



U.S. Fish & Wildlife Service

NATIONAL WILDLIFE REFUGE VISITOR SURVEY

*2018 Results for
Ohio River Islands
National Wildlife Refuge*



THE OHIO STATE
UNIVERSITY



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Front cover: Train tracks that intersect Ohio River Islands National Wildlife Refuge. Photo credit: Michelle Ferguson.

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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 Ohio River Islands National Wildlife Refuge, referred to as “this wildlife refuge” or “refuge” throughout this report. Percentages noted throughout the report were



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

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

Ohio River Islands National Wildlife Refuge is a set of islands and mainland tracts located along the Ohio River, as far north as Pittsburgh and as far south as Kentucky. The refuge was established in 1990 to preserve and restore the islands and floodplain of the Ohio River and the wildlife native to that habitat. The 3,440 acres of land are split up between twenty-two islands and four mainland tracts, primarily in West Virginia. The riparian areas in this wildlife refuge provide habitat to a wide diversity of migratory birds; one of the most exciting sights is to watch an osprey swoop down and catch one of the plentiful fish from the Ohio River. The productive riparian forests provide habitat for a variety of frogs and turtles, as well as more than 25 species of mammals. The refuge's underwater habitats are also home to a huge diversity of freshwater mussels: 47 native species of these important filter feeders reside within the refuge waters, including eight federally endangered species.

Ohio River Islands National Wildlife Refuge attracts 94,000 visitors annually (U.S. Fish and Wildlife Service, 2018, written comm.). Boating



The Valley Gem, a paddleboat that takes visitors on the river and passes through various areas within Ohio River Islands National Wildlife Refuge. Photo credit: Justin Gole.

and fishing are popular activities, particularly in the warm summer months. Hunting is allowed on most of the refuge's islands. Visitors can enjoy hiking and wildlife observation on the trails, including three miles of trails on Middle Island. Visitors can also enjoy free interpretive programs at the visitor center located in Williamstown, West Virginia.

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 344 visitors agreed to participate in the survey by providing their names and addresses.
- In all, 180 visitors completed the survey online (48%) or by mail (52%) after their refuge visit, resulting in a 54% response rate.
- Results for this wildlife refuge have a $\pm 6\%$ margin of error at the 95% confidence level. For more details on limitations of results and survey methodology, see Appendix A.



Fig. 2: Map of Ohio River Islands National Wildlife Refuge. Visitors were contacted at the circled locations from 5/3/2018–5/13/2018, 7/25/2018–7/30/2018, and 8/10/2018–8/20/2018.

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

- 50% of visitors were female with an average age of 54 years (Fig. 3).
- 50% were male with an average age of 54 years.

EDUCATION

- 22% of visitors had a high school degree or less.
- 51% had at least some college.
- 26% had an advanced degree.

RACE & ETHNICITY

Most prevalent race or ethnicity (Fig. 4):

- White (96%).
- Multiracial (2%).

INCOME

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

OTHER TRIP CHARACTERISTICS

- Average group size of 4 people.
- 27% visited the refuge alone.
- 42% visited with at least one other adult.
- 31% visited with a combination of at least 1 adult and 1 child.

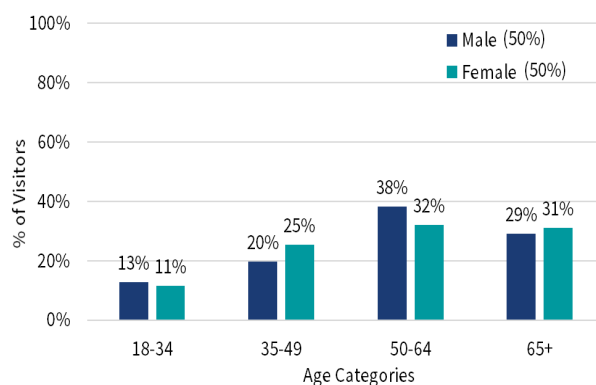


Fig. 3: Distribution of visitors to this refuge by gender and age group.

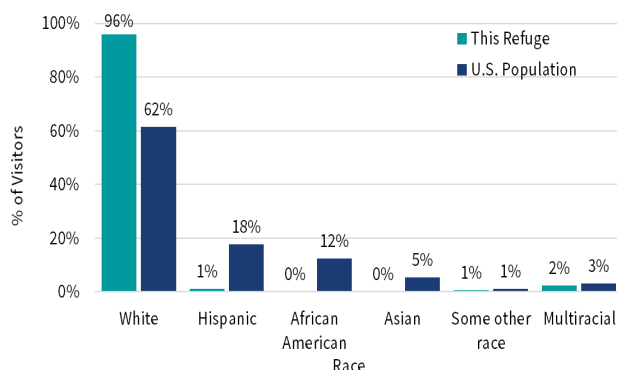


Fig. 4: Race and ethnicity of visitors to this refuge compared to the national average.

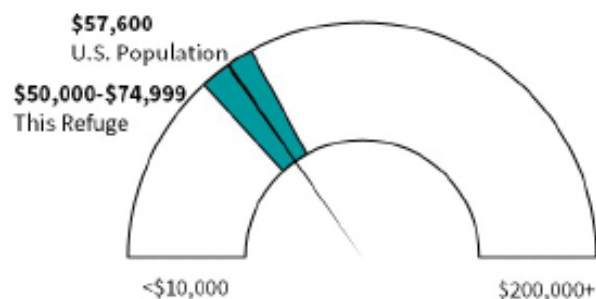


Fig. 5: Mean income range of visitors to this refuge compared to the national median income.

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 (79%) include:

- For locals, this refuge was the primary reason for their trip (81%) (Fig. 6).
- Local visitors traveled an average of 17 minutes to arrive at this refuge (Fig. 7).

NONLOCAL VISITORS

Highlights of trip characteristics for nonlocal visitors to this wildlife refuge (21%) include:

- For nonlocals, this refuge was an incidental stop as part of a trip for other purposes (38%) (Fig. 6).
- Nonlocal visitors traveled an average of 3 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 West Virginia (60%) and Ohio (33%).

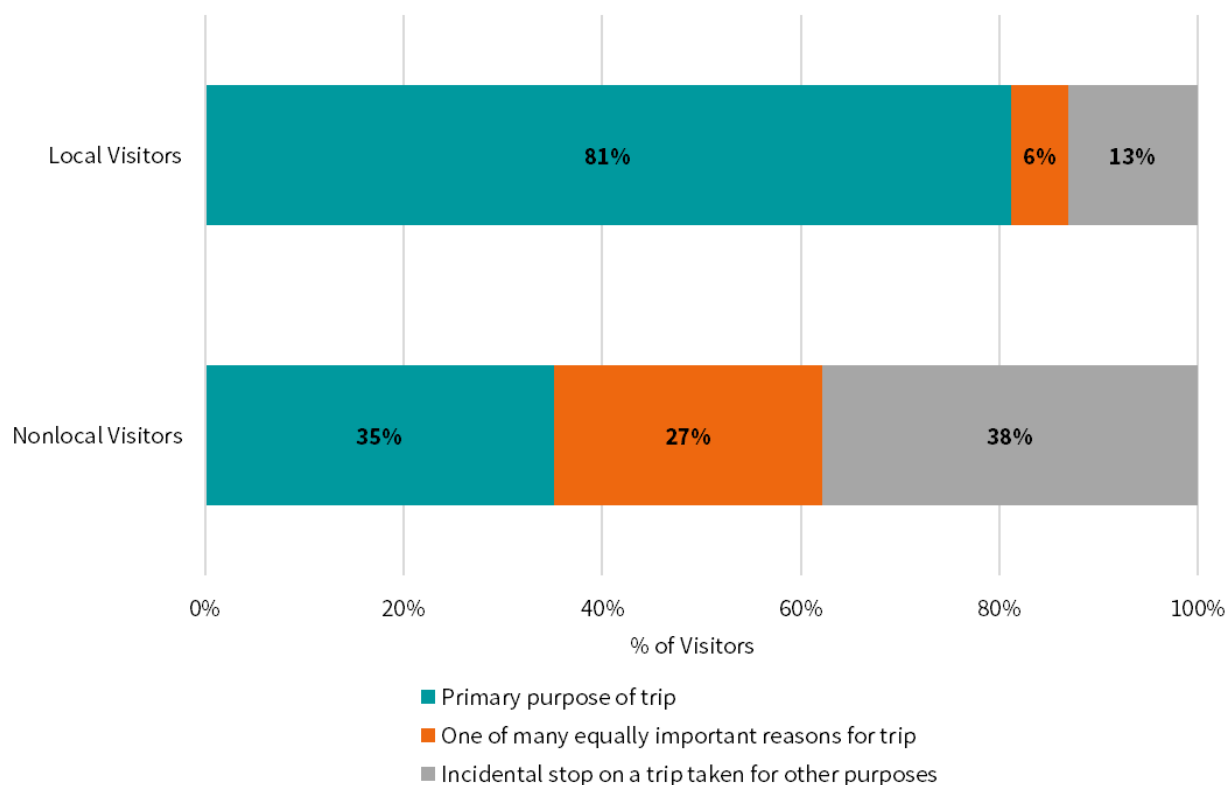


Fig. 6: Purpose of most recent refuge visit for local (living ≤ 50 miles from the refuge) and nonlocal (living > 50 miles from the refuge) visitors.

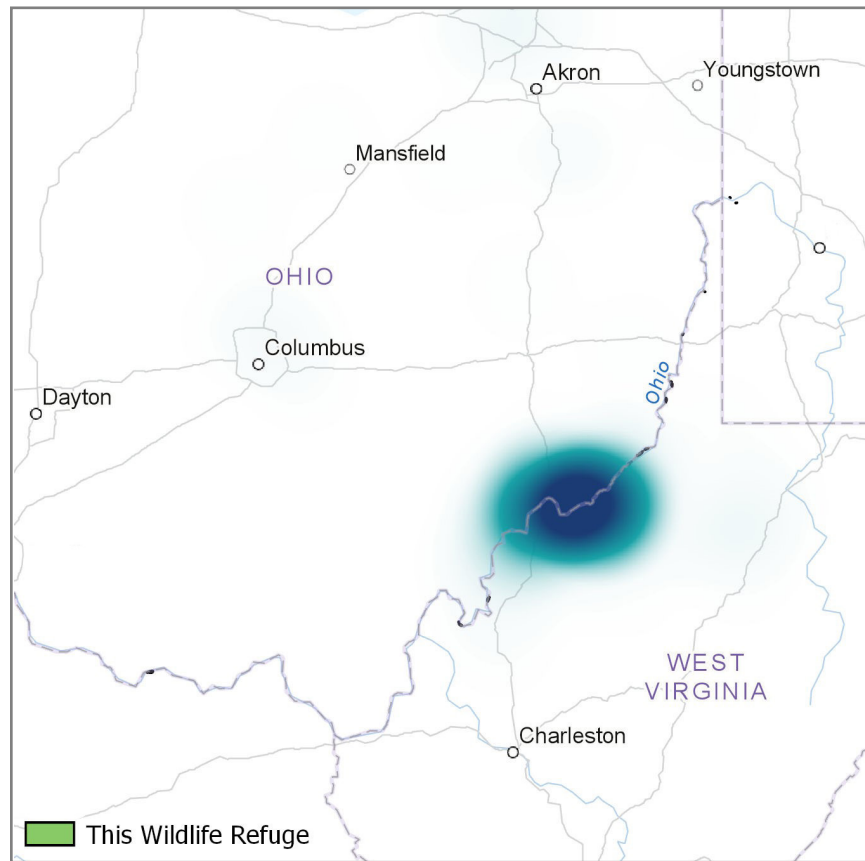


Fig. 7: Map showing residence of local visitors to this refuge. Darker shading represents relatively higher visitation from that area.

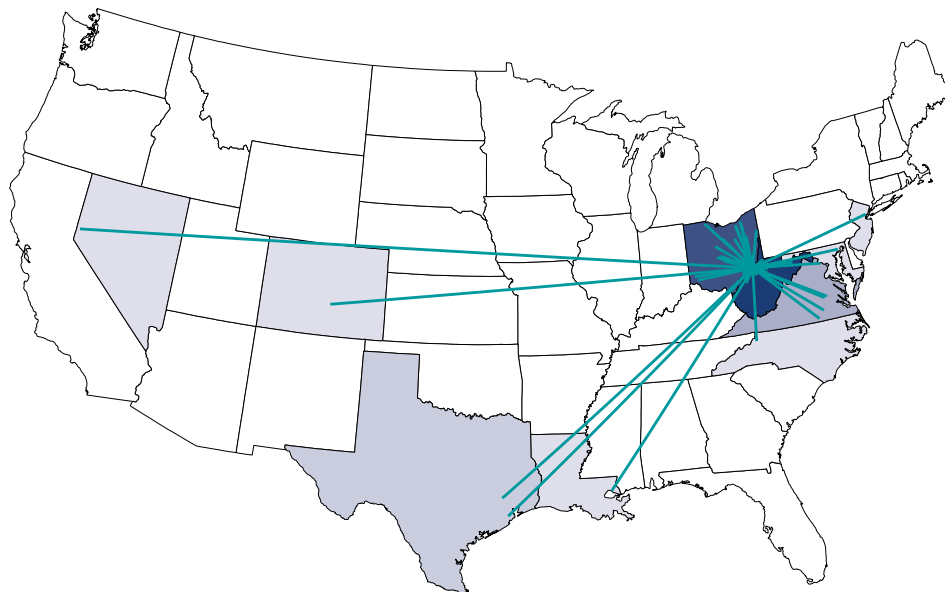


Fig. 8: Map showing residence of visitors to this refuge by zip code, with each line representing visitation from a different zip code. The convergence point of the lines is the geographical center of the refuge. Darker shading of the states represents higher visitation from that state.

