



U.S. Fish & Wildlife Service

NATIONAL WILDLIFE REFUGE VISITOR SURVEY

*2018 Results for
Sam D. Hamilton Noxubee
National Wildlife Refuge*



**THE OHIO STATE
UNIVERSITY**



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Front cover: A visitor enjoys a day of wildlife photography from his kayak in Bluff Lake at Sam D. Hamilton Noxubee National Wildlife Refuge. Photo credit: James Puckett.

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Understanding Wildlife Refuge Visitors & Their Experiences

A hundred years in the making, the National Wildlife Refuge System (Refuge System) is a vast network of habitats that supports over 2,000 species of birds, mammals, reptiles, amphibians, and fish across the United States on national wildlife refuges (wildlife refuges). Wildlife refuges also provide unparalleled outdoor recreation experiences and health benefits to people by offering a chance to unplug from the stresses of modern life and reconnect with their natural surroundings. The National Wildlife Refuge System Improvement Act of 1997 specifically identified six priority recreational uses: hunting, fishing, wildlife observation and photography, environmental education, and interpretation (Fig. 1). These recreational activities are prioritized on every refuge where compatible with the refuge's stated purposes. Visitors may also engage in many other activities (for example, hiking, paddling, boating, and auto tour routes) where compatible.

At least one wildlife refuge exists within an hour's drive of most major metropolitan areas. With over 55 million visits per year, the Refuge System is committed to maintaining customer satisfaction and public engagement while helping people and wildlife to thrive. Increased

visitation is not limited to the Refuge System—over the past few years, there has been a rise in the number of people traveling to public lands and waters for recreation (Outdoor Foundation, 2018). This nationwide trend demands effective management of visitor access and use to ensure benefits for present and future generations.

The need to understand visitors and their experiences, as well as preferences for future opportunities, is further underscored by widespread societal changes that are shaping how people engage with nature and wildlife (Kellert et al., 2017; Manfredo et al., 2018). Researchers and land management professionals alike recognize the need to connect the next generation to nature and wildlife to enhance mental and physical well-being and build a broader conservation constituency (Charles & Louv, 2009; Larson, Green, & Cordell, 2011).

The National Wildlife Refuge Visitor Survey is a Refuge System-wide effort to monitor visitor characteristics, experience, and satisfaction with refuge experiences, as well as visitor economic contributions to local communities. The survey is conducted every five years on a rotating basis on wildlife refuges that have at least 50,000 visits per year. This effort provides refuge professionals with reliable baseline information and trend data that can be used to plan, design, and deliver quality visitor experiences, communicate the value of wildlife refuges to different audiences, and set future priorities. The National Wildlife Refuge Visitor Survey is a collaboration between the U.S. Fish & Wildlife Service (Service), The Ohio State University (OSU), and American Conservation Experience (ACE).

This report summarizes visitors and their experiences at Sam D. Hamilton Noxubee National Wildlife Refuge, referred to as “this wildlife refuge” or “refuge” throughout this report. Percentages noted throughout the



Fig. 1: Priority recreational uses of National Wildlife Refuges.

report were rounded to the nearest whole number and, when summarized per survey question, may not equal 100%. Additionally, most figures do not display a percentage for any category containing less than 5% of visitors.

See Appendix A for the survey methodology and limitations of findings. See Appendix B and C for visitor responses to specific survey questions for this wildlife refuge.



2018 National Visitor Survey interns in action at wildlife refuges across the United States. Photo credit: U.S. Fish & Wildlife Service.

Surveying Visitors at This Wildlife Refuge

REFUGE DESCRIPTION

Sam D. Hamilton Noxubee National Wildlife Refuge is located in Starkville, Mississippi within three counties (Noxubee, Oktibbeha, and Winston). The refuge was established in 1940 and was created from lands obtained through the 1930s Resettlement Administration. The refuge has 42,500 acres and is home to alligators, river otters, raccoons, skunks, beavers, opossums, bobcats, and foxes. Alligators spend their time mostly in the water habitats within four green-tree reservoirs (GTRs), two major lakes (Bluff Lake – 800 acres and Loakfoma Lake – 400 acres), and 16 small impoundments. In addition, half of the wildlife refuge has a very unique bottomland hardwood habitat that supports the endangered red-cockaded woodpecker, which can only be seen in four sites within the state of Mississippi.

Sam D. Hamilton Noxubee National Wildlife Refuge attracts over 242,600 visitors annually (U.S. Fish and Wildlife Service, 2018, written comm.). Visitors can spend their time enjoying the visitor center, hunting, fishing, boating, photographing or observing wildlife, or hiking the boardwalks and trails. Some visitors choose to relax in the peace and quiet on benches or

with their hammocks, and others enjoy the refuge during scenic sunsets.

SAMPLING

Refuge professionals at this wildlife refuge identified two separate 14-day sampling periods and one or more sampling locations that best reflected the primary uses of the refuge as well as the diversity of activities that occur (Fig. 2). For more details on methodology for the National Wildlife Refuge Visitor Survey, see Appendix A.

- During the two sampling periods, a total of 379 visitors agreed to participate in the survey by providing their names and addresses.
- In all, 140 visitors completed the survey online (59%) or by mail (41%) after their refuge visit, resulting in a 40% response rate.
- Results for this wildlife refuge have a $\pm 7\%$ margin of error at the 95% confidence level. For more details on limitations of results and survey methodology, see Appendix A.



A visitor takes in the views at Sam D. Hamilton Noxubee National Wildlife Refuge in their hammock. Photo credit: Kylie Campbell

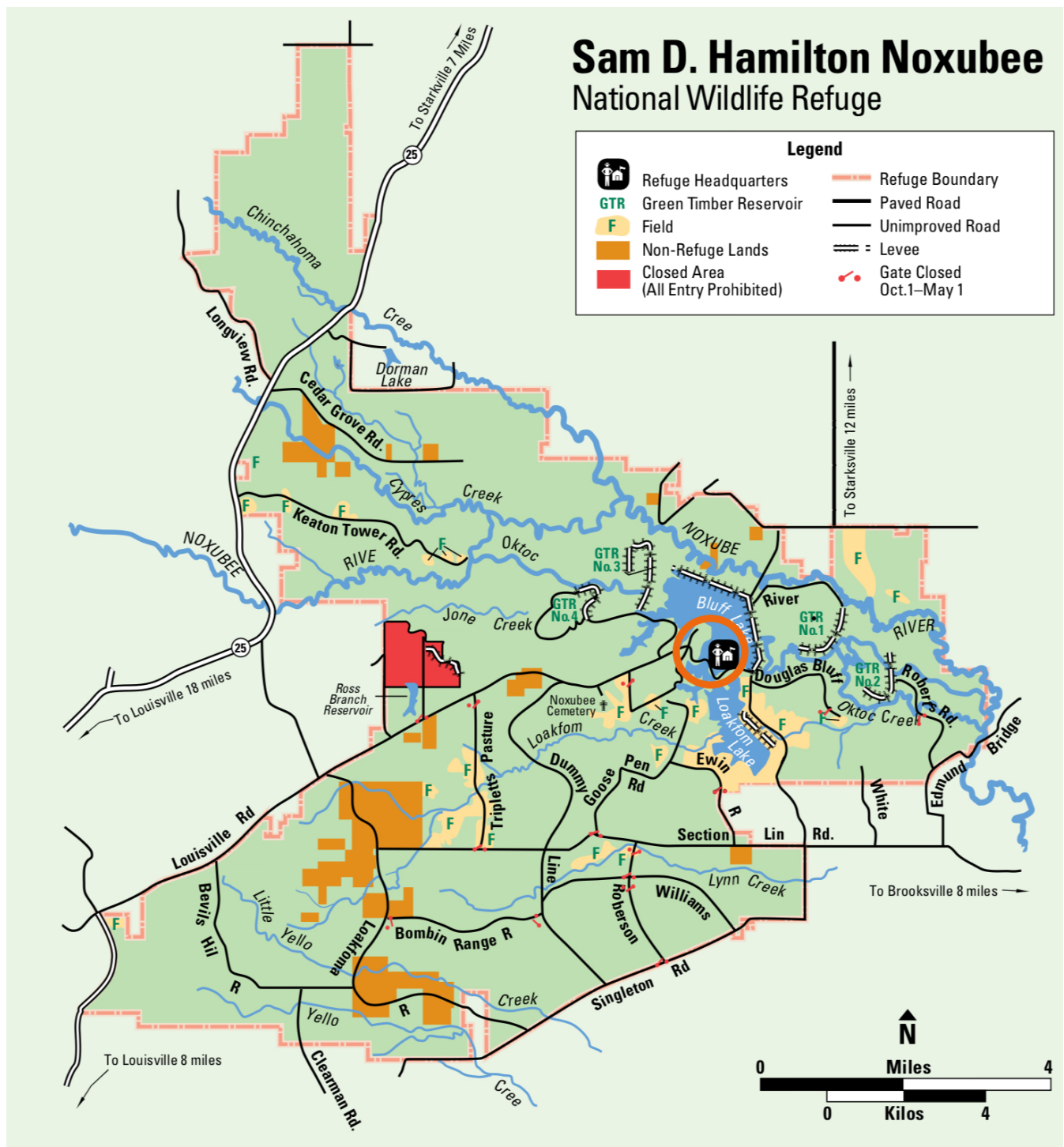


Fig. 2: Map of Sam D. Hamilton Noxubee National Wildlife Refuge. Visitors were contacted at the circled location from 9/7/2018–9/16/2018 and 12/28/2018–1/6/2019.

Visitor Characteristics

An important first step in managing visitor experiences is to understand the characteristics of those who currently visit wildlife refuges. Refuge professionals can compare visitor demographics to the demographic composition of nearby communities or the nation to inform engagement efforts with new audiences. Useful tools for these comparisons include Headwaters Economics' Economic Profile System and their Populations at Risk (<https://headwaterseconomics.org>) or U.S. Census Bureau products (www.census.gov; www.socialexplorer.com).

AGE & GENDER

- 40% of visitors were female with an average age of 45 years (Fig. 3).
- 60% were male with an average age of 48 years.

EDUCATION

- 17% of visitors had a high school degree or less.
- 42% had at least some college.
- 40% had an advanced degree.

RACE & ETHNICITY

Most prevalent race or ethnicity (Fig. 4):

- White (91%).
- African American (6%).

INCOME

- Visitors had a mean income range of \$50,000-\$74,999 (Fig. 5).

OTHER TRIP CHARACTERISTICS

- Average group size of 3 people.
- 24% visited the refuge alone.
- 54% visited with at least one other adult.
- 21% visited with a combination of at least 1 adult and 1 child.

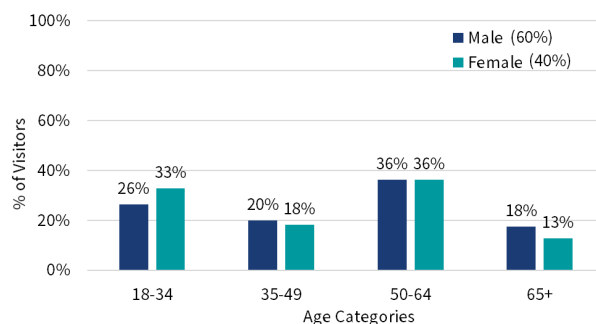


Fig. 3: Distribution of visitors to this refuge by gender and age group.

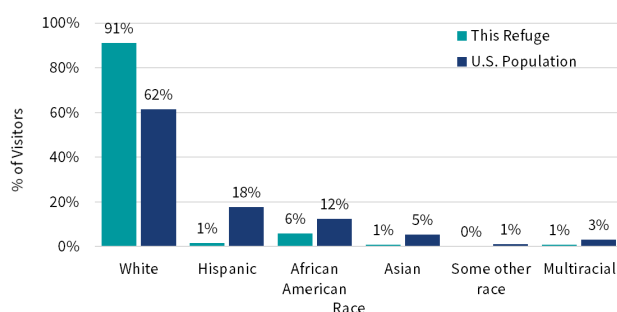


Fig. 4: Race and ethnicity of visitors to this refuge compared to the national average.

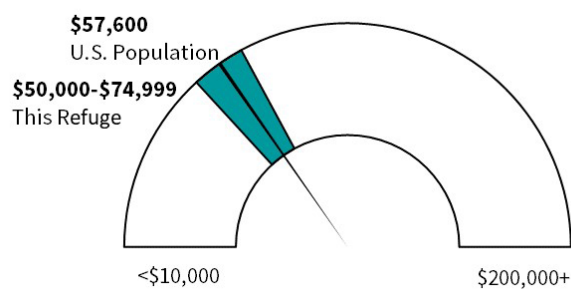


Fig. 5: Mean income range of visitors to this refuge compared to the national median income.

Trip Characteristics

Understanding the travel patterns of visitors and why they choose to visit wildlife refuges is important for effective visitor use management. Comparisons of responses from local visitors (those living ≤ 50 miles from the refuge) and nonlocal visitors (those living > 50 miles from the refuge) can inform communication efforts with current visitors and those who have yet to visit. Understanding seasonality helps refuge professionals better understand visitor use patterns and gauge supply and demand.

LOCAL VISITORS

Highlights of trip characteristics for local visitors to this wildlife refuge (63%) include:

- For locals, this refuge was the primary reason for their trip (88%) (Fig. 6).
- Local visitors traveled an average of 26 minutes to arrive at this refuge (Fig. 7).

NONLOCAL VISITORS

Highlights of trip characteristics for nonlocal visitors to this wildlife refuge (37%) include:

- For nonlocals, this refuge was the primary reason for their trip (55%) (Fig. 6).
- Nonlocal visitors traveled an average of 4 hours to arrive at this refuge (Fig. 8).
- Of the 100% of visitors who lived in the U.S., nonlocal visitors were most often from Mississippi (59%) and Alabama (8%).

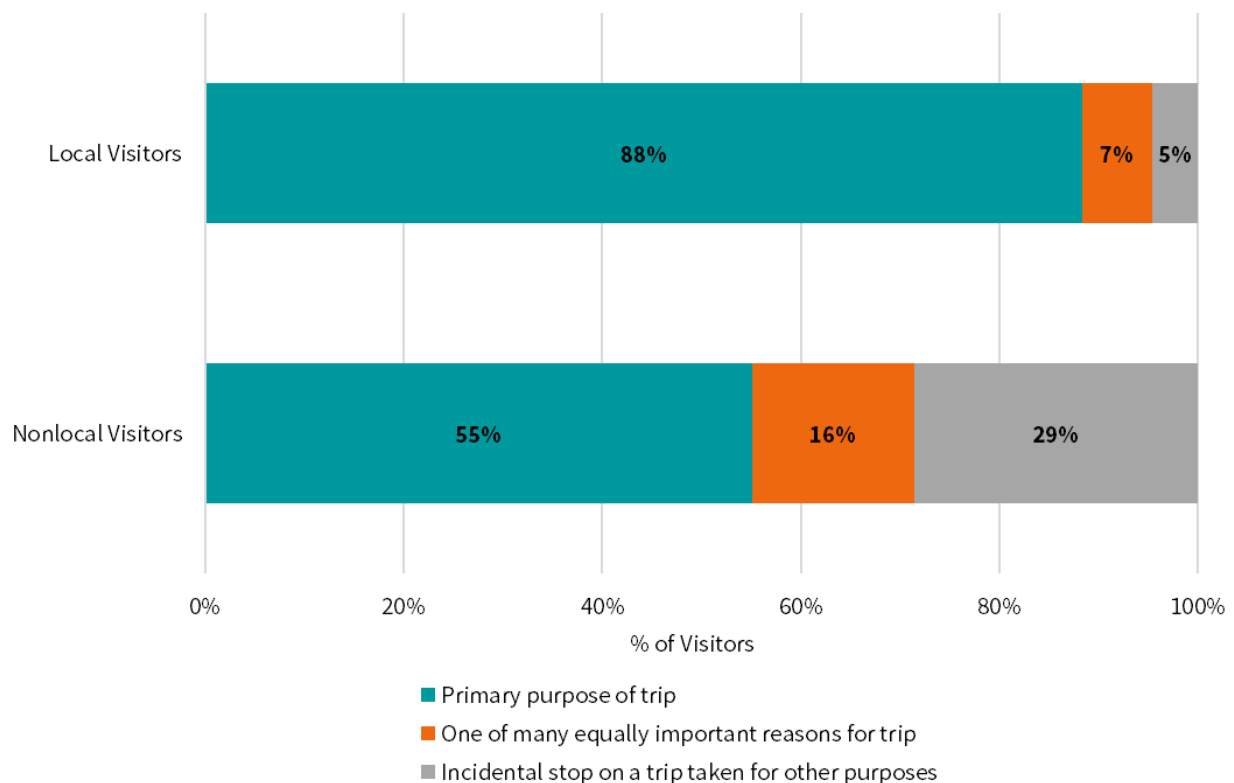


Fig. 6: Purpose of most recent refuge visit for local (living ≤ 50 miles from the refuge) and nonlocal (living > 50 miles from the refuge) visitors.

