ Some college (3)
- ○ Undergraduate or post-secondary degree (4)
- ○ Graduate school degree (5)

Page Break

X→

Q34 4. What was your approximate household income from all sources, before taxes, in 2021?

- ○ Less than $20,000 (1)
- ○ $20,001 to 40,000 (2)
- ○ $40,001 to 60,000 (3)
- ○ $60,001 to $80,000 (4)
- ○ $80,001 to 100,000 (5)
- ○ $100,001 to $150,000 (6)
- ○ $150,001 to $200,000 (7)
- ○ $200,001 to $250,000 (8)
- ○ $250,001 to $300,000 (9)
- ○ $300,001+ (10)

Page Break

*

Q35 5. What is your zip code

____

Page Break

Q36 6. Please circle a number in the following scale to indicate the extent to which you are interested in relocating your family or business to the four-county area (Warren, McKean, Elk, and Cameron)?

- ○ Not interested at all (1)
- ○ Slightly interested (2)
- ○ Moderately interested (3)
- ○ Very interested (4)
- ○ Extremely interested (5)

Page Break

Q37 7. If you are interested in relocating to the four-county area, what are the reasons?

____

____

____

____

____

Page Break

Q38 8. What are the barriers to relocating?

Page Break

Q39 9. Do you have any other comments on tourism, resiliency, and sustainability in this region?

____

____

____

____

____

End of Block: SECTION 8: Socio-demographics

Start of Block: Block 9