OTHER TRIP CHARACTERISTICS

Other trip characteristics include:

- To get to this wildlife refuge, visitors primarily traveled by private vehicle without a trailer (63%) and by foot (21%) (Fig. 9).
- Once on the refuge, visitors primarily traveled by foot (31%) and by private vehicle without a trailer (21%) (Fig. 9).
- Visits occurred during winter (26%), spring (63%), summer (88%), and fall (51%).
- 96% of visitors made a single-day trip to this refuge, spending an average of 3 hours, while 4% of visitors were on a multi-day trip to this wildlife refuge that averaged 3 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:

- 78% were repeat visitors to this wildlife refuge, visiting an average of 35 times.
- 38% visited other national wildlife refuges, averaging 2 visits.
- 57% visited other public lands, averaging 5 visits.

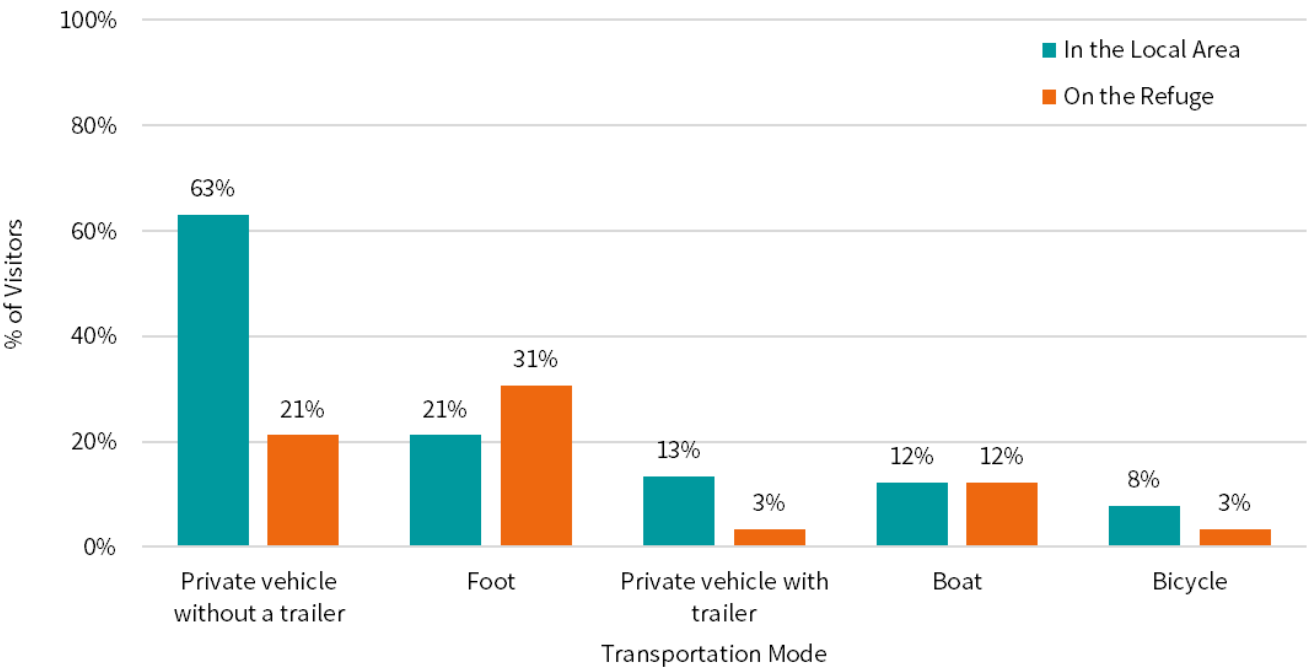


Fig. 9: Modes of transportation used by visitors to get from the local area to this refuge and within the boundaries of this refuge.

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 people in the local community.
- Print and internet sources that were most helpful to visitors regardless of age included social media and web-based map.
- Refuge-specific sources that were most helpful to visitors regardless of age included refuge employees/volunteers and kiosks/displays/exhibits at this refuge.
- Use of information sources varied by age groups (see Figs. 10-12 for details).

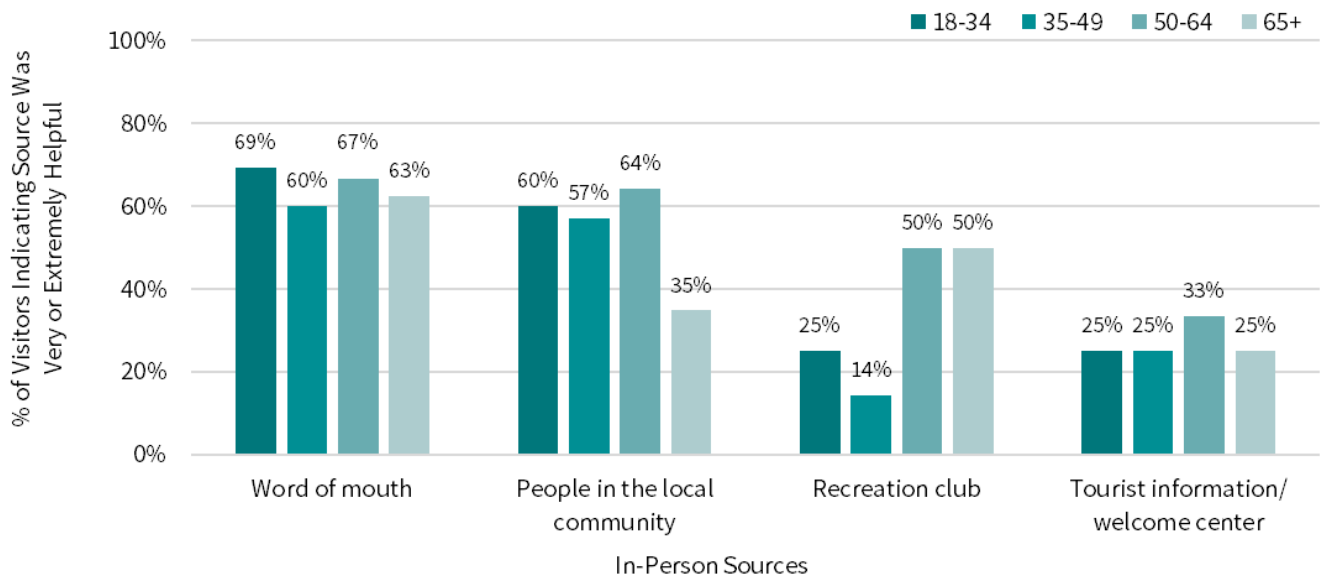


Fig. 10: Percent of visitors by age group who found in-person information sources very or extremely helpful in planning their trip.

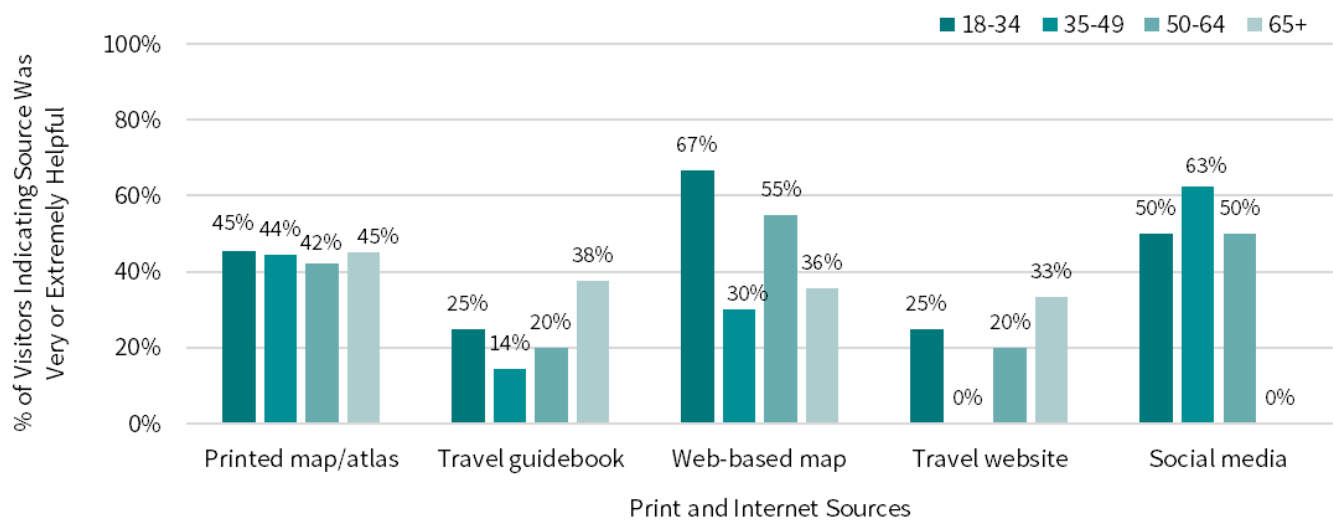


Fig. 11: Percent of visitors by age group who found print and internet information sources very or extremely helpful in planning their trip.

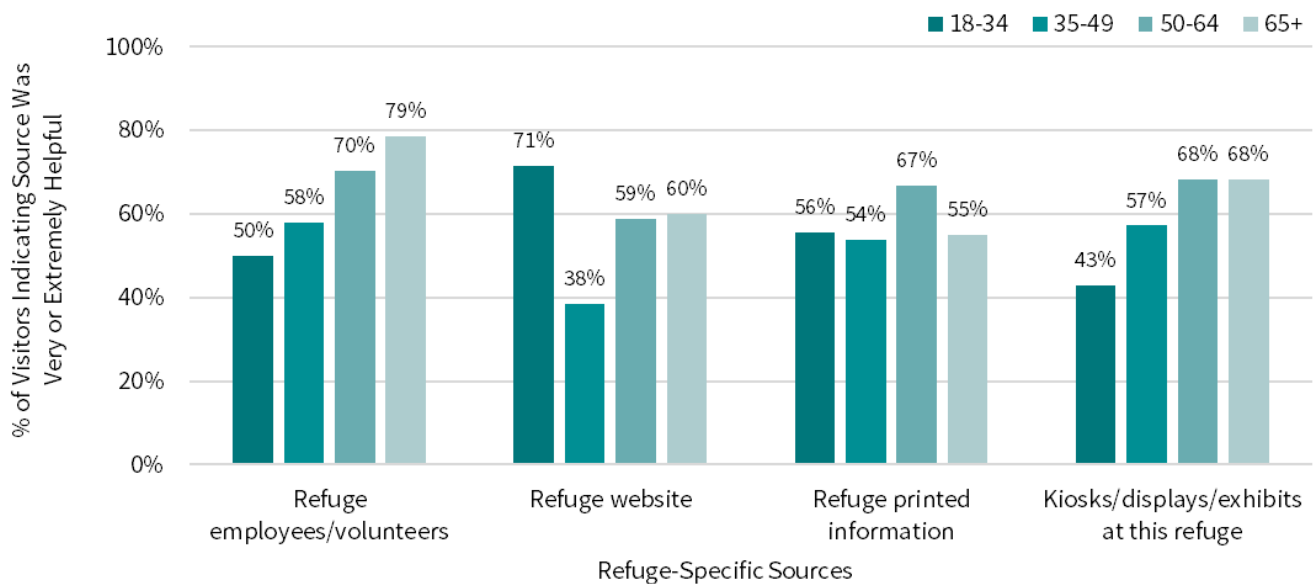


Fig. 12: Percent of visitors by age group who found refuge-specific information sources very or extremely helpful in planning their trip.

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 39% 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 Facebook (37%), Snapchat (11%), and Instagram (11%).
- Visitors 35-49 years old preferred to use Facebook (44%) and Instagram (17%).
- Visitors 50-64 years old preferred to use Facebook (50%) and Instagram (10%).
- Visitors 65 or older preferred to use Facebook (4%) and Instagram (2%).