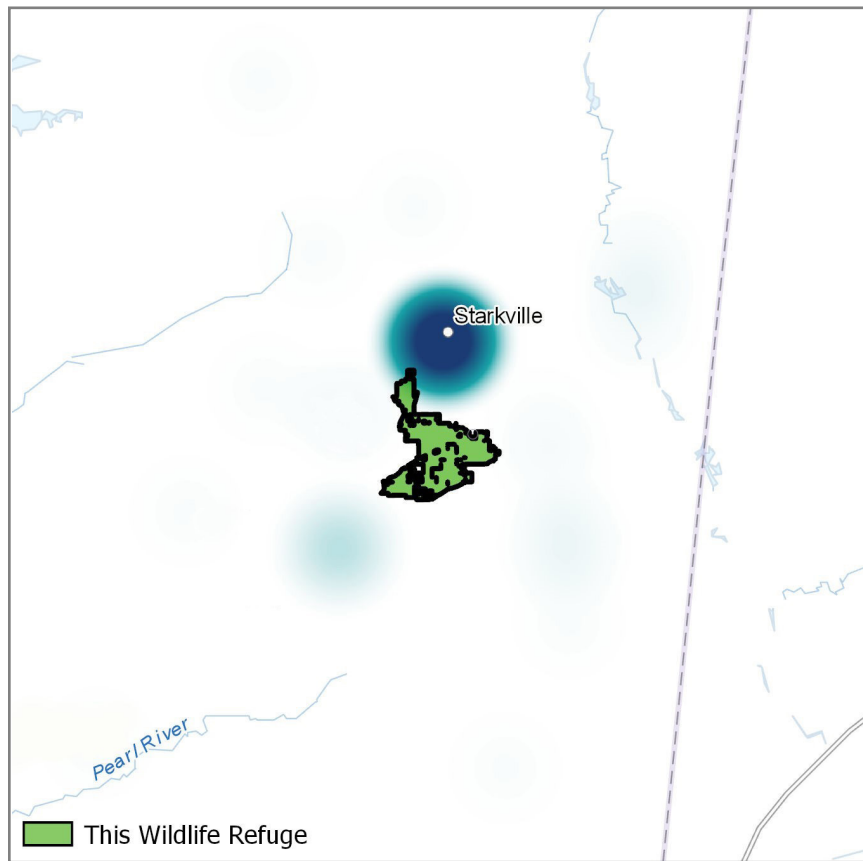


Fig. 7: Map showing residence of local visitors to this refuge. Darker shading represents relatively higher visitation from that area.

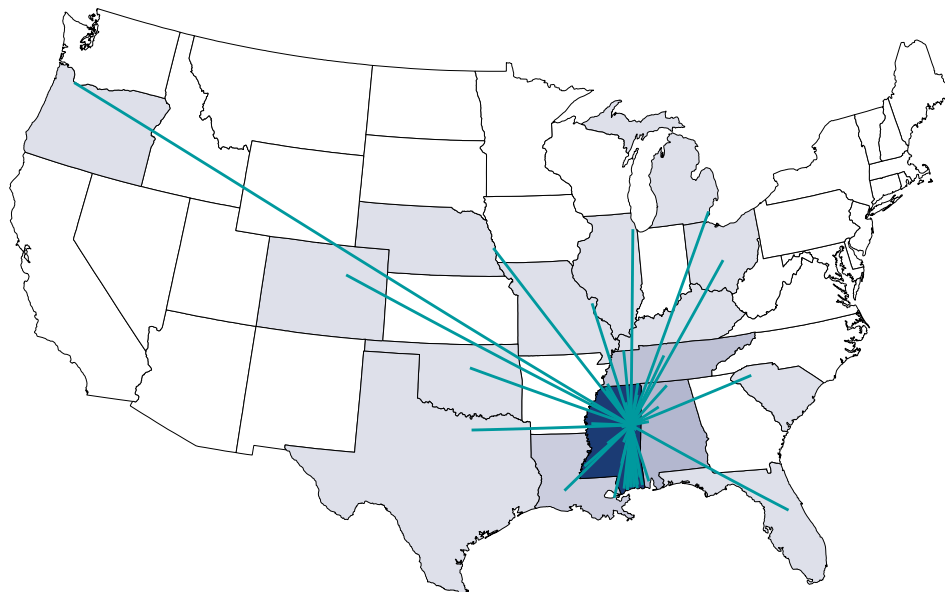


Fig. 8: Map showing residence of visitors to this refuge by zip code, with each line representing visitation from a different zip code. The convergence point of the lines is the geographical center of the refuge. Darker shading of the states represents higher visitation from that state.

OTHER TRIP CHARACTERISTICS

Other trip characteristics include:

- To get to this wildlife refuge, visitors primarily traveled by private vehicle without a trailer (86%) and by foot (7%) (Fig. 9).
- Once on the refuge, visitors primarily traveled by private vehicle without a trailer (67%) and by foot (52%) (Fig. 9).
- Visits occurred during winter (71%), spring (61%), summer (57%), and fall (76%).
- 88% of visitors made a single-day trip to this refuge, spending an average of 3 hours, while 12% of visitors were on a multi-day trip to this wildlife refuge that averaged 5 days.

During the 12 months prior to completing the survey, visitors also made multiple trips to this wildlife refuge, other wildlife refuges, and other public lands:

- 81% were repeat visitors to this wildlife refuge, visiting an average of 22 times.
- 44% visited other national wildlife refuges, averaging 2 visits.
- 67% visited other public lands, averaging 6 visits.

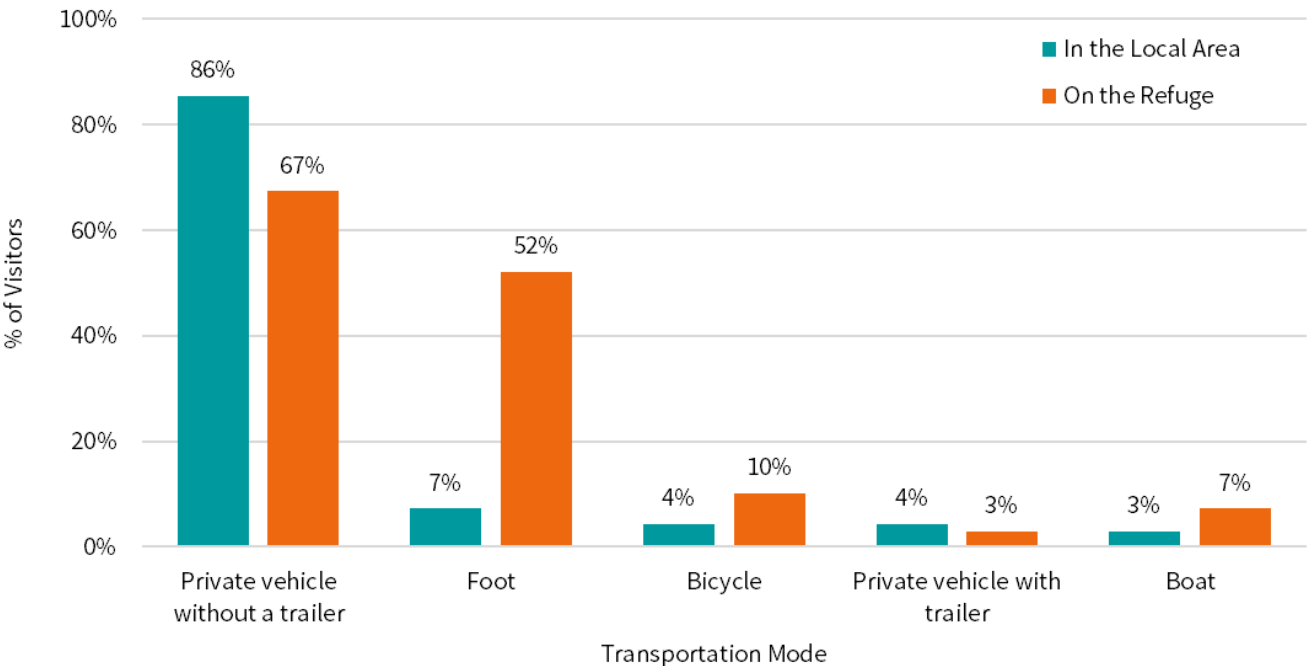


Fig. 9: Modes of transportation used by visitors to get from the local area to this refuge and within the boundaries of this refuge.

Information Sources Used for Trip Planning

Knowing more about which information sources visitors use (or do not use) to plan their trips can improve communication strategies and facilitate positive experiences on refuges. The Refuge System's success in reaching new and diverse audiences as well as current visitors also depends on its ability to keep pace with communication trends (U.S. Fish & Wildlife Service, 2016a).

Visitors to this wildlife refuge found a variety of in-person, print/internet, and refuge-specific information sources helpful when planning their trips. Details for information sources identified as very or extremely helpful include:

- In-person sources that were most helpful to visitors regardless of age included word of mouth and tourist information/welcome center.
- Print and internet sources that were most helpful to visitors regardless of age included printed map/atlas and social media.
- Refuge-specific sources that were most helpful to visitors regardless of age included refuge employees/volunteers and refuge printed information.
- Use of information sources varied by age groups (see Figs. 10-12 for details).

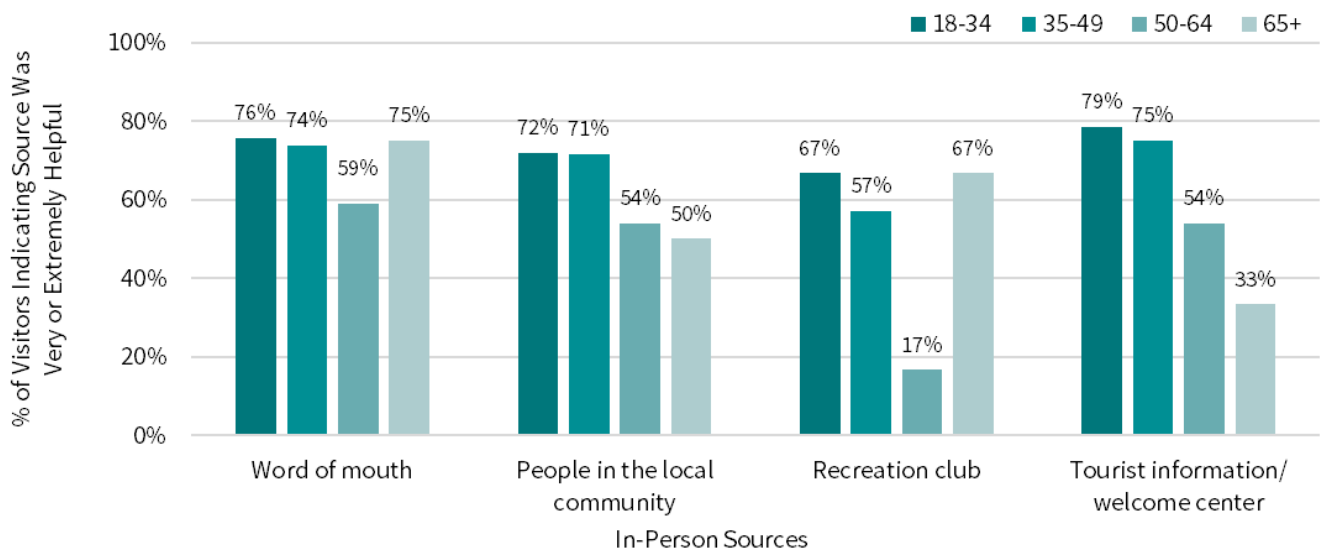


Fig. 10: Percent of visitors by age group who found in-person information sources very or extremely helpful in planning their trip.

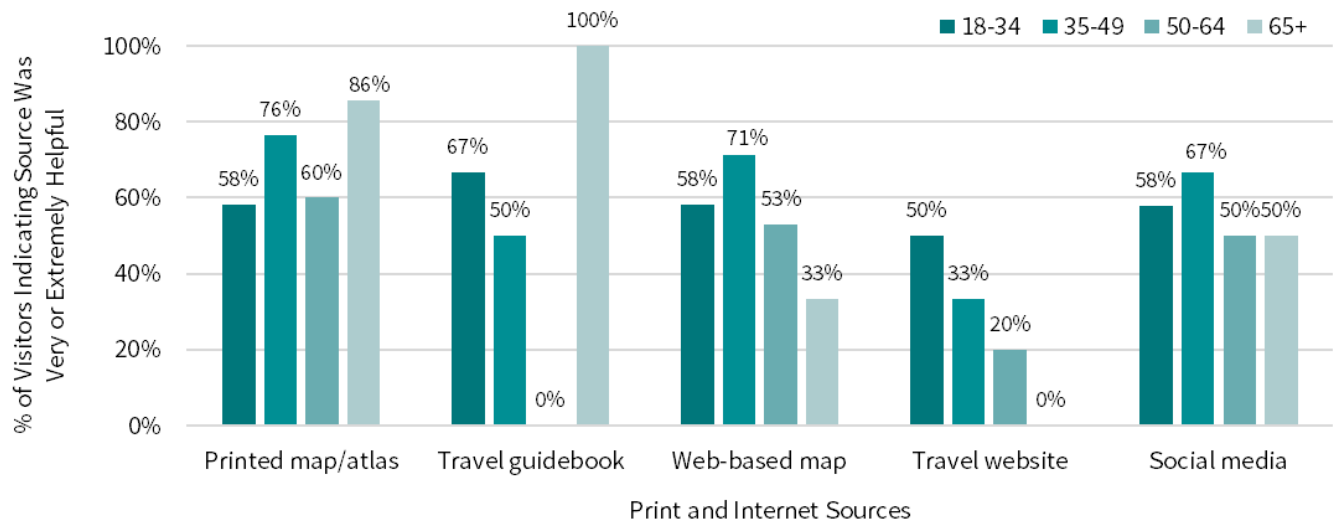


Fig. 11: Percent of visitors by age group who found print and internet information sources very or extremely helpful in planning their trip.

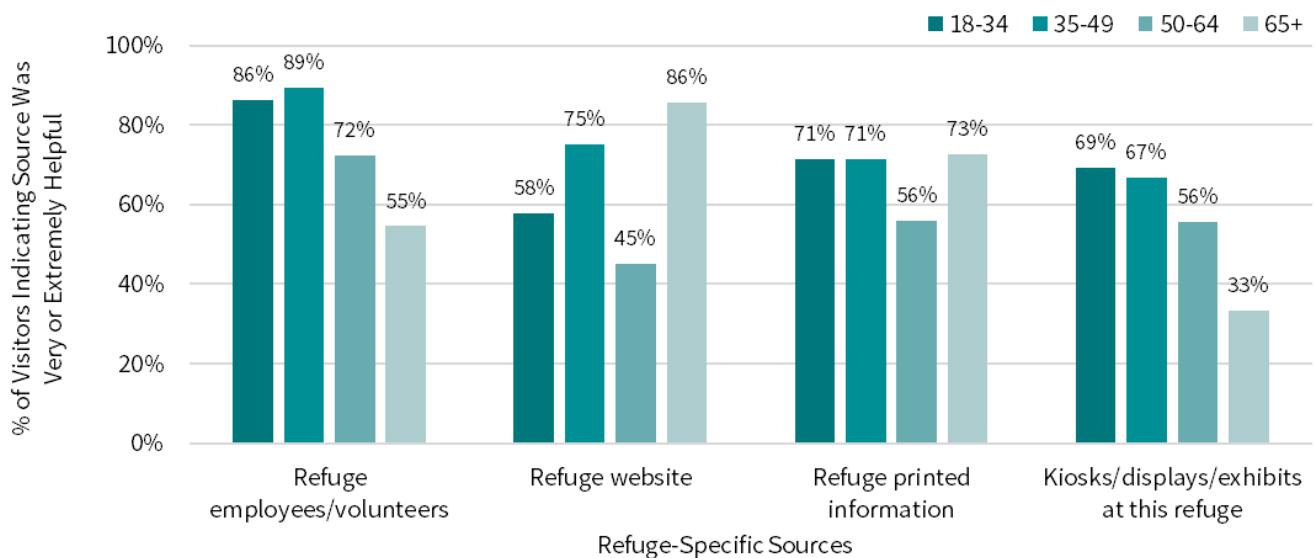


Fig. 12: Percent of visitors by age group who found refuge-specific information sources very or extremely helpful in planning their trip.

Use of Social Media

Around 70% of Americans use social media to connect with one another, engage with news content, share information, and entertain themselves (Smith & Anderson, 2018). Social media posts can act as a virtual “word of mouth” method for increasing awareness about the refuge to the visitor’s network and beyond. A social media presence can further generate awareness of the refuge and its resources among audiences that do not use or did not otherwise learn about the refuge through traditional advertising outlets.

Social media was used by 55% of visitors to share their experience on this refuge with others. Use of specific social media platforms varied by age group (Fig. 13):

- Visitors 18-34 years old preferred to use Instagram (43%), Facebook (40%), and Snapchat (29%).
- Visitors 35-49 years old preferred to use Facebook (46%) and Instagram (15%).
- Visitors 50-64 years old preferred to use Facebook (43%).
- Visitors 65 or older preferred to use Facebook (26%).

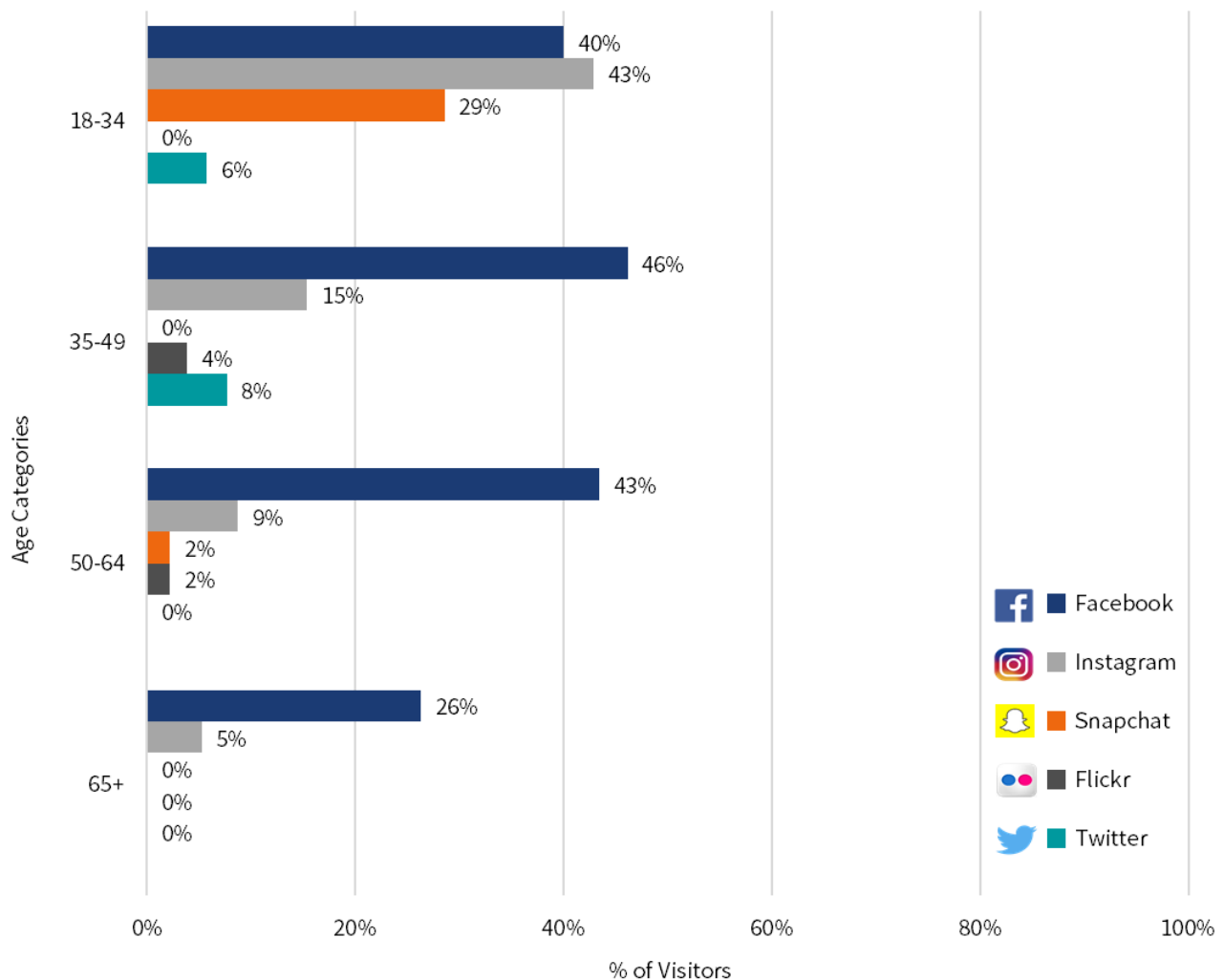


Fig. 13: Percent of visitors by age group who used various social media platforms to share their experience on this refuge with others.

Participation in Recreational Activities

Some research shows that rates of participation in outdoor recreation activities have increased (Outdoor Foundation, 2018), while other studies have indicated declines in participation in heritage activities such as hunting (U.S. Fish & Wildlife Service, 2016a). In light of these trends it is important to understand recreation participation on refuges to create quality visitor experiences and foster personal and emotional connections to the refuge and its resources (U.S. Fish & Wildlife Service, 2011). Understanding what people do while visiting refuges can also aid in developing programs that facilitate meaningful interactions between visitors and refuge professionals. Finally, such information can help to ensure impacts to resources and conflicts among visitor groups are minimized.

Participation in recreational activities at this wildlife refuge can be characterized as follows:

- The top three activities in which visitors participated during the past 12 months were wildlife observation (71%), hiking (61%), and photography (40%) (Fig. 14).
- The top three activities noted as their primary activity on the day visitors were contacted to participate in the survey were hiking (17%), hunting (16%), and wildlife observation (15%) (Fig. 14).
- Approximately 35% of visitors went to the visitor center, and they most often used the facilities (56%), viewed the exhibits (40%), and visited the gift shop or bookstore (33%) (Fig. 15).



Photo credit: U.S. Fish & Wildlife Service.

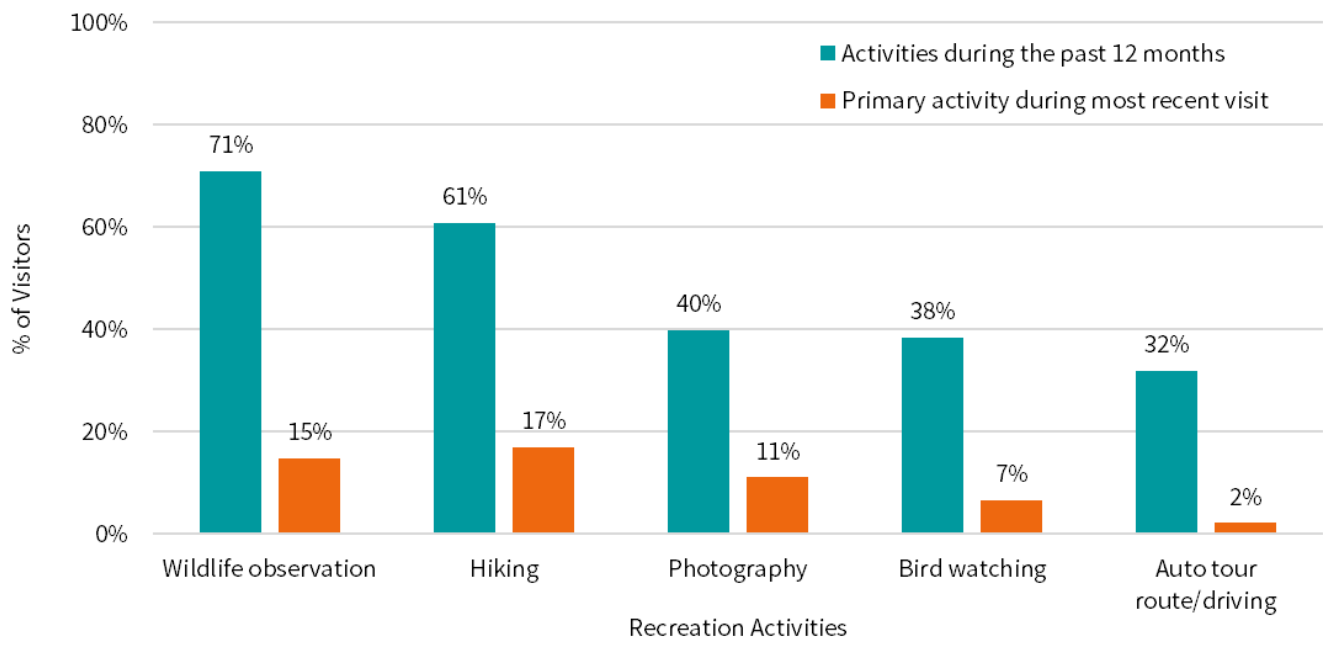


Fig. 14: Recreational activities visitors participated in during the past 12 months and their primary activity during their most recent visit to this refuge.

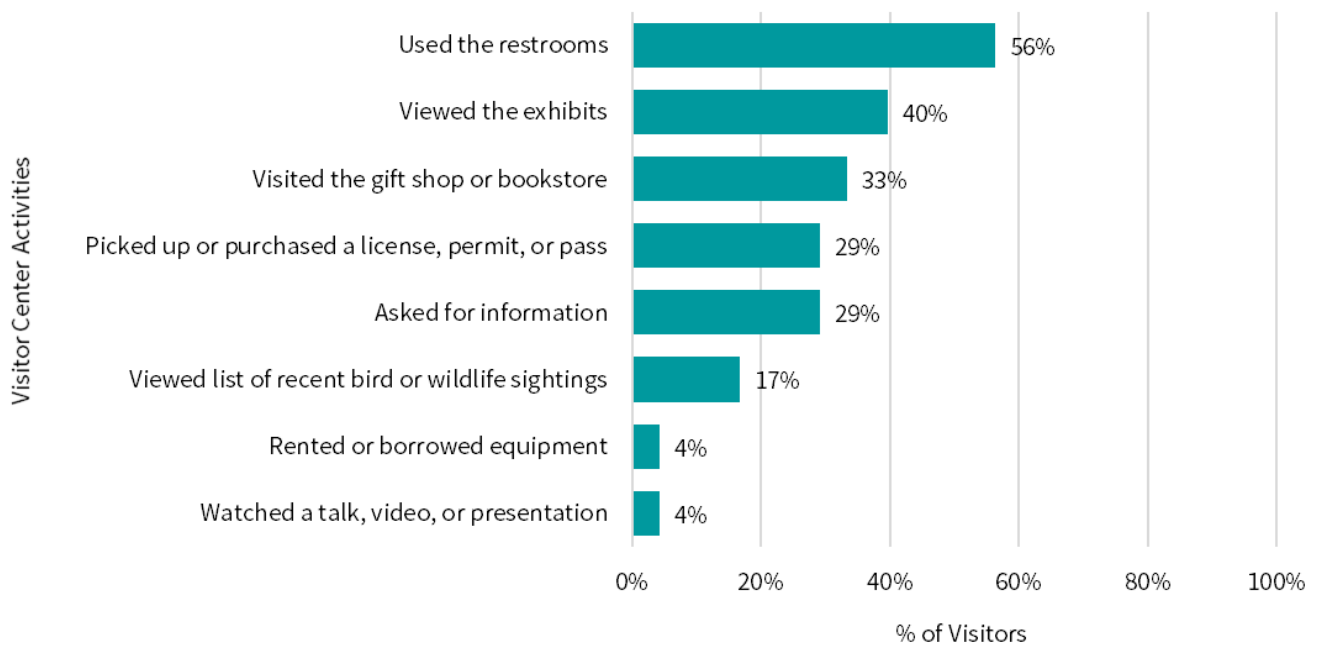


Fig. 15: Reasons visitors used the visitor center during their most recent visit to this refuge.

Comfort in Nature/Feeling Safe & Welcome

While many people are repeat visitors to refuges, each year thousands of people experience these lands and waters for the first time. One barrier for some visitors, particularly those living in urban areas or with little past exposure to nature-based recreation, is the perception that being in nature is dangerous or unsafe (U.S. Fish & Wildlife Service, 2014). There may also be negative stigmas associated with outdoor spaces that arise from social contexts (for example, people associating being outdoors with poverty or ‘dirty’ contexts) and historical contexts in which being ‘in the woods’ was dangerous and unsafe (Sexton, Ross-Winslow, Pradines, & Dietsch, 2015).

While ensuring that visitors feel safe and welcome is a foundational standard of the Urban Wildlife Conservation Program (<https://www.fws.gov/urban>), these basic needs apply across the Refuge System.

Before visitors can appreciate the wonders of nature, their basic need for safety and belonging must be met. Thus, an understanding of how visitors perceive safety, belonging, accessibility, and comfort in nature is critical to ensure real threats to safety are minimized, and that individuals from all demographic groups feel as welcome and comfortable in nature as possible.

Visitors to this wildlife refuge shared the following about safety, belonging, and their comfort while being in nature:

- 87% of visitors felt welcome during their refuge visit (Fig. 16).
- 98% of visitors felt safe during their refuge visit (Fig. 16).
- 99% of visitors reported that they feel comfortable being in nature, but 11% do not like being in nature alone (Fig. 17).

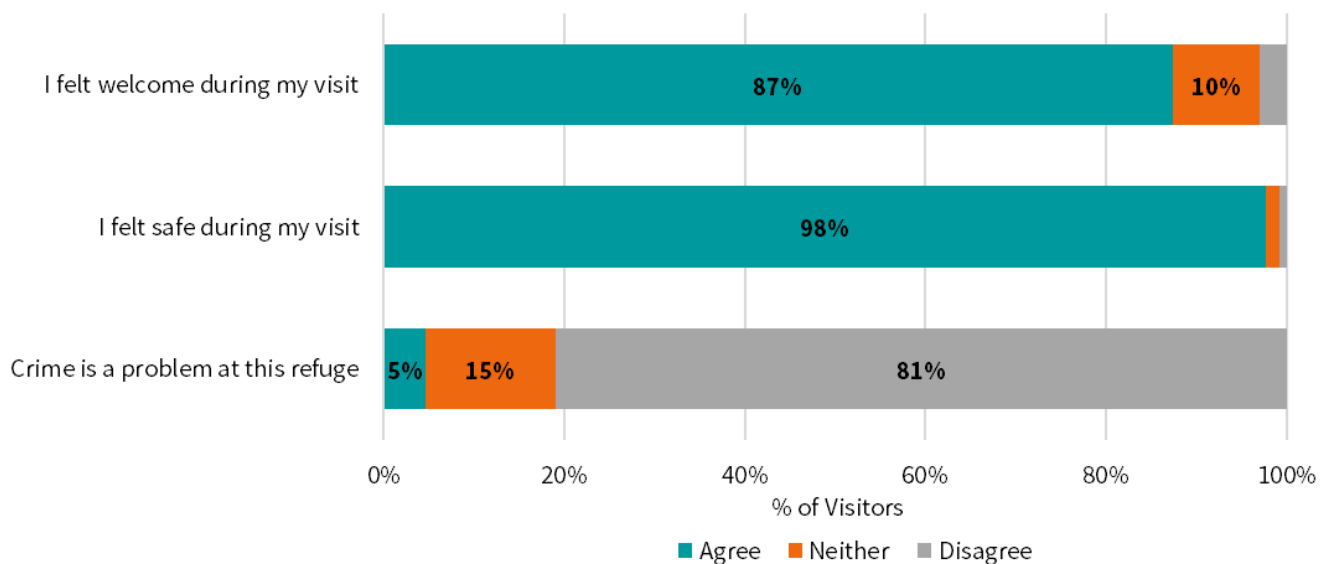


Fig. 16: Visitors' perceptions of safety and feeling welcome at this refuge during their visit.

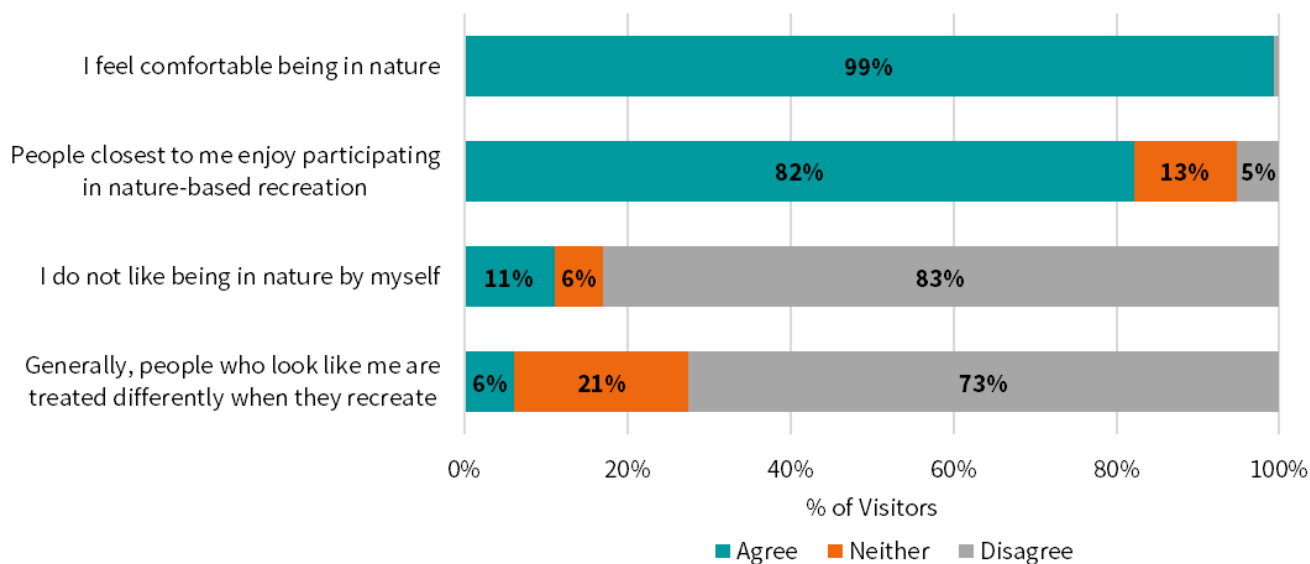


Fig. 17: Visitors' comfort with being in nature.



Photo credit: U.S. Fish & Wildlife Service.

Satisfaction with Refuge Experiences

OVERALL SATISFACTION

Refuge professionals strive to maintain a high level of customer satisfaction by operating visitor centers; designing, installing, and maintaining accessible trails; constructing viewing blinds; and much more to facilitate quality recreational experiences. A solid understanding of visitors' perceptions of their experiences provides a framework for monitoring and responding to trends across time. Overall satisfaction with this wildlife refuge is summarized as follows:

- 79% of visitors were very or extremely satisfied with the overall experience at this wildlife refuge (Fig. 18).
- 76% of visitors were very or extremely satisfied with this wildlife refuge's job of conserving fish, wildlife, and their habitats (Fig. 18).

CUSTOMER SERVICE

Refuge professionals regularly interact with visitors and maintain facilities to ensure high quality experiences. From greeting visitors, to keeping bathrooms clean, to clearly stating regulations, providing quality customer service is important to ensuring overall satisfaction.

Satisfaction with customer service was highest among visitors for the following (Fig. 19):

- refuge hours/days of operation (87%),
- visitor center (84%), and
- courteous and welcoming employees/volunteers (81%).