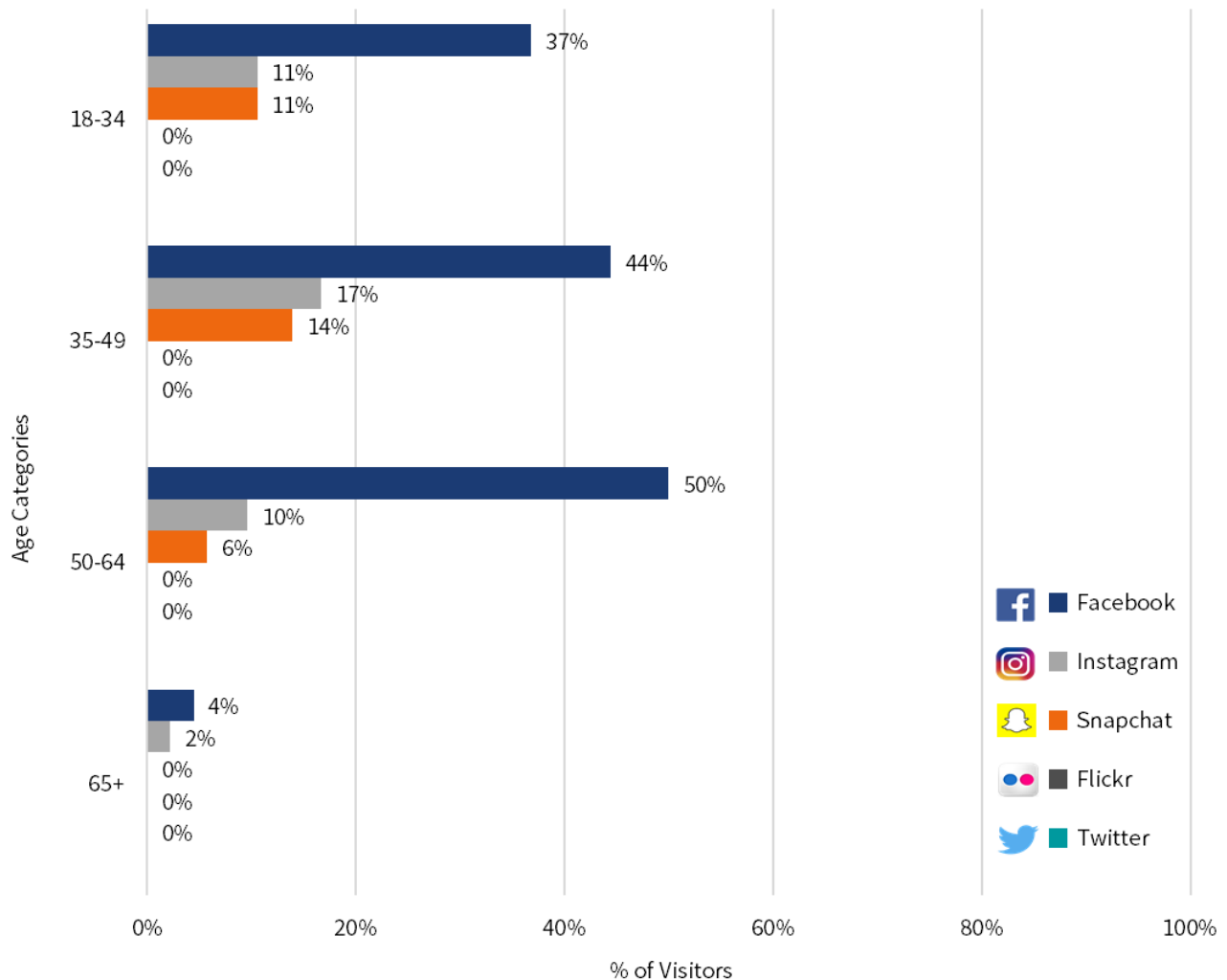


Fig. 13: Percent of visitors by age group who used various social media platforms to share their experience on this refuge with others.

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 hiking (58%), wildlife observation (47%), and bird watching (28%) (Fig. 14).
- The top three activities noted as their primary activity on the day visitors were contacted to participate in the survey were hiking (18%), motorized boating (16%), and fishing (14%) (Fig. 14).
- Approximately 29% of visitors went to the visitor center, and they most often viewed the exhibits (60%), asked for information (42%), and watched a nature talk, video, or presentation (35%) (Fig. 15).



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

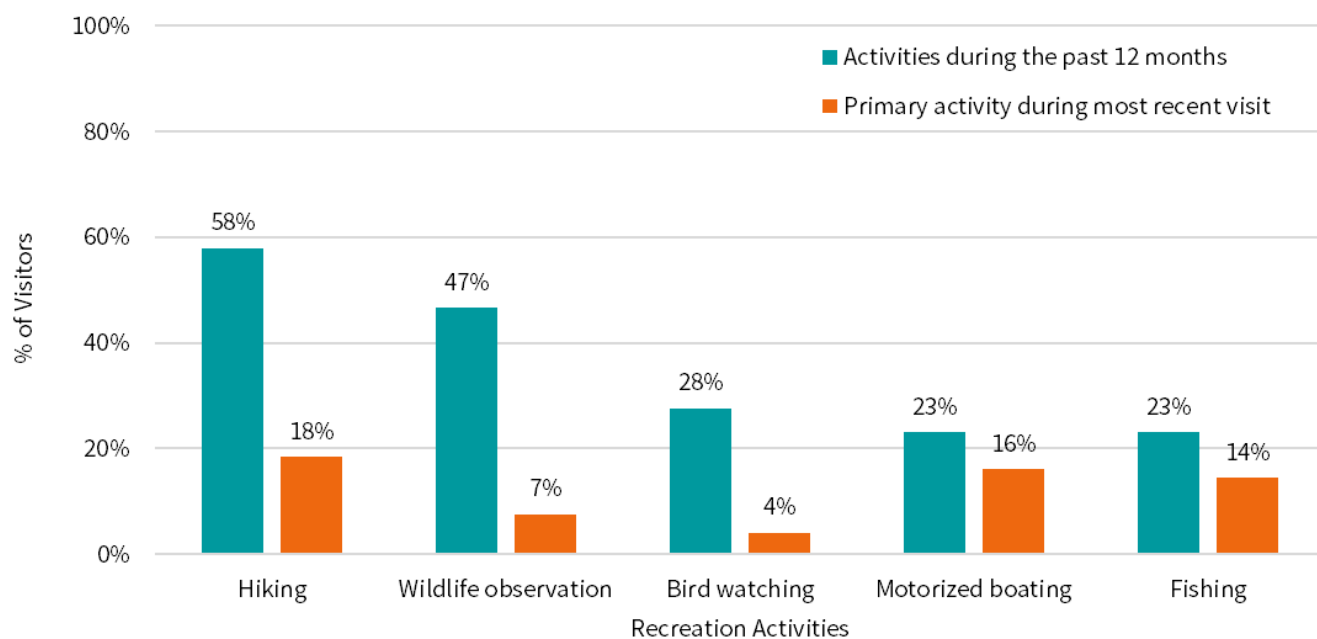


Fig. 14: Recreational activities visitors participated in during the past 12 months and their primary activity during their most recent visit to this refuge.

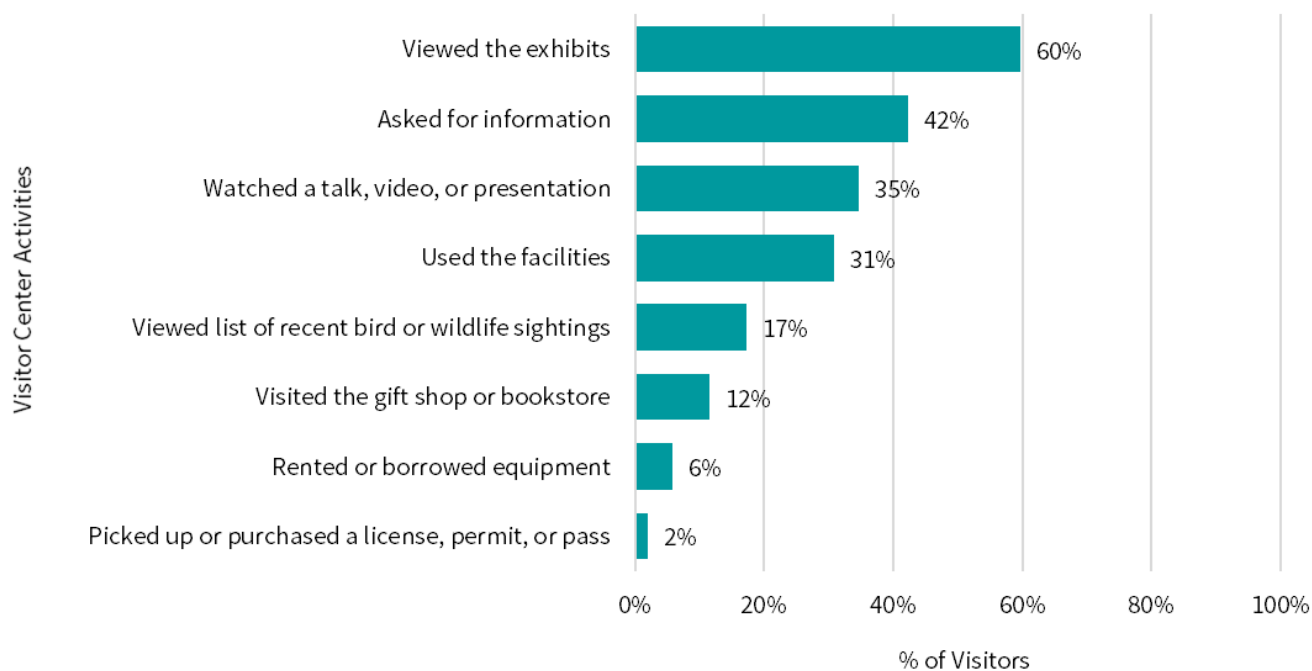


Fig. 15: Reasons visitors used the visitor center during their most recent visit to this refuge.

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:

- 85% of visitors felt welcome during their refuge visit (Fig. 16).
- 92% of visitors felt safe during their refuge visit (Fig. 16).
- 96% of visitors felt comfortable in nature, but 7% did not like being in nature alone (Fig. 17).

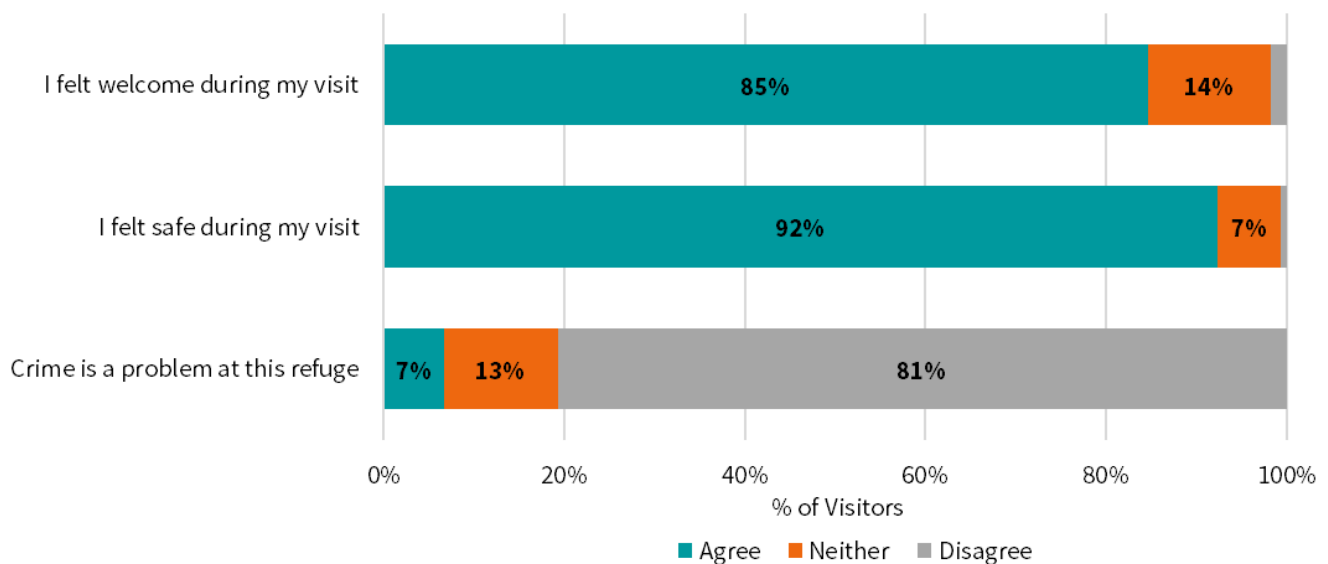


Fig. 16: Visitors' perceptions of safety and feeling welcome at this refuge during their visit.