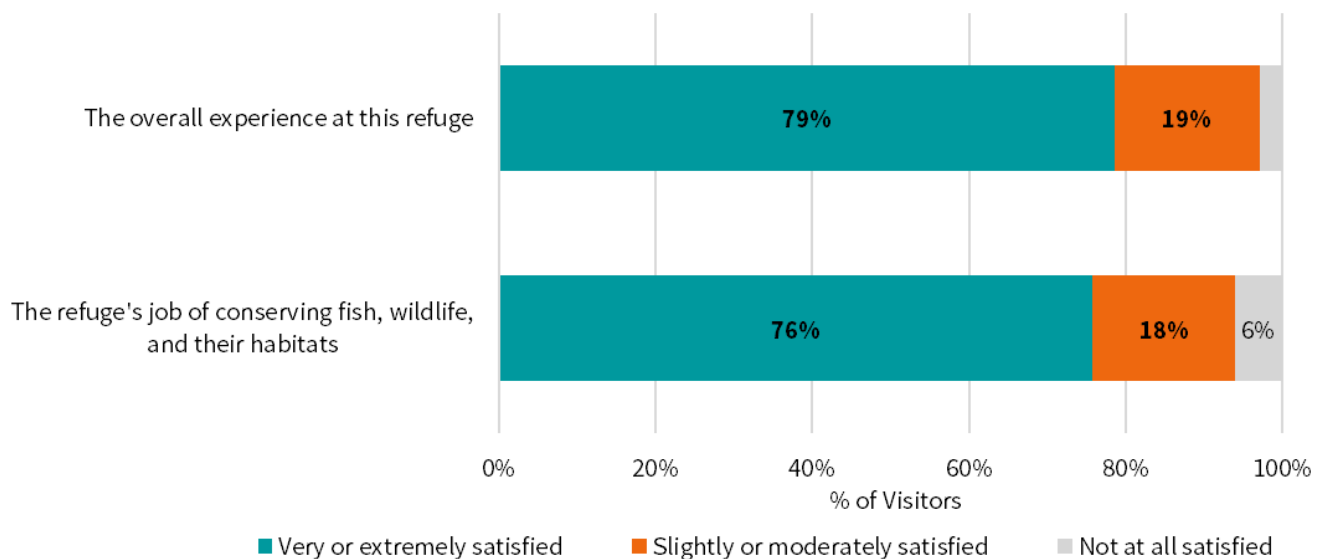


Fig. 18: Visitors' satisfaction with their experience at this refuge and with this refuge's job of conserving fish, wildlife, and habitats.

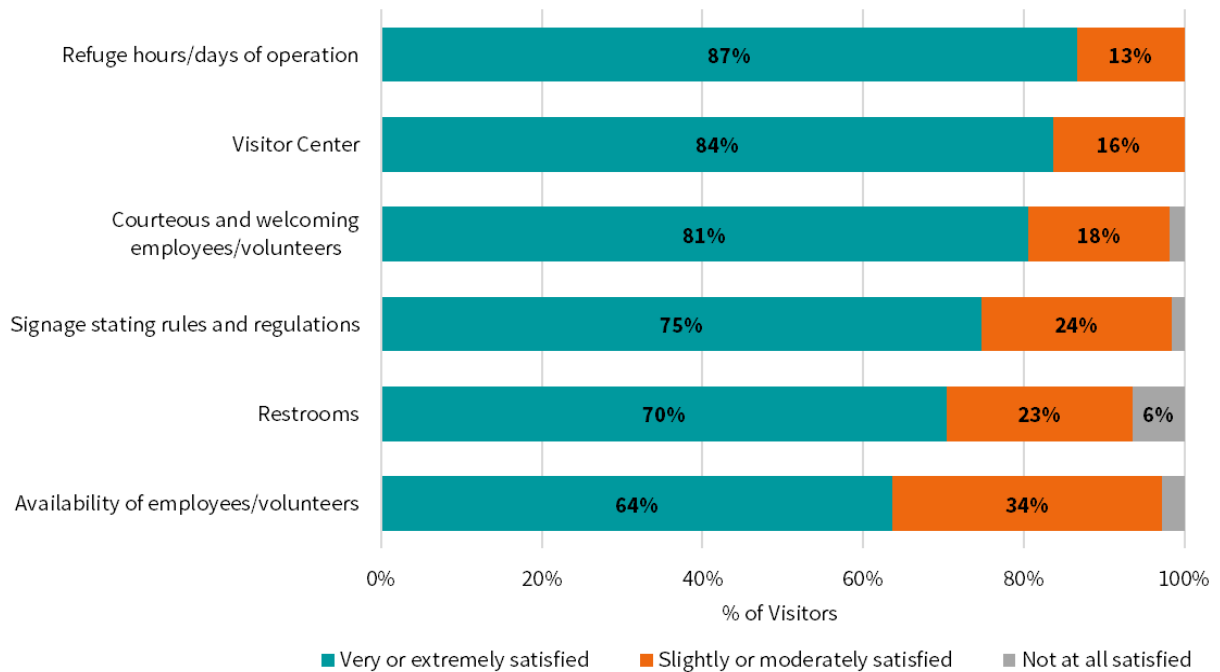


Fig. 19: Visitors' satisfaction with customer service and amenities at this refuge.

RECREATIONAL OPPORTUNITIES

Outdoor recreation on wildlife refuges is a fundamental part of a visit. As American's values toward wildlife and their relationship with nature continue to shift (Kellert et al., 2017; Manfredo et al., 2018), public desires for recreational experiences on public lands are also likely to shift. In addition, researchers and land management professionals recognize the need to connect the next generation to nature and wildlife (Charles & Louv, 2009; Larson et al., 2011). A solid understanding of visitors' perceptions of their experiences provides a

framework for monitoring and responding to these recreation trends across time.

Satisfaction with recreation opportunities among visitors who had participated in the activity during the last 12 months was highest for the following (Fig. 20):

- wildlife observation (89%),
- photography (89%), and
- bird watching (88%).

"I love spending time at the refuge! It's a great place to bask in the beauty of the outdoors, be active, unwind, or just think. The staff has always been friendly, and there are plenty of great trails for walking." – Visitor to Sam D. Hamilton Noxubee National Wildlife Refuge

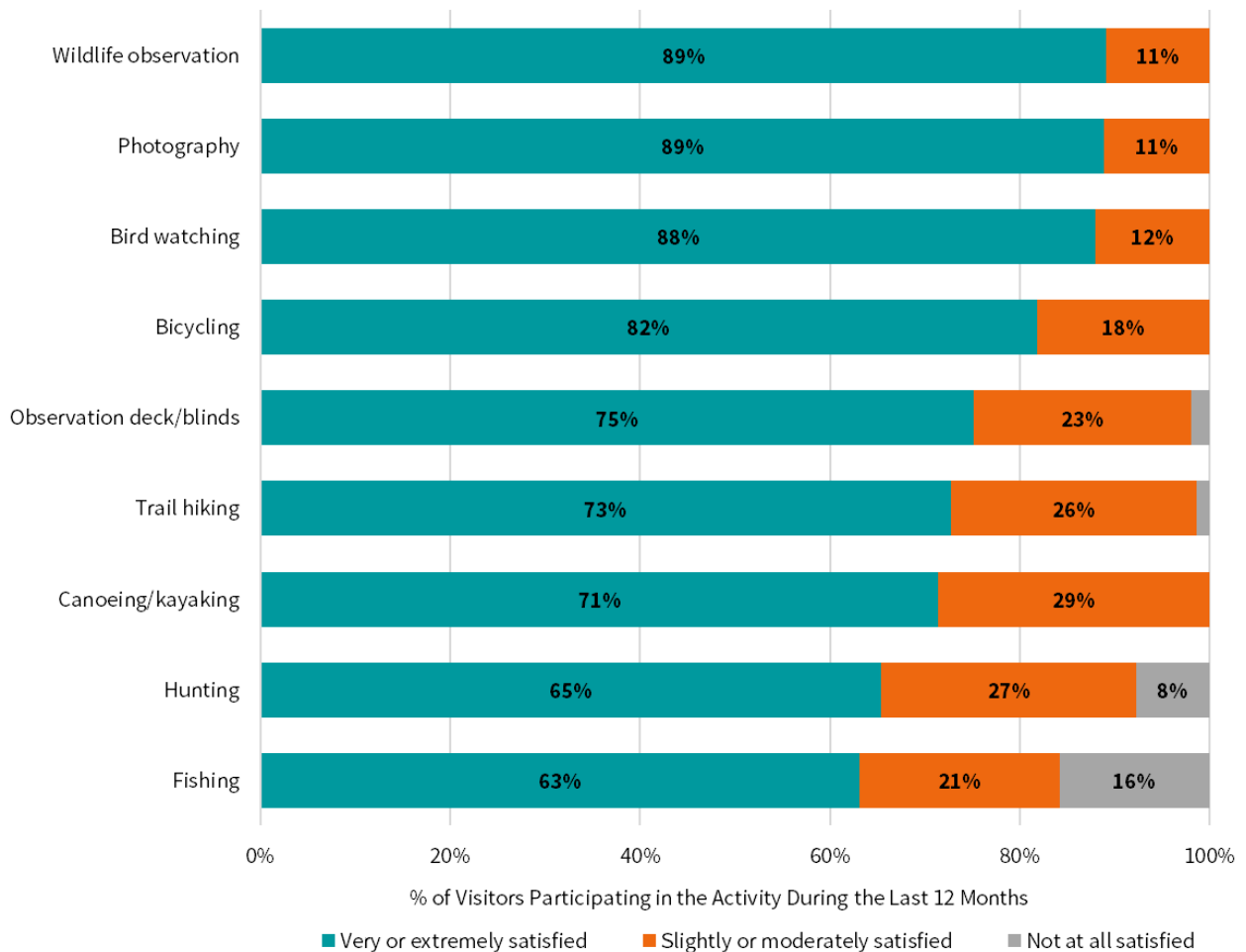


Fig. 20: Visitors' satisfaction with recreational opportunities at this refuge. Only visitors (10 or more) who participated in activities related to each opportunity at this refuge during the last 12 months were included.

TRANSPORTATION SAFETY & ACCESS

Transportation networks connect local communities to refuges and are critical to visitors' experiences there. Visitors access refuges by plane, car, train, boat, bike, and foot. The Service works to ensure that the roads, trails, and parking areas are welcoming and safe for visitors of all abilities. A goal of the Service's National Long-Range Transportation Plan is to enhance experiences on wildlife refuges and fish hatcheries through improvement to the transportation network (U.S. Fish & Wildlife Service, 2016b). How visitors perceive different transportation features can be used to prioritize access and transportation improvements.

Visitors were satisfied with transportation safety and access at this wildlife refuge as follows (Fig. 21):

- Getting to this wildlife refuge, visitors were most satisfied with safety of refuge road entrances and exits (84%).
- Getting around this wildlife refuge, visitors were most satisfied with safety of driving conditions on refuge roads (83%), number of parking places (80%), and condition of parking areas (78%).
- Accessing recreation on this wildlife refuge, visitors were most satisfied with safety of roads or trails for nonmotorized use (74%), condition of trails and boardwalks (63%), and condition of boat launches (63%).

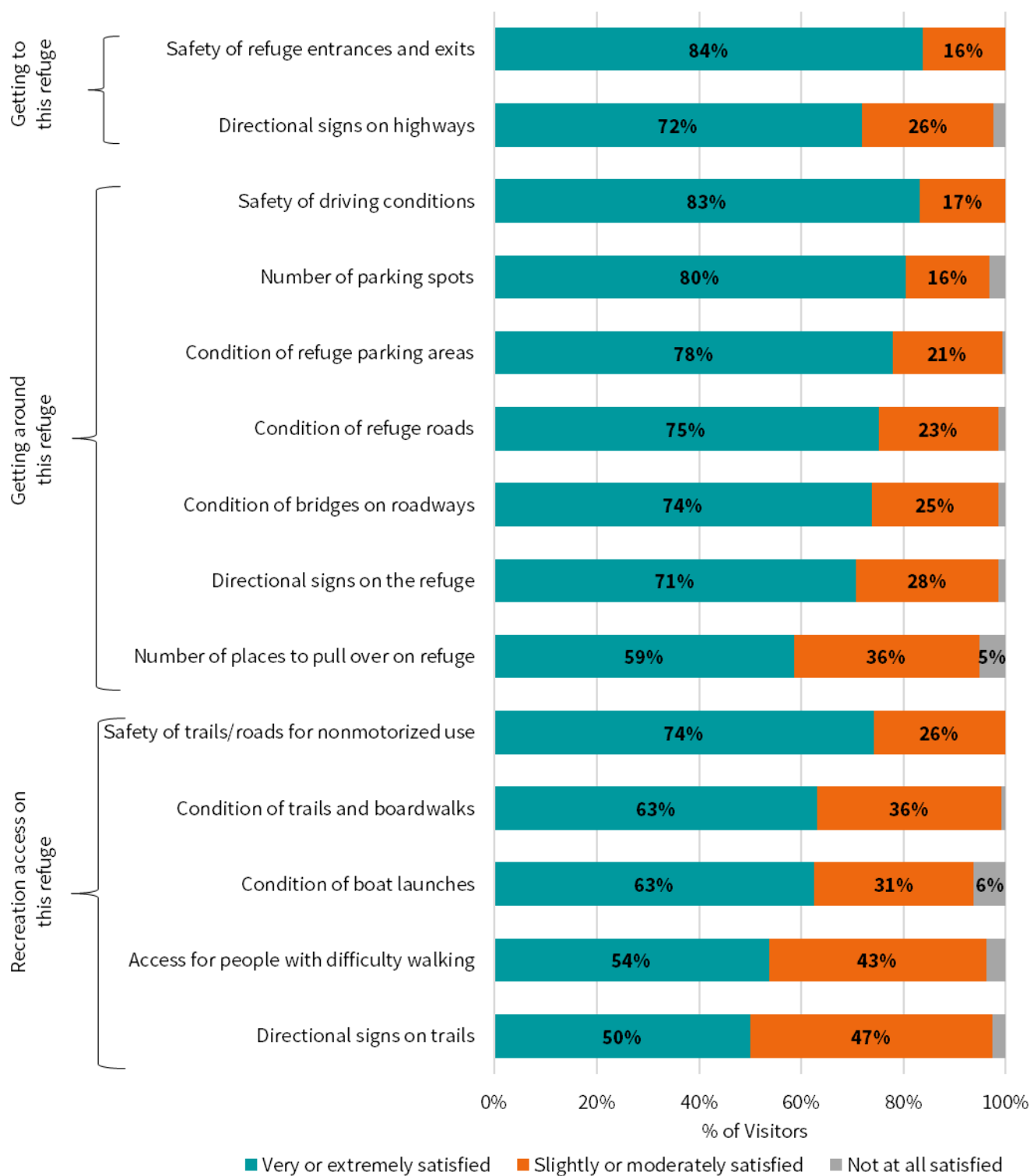


Fig. 21: Visitors' satisfaction with how the refuge is managing transportation-related features.

Economic Benefits to Local Communities & Visitors

The value of any commodity is comprised of two elements: 1) the amount paid and 2) the additional benefit derived above and beyond what is paid. The first element equates to direct expenditures. Visitors to wildlife refuges pay for a variety of things, including nearby lodging, gas, food, and other purchases from local businesses. This spending has a significant positive contribution to local economies. The *Banking on Nature* report (Caudill & Carver, 2017) highlights how nearly 54 million visits to wildlife refuges during 2017 generated \$3.2 billion of economic output in local communities and supported over 41,000 jobs. The report further indicates that recreational spending on wildlife refuges generated \$229 million in tax revenue at the local, county, and state levels.

Determining benefits derived above and beyond what is paid is commonly estimated by “willingness to pay” for an experience. Studies show people are often willing to pay more for a recreational experience than what they actually spent (Neher, Duffield, & Patterson, 2011; Rosenberger & Loomis, 2001). For example, a visitor may have spent \$500 on lodging, food, and gasoline to make the trip possible, while also indicating that they would be willing to pay an additional \$50 to visit this wildlife refuge if total trip costs were to increase.

Results for local visitors (those living ≤ 50 miles from this wildlife refuge; 63%) are as follows:

- On average, local visitors accounted for 20% of expenditures.
- Top trip expenditures by locals were for transportation and retail (Fig. 22).
- The average amount paid by locals to visit this wildlife refuge was \$26 per person per day (Fig. 22).
- Local visitors were personally willing to pay an additional \$54 per day on average to visit this wildlife refuge (Fig. 23).

Results for nonlocal visitors (those living >50 miles from this wildlife refuge; 37%) are as follows:

- On average, nonlocals accounted for 80% of expenditures.
- Top trip expenditures by nonlocals were for lodging and food/drink (Fig. 22).
- The average amount paid by nonlocals to visit this wildlife refuge was \$82 per person per day (Fig. 22).
- Nonlocal visitors were personally willing to pay an additional \$99 per day on average to visit this wildlife refuge (Fig. 23).
- Nonlocal visitors spent an average of 5 days in the local community during this visit.





Fig. 22: Individual daily expenditures in the local community for local, nonlocal, and all visitors. Expenditures were reported by respondents on a per group basis; the total expenditures were divided by the number of people in the group who shared trip expenditures and the number of days spent in the local community. The number of people sharing trip expenditures was often smaller than the total group size.