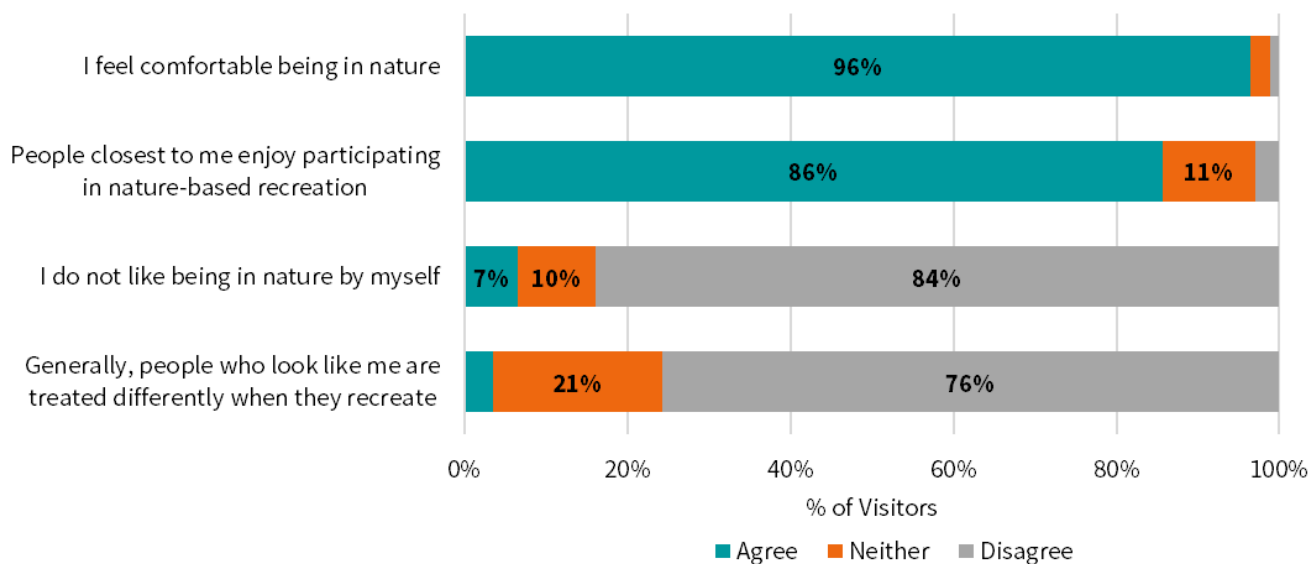


Fig. 17: Visitors' comfort with being in nature.



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:

- 78% of visitors were very or extremely satisfied with the overall experience at this wildlife refuge (Fig. 18).
- 72% 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 (83%),
- courteous and welcoming employees/volunteers (75%),
- availability of employees/volunteers (70%),
- signage stating rules and regulations (70%).

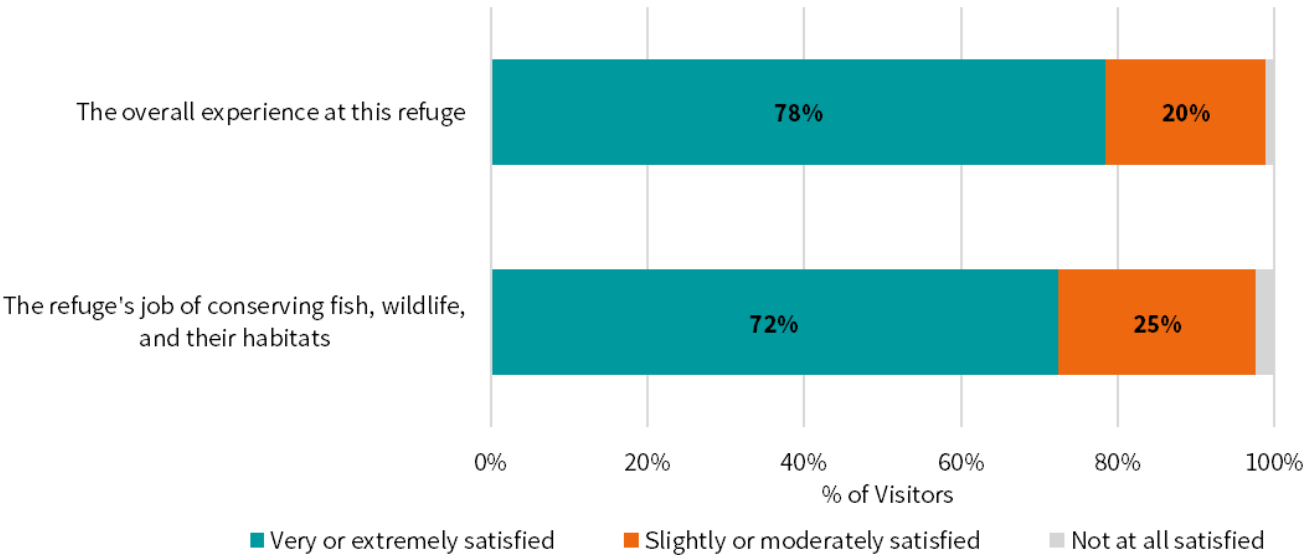


Fig. 18: Visitors' satisfaction with their experience at this refuge and with this refuge's job of conserving fish, wildlife, and habitats.

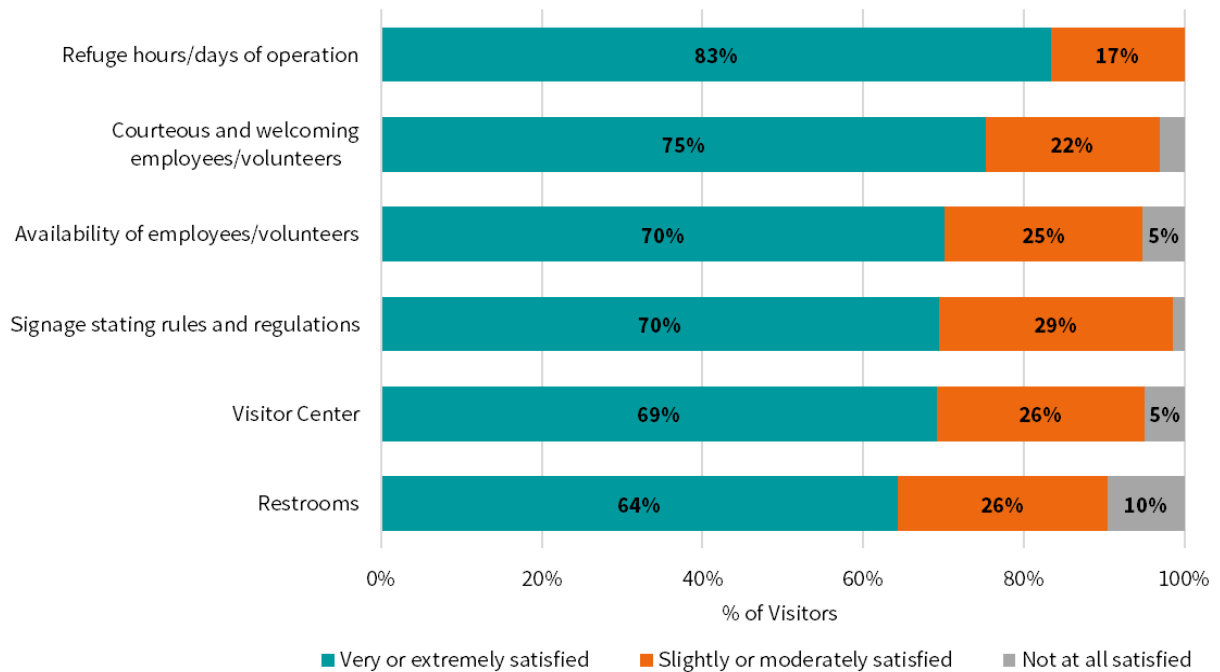


Fig. 19: Visitors’ satisfaction with customer service and amenities at this refuge.

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):

- environmental education (91%),
- bird watching (84%), and
- photography (79%).

“The wildlife refuge is a real asset to the area. The staff and volunteers are courteous and knowledgeable. The facilities and grounds are excellent. It is a great place to visit, relax, learn, and commune with nature.” – Visitor to Ohio River Islands National Wildlife Refuge

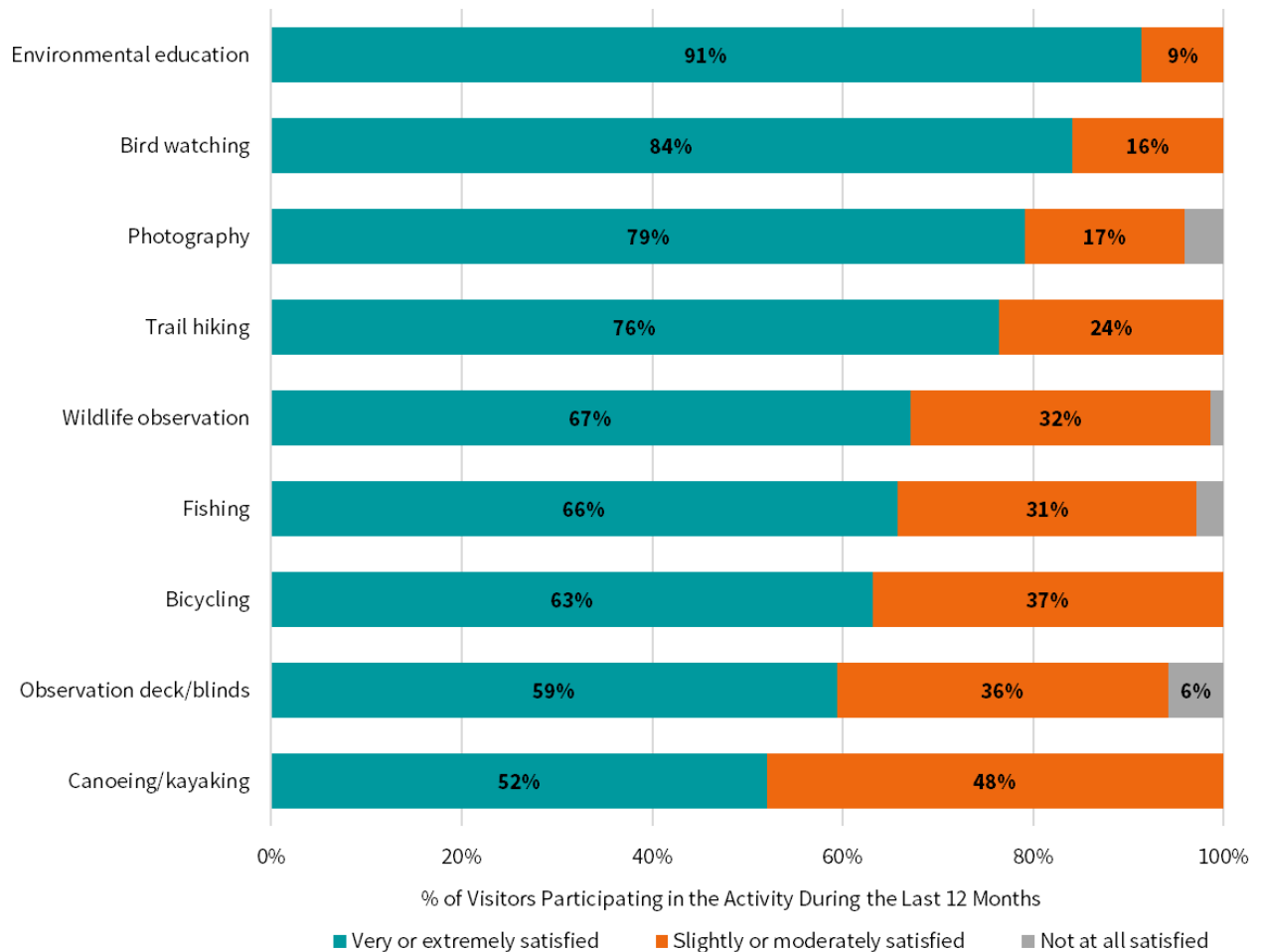


Fig. 20: Visitors' satisfaction with recreational opportunities at this refuge. Only visitors (10 or more) who participated in activities related to each opportunity at this refuge during the last 12 months were included.

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 (68%) and directional signs on highways (59%).
- Getting around this wildlife refuge, visitors were most satisfied with condition of parking areas (76%), number of parking places (71%), and condition of refuge roads (71%).
- Accessing recreation on this wildlife refuge, visitors were most satisfied with safety of roads or trails for nonmotorized use (71%), condition of trails and boardwalks (68%), and condition of boat launches (64%).

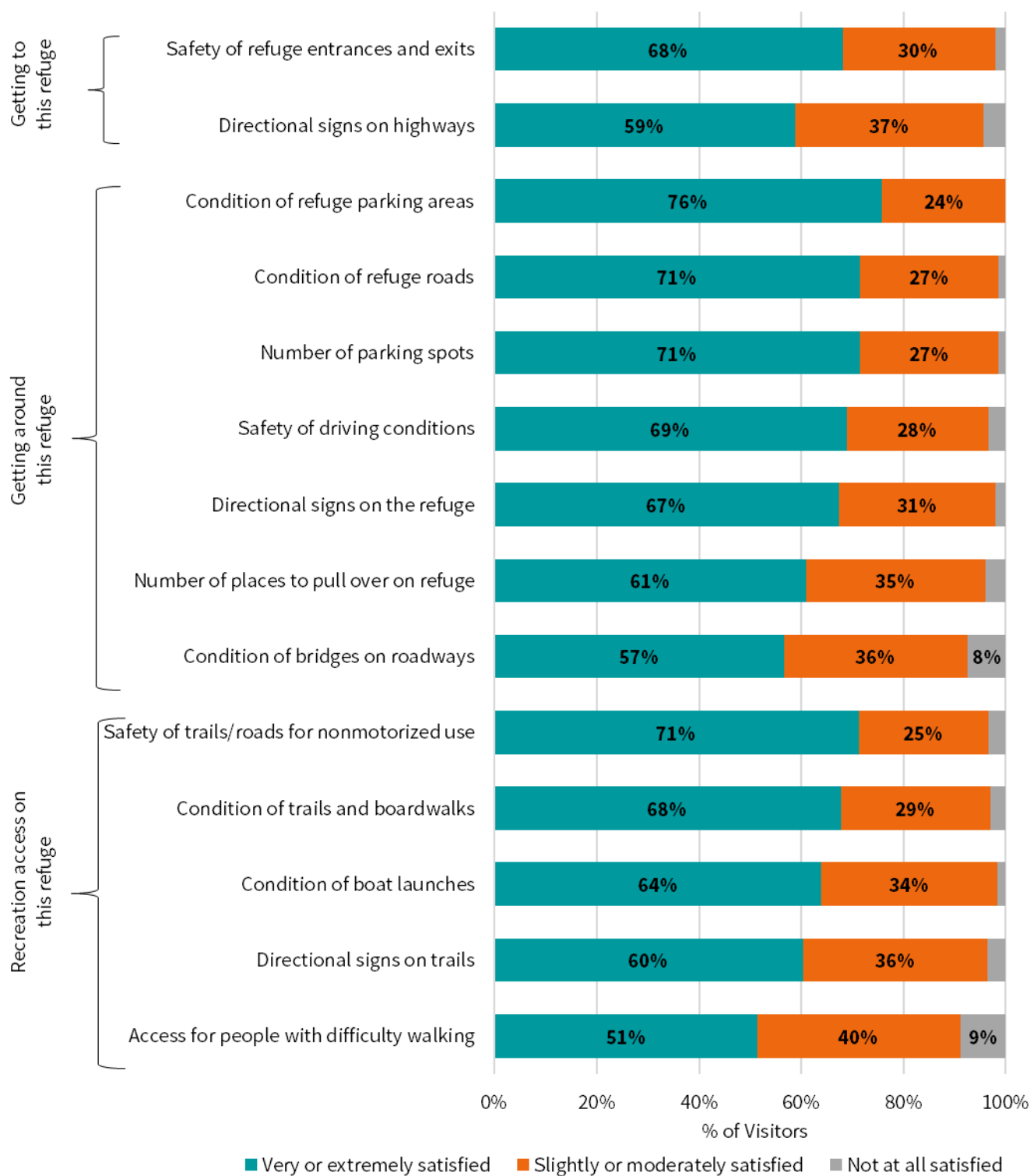


Fig. 21: Visitors' satisfaction with how the refuge is managing transportation-related features.

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; 79%) are as follows:

- On average, local visitors accounted for 42% of expenditures.
- Top trip expenditures by locals were for retail and transportation (Fig. 22).
- The average amount paid by locals to visit this wildlife refuge was \$47 per person per day (Fig. 22).
- Local visitors were personally willing to pay an additional \$29 per day on average to visit this wildlife refuge (Fig. 23).

Results for nonlocal visitors (those living >50 miles from this wildlife refuge; 21%) are as follows:

- On average, nonlocals accounted for 58% of expenditures.
- Top trip expenditures by nonlocals were for food/drink and lodging (Fig. 22).
- The average amount paid by nonlocals to visit this wildlife refuge was \$80 per person per day (Fig. 22).
- Nonlocal visitors were personally willing to pay an additional \$58 per day on average to visit this wildlife refuge (Fig. 23).
- Nonlocal visitors spent an average of 2 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.

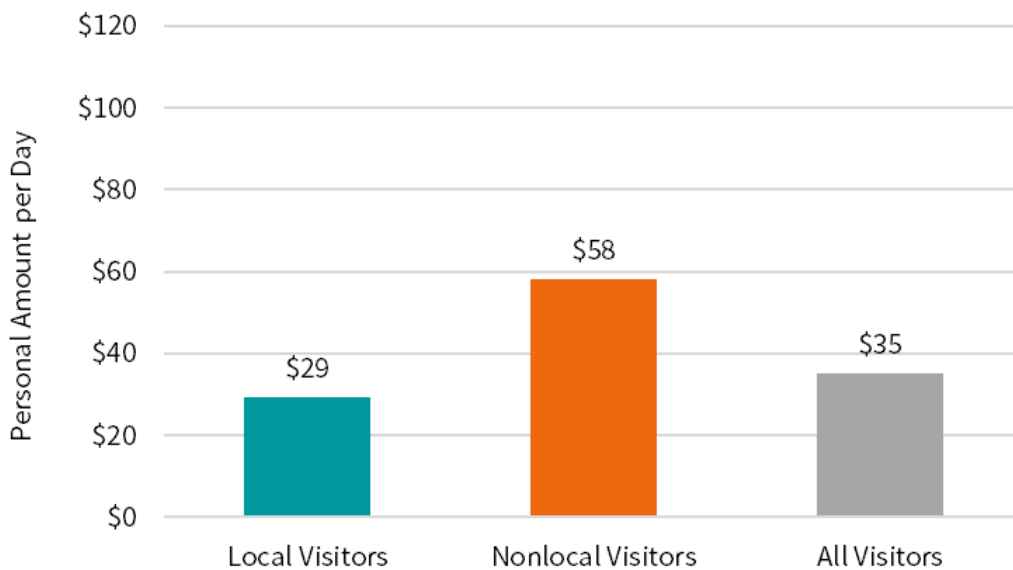


Fig. 23: Total personal willingness to pay per day above and beyond most recent trip expenses if costs were to increase for local, nonlocal, and all visitors. Due to the fixed-response question format, estimates of willingness to pay may underestimate the amount visitors would actually pay. Responses 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 engaging families and multiple generations (55%), engaging youth (54%), highlighting unique local culture (53%), and skill-building (53%) (Fig. 24).
- The top two factors likely to increase visitors' future participation in their primary recreation activity were more infrastructure (38%) and recreation equipment available for rent (22%) (Fig. 25).
- The top two factors likely to decrease visitors' future participation in their primary recreation activity were less regulations on hunting (14%) and more people participating in their primary activity (10%) (Fig. 25).

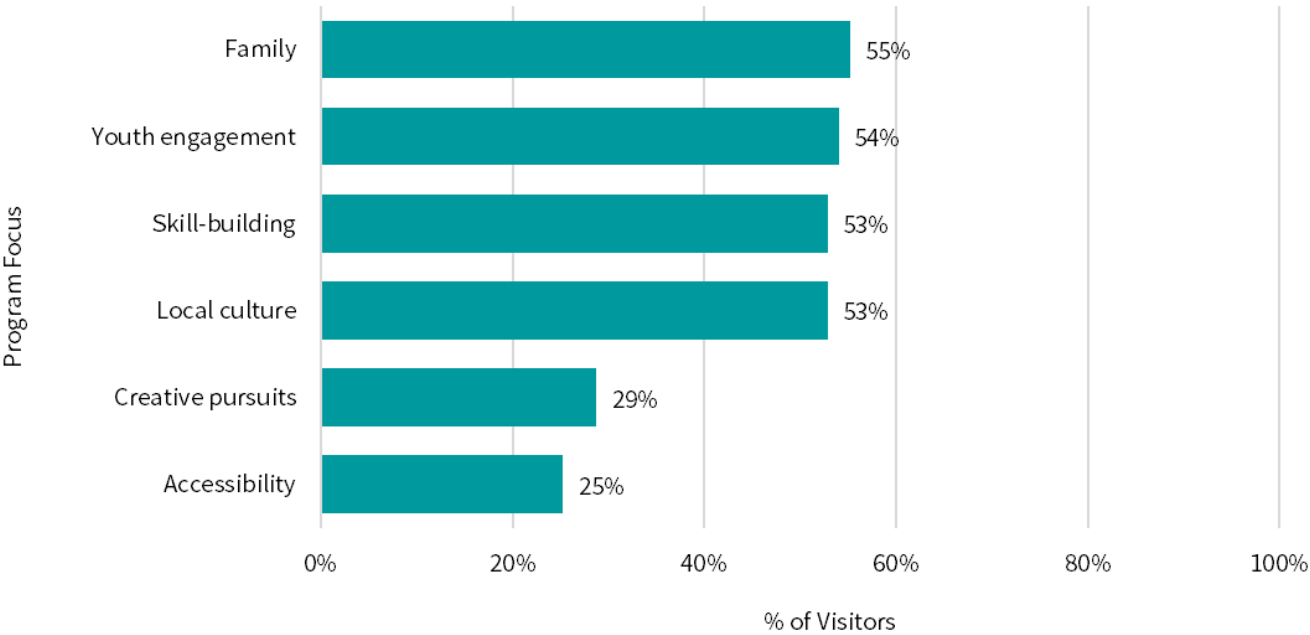


Fig. 24: Types of programs that would encourage visitors to return to this refuge.

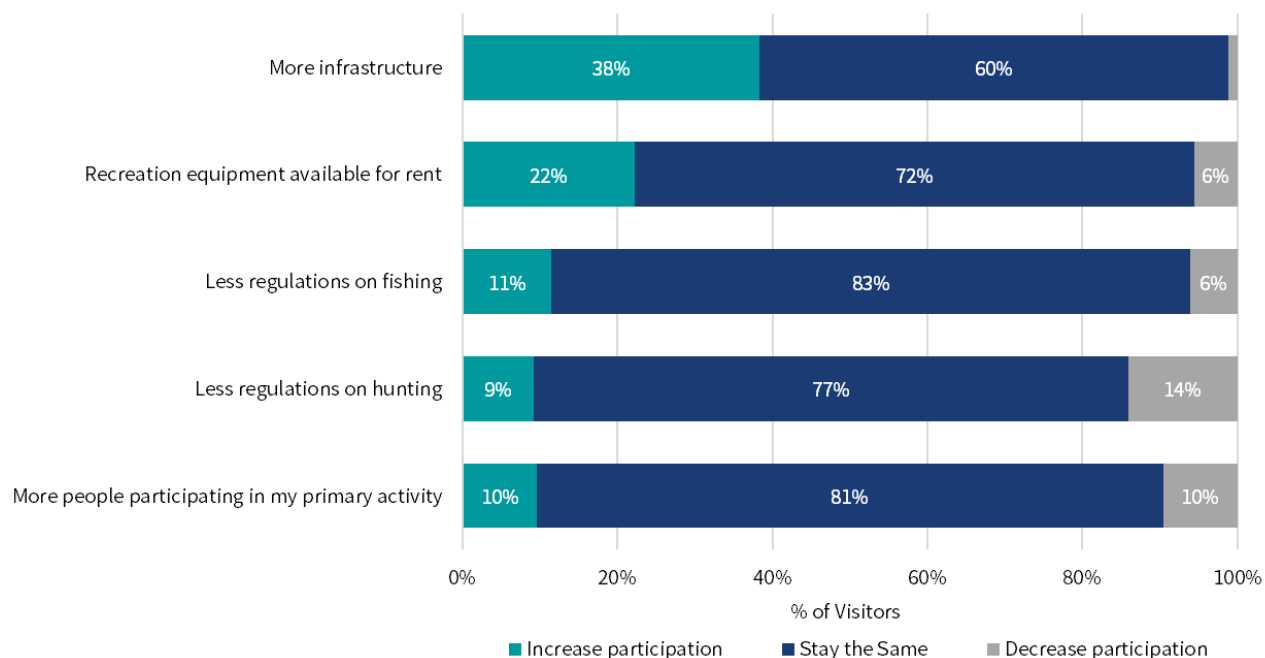


Fig. 25: Changes in visitors’ participation in their primary activity if the listed recreation factors were to change.

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:

- pedestrian paths (40%), bus or tram that provides a guided tour (13%), and a bike-share program (13%) (Fig. 26).

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 (39%) and a greater diversity of species (38%).
- The top two resource changes likely to decrease visitors’ future participation in their primary recreation activity were less water available for recreation (34%) and more acreage open to hunting and fishing (12%).

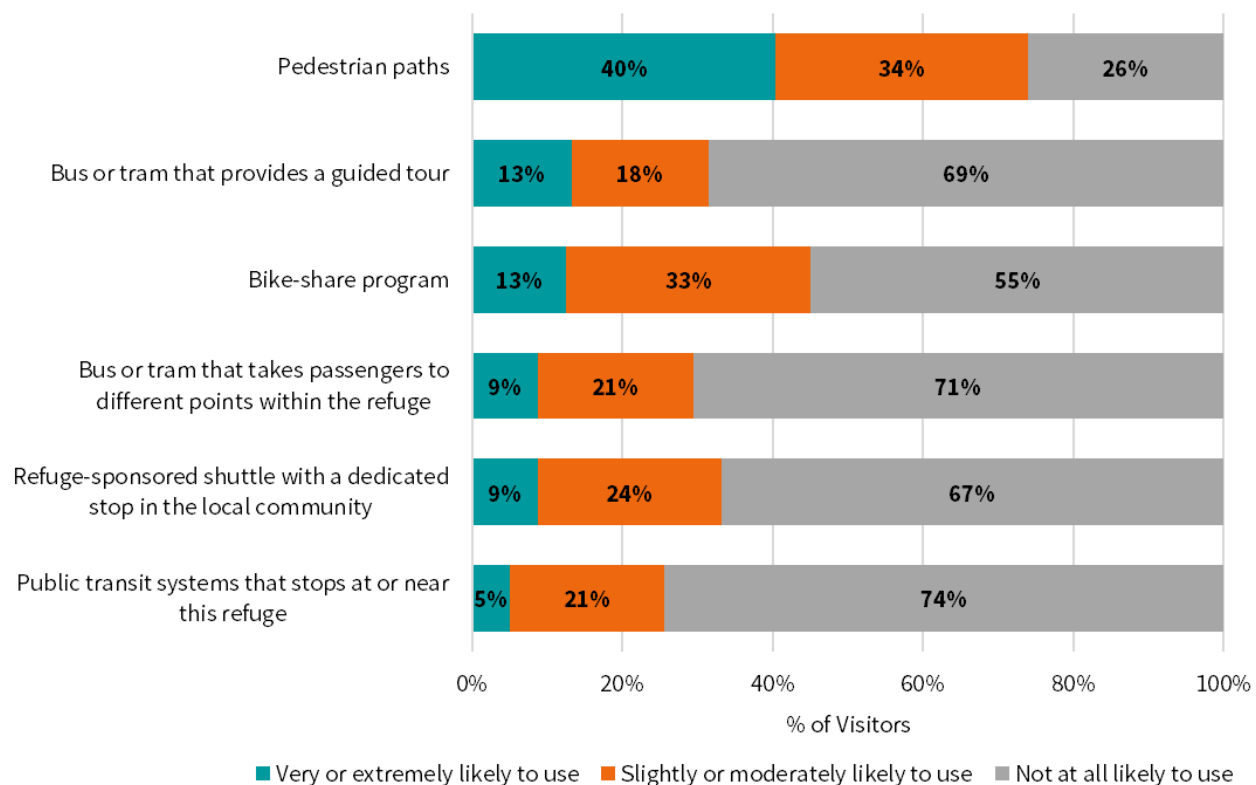


Fig. 26: Visitors' likelihood of using alternative transportation options if offered at this refuge.