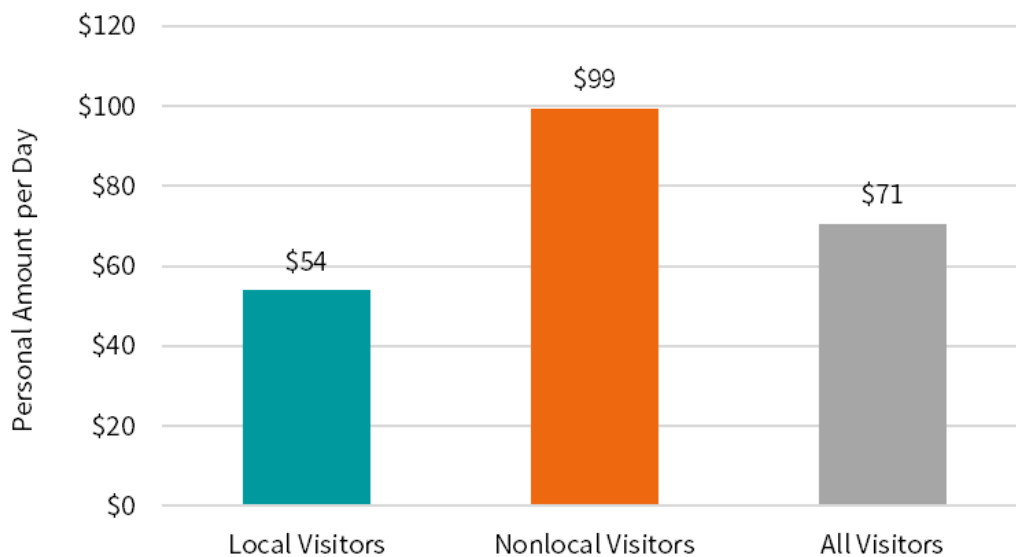


Fig. 23: Total personal willingness to pay per day above and beyond most recent trip expenses if costs were to increase for local, nonlocal, and all visitors. Due to the fixed-response question format, estimates of willingness to pay may underestimate the amount visitors would actually pay. Responses were divided by the number of days spent at the refuge.

Encouraging Return Visits & Future Recreation Participation

Public land managers strive to maximize benefits for visitors while achieving and maintaining desired resource conditions. This complex task requires that managers accurately estimate visitor numbers, as well as where visitors go, what they do, their impacts on resources, how they perceive their experiences, and their desires for future visits. Gaining a sense of what would encourage visitors to return and how management activities affect their likelihood of returning can lead to improved visitor use and resource management (U.S. Fish & Wildlife Service, 2014).

PROGRAMS AND OTHER OFFERINGS

Programming and other offerings that are compatible with the purpose of a refuge and the Refuge System mission can encourage people to continue visiting the refuge. Additionally, changes to regulations and access for improving resource availability may increase or decrease future participation, or have little effect at all.

In the future, changes in programming, offerings, or regulations would have an effect on visitation to this wildlife refuge as follows:

- Programs most likely to encourage visitors to return to this wildlife refuge included those focused on skill-building (66%), engaging youth (45%), and highlighting unique local culture (41%) (Fig. 24).
- The top two factors likely to increase visitors' future participation in their primary recreation activity were more infrastructure (40%) and recreation equipment available for rent (31%) (Fig. 25).
- The top two factors likely to decrease visitors' future participation in their primary recreation activity were more people participating in their primary activity (21%) and less regulations on hunting (15%) (Fig. 25).

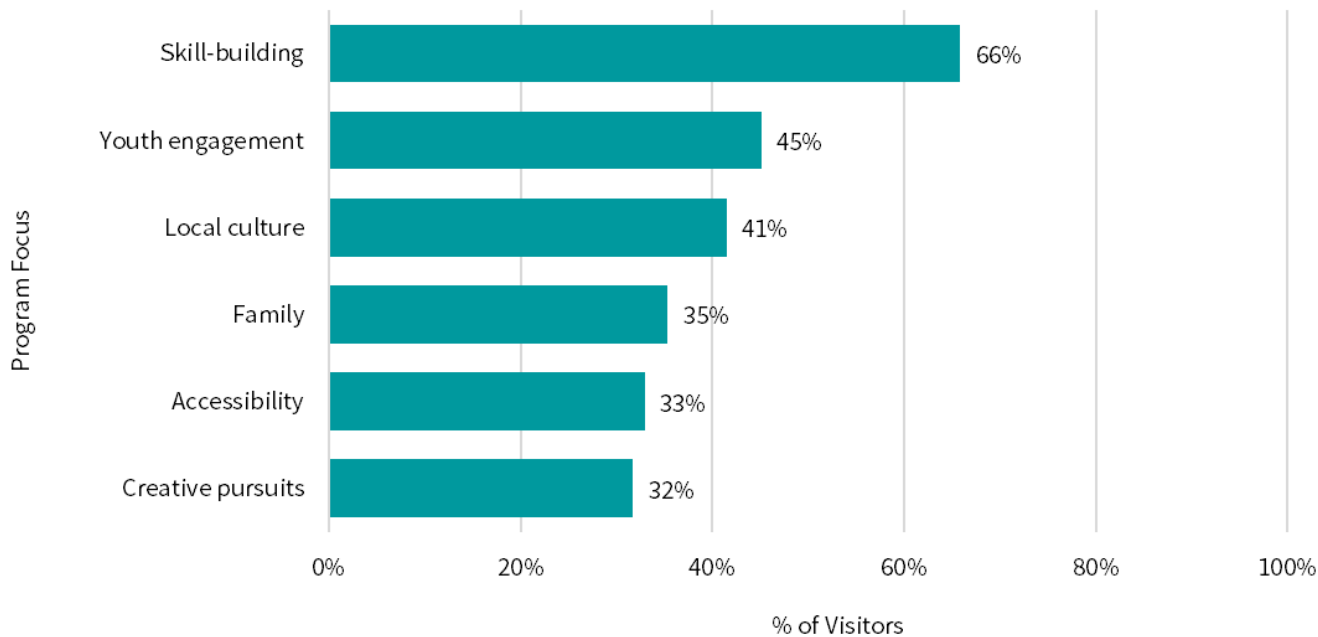


Fig. 24: Types of programs that would encourage visitors to return to this refuge.

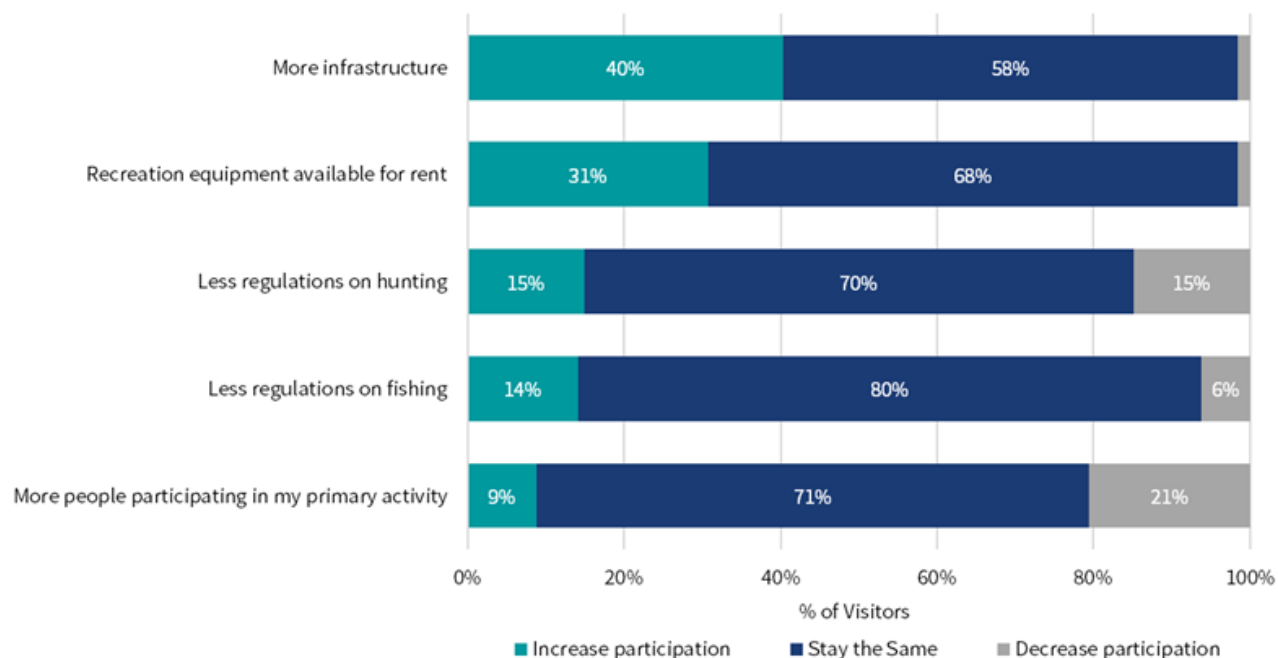


Fig. 25: Changes in visitors' participation in their primary activity if the listed recreation factors were to change.

ALTERNATIVE TRANSPORTATION

Understanding visitor demand for alternative transportation options is a goal of the Service's National Long-Range Transportation Plan (U.S. Fish & Wildlife Service, 2016b). Alternative transportation options can be valuable in realizing refuge goals to conserve natural resources, reduce visitors' carbon footprint (Volpe Center, 2010), and improve visitor experiences. Even though demand may be relatively small, any use of alternative transportation that is feasible at a wildlife refuge can help to meet goals.

The top future alternative transportation options supported by visitors at this wildlife refuge included (Fig. 26):

- pedestrian paths (19%),
- a bike-share program (18%), and
- bus/tram that provides a guided tour (16%).

ECOSYSTEM SERVICES

Natural processes associated with wildlife refuges can provide benefits to people, including provisioning services such as food and water; regulating services such as flood

and disease control; cultural services such as spiritual, recreational, and educational benefits; and supporting services such as nutrient cycling (Millennium Ecosystem Assessment, 2005). Understanding how changes in natural resources and related processes may impact future visitation and participation in certain recreation activities can improve resource and visitor management, as well as inform communication efforts with stakeholders and policy-makers (Patton, Bergstrom, Covich, & Moore, 2012).

In the future, changes to resources would affect visitation to this refuge as follows (Fig. 27):

- The top two resource changes likely to increase visitors' future participation in their primary recreation activity were an improvement in the quality of wildlife habitat other than wetlands (60%) and a greater diversity of species (53%).
- The top two resource changes likely to decrease visitors' future participation in their primary recreation activity were less water available for recreation (31%) and fewer number of a single, preferred species (22%).

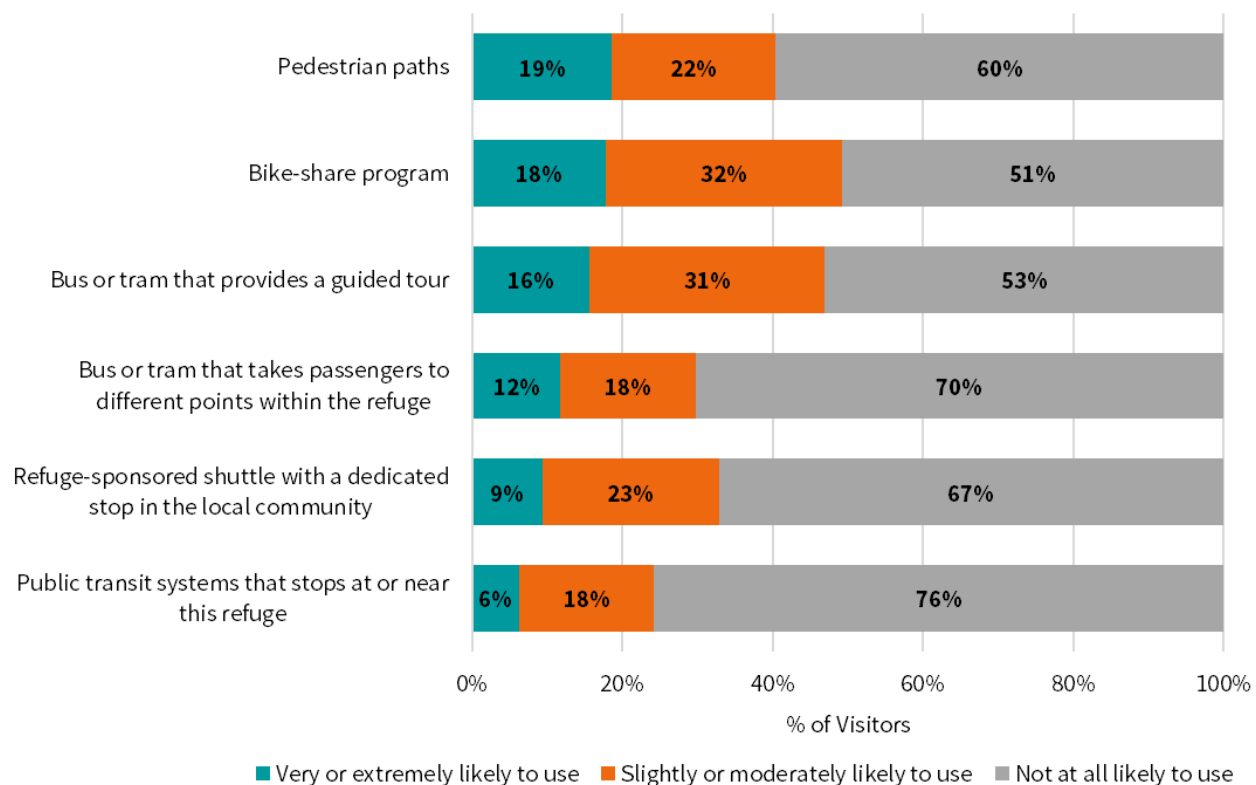


Fig. 26: Visitors' likelihood of using alternative transportation options if offered at this refuge.

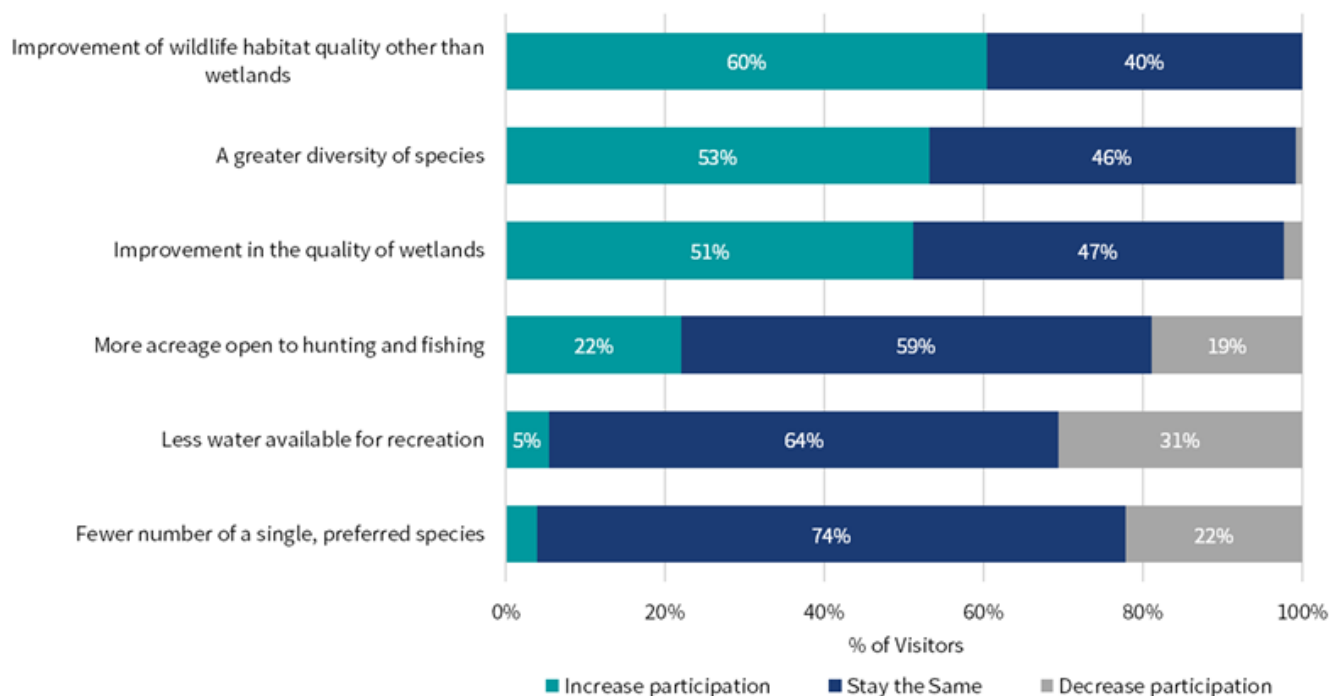


Fig. 27: Changes in visitors' participation in their primary activity if the listed resources were to change.

Conclusion

These individual refuge results provide a summary of trip characteristics and experiences of a sample of visitors to Sam D. Hamilton Noxubee National Wildlife Refuge during 2018. They are intended to inform refuge planning, including the management of natural resources, recreation, and the design and delivery of programs for visitors. These results offer a baseline that can be used to monitor and evaluate efforts over time. Refuge professionals

who understand visitor demographics, trip characteristics, and desires for future conditions can make informed decisions for proactive visitor management and resource protection. Integrating this social science with biophysical science ensures that management decisions are consistent with the Refuge System mission while fostering a continued public interest in and connection with these special places we call national wildlife refuges.



Photo credit: U.S. Fish & Wildlife Service.