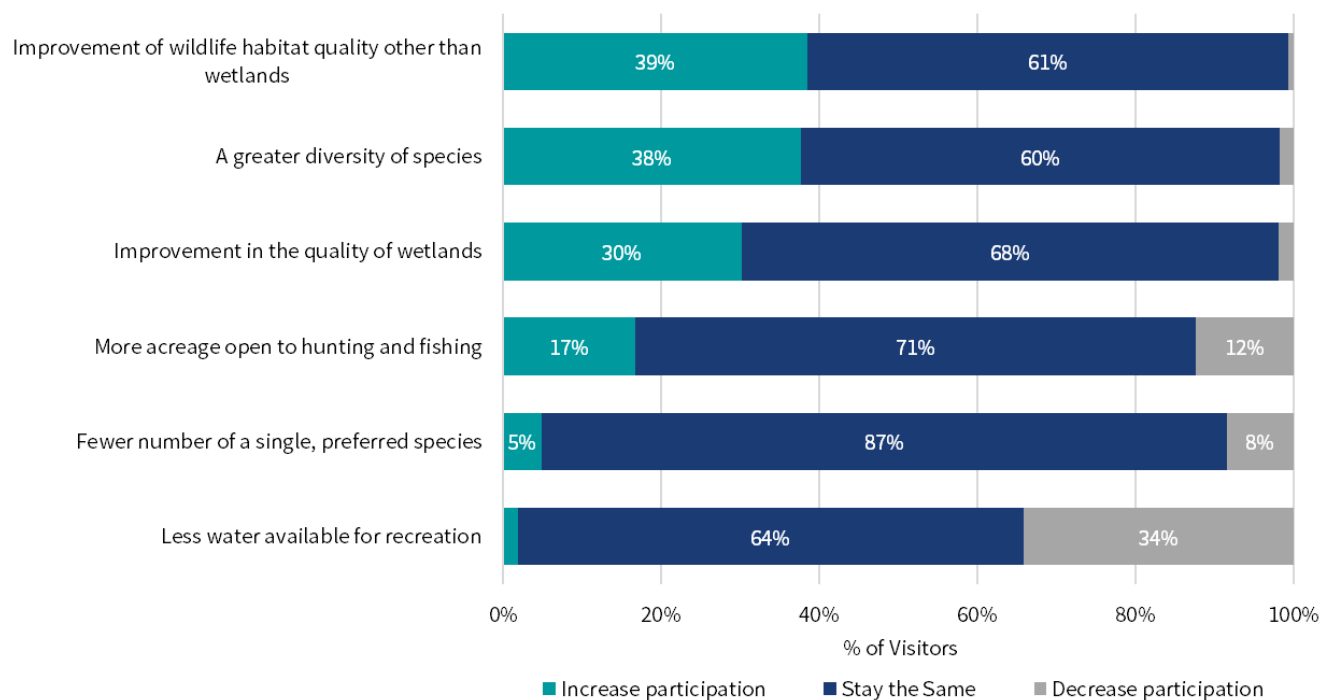


Fig. 27: Changes in visitors' participation in their primary activity if the listed resources were to change.

Conclusion

These individual refuge results provide a summary of trip characteristics and experiences of a sample of visitors to Ohio River Islands 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.

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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

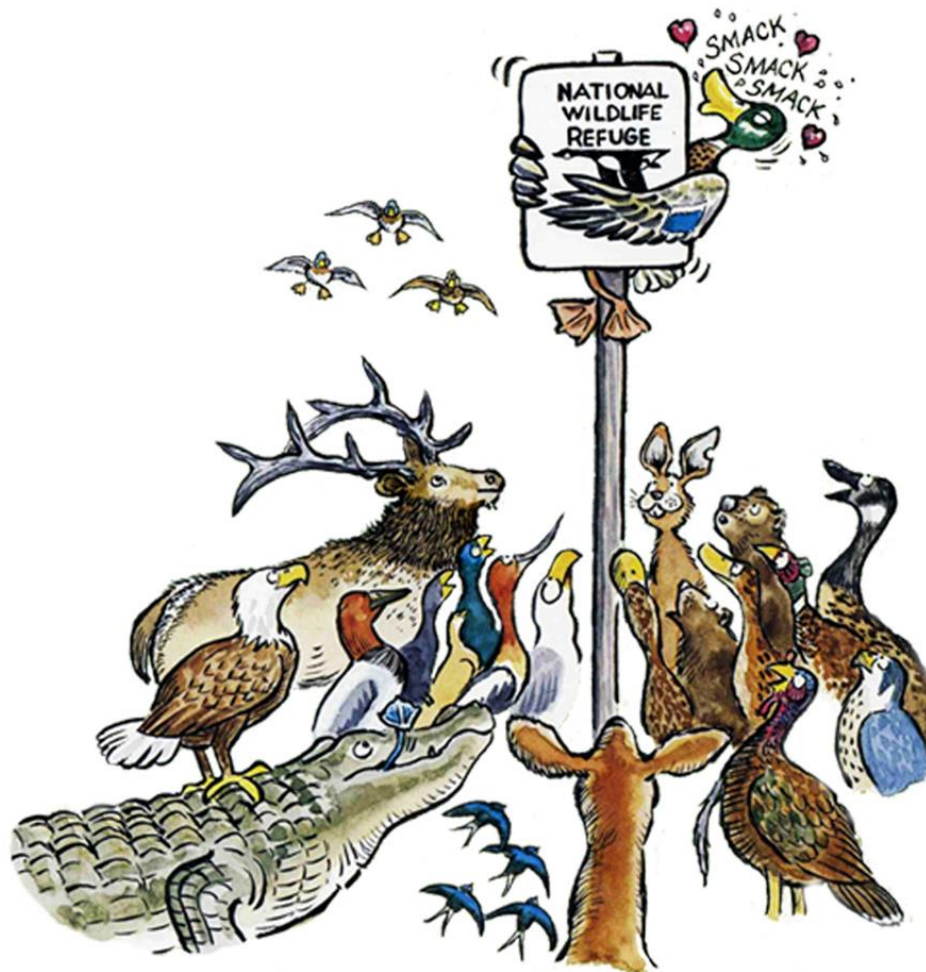
response distribution, meaning if respondents were given a dichotomous choice question, approximately 80% of respondents would select one choice and 20% would select the other (Salant & Dillman, 1994).

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.

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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"/> 47% Wildlife observation	<input type="checkbox"/> 58% Hiking/Walking	<input type="checkbox"/> 5% Volunteering
<input type="checkbox"/> 28% Bird watching	<input type="checkbox"/> 18% Jogging/Running/Exercising	<input type="checkbox"/> 9% Environmental education program (classroom visits, labs)
<input type="checkbox"/> 15% Photography	<input type="checkbox"/> 11% Bicycling	
<input type="checkbox"/> 1% Big game hunting	<input type="checkbox"/> 15% Auto tour route/Driving	<input type="checkbox"/> 11% Interpretative program (bird walks, staff/volunteer-led talks)
<input type="checkbox"/> 0% Upland/Small game hunting	<input type="checkbox"/> 23% Motorized boating	
<input type="checkbox"/> 1% Waterfowl/Migratory bird hunting	<input type="checkbox"/> 8% Nonmotorized boating (canoeing, kayaking)	<input type="checkbox"/> 10% Refuge special event (<i>specify</i>) _____ See Appendix C
<input type="checkbox"/> 22% Freshwater fishing	<input type="checkbox"/> 5% Foraging (berries, nuts, other)	<input type="checkbox"/> 8% Other (<i>specify</i>) _____ See Appendix C
<input type="checkbox"/> 1% Saltwater fishing	<input type="checkbox"/> 6% 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.*)

<input type="checkbox"/> 71% It was the primary purpose or sole destination of my trip.
<input type="checkbox"/> 10% It was one of many equally important reasons or destinations for my trip.
<input type="checkbox"/> 18% 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 _____ 1 _____ number of people under 18 years

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

☐ 71% No / Not Applicable

☐ 29% Yes → If yes, what did you do there? (*Mark all that apply.*)

☐ 42% Asked information of employees/volunteers

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

☐ 35% Attended a talk/video/presentation

☐ 31% Stopped to use the facilities (for example, got water, used restroom)

☐ 60% Viewed the exhibits

☐ 2% Picked up/purchased a license, permit, or pass

☐ 6% Rented/borrowed equipment (for example, binoculars, fishing rod, snowshoes)

☐ 12% Visited the gift shop or bookstore

☐ 4% 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: 3 day(s)

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

☐ 79% Yes

☐ 21% 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: 4 hour(s)

If you spent one day or more in the local area, enter the number of days: 2 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: 17 minutes

If you travelled more than one hour, round to the nearest hour: 3 hours

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

☐ 63% Spring
(March-May)

☐ 88% Summer
(June-August)

☐ 51% Fall
(September-November)

☐ 26% Winter
(December-February)

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

...this refuge (including this visit?) 27 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? 5 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"/> 34% Facebook	<input type="checkbox"/> 7% Snapchat	<input type="checkbox"/> 0% Personal blog (for example, Tumblr, Wordpress)
<input type="checkbox"/> 0% Flickr	<input type="checkbox"/> 0% Twitter	<input type="checkbox"/> 1% Travel-related website (for example, Trip Advisor)
<input type="checkbox"/> 9% Instagram	<input type="checkbox"/> 0% Vimeo	<input type="checkbox"/> 1% Other (<i>specify</i>) <u>See Appendix C</u>
<input type="checkbox"/> 0% Pinterest	<input type="checkbox"/> 1% YouTube	<input type="checkbox"/> 61% 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"/> 3%	<input type="checkbox"/> 12%	<input type="checkbox"/> 35%	<input type="checkbox"/> 48%	<input type="checkbox"/> 24%
Word of mouth (for example, a friend or relative)	<input type="checkbox"/> 4%	<input type="checkbox"/> 12%	<input type="checkbox"/> 19%	<input type="checkbox"/> 37%	<input type="checkbox"/> 28%	<input type="checkbox"/> 36%
People in the local community near the refuge	<input type="checkbox"/> 11%	<input type="checkbox"/> 10%	<input type="checkbox"/> 25%	<input type="checkbox"/> 27%	<input type="checkbox"/> 28%	<input type="checkbox"/> 51%
Refuge employees or volunteers	<input type="checkbox"/> 9%	<input type="checkbox"/> 10%	<input type="checkbox"/> 13%	<input type="checkbox"/> 19%	<input type="checkbox"/> 49%	<input type="checkbox"/> 48%
Printed map or atlas	<input type="checkbox"/> 16%	<input type="checkbox"/> 16%	<input type="checkbox"/> 25%	<input type="checkbox"/> 20%	<input type="checkbox"/> 23%	<input type="checkbox"/> 58%
Web-based map (for example, Google Maps, Waze)	<input type="checkbox"/> 19%	<input type="checkbox"/> 19%	<input type="checkbox"/> 17%	<input type="checkbox"/> 28%	<input type="checkbox"/> 19%	<input type="checkbox"/> 67%
Refuge website	<input type="checkbox"/> 22%	<input type="checkbox"/> 6%	<input type="checkbox"/> 18%	<input type="checkbox"/> 20%	<input type="checkbox"/> 33%	<input type="checkbox"/> 71%
Travel website (for example, TripAdvisor)	<input type="checkbox"/> 61%	<input type="checkbox"/> 17%	<input type="checkbox"/> 4%	<input type="checkbox"/> 9%	<input type="checkbox"/> 9%	<input type="checkbox"/> 86%
Other website (<i>specify</i>) <u>See Appendix C</u>	<input type="checkbox"/> 67%	<input type="checkbox"/> 0%	<input type="checkbox"/> 8%	<input type="checkbox"/> 8%	<input type="checkbox"/> 17%	<input type="checkbox"/> 91%
Social media (for example, Facebook, Instagram)	<input type="checkbox"/> 29%	<input type="checkbox"/> 8%	<input type="checkbox"/> 13%	<input type="checkbox"/> 13%	<input type="checkbox"/> 37%	<input type="checkbox"/> 77%
Recreation club or organization	<input type="checkbox"/> 34%	<input type="checkbox"/> 13%	<input type="checkbox"/> 16%	<input type="checkbox"/> 22%	<input type="checkbox"/> 16%	<input type="checkbox"/> 81%
Refuge printed information (for example, brochure)	<input type="checkbox"/> 19%	<input type="checkbox"/> 7%	<input type="checkbox"/> 15%	<input type="checkbox"/> 25%	<input type="checkbox"/> 34%	<input type="checkbox"/> 64%
Kiosks/displays/exhibits at the refuge	<input type="checkbox"/> 15%	<input type="checkbox"/> 3%	<input type="checkbox"/> 20%	<input type="checkbox"/> 33%	<input type="checkbox"/> 29%	<input type="checkbox"/> 60%
Travel guidebook or other book	<input type="checkbox"/> 54%	<input type="checkbox"/> 8%	<input type="checkbox"/> 13%	<input type="checkbox"/> 17%	<input type="checkbox"/> 8%	<input type="checkbox"/> 85%
Tourist information or welcome center	<input type="checkbox"/> 41%	<input type="checkbox"/> 14%	<input type="checkbox"/> 17%	<input type="checkbox"/> 14%	<input type="checkbox"/> 14%	<input type="checkbox"/> 82%
Other source (<i>specify</i>) <u>See Appendix C</u>	<input type="checkbox"/> 60%	<input type="checkbox"/> 10%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 30%	<input type="checkbox"/> 91%

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
6%	12%	30%	32%	20%	Surface conditions of refuge roads	1%	3%	24%	45%	27%	NA
7%	11%	33%	29%	19%	Surface conditions of parking areas	0%	2%	22%	40%	36%	NA
6%	9%	26%	35%	25%	Condition of bridges on roadways	8%	6%	30%	37%	20%	NA
3%	6%	23%	43%	24%	Condition of trails and boardwalks	3%	5%	25%	41%	27%	NA
33%	9%	18%	19%	21%	Condition of boat launches	2%	7%	28%	28%	36%	NA
7%	12%	31%	28%	22%	Number of places for parking	1%	6%	21%	38%	33%	NA
19%	18%	31%	25%	7%	Number of places to pull over on refuge roads	4%	9%	26%	38%	23%	NA
9%	7%	20%	35%	30%	Safety of driving conditions on refuge roads	3%	3%	24%	38%	31%	NA
5%	5%	20%	37%	33%	Safety of refuge road entrances/exits	2%	4%	26%	35%	33%	NA
7%	7%	11%	39%	36%	Safety of roads/trails for nonmotorized users (for example, bicyclists and hikers)	3%	7%	19%	42%	30%	NA
17%	8%	24%	33%	18%	Signs on highways directing you to this refuge	4%	11%	25%	31%	28%	NA
14%	12%	22%	32%	20%	Signs directing you around refuge roads	2%	7%	24%	39%	29%	NA
9%	10%	21%	38%	22%	Signs directing you on trails	4%	5%	31%	31%	30%	NA
18%	7%	30%	21%	24%	Access for people with physical disabilities or who have difficulty walking	9%	13%	27%	25%	27%	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	63%	21%
Private/rental vehicle with a trailer (for boat, camper, or other)	13%	3%
Recreational vehicle (RV)	2%	1%
Refuge shuttle bus/tram	1%	0%
Tour bus/van	2%	0%
Public transportation	1%	0%
Motorcycle	2%	1%
Bicycle	8%	3%
Foot (for example, walking/hiking)	21%	31%
Boat	12%	12%
Other (<i>specify</i>): <u>See Appendix C</u>	1%	2%
Other (<i>specify</i>): <u>See Appendix C</u>	1%	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)	71%	9%	12%	6%	3%
Bus or tram that provides a guided tour of the refuge with information about this refuge and its resources	69%	11%	8%	9%	4%
Refuge-sponsored shuttle with a dedicated stop in the local community for picking up people at set times	67%	14%	11%	8%	1%
Public transit system that stops at or near this refuge	74%	13%	8%	4%	1%
Bike-share program that offers bicycles for rent on or near this refuge	55%	11%	21%	9%	4%
Pedestrian paths for access to this refuge from the local community	26%	13%	20%	19%	22%

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"/> 22% \$0	<input type="checkbox"/> 12% \$30	<input type="checkbox"/> 6% \$100	<input type="checkbox"/> 1% \$250
<input type="checkbox"/> 16% \$5	<input type="checkbox"/> 6% \$45	<input type="checkbox"/> 1% \$125	<input type="checkbox"/> 1% \$350
<input type="checkbox"/> 11% \$10	<input type="checkbox"/> 5% \$60	<input type="checkbox"/> 1% \$150	<input type="checkbox"/> 1% \$500
<input type="checkbox"/> 13% \$20	<input type="checkbox"/> 1% \$75	<input type="checkbox"/> 2% \$200	<input type="checkbox"/> 0% \$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
1%	3%	17%	48%	31%	Convenient hours/days of operation for this refuge	0%	3%	14%	32%	51%	NA
29%	16%	22%	16%	17%	Availability of employees or volunteers	5%	9%	15%	23%	47%	NA
28%	10%	17%	23%	22%	Courteous and welcoming employees or volunteers	3%	8%	13%	22%	54%	NA
6%	12%	25%	35%	23%	Signs with rules/regulations for this refuge	1%	6%	23%	30%	40%	NA
31%	13%	24%	18%	15%	Visitor center	5%	9%	17%	20%	49%	NA
2%	3%	16%	39%	40%	Well-maintained restrooms	10%	6%	21%	27%	37%	NA
13%	13%	30%	25%	18%	Recreational structures (decks, blinds, platforms)	5%	10%	33%	23%	30%	NA
22%	14%	25%	21%	18%	Bird-watching opportunities	1%	13%	18%	37%	32%	NA
10%	11%	29%	30%	19%	Opportunities to observe wildlife other than birds	2%	9%	25%	34%	31%	NA
18%	15%	28%	22%	18%	Opportunities to photograph wildlife and scenery	1%	11%	20%	39%	28%	NA
20%	20%	18%	24%	18%	Environmental education opportunities	5%	12%	17%	32%	35%	NA
71%	5%	11%	6%	7%	Hunting opportunities	13%	20%	29%	20%	18%	NA
33%	12%	18%	12%	25%	Fishing opportunities	5%	3%	31%	33%	28%	NA
9%	4%	20%	27%	39%	Trail hiking opportunities	0%	6%	20%	41%	33%	NA
28%	8%	25%	18%	20%	Bicycling opportunities	0%	14%	28%	35%	23%	NA
26%	16%	22%	19%	17%	Water trail opportunities for canoeing or kayaking	7%	12%	22%	33%	25%	NA
37%	20%	27%	6%	10%	Volunteer opportunities	11%	16%	20%	23%	30%	NA
20%	12%	27%	24%	17%	Wilderness experience opportunities	3%	11%	26%	31%	28%	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.	2%	0%	14%	34%	50%
I felt safe during my visit to this refuge.	1%	0%	7%	41%	51%
Crime <u>is</u> a problem at this refuge.	52%	28%	13%	3%	4%
I feel comfortable being in nature.	1%	1%	2%	37%	60%
I do <u>not</u> like being in nature by myself.	56%	28%	10%	4%	2%
People closest to me enjoy participating in nature-based recreation.	1%	2%	11%	43%	42%
Generally, people who look like me are treated differently when they participate in nature-based recreation.	56%	20%	21%	2%	1%

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.	2%	5%	20%	40%	32%
The quality of the overall experience when visiting this refuge.	1%	1%	19%	40%	39%

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	34%	64%	2%
More acreage open to hunting and fishing	12%	71%	17%
More infrastructure (for example, bathrooms, observation decks)	1%	60%	38%
Recreation equipment available for rent (for example, fishing rods, binoculars, snowshoes)	6%	72%	22%
Less regulations on fishing	6%	83%	11%
Less regulations on hunting	14%	77%	9%
A greater diversity of species	2%	60%	38%
Fewer numbers of a single, preferred species	8%	87%	5%
More people participating in my primary activity	10%	81%	10%
An improvement in the quality of wetlands	2%	68%	30%
An improvement in the quality of wildlife habitat other than wetlands	1%	61%	39%

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

78% Yes 6% No 16% 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.*)

47% 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:

54% Programs that engage youth

29% Programs that focus on creative pursuits (for example, art, writing, meditation)

55% Programs that focus on family/multiple-generations

25% Programs that support people with accessibility concerns (for example, difficulty walking, in a wheelchair)

53% Programs that teach skills to visitors

6% Other (*specify*) See Appendix C

53% 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? ☐ 50% Male ☐ 50% Female

2. In what year were you born? 1964 (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"/> 1%					<input type="checkbox"/> 22%					<input type="checkbox"/> 51%					<input type="checkbox"/> 26%

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

<input type="checkbox"/> 98% White	<input type="checkbox"/> 2% 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"/> 0% Black or African American	<input type="checkbox"/> 0% Native Hawaiian or Other Pacific Islander
<input type="checkbox"/> 0% 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"/> 1% Less than \$10,000	<input type="checkbox"/> 13% \$35,000 - \$49,999	<input type="checkbox"/> 19% \$100,000 - \$149,999
<input type="checkbox"/> 8% \$10,000 - \$24,999	<input type="checkbox"/> 21% \$50,000 - \$74,999	<input type="checkbox"/> 10% \$150,000 - \$199,999
<input type="checkbox"/> 6% \$25,000 - \$34,999	<input type="checkbox"/> 18% \$75,000 - \$99,999	<input type="checkbox"/> 4% \$200,000 or more

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

<input type="checkbox"/> 38% Employed full-time	<input type="checkbox"/> 1% Unemployed	<input type="checkbox"/> 36% Retired
<input type="checkbox"/> 3% Employed part-time	<input type="checkbox"/> 9% Homemaker/caregiver	<input type="checkbox"/> 5% Disabled/unable to work
<input type="checkbox"/> 6% Self-employed	<input type="checkbox"/> 1% Student	<input type="checkbox"/> 1% 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
Camp ORI	2
Camp safari	1
Guest lectures, meet the mussels	1
Kids summer camp	2
Master Naturalist program	1
Moth night	1
Mussel Month, including presentation or exhibit	8
Ohio River Indians	1
Talk on the boat by DNR/wildlife employees	1
Volunteer dinner	1

Other Activity	Frequency
Backpacking	1
Boat trip	1
Bus tour	1
Dog walking	2
My husband and I pick up any trash that we find along the way and dispose of it when we get home--or recycle, if possible.	1
Paddle boat ride	1
Picking up trash	1
Quiet spot to talk	1
Riverboat "tour"	1
Show island to a friend	1
Valley Gem Sternwheeler, Marietta	1

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

Primary Activity	Frequency
Activity with dog(s)	4
Auto tour route/driving	9
Bicycling	7
Bird watching	7
Camping	1
Environmental education	10
Exercising	6
Fishing	25
Foraging	1
Hiking	32
Interpretation	3
Motorized boating	28
Nonmotorized boating	5
Other	2
Photography	3
Running	9
Sightseeing	1
Special event	6
Volunteering	2
Wildlife observation	13

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
Just enjoyed scenery	1
Met intern Phillip Hunt to take a group of kids fishing	1
Volunteer duties at front desk	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
Emails from refuge	1
ORI website	1

Other Information Sources	Frequency
Marietta Adventure Co.	1
Newspaper	1
Used to work there when it was farmed and worked on Quaker state water lines and wells	1
Valley gem tours	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
Boat ride	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	1
Fishing-related activities	1
General environmental education	1
Local history programs	1
Wildlife-related programs	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=43)

Arrived with a bus trip.

Clear and dry/sunny out.

Contacted at Williamstown boat ramp. More parking needed.

Easy to get to.

Extremely difficult to pull out on main road, especially when turning left.

First off, I was at the boat marina. Not part of the refuge, the refuge is the island.

Graveled Road creates way too much dust from vehicles; choking out hikers, walkers and plant life. Folks do not obey speed limit. Lots of potholes year around. Trails used to be maintained much better; lately not so much. Feels kind of creepy walking among such tall weeds and hanging overhead growth.

Had to park in the grass.

I have heard that a new access road is being planned. That would be great.

I think for this refuge the underbrush has taken over. You used to be able to see the river on the back side of island while walking but can't any longer because of brush. I think people drive too fast and there is no place for handicapped people.

I think they should make the road all the way around the island, so that you could see more from your car.

It would be great if there were more turnouts along the main road to stop and park. Just small spaces to pull off the road that could accommodate two cars. That would allow visitors to walk along the road and enjoy the greenery and river views. Some additional signage describing foliage or history at points along the road would be nice too. My main purpose when I visit the refuge is walking with my dogs on the trails or main road. Thanks!

Mainly just happened across it by accident while out riding our motorcycle, very happy find! Took my mom back at later date in car, she loved it.

Need to mow grass more often.