References

- Caudill, J., & Carver, E. (2019). *Banking on Nature 2017: The Economic Contributions of National Wildlife Refuge Recreational Visitation to Local Communities*. Washington, DC: U.S. Department of the Interior, U.S. Fish & Wildlife Service. Retrieved from <https://www.fws.gov/uploadedFiles/Banking-on-Nature-Report.pdf>.
- Charles, C., & Louv, R. (2009). *Children's Nature Deficit: What We Know—And Don't Know*. Minneapolis, MN: Children and Nature Network. Retrieved from <https://www.gufsee.org/uploads/6/5/0/5/65052893/cnnevidenceofthedeficit.pdf>.
- Kellert, S. R., Case, D. J., Escher, D., Witter, D. J., Mikels-Carrasco, J., & Seng, P. T. (2017). *The Nature of Americans: Disconnection and Recommendations for Reconnection—National Report*. Mishawaka, IN: DJ Case & Associates.
- Larson, L. R., Green, G. T., & Cordell, H. K. (2011). *Children's Time Outdoors: Results and Implications of The National Kids Survey*. *Journal of Park and Recreation Administration*, 29, 1-20.
- Manfredo, M. J., Sullivan, L., Don Carlos, A. W., Dietsch, A. M., Teel, T. L., Bright, A. D., & Bruskotter, J. (2018). *America's Wildlife Values: The Social Context of Wildlife Management in the U.S. National report from the research project entitled "America's Wildlife Values"*. Fort Collins, CO: Colorado State University, Department of Human Dimensions of Natural Resources.
- Millennium Ecosystem Assessment. (2005). *Ecosystems and Human Well-Being: A Framework for Assessment*. Washington, DC: Island Press. Retrieved from <https://www.millenniumassessment.org>.
- Neher, C., Duffield, J., & Patterson, D. (2013). *Valuation of National Park system visitation: the efficient use of count data models, meta-analysis, and secondary visitor survey data*. *Environmental Management* 52(3), 683-698.
- Outdoor Foundation. (2018). *2018 Outdoor Participation Report*. Washington, DC: The Outdoor Foundation. Retrieved from <https://outdoorindustry.org/resource/2018-outdoor-participation-report/>.
- Patton, D., Bergstrom, J., Covich, A., & Moore, R. (2012). *National Wildlife Refuge Wetland Ecosystem Service Valuation Model, Phase 1 Report*. Washington, DC: U.S. Department of the Interior, U.S. Fish & Wildlife Service. Retrieved from https://www.fws.gov/economics/Discussion%20Papers/USFWS_Ecosystem%20Services_Phase%20I%20Report_04-25-2012.pdf.
- Rosenberger, R. S., & Loomis, J. B. (2001). *Benefit transfer of outdoor recreation use values: A technical document supporting the Forest Service Strategic Plan (2000 revision)*. Gen. Tech. Rep. RMRS-GTR-72. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Retrieved from: <https://www.fs.usda.gov/treeearch/pubs/4578>.
- Sexton, N. R., Ross-Winslow, D., Pradines, M., & Dietsch, A. M. (2015). *The Urban Wildlife Conservation Program: Building a Broader Conservation Community*. *Cities and the Environment (CATE)*, 8(1), Article 3. Retrieved from <https://digitalcommons.lmu.edu/cate/vol8/iss1/3>.
- Smith, A., & Anderson, M. (2018). *Social Media Use in 2018*. Washington, DC: Pew Research Center. Retrieved from http://assets.pewresearch.org/wp-content/uploads/sites/14/2018/03/01105133/PI_2018.03.01_Social-Media_FINAL.pdf.
- U.S. Fish & Wildlife Service. (2011). *Conserving the Future: Wildlife Refuges and the Next Generation*. Washington, DC: U.S. Department of the Interior, U.S. Fish & Wildlife Service, National Wildlife Refuge System. Retrieved from <https://www.fws.gov/refuges/pdfs/FinalDocumentConservingTheFuture.pdf>.
- U.S. Fish & Wildlife Service. (2014). *Standards of Excellence*. Retrieved from <https://www.fws.gov/urban/soe.php>.
- U.S. Fish & Wildlife Service. (2016a). *National Wildlife Refuge System Communications Strategy*. Retrieved from <https://www.fws.gov/refuges/vision/pdfs/NWRSCommunicationsStrategy.pdf>.
- U.S. Fish & Wildlife Service. (2016b). *Plan 2035: The National Long Range Transportation Plan - Moving People, Conserving Wildlife*. Retrieved from <https://ecos.fws.gov/ServCat/DownloadFile/118522?Reference=76318>.
- Volpe Center. (2010). *Transit and Trail Connections-Assessment of Visitor Access to National Wildlife Refuges*. Washington, DC: U.S. Department of Transportation, Volpe National Transportation Systems Center; U.S. Fish & Wildlife Service.

Appendix A: Survey Methodology

The National Wildlife Refuge Visitor Survey (NVS) team consisted of staff from The Ohio State University (OSU), U.S. Fish & Wildlife Service (Service), and American Conservation Experience (ACE) who collectively developed the following NVS methodology. Staff from OSU and the Service designed the survey instrument with multiple reviewers within the Refuge System providing feedback about content and wording. The logistical coordinator and interns from ACE conducted sampling on refuges. OSU staff coordinated survey mailings, analyzed data, and in cooperation with Service staff, designed the report template and created each refuge report.

SAMPLING SCHEDULE

Interns (survey recruiters) sampled on each participating refuge for two 14-day sampling periods between March 2018 and February 2019. Refuge staff identified the sampling periods and locations that best reflected the diversity of use and visitation patterns of the refuge.

The national visitor survey team developed a sampling schedule for each refuge that included eight randomly selected sampling shifts during each 14-day sampling period. Shifts were four-hour time bands stratified across mornings and afternoons/evenings. The NVS team customized the schedule as needed to accommodate the individual refuge sampling locations and specific spatial and temporal patterns of visitation. The target number of contacts was 25 adult visitors (18 years of age or older) per shift for a total of 375 participants contacted per refuge. Shifts were moved, added, or extended to address logistical limitations (for example, bad weather or low visitation).

CONTACTING VISITORS ONSITE

ACE interns received a multi-day training that included role-play exercises on a refuge to

simulate engagement of visitors. Once onsite, the interns contacted visitors following a protocol developed by OSU and Service staff. Interns surveyed across the entire sampling shift and only one visitor per group was asked to participate. If a visitor declined to participate, interns recorded a direct refusal. Visitors willing to participate provided their name, mailing address, language preference (English or Spanish), and answered a few initial questions about their experience that could be used for nonresponse comparisons. Willing visitors were also given a small token incentive (for example, sticker) as a thank you and reminder of their participation.

COMPLETING A SURVEY AT HOME

All visitors that agreed onsite to participate in the survey received a postcard mailed to their address within 10 days. The postcard thanked visitors for agreeing to participate, provided a weblink and unique password, and invited the visitor to complete the survey online. All participants then received the following sequence of correspondence by mail from OSU until a survey was returned and the address removed from the mailing list (as suggested by Dillman et al., 2014):

- 1) A packet consisting of a cover letter, survey, and postage-paid return envelope approximately seven days after the first postcard was mailed.
- 2) A reminder postcard mailed 14 days after the first packet was mailed.
- 3) A final packet consisting of a cover letter, survey, and postage-paid return envelope mailed seven days after the reminder postcard.

All printed correspondence and online material were provided in the language chosen by visitors onsite; however, visitors who went online to complete the survey were able to switch between English and Spanish. The

survey was designed to take no more than 25 minutes to complete, and the average completion time recorded by the online survey software was approximately 20 minutes.

DATA ENTRY & ANALYSIS

The NVS team used Qualtrics survey software to collect survey data online. OSU staff then exported the data for cleaning (for example, treatment of missing data) and analyses. The team entered data from the paper surveys into Microsoft Excel using a standardized survey codebook and data entry procedures. All data from the two sources (paper and online) were merged and analyzed using Statistical Package for the Social Sciences (SPSS, v.25) software.

LIMITATIONS OF RESULTS

The degree to which these results represent overall visitation at a wildlife refuge depends on the number of visitors who completed the survey (sample size), and how well the sample reflects the degree of use at the refuge (Scheaffer et al., 2011). Many respondents completing the survey will produce a smaller margin of error, leading to greater confidence in results, but only to a point. For example, a margin of error of $\pm 5\%$ at a 95% confidence level signifies that if a reported percentage is 55%, then 95 out of 100 times that sample estimate would fall between 50% and 60% (if the same question was asked in the same way of the same sample). The margin of error for this survey was calculated with an 80/20

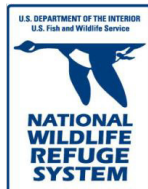
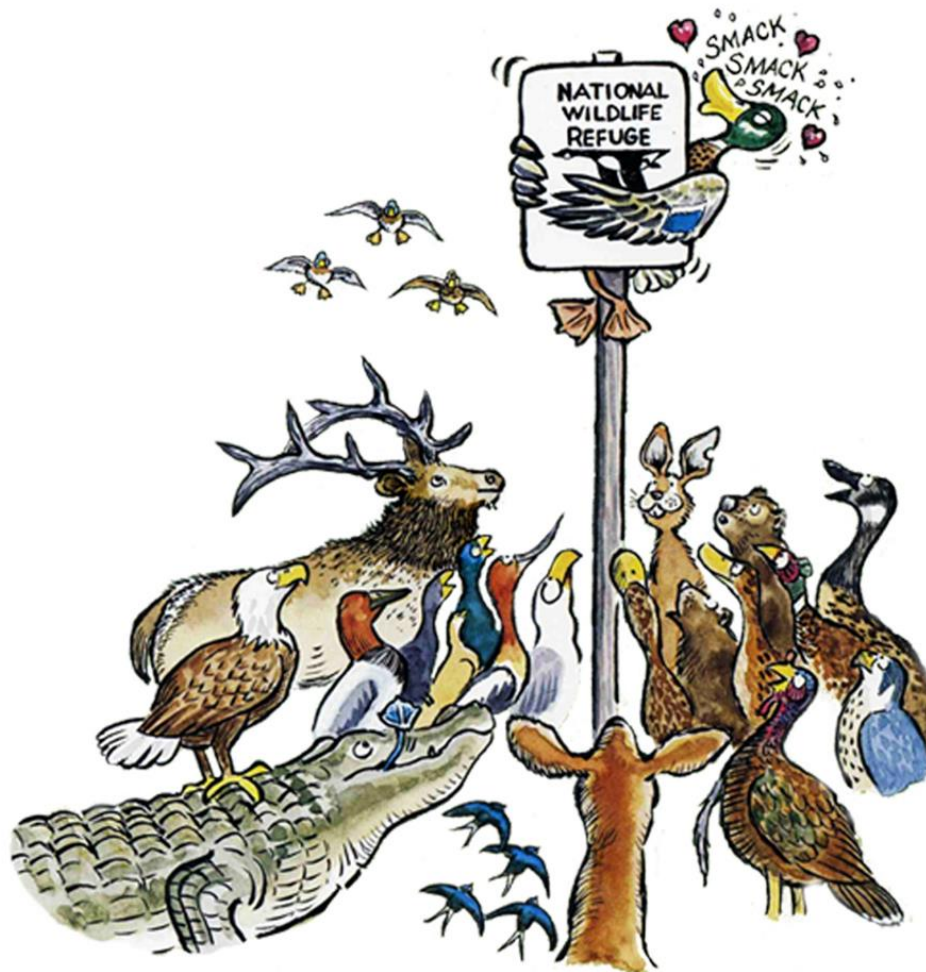
response distribution, meaning if respondents were given a dichotomous choice question, approximately 80% of respondents would select one choice and 20% would select the other (Salant & Dillman, 1994).

While OSU designed the standardized sampling protocol to account for spatial and temporal visitation patterns, the geography and infrastructure of wildlife refuges vary widely. This variation can affect who is ‘captured’ as part of the survey. For example, contacting visitors is much easier if everyone must pass through a single-entry point and much more difficult if a refuge has multiple access points over a large area. Additionally, the two 14-day sampling periods may not have effectively captured all visitor activities throughout the year on some wildlife refuges (for example, visitors who solely engage in ice fishing). As such, results presented in any one of these reports are aimed at representing overall visitation at a wildlife refuge while recognizing that particular visitor groups may vary in their beliefs and activities.

REFERENCES

- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method* (4th ed.). Hoboken, NJ: Wiley.
- Salant, P., & Dillman, A. D. (1994). *How to Conduct Your Own Survey*. New York, NY: Wiley.
- Scheaffer, R. L., Mendenhall, W. III, Ott, R. L., & Gerow, K. G. (2011). *Elementary Survey Sampling*. Boston, MA: Cengage Learning.

National Wildlife Refuge Visitor Survey



Front cover of the 2018 National Wildlife Refuge Visitor Survey instrument. Artwork credit: Kent Olson.

PLEASE READ THIS FIRST:

Thank you for visiting a national wildlife refuge and agreeing to participate in this study! We hope that you had an enjoyable experience. The U.S. Fish and Wildlife Service and The Ohio State University are conducting this survey to learn more about refuge visitors and their experiences in order to improve management and enhance visitor opportunities.

Please respond regarding the refuge and the visit for which you were asked to participate in this survey. The cover letter indicates the refuge you visited.

SECTION 1. Your visit to this refuge

1. Including your most recent visit, which activities did you participate in during the past 12 months at this refuge? (Mark all that apply.)

<input type="checkbox"/> 71% Wildlife observation	<input type="checkbox"/> 61% Hiking/Walking	<input type="checkbox"/> 7% Volunteering
<input type="checkbox"/> 38% Bird watching	<input type="checkbox"/> 9% Jogging/Running/Exercising	<input type="checkbox"/> 4% Environmental education program (classroom visits, labs)
<input type="checkbox"/> 40% Photography	<input type="checkbox"/> 11% Bicycling	
<input type="checkbox"/> 17% Big game hunting	<input type="checkbox"/> 32% Auto tour route/Driving	<input type="checkbox"/> 2% Interpretative program (bird walks, staff/volunteer-led talks)
<input type="checkbox"/> 7% Upland/Small game hunting	<input type="checkbox"/> 4% Motorized boating	
<input type="checkbox"/> 1% Waterfowl/Migratory bird hunting	<input type="checkbox"/> 14% Nonmotorized boating (canoeing, kayaking)	<input type="checkbox"/> 8% Refuge special event (<i>specify</i>) _____ See Appendix C
<input type="checkbox"/> 16% Freshwater fishing	<input type="checkbox"/> 4% Foraging (berries, nuts, other)	<input type="checkbox"/> 5% Other (<i>specify</i>) _____ See Appendix C
<input type="checkbox"/> 0% Saltwater fishing	<input type="checkbox"/> 21% Picnicking	

2. Which of the activities above was the primary purpose of your most recent visit to this refuge?

(Please write **only one activity** here.) _____ See Appendix C

3. Which of the following best describes your most recent visit to this Refuge? (Mark only one.)

☐ 77% It was the primary purpose or sole destination of my trip.

☐ 10% It was one of many equally important reasons or destinations for my trip.

☐ 13% It was just an incidental or spur-of-the-moment stop on a trip taken for other purposes or to other destinations.

4. How many people were in your personal group, including yourself, on your most recent visit to this refuge? (Please answer each category.)

____ 3 ____ number of people 18 years and older ____ 0 ____ number of people under 18 years

5. Did you go to a visitor center at this refuge during your most recent visit?

☐ 65% No / Not Applicable

☐ 35% Yes → If yes, what did you do there? (*Mark all that apply.*)

☐ 29% Asked information of employees/volunteers

☐ 17% Looked at list of recent bird/wildlife sightings

☐ 4% Attended a talk/video/presentation

☐ 56% Stopped to use the facilities (for example, got water, used restroom)

☐ 40% Viewed the exhibits

☐ 29% Picked up/purchased a license, permit, or pass

☐ 4% Rented/borrowed equipment (for example, binoculars, fishing rod, snowshoes)

☐ 33% Visited the gift shop or bookstore

☐ 13% Other (*specify*) See Appendix C

6. How much time did you spend **at this refuge** during your most recent visit?

If you spent less than one day at this refuge, enter the number of hours: 3 hour(s)

If you spent one day or more at this refuge, enter the number of days: 5 day(s)

7. Do you live in the local area (within 50 miles of this refuge)?

☐ 63% Yes

☐ 37% No → How much time did you spend in **the local area** on this trip?