Need trail around point of the island from existing trail to parking lot.

Needs more cycling trails. Cyclists share the gravel road with motor vehicles and are prohibited from riding on the shaded, well-maintained walking trails.

No handicapped parking.

No way for handicapped people to get to fishing spot. Could use handrail at minimum.

Please stock river with more bass and make law no bass in live well until 2nd weekend of June.

Road access has been recently smoothed out from potholes and is very appreciated. Trails need to be mowed more often as they tend to grow pretty high and brush and branches hang in the trail walkways.

Roads should be wider, speed limits enforced.

Signage from state routes directing people into the refuge could be a little better. Some trails were overgrown (high grass) and flooded from recent heavy rain. More opportunities to view and access the river on Middle Island would be nice, especially on trails for wildlife photography. Most trails were just walking through the forest with not many river views.

Since I traveled through this refuge on a paddle-wheel boat, I could not really rate the quality of the amenities inside the land-based part of the refuge.

Some of the signs need to be prominent on the road leading to the location. There is one on the main road but none until you get to the refuge.

Speed limit posted at access to island, people do not obey and there are no signs on the road to remind them. People drive too fast for walkers and bicyclists.

The boat dock at Williams tour needs new cleats to tie boat to dock. There is only half a cleat remaining on the dock right now.

The bridge leading you to the island seems to be needing repair in the near future.

The bridge needs repaired and spruced up.

The bridge to get to the island could use a lot of work, trails need work where it flooded.

The bridge to Middle Island looks terrible! Needs maintenance.

The bridge to the island is scheduled to be replaced. During its replacement time, will there be alternate access to at least part of the island?

The end of the bridge on the refuge is very rough and hard on my vehicle. I would like to see that improved.

The path to the blind was covered with goose goo. I know that it is hard to control, if at all. It was hard to get shoes clean when we returned to our car.

The State of WV needs to complete the bridge restoration project that was approved a couple years ago. The old bridge is very rough and in disrepair.

There are wells on the island that may be used in the future. We used to wash or spray off our truck years ago.

There needs to be more access to the boat ramp for people with physical disabilities.

They need larger signs that are more visible.

This refuge was an island in the middle of the Ohio River. From what we witnessed from the boat, it has lovely flora and fauna and was mainly undisturbed because it is hard to get to except by boat. I like the situation because there is less disturbance this way.

Very clean without high weeds and sight obstructions.

Was on the river on boat tour.

We did not go into the refuge at all - only saw it from the boat.

We love going to the island. It is beautiful and peaceful. I try to go every day that I can.

You are doing a great job for tourism in Ohio! Thanks.

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=42)

A nicer restroom or additional port-a-john would be nice. Maybe have it only open during island access hours and closed after hours to prevent theft or vandalism.

A trashcan would be helpful to keep people from littering.

A very nice refuge that could be made much better with a little more money for improvements.

Additional trails would be useful. Lookout towers would be nice too. Perhaps a trail that leads to a lookout tower.

Again, since I just boated around the island, I don't know about anything except the young man who spoke to us on the boat about the refuge.

As stated before, only concerns about access to the island once bridge work starts.

Employees on the boat were very helpful (including the Ohio State workers).

For the age of the restrooms, they are kept up pretty good.

Hate to see hunting. I like seeing the wildlife.

I am a social worker. I took a client to the refuge to calm down and relax. We sat in the car which was surrounded by serene nature. I live within 3 miles of a different refuge and had never been to this one.

I am only at the boat dock, then on the river so most of this does not apply to me.

I don't feel hunting should be allowed on the island due to safety of hikers and runners on the road.

I found the staff very knowledgeable and friendly.

I love the facilities as a whole! The visitor center is such a joy to our family. We enjoy the educational areas on display inside, and my son goes through the activities every time as if it was his first!

I love walking there; it is peaceful and quiet.

I sincerely hope that plans for more vehicular access to this refuge is given more consideration. Automobiles create too much dust and noise for an enjoyable walk/hike. If the animals could speak for themselves, I think they would agree. This refuge is ideal for folks to get outdoors to socialize and exercise; we deserve a clean environment to fully enjoy the experience.

I would like to have some limited camping opportunities on the island. Tent only and by hiking or kayaking to a designated campsite.

Keep it open.

Kiosks had enough information to get me oriented, but other information to interpret the area and refuge resources would have been nice. I appreciated the trail signage at each junction along the trail network (on Middle Island).

Like to night-fish, closes too early. No way to put fishing pole holder into concrete (I mentioned this to employees last year).

Need more contact with people from the department.

Need restrooms accessible from boats in water around refuge. Need boat launches if one is not within a 5 to 10-mile distance.

Need to mow paths more often.

Need trail trimmed back.

Not enough signs with direction and costs of trip.

People and facilities top rate.

Restrooms at the visitor center are great, but the refuge could use ones that can be accessed when the center is not open (other than the port-a-john by the river parking lot).

Restrooms could always be better.

Seeing as I only saw it from the boat, I have nothing to really say about it. Sorry. We were on a bus trip from the Cleveland area.

Several years ago, I utilized the refuge almost every day - walking and observing wildlife - however due to health issues I'm unable to walk like I used to. But back then this was my "happy place"!

The grass along the roads and trails could be mowed more frequently.

The local friends group is very active and inspiring.

The personnel that work at our center are very nice, happy and helpful all the time.

The service personnel do just the minimal of taking care of the refuge. They could do so much more to make it nicer.

The staff is very welcoming and knowledgeable.

There aren't many services since this is an uninhabited island in the middle of a river.

This refuge has clean restrooms and a nice boat ramp. The dock could use some work, but the parking lot and grass is well maintained.

Very clean, extremely friendly staff. Very professional.

Very nice place to refresh your mind.

Was happy there were none!

Williamstown boat ramp needs more parking.

Would enjoy "rest stop" of sorts with snacks.

End of Survey

General Comments (n=38)

A parking lot was created at the end of the road that goes down this refuge. In creating this parking lot, there are spaces that are in the blind to someone walking/riding bike/running down the road until you reach the parking lot especially when leaves are on the trees. Cars will park here and not be visible until you are right there. There has been suspicious activity here that creates some concern for safety, especially for solo runners/walkers. I understand why they created the parking area but not why they chose to park the cars in a blinded area.

During my last few visits I was part of the kids' educational camps; it was a great experience for my son as well as myself. Keep up the good work with the kids' programs, great job with educating the kids. The rangers that worked with the kids (and adults too) were very knowledgeable and great to work with and learn from.

Great experience. A well-maintained refuge.

I am very grateful that this refuge is in my community.

I believe this refuge would benefit from a bike and walking trail that is separate and/or combined with the main access road.

I did not visit the refuge completely. Lucky meeting the wonderful people representing the refuge.

I didn't realize this was a refuge. We've been here more than once. We usually just put our boat in and hang out on the river for a few hours. I'm not sure how much this helps your research, but I was as honest as I could be.

I fish in a bass club and I fish this river one time a year if the water is not real muddy and turbulent.

I grew up near this refuge and used to work in the hay fields there. It is amazing to see how the island has returned to a more natural state in such a short time frame. The volunteer who asked us initial survey questions was very engaging and personable.

I live right across the creek from Middle Island and run/walk my dogs there every day. It would be more enjoyable if the paths and road were better maintained and mowed. Overall, I love this island, feels like my backyard. I'm very interested in volunteer opportunities on this island.

I use the St. Mary's boat ramp frequently, which is not on the refuge.

I was on a three-hour Valley Gem River tour. We passed by the river route along the banks of the refuge. Employees were on board the boat to answer any questions we had. They asked us if I would do a survey and I answered yes. I have answered the questions that relate to my brush around the boundaries of the refuge, but I did not set foot on the property. Thus, my answers are rather few. However, I support the concept of the refuge and am sure you are doing a commendable job in fulfilling its purpose.

I was the tour director on a tour bus group. We went on the Sternwheeler tour boat that goes past this refuge in the middle of the Ohio River. I have done this trip in the past, but this is the first time we had fish and wildlife

interns on the boat who gave us a lot of information about this refuge. I never really knew about it and it was great to have them aboard to give us that info, as well as answer questions about the area and the wildlife. Was an added bonus. We usually just get the local history and not the more in-depth local wildlife information, especially about the refuge.

I would like to have limited camping at least once a year. Hike or kayak into a designated campsite.

If this refuge was within 3 miles of my home, I would go very often.

Intern Phillip Hunter and the kids' summer camp in which he helped to organize has greatly increased my family's interest and attendance at our local Ohio River Island Refuge in Williamstown, WV. In addition to the summer camp, we generally attend one of the educational walks that Phillip puts on once a week as well.

It would be nice to be able to find the temperature of the Ohio River online for fishing and swimming. I can't find any.

It's a very nice place just to go walk.

It's been a big part of my life. I love the island; I hunted the island when I was young! I bailed hay on the island for the Ingraham family. My dad hauled cinders on the island to make the road better. I hunted arrowheads on the island when they would plow the fields. I fished there, and we would wash our car and our trucks there. My dad was friends with the Ingrahams.

My family is happy to have such an accessible place to experience and learn about nature so close to where we live.

My girlfriend and I were driving further north. She was in a hurry to get there but I talked her into a brief stop (she was concerned if bridge was safe). I assured her it was. Could be detrimental if an individual was not familiar with area. I have been to island several times and the bridge does not concern me. I think others were more concerned because they cannot see end to end with the curve... nor that other vehicles are on the island. Sorry, I could not be more helpful. I am moving into a new phase of life and with back surgeries more physical limitations. Will be nice to drive to the island and have greater views!

My son loved the activities for kids this summer!! The weekly safaris and the week long camp were both fantastic!! We would definitely come back for educational fun activities!! We have not gotten back since school and sports have started but definitely a great place for us in the summer! Will try to get back for some weekend activities this school year.

Need more benches to rest on.

Rebecca Young, Michael Schramm and Terry are extremely friendly, engaging and helpful with any questions or concerns. Thanks to the staff, too, for allowing the West Virginia master naturalist program to use the Palatial visitor center facility for meetings and education programs!

So sad to see that the bridge to the island will be closed for 2 years. Would like to see some method of pedestrian transportation maintained while the bridge repairs are done.

The wildlife refuge is a real asset to the area. The staff and volunteers are courteous and knowledgeable. The facilities and grounds are excellent. It is a great place to visit, relax, learn, and commune with nature. A big thank you to all who make the Ohio River Islands Wildlife Refuge possible.

This place is amazing. I have been coming here my whole life. I've planted trees on the island whenever I was in middle school. My kids enjoy it too.

This refuge is utilized every day and almost every hour by people in the community including young families, recreational exercisers, wildlife photographers and wildlife game watchers, kayakers, etc. The island is well maintained and provides a safe, comfortable environment for all who visit.

This survey really got my interest because of its focus on transportation. I work for the federal highway administration and lead the federal lands road inventory program for FWS, NPS, and USBR. My team inventories and collects condition on the transportation assets (roads and parking) in these federal lands. I spend a lot of personal time in the refuges and parks too, which was my primary reason for visiting Ohio River Islands (driving from my parents' home in Ohio back to where I live now in Virginia). However, even when I'm visiting for personal recreation my eye is trained to notice the road and parking conditions because that's the focus of my work. I also went to grad school at Ohio State and got my master's in civil engineering transportation. I'm curious to see the results of your survey and research, and it's great to see OSU's interest in federal lands (I'll actually be on campus in September attending a career fair). If you want to reach out to me here is my email: [email].

Very good program, keep up the good work.

We are lucky to have this center in our area.

We feel blessed to have moved to an area that offers such a nice, educational, and clean place to learn, explore nature, and have fun. Only wish they could advertise or get information out to community better for all the programs they offer are top notch yet, so few seem to know they are there. I first found out about them at an earth day exhibit at a local university. Thank you to all that allow these places to be available as free to community, families, and travelers, alike.

We greatly enjoy Middle Island for walking, running and occasional biking. We take our local cross-country team there on hot summer days to run to stay out of the heat and enjoy the trails and solitude of not a lot of people there. Please, keep this island well-manicured and mowed on roadways and trails for walking, running, photography and wildlife, but do not add additional "recreation" type activities. No playgrounds, no picnic areas, no horseshoes. These activities are all available 1 mile away at the St. Mary's park. These activities tend to draw, clutter, food, and trash along with smoking. We don't want that near our wildlife and the environment this island brings. We love it the way it is. If we wanted a park we'd go to the park. We like the solitude and wildlife feel of the island. We also enjoy it not being very busy because it's not a "park and recreation" area. Thank you!

We love "our" little island (Middle Island near St. Mary's, WV). We walk, jog, bike, take dogs there as often as we can, in every season. We hate the use of 4 wheelers for big overweight hunters. If they're going to hunt, they should do it naturally, promote population control of wildlife, sure, but make the hunters embrace exercise.

We love it because it is close and well-maintained--even though we basically just walk there and enjoy all that nature has to offer.

We love walking and biking on the island. We are blessed to have access to such a lovely place so close to home.

We love wildlife refuges for birdwatching, and just getting fresh air. They are very relaxing and contribute to wellbeing and good mental health.

When bridge construction starts, it would be nice to have a temporary walkway across the bridge so people can still enjoy the island.