If you spent less than one day in the local area, enter the number of hours: 5 hour(s)

If you spent one day or more in the local area, enter the number of days: 5 day(s)

8. Approximately how many hours/minutes (one-way) did you travel from your home to this refuge?

If you travelled less than one hour, enter the number of minutes: 26 minutes

If you travelled more than one hour, round to the nearest hour: 4 hours

9. Including this visit, during which seasons did you visit this refuge in the last 12 months? (*Mark all that apply.*)

☐ 61% Spring
(March-May)

☐ 57% Summer
(June-August)

☐ 76% Fall
(September-November)

☐ 71% Winter
(December-February)

10. In the last 12 months, how many times have you visited...

...this refuge (including this visit?) 18 number of visits

...other national wildlife refuges? 2 number of visits

...other public lands (for example, national or state parks) to participate in the same primary activity as this visit? 6 number of visits

11. Which, if any, of the following social media outlets did you use to share your refuge experience with other people? (*Mark all that apply.*)

<input type="checkbox"/> 40%	Facebook	<input type="checkbox"/> 8%	Snapchat	<input type="checkbox"/> 3%	Personal blog (for example, Tumblr, Wordpress)
<input type="checkbox"/> 2%	Flickr	<input type="checkbox"/> 3%	Twitter	<input type="checkbox"/> 0%	Travel-related website (for example, Trip Advisor)
<input type="checkbox"/> 18%	Instagram	<input type="checkbox"/> 0%	Vimeo	<input type="checkbox"/> 5%	Other (<i>specify</i>) <u>See Appendix C</u>
<input type="checkbox"/> 0%	Pinterest	<input type="checkbox"/> 2%	YouTube	<input type="checkbox"/> 45%	I do not use social media

SECTION 2. Information about this refuge and its resources

1. How helpful was each of the following sources to get information about this refuge and its resources? (*Circle one number for each source, or mark the box if you did **not** use a source.*)

Information source	For those who used a source, the % who found it to be...					Did not use
	Not at all helpful	Slightly helpful	Moderately helpful	Very helpful	Extremely helpful	
Personal knowledge from previous visit(s)	<input type="checkbox"/> 2%	<input type="checkbox"/> 2%	<input type="checkbox"/> 16%	<input type="checkbox"/> 23%	<input type="checkbox"/> 58%	<input type="checkbox"/> 18%
Word of mouth (for example, a friend or relative)	<input type="checkbox"/> 2%	<input type="checkbox"/> 6%	<input type="checkbox"/> 22%	<input type="checkbox"/> 34%	<input type="checkbox"/> 35%	<input type="checkbox"/> 26%
People in the local community near the refuge	<input type="checkbox"/> 7%	<input type="checkbox"/> 13%	<input type="checkbox"/> 18%	<input type="checkbox"/> 40%	<input type="checkbox"/> 22%	<input type="checkbox"/> 46%
Refuge employees or volunteers	<input type="checkbox"/> 3%	<input type="checkbox"/> 4%	<input type="checkbox"/> 15%	<input type="checkbox"/> 37%	<input type="checkbox"/> 40%	<input type="checkbox"/> 28%
Printed map or atlas	<input type="checkbox"/> 9%	<input type="checkbox"/> 9%	<input type="checkbox"/> 16%	<input type="checkbox"/> 32%	<input type="checkbox"/> 32%	<input type="checkbox"/> 44%
Web-based map (for example, Google Maps, Waze)	<input type="checkbox"/> 5%	<input type="checkbox"/> 13%	<input type="checkbox"/> 26%	<input type="checkbox"/> 24%	<input type="checkbox"/> 32%	<input type="checkbox"/> 53%
Refuge website	<input type="checkbox"/> 3%	<input type="checkbox"/> 15%	<input type="checkbox"/> 22%	<input type="checkbox"/> 34%	<input type="checkbox"/> 26%	<input type="checkbox"/> 51%
Travel website (for example, TripAdvisor)	<input type="checkbox"/> 33%	<input type="checkbox"/> 13%	<input type="checkbox"/> 20%	<input type="checkbox"/> 13%	<input type="checkbox"/> 20%	<input type="checkbox"/> 89%
Other website (<i>specify</i>) <u>See Appendix C</u>	<input type="checkbox"/> 46%	<input type="checkbox"/> 0%	<input type="checkbox"/> 8%	<input type="checkbox"/> 15%	<input type="checkbox"/> 31%	<input type="checkbox"/> 88%
Social media (for example, Facebook, Instagram)	<input type="checkbox"/> 11%	<input type="checkbox"/> 11%	<input type="checkbox"/> 22%	<input type="checkbox"/> 33%	<input type="checkbox"/> 24%	<input type="checkbox"/> 65%
Recreation club or organization	<input type="checkbox"/> 23%	<input type="checkbox"/> 5%	<input type="checkbox"/> 23%	<input type="checkbox"/> 32%	<input type="checkbox"/> 18%	<input type="checkbox"/> 83%
Refuge printed information (for example, brochure)	<input type="checkbox"/> 3%	<input type="checkbox"/> 10%	<input type="checkbox"/> 21%	<input type="checkbox"/> 35%	<input type="checkbox"/> 32%	<input type="checkbox"/> 41%
Kiosks/displays/exhibits at the refuge	<input type="checkbox"/> 5%	<input type="checkbox"/> 8%	<input type="checkbox"/> 26%	<input type="checkbox"/> 33%	<input type="checkbox"/> 29%	<input type="checkbox"/> 50%
Travel guidebook or other book	<input type="checkbox"/> 33%	<input type="checkbox"/> 17%	<input type="checkbox"/> 8%	<input type="checkbox"/> 42%	<input type="checkbox"/> 0%	<input type="checkbox"/> 91%
Tourist information or welcome center	<input type="checkbox"/> 7%	<input type="checkbox"/> 10%	<input type="checkbox"/> 20%	<input type="checkbox"/> 24%	<input type="checkbox"/> 39%	<input type="checkbox"/> 69%
Other source (<i>specify</i>) <u>See Appendix C</u>	<input type="checkbox"/> 43%	<input type="checkbox"/> 0%	<input type="checkbox"/> 14%	<input type="checkbox"/> 14%	<input type="checkbox"/> 29%	<input type="checkbox"/> 92%

SECTION 3. Transportation and access at this refuge

1. First rate how important each of the following transportation-related features is to you when visiting this refuge; then rate how satisfied you are with the way this refuge is managing each feature. *If this refuge does not have a specific feature or you did not experience it during this visit, please rate how important it is to you and then circle NA “Not Applicable” under the satisfaction column.*

Importance <i>Circle one for each item.</i>					Transportation-Related Features	Satisfaction <i>Circle one for each item.</i>					
Not at all Important	Slightly Important	Moderately important	Very Important	Extremely Important		Not at all Satisfied	Slightly Satisfied	Moderately Satisfied	Very Satisfied	Extremely Satisfied	Not Applicable
0%	9%	28%	40%	22%	Surface conditions of refuge roads	1%	6%	18%	47%	28%	NA
5%	14%	36%	31%	14%	Surface conditions of parking areas	1%	3%	18%	50%	28%	NA
0%	7%	22%	39%	32%	Condition of bridges on roadways	1%	4%	21%	47%	26%	NA
2%	6%	18%	42%	33%	Condition of trails and boardwalks	1%	5%	31%	39%	24%	NA
35%	13%	26%	18%	9%	Condition of boat launches	6%	4%	27%	40%	23%	NA
4%	22%	33%	28%	13%	Number of places for parking	3%	4%	13%	48%	33%	NA
2%	10%	36%	37%	15%	Number of places to pull over on refuge roads	5%	8%	28%	36%	22%	NA
1%	5%	13%	52%	30%	Safety of driving conditions on refuge roads	0%	1%	16%	50%	33%	NA
2%	3%	17%	51%	27%	Safety of refuge road entrances/exits	0%	2%	14%	53%	31%	NA
5%	8%	19%	35%	33%	Safety of roads/trails for nonmotorized users (for example, bicyclists and hikers)	0%	5%	21%	46%	29%	NA
8%	8%	22%	38%	23%	Signs on highways directing you to this refuge	2%	8%	18%	45%	27%	NA
2%	12%	24%	37%	25%	Signs directing you around refuge roads	2%	8%	20%	47%	24%	NA
3%	6%	23%	36%	31%	Signs directing you on trails	3%	15%	32%	31%	19%	NA
10%	12%	20%	28%	30%	Access for people with physical disabilities or who have difficulty walking	4%	14%	29%	28%	26%	NA

2. If you have any comments about transportation-related features at this refuge, please write them here.

See Appendix C

3. What modes of transportation did you use to travel from the local area to this refuge and within this refuge during your most recent trip? (*Mark all that apply.*)

Transportation modes used to travel...	...from the local area to this refuge	...within the boundaries of this refuge
Private/rental vehicle without a trailer	86%	67%
Private/rental vehicle with a trailer (for boat, camper, or other)	4%	3%
Recreational vehicle (RV)	1%	0%
Refuge shuttle bus/tram	1%	0%
Tour bus/van	1%	0%
Public transportation	1%	0%
Motorcycle	1%	1%
Bicycle	4%	10%
Foot (for example, walking/hiking)	7%	52%
Boat	3%	7%
Other (<i>specify</i>): <u>See Appendix C</u>	2%	1%
Other (<i>specify</i>): <u>See Appendix C</u>	0%	0%

4. Please tell us how likely you would be to use each transportation option **at this refuge** if it were available in the future. Not all options are currently available at every refuge. (*Circle one number for each option.*)

Transportation options	Not at all Likely	Slightly Likely	Moderately Likely	Very Likely	Extremely Likely
Bus or tram that takes passengers to different points within refuge boundaries (such as the Visitor Center)	70%	13%	5%	8%	4%
Bus or tram that provides a guided tour of the refuge with information about this refuge and its resources	53%	19%	13%	9%	6%
Refuge-sponsored shuttle with a dedicated stop in the local community for picking up people at set times	67%	13%	10%	7%	2%
Public transit system that stops at or near this refuge	76%	11%	7%	5%	2%
Bike-share program that offers bicycles for rent on or near this refuge	51%	12%	20%	11%	7%
Pedestrian paths for access to this refuge from the local community	60%	13%	9%	6%	12%

SECTION 4. Your expenses related to your refuge visit

1. Record the amount of money that you and other members of your group spent in the local 50-mile area during your most recent visit to this refuge. Your group would include you and those with whom you shared expenses (for example, family members, traveling companions). *Enter the amount spent or enter 0 (zero) if you did not spend any money in a particular category.*

Categories	Amount spent in the local area/communities & at this refuge (within 50 miles of this refuge)
Hotel, bed & breakfast, cabin, etc.	
Camping fees (for example, tent, RV)	
Restaurants and bars	
Groceries	
Gasoline and oil (for private vehicles, boats, RVs, or other motors)	
Local transportation (for example, public transit, rental car)	See report for summary of visitor expenditures
Guides and tour fees	
Equipment rental (for example, bicycle, canoe, kayak)	
Sporting goods (for example, bait, binoculars)	
Souvenirs/clothing and other retail	
Other (specify) <u>See Appendix C</u>	

2. Including yourself, how many people in your group shared these trip expenses?
- 2 number of people sharing expenses
3. As you know, costs of travel such as gasoline, hotels, and public transportation often increase. If your total trip costs were to increase, what is the maximum extra amount you would pay and still visit this refuge? (*Mark the dollar amount that represents your response.*)

<input type="checkbox"/> 5% \$0	<input type="checkbox"/> 21% \$30	<input type="checkbox"/> 14% \$100	<input type="checkbox"/> 3% \$250
<input type="checkbox"/> 7% \$5	<input type="checkbox"/> 6% \$45	<input type="checkbox"/> 1% \$125	<input type="checkbox"/> 4% \$350
<input type="checkbox"/> 11% \$10	<input type="checkbox"/> 5% \$60	<input type="checkbox"/> 2% \$150	<input type="checkbox"/> 2% \$500
<input type="checkbox"/> 12% \$20	<input type="checkbox"/> 1% \$75	<input type="checkbox"/> 6% \$200	<input type="checkbox"/> 2% \$750

SECTION 5. Your experience at this refuge

1. First rate how important each of the following services, facilities, and opportunities is to you when visiting this refuge; then rate how satisfied you are with the way this refuge is managing each item. *If this refuge does not offer a specific item or you did not experience it on this visit, please rate how important it is to you and then circle NA "Not Applicable" under the satisfaction column.*

Importance <i>Circle one for each item.</i>					Refuge Services, Facilities, and Opportunities	Satisfaction <i>Circle one for each item.</i>					
Not at all Important	Slightly Important	Moderately important	Very Important	Extremely Important		Not at all Satisfied	Slightly Satisfied	Moderately satisfied	Very Satisfied	Extremely Satisfied	Not Applicable
4%	3%	22%	35%	36%	Convenient hours/days of operation for this refuge	0%	3%	10%	50%	37%	NA
12%	22%	34%	20%	12%	Availability of employees or volunteers	3%	9%	25%	44%	20%	NA
7%	18%	29%	26%	20%	Courteous and welcoming employees or volunteers	2%	6%	12%	40%	41%	NA
3%	7%	21%	41%	28%	Signs with rules/regulations for this refuge	2%	7%	16%	48%	27%	NA
4%	11%	37%	22%	25%	Visitor center	0%	3%	13%	43%	40%	NA
3%	5%	18%	32%	42%	Well-maintained restrooms	6%	10%	13%	30%	41%	NA
2%	9%	24%	35%	30%	Recreational structures (decks, blinds, platforms)	2%	4%	20%	40%	34%	NA
11%	8%	27%	26%	27%	Bird-watching opportunities	2%	4%	14%	43%	37%	NA
3%	5%	14%	43%	35%	Opportunities to observe wildlife other than birds	0%	5%	11%	44%	40%	NA
8%	9%	16%	27%	40%	Opportunities to photograph wildlife and scenery	2%	4%	12%	39%	44%	NA
9%	14%	33%	23%	21%	Environmental education opportunities	1%	8%	31%	41%	19%	NA
54%	7%	5%	8%	25%	Hunting opportunities	4%	12%	19%	29%	37%	NA
34%	13%	16%	18%	19%	Fishing opportunities	8%	15%	11%	39%	27%	NA
6%	7%	14%	29%	44%	Trail hiking opportunities	2%	8%	23%	42%	26%	NA
21%	14%	26%	19%	21%	Bicycling opportunities	5%	11%	27%	34%	23%	NA
17%	13%	23%	25%	23%	Water trail opportunities for canoeing or kayaking	4%	14%	20%	44%	18%	NA
21%	17%	25%	18%	18%	Volunteer opportunities	5%	8%	20%	41%	26%	NA
13%	11%	22%	21%	33%	Wilderness experience opportunities	2%	8%	16%	47%	26%	NA

2. If you have comments about the services, facilities, and opportunities at this refuge, please write them here.

See Appendix C

3. How much do you disagree or agree with each statement below? (*Circle one number for each statement.*)

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I felt welcome during my visit to this refuge.	1%	1%	10%	45%	42%
I felt safe during my visit to this refuge.	1%	0%	1%	48%	50%
Crime <u>is</u> a problem at this refuge.	52%	29%	15%	2%	2%
I feel comfortable being in nature.	1%	0%	0%	35%	65%
I do <u>not</u> like being in nature by myself.	63%	21%	6%	9%	2%
People closest to me enjoy participating in nature-based recreation.	2%	3%	13%	44%	39%
Generally, people who look like me are treated differently when they participate in nature-based recreation.	50%	23%	21%	4%	2%

4. How satisfied are you with the following? (*Circle one number for each statement.*)

	Not at all Satisfied	Slightly Satisfied	Moderately satisfied	Very Satisfied	Extremely Satisfied
The job this refuge is doing of conserving fish, wildlife, and their habitats.	6%	3%	15%	42%	34%
The quality of the overall experience when visiting this refuge.	3%	4%	15%	38%	41%

SECTION 6. Future visits to this refuge

1. Considering **the primary activity** you participated in during your most recent visit to this refuge, please tell us how the following factors, if they occurred, could affect your future participation in that activity at this refuge. (*Circle one number for each factor.*)

If there was...	My participation in my primary activity would...		
	Decrease	Stay the same	Increase
Less water in lakes, rivers, or streams available for recreation	31%	64%	5%
More acreage open to hunting and fishing	19%	59%	22%
More infrastructure (for example, bathrooms, observation decks)	2%	58%	40%
Recreation equipment available for rent (for example, fishing rods, binoculars, snowshoes)	2%	68%	31%
Less regulations on fishing	6%	80%	14%
Less regulations on hunting	15%	70%	15%
A greater diversity of species	1%	46%	53%
Fewer numbers of a single, preferred species	22%	74%	4%
More people participating in my primary activity	21%	71%	9%
An improvement in the quality of wetlands	2%	47%	51%
An improvement in the quality of wildlife habitat other than wetlands	0%	40%	60%

2. Do you plan to return to this refuge in the next 12 months?

85% Yes 2% No 13% Not sure

3. Which of the following types of programs, if offered, would encourage you to return to this refuge in the future? (*Mark all that apply.*)

36% I do not typically participate in refuge programs

For those that do participate in refuge programs, the % that would be encouraged to return if the following programs were offered:

45% Programs that engage youth 32% Programs that focus on creative pursuits (for example, art, writing, meditation)

35% Programs that focus on family/multiple-generations 33% Programs that support people with accessibility concerns (for example, difficulty walking, in a wheelchair)

66% Programs that teach skills to visitors 12% Other (*specify*) See Appendix C

41% Programs that highlight unique local culture

SECTION 7. A little about you

**** Please tell us a little bit about yourself. Your answers to these questions will help us to know more about who visits national wildlife refuges. Answers will not be linked to any individual taking this survey. ****

1. Are you? ☐ 60% Male ☐ 40% Female

2. In what year were you born? 1971 (YYYY)

3. How many years of formal schooling have you had? (Circle one number.)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
(elementary)					(junior high or middle school)			(high school)				(college or technical school)				(graduate or professional school)			
					<input type="checkbox"/> 2%			<input type="checkbox"/> 17%				<input type="checkbox"/> 42%				<input type="checkbox"/> 40%			

4. What race or ethnicity do you consider yourself? (Mark all that apply.)

<input type="checkbox"/> 93% White	<input type="checkbox"/> 0% American Indian or Alaska Native
<input type="checkbox"/> 1% Hispanic, Latino, or Spanish	<input type="checkbox"/> 0% Middle Eastern or North African
<input type="checkbox"/> 6% Black or African American	<input type="checkbox"/> 0% Native Hawaiian or Other Pacific Islander
<input type="checkbox"/> 1% Asian	<input type="checkbox"/> 1% Some other race or ethnicity

5. How many people (including yourself) live in your household? 3 persons

6. What was your approximate household income from all sources (before taxes) last year? (Mark only one.)

<input type="checkbox"/> 10% Less than \$10,000	<input type="checkbox"/> 11% \$35,000 - \$49,999	<input type="checkbox"/> 22% \$100,000 - \$149,999
<input type="checkbox"/> 5% \$10,000 - \$24,999	<input type="checkbox"/> 15% \$50,000 - \$74,999	<input type="checkbox"/> 10% \$150,000 - \$199,999
<input type="checkbox"/> 9% \$25,000 - \$34,999	<input type="checkbox"/> 9% \$75,000 - \$99,999	<input type="checkbox"/> 9% \$200,000 or more

7. Which of the following best describes your current employment situation? (Mark only one.)

<input type="checkbox"/> 47% Employed full-time	<input type="checkbox"/> 3% Unemployed	<input type="checkbox"/> 17% Retired
<input type="checkbox"/> 5% Employed part-time	<input type="checkbox"/> 3% Homemaker/caregiver	<input type="checkbox"/> 4% Disabled/unable to work
<input type="checkbox"/> 7% Self-employed	<input type="checkbox"/> 14% Student	<input type="checkbox"/> 0% Other (specify): <u>See Appendix C</u>

Thank you for completing the survey.

There is space on the next page for any additional comments you may have regarding your visit to this refuge.

Comments?

See Appendix C

PAPERWORK REDUCTION ACT STATEMENT: The Paperwork Reduction Act requires us to tell you why we are collecting this information, how we will use it, and whether or not you have to respond. The information that we collect in this survey will help us understand visitor satisfaction with and use of national wildlife refuges and to inform management and policy decisions. Your response is voluntary. An agency may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a valid OMB Control Number. We estimate it will take an average of 25 minutes to complete this survey. You may send comments concerning the burden estimate or any aspect of the survey to the Information Collection Clearance Officer, Fish and Wildlife Service, 4401 North Fairfax Drive, MS 222-ARLSQ, Arlington, VA 22203. OMB CONTROL # 0596-0236 EXPIRATION DATE 11/30/2020

Appendix C: Open-Ended Survey Responses by Question

Survey Section 1

Question 1: “Including your most recent visit, which activities did you participate in during the past 12 months at this refuge?”

Special Event	Frequency
5k run/walk	1
Canoe Day	5
Nature series	1
Refuge day	4

Other Activity	Frequency
Group outing for field day	1
Hammocking	2
Quiet place to study	1
Reading	1
This was my first visit back to the refuge since 1989.	1
Work-related collection of termites for research (USDA Forest Service)	1

Question 2: “Which of the activities above was the primary purpose of your most recent visit to this refuge?”

Primary Activity	Frequency
Auto tour route/driving	3
Bicycling	8
Bird watching	9
Environmental education	1
Fishing	16
Hiking	23
Hunting	22
Nature observation	1
Nonmotorized boating	6
Other	5
Photography	15
Picnicking	1
Running	3
Sightseeing	1
Special event	1
Wildlife observation	20

Question 3: “Did you go to a visitor center at this refuge during your most recent visit?”; If Yes, “What did you do there?”

Other Visitor Center Activity	Frequency
Government shutdown closed	1
It was closed due to shutdown	1
Unfortunately, the VC was closed due to the government shutdown.	1
Visited with employees/staff of the refuge	1
Wanted to but it was closed	1
We visited on Sunday. The visitor center was closed.	1

Question 11: “Which, if any, of the following social media outlets did you use to share your refuge experience with other people?”

Other Social Media Outlets	Frequency
eBird	2
Globetraveler.org	1
iNaturalist	1
ipernity	1
Strava	2
WeChat	1

Survey Section 2

Question 1. “How helpful was each of the following sources to get information about this refuge and its resources?”

Other Websites	Frequency
eBird	1
Friends-of-noxubee-refuge.org	1

Other Information Sources	Frequency
Hotel/previous visit	1
Individuals	1
Intern volunteering	1

Survey Section 4

Question 1: “Record the amount of money that you and other members of your group spent in the local 50-mile area during your most recent visit to this refuge. Your group would include you and those with whom you shared expenses (for example, family members, traveling companions).”

Other Expenses	Frequency
Annual refuge entrance pass	1
Entrance fee	3
MS state	1
Refuge annual pass	1

Survey Section 6

Question 3: “Which of the following types of programs, if offered, would encourage you to return to this refuge in the future?”

Other Programs	Frequency
Bird-related programs	2
Fishing-related activities	2
General environmental education	1
Hunting-related activities	1
Local history programs	1
Nature-related programs	2
Photography-related programs	2
Water-based activities	1

Survey Section 3

Question 2: "If you have any comments about transportation-related features at this refuge, please write them here."

Comments on Transportation-Related Features at This Refuge (n=27)

A few of the trails have a large amount of poison ivy on them. I'm pretty allergic and chose not to continue down those paths. It would be great if it could be cut back a bit more.

A system detailing the gates that are open or closed would be very helpful.

Coming from Brookville to Refuge Road is terrible.

Great safe place for long runs of 16-20+ miles.

I am 70 years old and at present being treated for cancer. There are no provisions for any easy access to hunting areas. Roads are closed and gated during deer season which makes it impossible for me to gain access to any remote hunting areas.

I found new places to visit on my second visit because of excellent signage. Entry way to the refuge needs repairing.

I used the refuge frequently when I was a student at Mississippi State University in the mid 1980s. It was good to see the many improvements and upgrades since then. During my visit the refuge appeared to have received recent heavy rains and several of the trails we were going to try were underwater or too wet to hike.

I wish there was a better overall map of the refuge available for purchase --showing trails and roads and indicating which are public access, etc. There is one map available of which I am aware, and it is not a good one. Some signage is inaccurate. One glaring example is a 3-sided sign which states 3 different "distances" for a nearby city—varying between 14 and 16 miles depending on which side of the sign you are on.

I would like to make the paved roads safer for bicycles.

I would love to see more wheelchair accessibility.

I would suggest more trails for nature walks/hikes. It's a lot of land and things to see but very little pathways through the forest.

If you can control speed limits by posting sign, then you should be responsible for road condition like potholes!

Keep gravel roads graded more often.

My opinion as a wildlife biologist is biased toward habitat conservation and road mortality for native wildlife. Thus, I prefer more gated roads, less roadway, and well enforced traffic regulations, especially speed limits on vehicles on refuge roads.

Navigating roads on the refuge is difficult if you don't know where you are. Larger road signs would be more helpful.

None of the restrooms were open, which is a big problem.

Not at all happy about the speed bumps.

People who are new to the area often do not know about the alligators in the refuge lakes and sometimes take pets and children swimming there. Signs around the boat launches warning about the alligators would be helpful.

Speed limits need to be enforced for walking and bike riding.

Thank you. I enjoyed my visit.

The welcome center of Noxubee could update their wildlife museum and the video displayed in the small theatre more often.

There are several large long hidden cracks forming on the major road that creates a real hazard for road cyclist.

There needs to be 2-3 more checkout stations to cut down on travel time.

There's a foot-sized hole in the boardwalk just past the visitors' center that needs to be fixed. The alligators like to sun in that area.

This refuge has added a few more pull over places this year which is nice and makes travel much easier if you spot wildlife or want to walk to a gated road that you have somewhere to park.

We bicycle on the refuge because it is the safest place to do it in this area. We do not have bike paths.

Word of mouth is the best PR for the refuge.

Survey Section 5

Question 2: "If you have comments about these services, facilities, and opportunities at this refuge, please write them here."

Comments on Services, Facilities, and Opportunities at This Refuge (n=40)

All the large restrooms have been torn down and replaced with (1) extremely small restroom on the entire refuge. Most times, it is locked.

Better lake management - fish, water weeds, overall adherence of grounds. Stop draining the lake - control the large number of gators. Restock the lake.

Due to the government shutdown, no restrooms were available, and the visitor's center was not open.

Goose overlook railing is getting a little shaky.

Grass in the sitting area could be maintained better for beautification purposes.

Hunting and fishing should not be allowed at this refuge.

Hunting trails need to be cleared of down trees and bush hog!

I do not use your bathroom, made out of plastic and looks like it's for small people. Put more check-in stations for hunter than two on the east side. How come you can't put a checking station with the welcome center area or at the duck overlook? More access to GTR 1 instead of River Road, this area is closed every Wednesday and Saturday morning, plus every time the river comes out of its banks. I'm not asking for much, but to be treated fairly like the people using the area connecting people with nature (what I'm doing).

I don't like the way Bluff Lake looks. Hate the vegetation and weeds to be a pretty lake.

I wish the visitor center were open all days of the week.

I wish they would leave the water level at full operation for 2 years and let that kill some of the weeds and lily pads "poisoning is not working also we need to take out some of the gators, too many of them.

I've visited twice - the employees are very friendly and helpful. Lovely observation decks. I'd love to bring a large group here to picnic. I'm a former scout leader.

Love the free canoe days.

More marked hiking trails are needed, and large easy to read maps of trails with mileage.

Most trails are relatively short. I appreciate all the features at the refuge (overlooks, board walks, newer trails). Would like more cycling opportunities and longer trails.

My daughter took me to see alligators. Zero found.

Need a better manager, he has caused good employees to leave refuge. Need to manage wildlife better. Keep side of the roads mowed and kept up better. Very poor.

Need more access for handicapped, wheelchair-bound people to enjoy both fishing and hunting.

Noxubee Refuge is gorgeous and would be enhanced by more wilderness area designation and less practices to forest aesthetics and bio-communities of climax and younger deciduous forests.

Other than two interns that were very kind and informative, no one else was around maintaining the park or opening up restrooms, etc. Very sad.

Our last visit to the refuge was during the Christmas holiday. So, the refuge was afforded by the government shutdown. We were allowed in, but the visitor center and bathrooms were closed.

Our visit was during the government shutdown therefore no workers were present. Restrooms were unavailable and visitor center was closed.

Our visit was during the government shutdown, so visitor center and refuge employees were closed/not present. The visitor center looked nice.

Since I live within a short drive (15-20 min) of the refuge, I like to occasionally visit there to walk/hike. It is nice that there are plenty of dirt roads to walk on, but the hiking trail system is limited. It is great to have this refuge in the Starkville area as a place to go to experience nature.

Staff and volunteers were kind and knowledgeable. Better maps of the refuge are needed for me. I would like to know what areas are used for my purposes (where is hunting allowed and not allowed or which way to this trail).

The day we visited it was foggy and welcome center was closed. I'd like to return in warmer weather to better experience the trails and sights. I enjoyed chatting with your 2 volunteers the day we were there. Most helpful!

The grounds around visitor center and picnic area need better maintenance. The grass needs mowing and weed eating regularly in these areas. Also, mowed with some expertise.

The refuge is not well maintained. Grass never cut. Lily pads are all over the lake, and it's dangerous to fish because the college students feed the alligators, so they are very territorial.

The refuge needs an exterior source for fish, clean drinking water for cyclist when center is closed.

The restroom of this refuge is not clean enough, the smell is very bad, especially in summer. This is one of the main reasons that we are not going to stay long there.

There were so many lily pads in the lake it was very hard to canoe out.

They should clear out lily pads and make the lakes fishable again. Open the gates! Open all roads.

This refuge has great services that have been damaged by the ongoing government shutdown.

Trees near parking areas should have dead branches removed. After hiking, my son and I went back to his truck and saw that a very large branch had nearly missed it when it fell. If the branch had fallen on someone, it could have seriously injured or killed them.

Unfortunately, our visit coincided with the government shut down. I was impressed with the exterior of the visitor center and the opportunity for wildlife viewing off the back deck.

Water level in Bluff Lake needs to be left at a higher level. It's better for fishing, boating, and recreational opportunities on the lake.

Well maintained. I feel bad for all the government cutbacks.

Wish that opportunities existed to run fishing lines at night. Think it would be a great place for camping opportunities, even if only primitive. I love this refuge and hate it when I see trash everywhere.

Would like more canoe days.

Would like to have clean restrooms (not outhouse) open on the weekend.

End of Survey

General Comments (n=35)

Enjoyed visiting with young man who took my name for this survey.

I enjoy visiting state parks, wildlife refuges, museums. Especially if they are free, low cost. I'd love to have a camping area. Not sure about camping by the alligators. I came to see the gators and I hope to do the canoeing in the future. I'm three hours away and it's hard to find the time to visit often, but I love Noxubee and plan to return as often as possible.

I feel lucky to live so close to a national wildlife refuge. NWRs are real treasures in our country.

I have been hunting the refuge for over 20 years. In that time, there has been a tremendous decline in the amount of deer on the refuge. I would like to see more game warden presence. When I first began to hunt here, I would see game wardens in the woods and roads. This kept everyone honest. Now I hardly see a game warden in an entire week of hunting. I also wish they would go back to letting hunters harvest one buck and that's it. I still love the refuge, but I feel there are ways to bring the deer population back to what it once was.

I have been visited this refuge regularly for 30 years. I have raised my children visiting this refuge all their lives. I have taken 4 exchange students there. I love our refuge. I hope to become a regular volunteer when I retire. Thank you for this opportunity!

I have hunted (deer) the refuge for 33 years, during that time the quality and quantity of deer has decreased to a level of hardly ever seeing a deer during an all-day hunt. I am 70 years old and cannot compete with younger hunters having to make such long walks to hunting areas. I am given no exceptions for access because of my age and health. I have asked for years to be allowed to use some of the closed roads in order to access my favorite hunting grounds but are told no. I guess because I am not in a wheel chair that I am refused access. The refuge management have continually made deer hunting access more difficult with every increasing year. They increase difficulty to gain access, but they spend nothing on increasing the quality of the deer herd. The quality of the deer herd has diminished every year for the past 30 years.

I love Sam D Hamilton Refuge and try to make it out there twice a week to enjoy the nature!

I love spending time at the refuge! It's a great place to bask in the beauty of the outdoors, be active, unwind, or just think. The staff has always been friendly, and there are plenty of great trails for walking. My main complaint is that trail maintenance occasionally falls behind: enough that I have been afraid I had lost the trail a couple times.

I love the Sam D. Hamilton Noxubee National Wildlife Refuge. I visit at least once a month, mostly to walk around and be outdoors.

I love the Sam D. Hamilton Wildlife Refuge. My biggest complaint is the grounds are not well kept. And the low water most of the year in the lake. Lilly pads are overtaking the lakes. Positives are the beautiful lakes, love the visitor center and gift shop. The alligators and eagles. Roads are well maintained for travel by car and bicycle.

I really enjoy visiting the refuge. I just recently moved to the area and the refuge gives me the space to enjoy the outdoors in a clean environment. I would definitely recommend it to other nature lovers.

I visit Noxubee often and throughout the year. Staff is awesome and they really work hard (and are successful) in maintaining a high-quality refuge. I love to work on botanical knowledge and take my daughter to spend time in nature. I generally prefer less infrastructure and more "wild" areas of the refuge. One place that could be better maintained is the trail in the wilderness area. It is very easy to lose your way, since the trail is washed out and the few remaining directional signs are hard to see. Overall, fantastic place that greatly improves the quality of life in the region.

I visit this refuge once per week and it is usually the highlight of my week.

I would like to see check in boxes for hunting at all entrances to the refuge. I would like to see the antler size increase to state regulations for the area. I would like to access the connecting people with nature to gain access to hunting areas beyond the no hunt zone as long as all weapons were not loaded.

I would like to see more management for non-game bird species and more overlooks/blinds for wildlife watching.

It appears to have become harder to fish since the lily pads have taken over. There seems to be a lack of places to fish since the pads and grass have taken over. We have had little success fishing because there seems to be a lack of fish. We don't use a boat. We have family who do use a boat and had no luck either. The lake seems to have lost its appeal to fishermen. It is hard for boats to navigate and bank fishing. The walkways over water had broken or missing boards. I feel these are unsafe for anyone, especially children.

It was great coming, fishing, spending time with my grandchildren and husband.

Keep up the good work at Noxubee.

Loved the refuge! Hunting and fishing is detrimental to the enjoyment of animal lovers who visit the refuge. Should be stopped for the sake of visitors and wildlife alike.

Need more places for hunters to pull off in them without 4x4 trucks. Fix roads coming to refuge. I know a lot that don't come because of road from Brookville is dangerous. This stops a lot of people.

Overall, I am proud of the Noxubee Wildlife Refuge. I live about 6 miles from the refuge; I occasionally participate in programs or volunteer, but mostly I exercise and enjoy the outdoor activities on at least a weekly basis. Would like to see the trails maintained just a little bit better and the speed limit enforced.

Peace and love, peace and love.

Per the web page, the visitor's center is not open on Saturdays, Sundays and Mondays. I don't think this is a good idea. Most families visit on week-ends or Monday holidays. I wonder if the little latrine at the refuge is locked on these days too. My 2 visits to the refuge have been during the government shutdown. This refuge is in the middle of nowhere, so there should be a place to use a restroom 7 days a week. I travel 12 miles on a rural road full of potholes from the nearest "place" on a highway to get to the refuge, so being able to use a restroom at the refuge is of utmost importance to me.

Please don't encourage bicyclists to bike on the roads.

Some answers I prefer not to comment on. I wish the visitor center were open more often and I wish there were more law enforcement to patrol and keep property from being damages and destroyed. Also, to enforce laws on littering. There are no trash receptacles on the refuge. When there is nowhere to put trash, people just throw it in the water or wherever they are. Please keep America beautiful!

Thank you for working to gain input from refuge visitors and enhance refuge conservation programs that are integrated with outdoor recreation!

Thank you.

Thanks for the great time during hunting season, I understand that you all were on government down.

Thanks.

The grass and weeds around the speedway should be cut more than once a year. In the mid-summer the grass and weeds get almost shoulder high seem as if they only cut it in the fall of the year. It should be cut mid or late summer. It needs more than one cut per year.

The Noxubee Refuge is wonderful, and I enjoy my trip every time I go. The free canoe days are amazing!

This was a really neat refuge, and our expectations were exceeded.

We enjoyed our visit, but we needed more time. The highlight was getting to see an eagle catch a fish in the lake.

We have enjoyed the outdoors our entire lives. We used to camp with our children and now time share or stay at the cabin. We want to continue to spend our tax dollars supporting parks, refuges, national monuments, etc. for future generations. Today's political climate and values are extremely disturbing to us. Thanks for all you do.

We were on a motorcycle ride in backwoods MS and all and just happened on to this beautiful area. Total surprise and very pleased.