



U.S. Fish & Wildlife Service

NATIONAL WILDLIFE REFUGE VISITOR SURVEY

*2018 Results for
Sachuest Point National Wildlife Refuge*



**THE OHIO STATE
UNIVERSITY**



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Front cover: A semipalmated plover feeds in the surf on Second Beach at Sachuest Point National Wildlife Refuge. Photo credit: Nicole Stagg.

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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 Sachuest Point National Wildlife Refuge, referred to as “this wildlife refuge” or “refuge” throughout this report. Percentages noted throughout the report were rounded



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

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

Sachuest Point National Wildlife Refuge is located on an Aquidneck island in Narragansett Bay of southeastern Rhode Island. The refuge land has historically been used for various purposes, including farming and as a U.S. Navy range during World War II. The refuge was established in 1970 when the Audubon Society of Rhode Island donated 70 acres to the U.S. Fish and Wildlife Service, and has since grown to 242 acres through additional land transfers from the Navy. Though small, the refuge provides important habitat for a variety of wildlife within three main habitat types: shrubland, cobble beach, and salt marsh. The shrubland provides a much needed home for the New England cottontail rabbit. Over two hundred species of birds use this wildlife refuge, including migratory waterfowl such as the uniquely colored harlequin duck. The cobble beaches on the refuge's shore provide feeding and nesting habitat for shorebirds such as the threatened piping plover. In addition, this wildlife refuge contains interesting geologic formations: some of the rocks near the Price Neck overlook used to be part of the African continent before Pangea broke apart.



Visitors enjoy the rocky beach at Sachuest Point National Wildlife Refuge. Photo credit: Nicole Stagg.

Sachuest Point National Wildlife Refuge attracts over 331,065 visitors annually (U.S. Fish and Wildlife Service, 2018, written comm.). One of the most popular activities on this wildlife refuge is saltwater fishing. Visitors can enjoy birdwatching and wildlife photography from one of the refuge's observation towers. Three miles of hiking trails provide unique recreational opportunities. A visitor center provides interpretive displays for visitors and offers environmental education programs.

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 378 visitors agreed to participate in the survey by providing their names and addresses.
- In all, 229 visitors completed the survey online (47%) or by mail (53%) after their refuge visit, resulting in a 62% response rate.
- Results for this wildlife refuge have a $\pm 5\%$ margin of error at the 95% confidence level. For more details on limitations of results and survey methodology, see Appendix A.

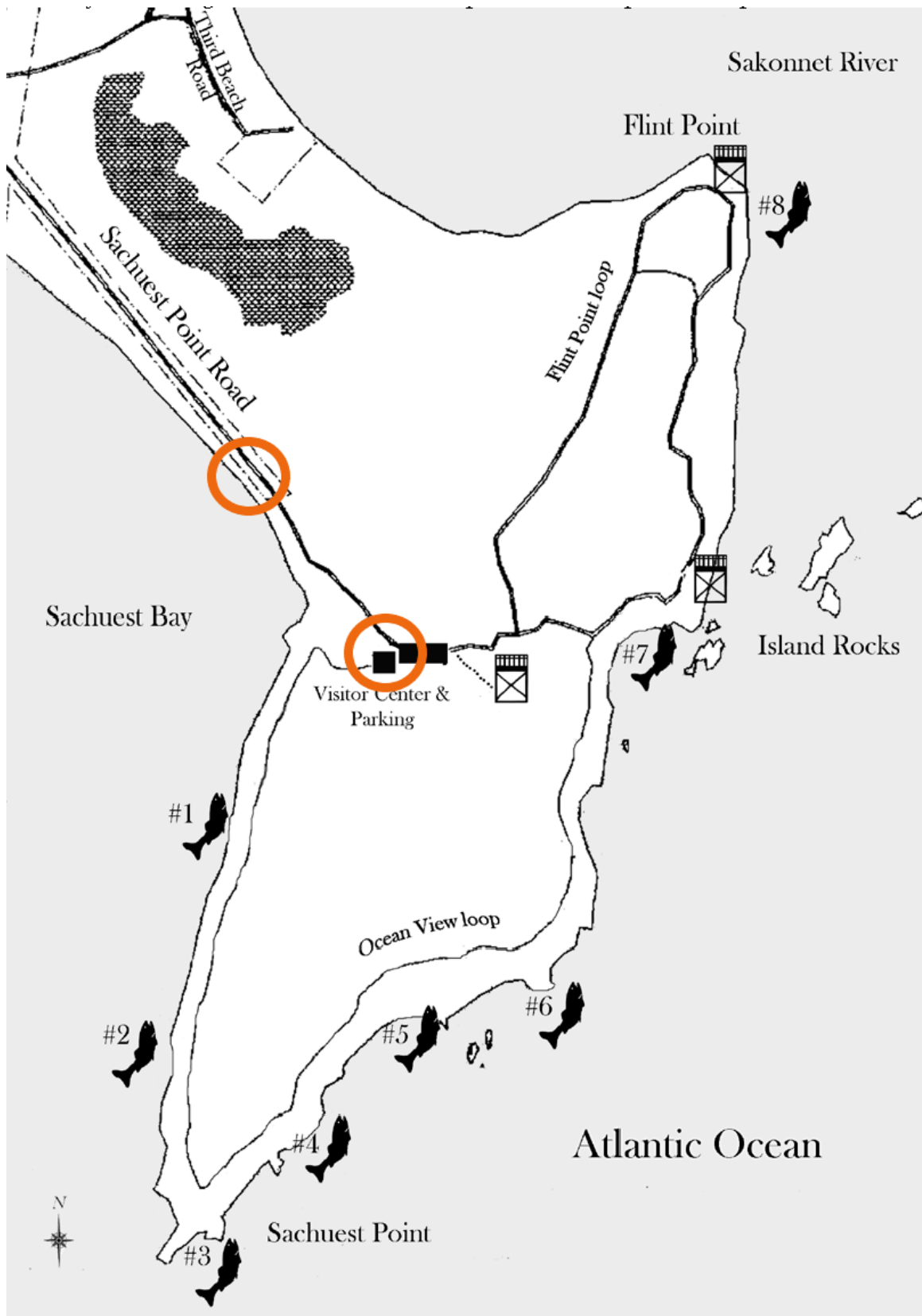


Fig. 2: Map of Sachuest Point National Wildlife Refuge. Visitors were contacted at the circled locations from 7/12/2018–7/21/2018 and 9/6/2018–9/15/2018.

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

- 63% of visitors were female with an average age of 55 years (Fig. 3).
- 37% were male with an average age of 60 years.

EDUCATION

- 8% of visitors had a high school degree or less.
- 46% had at least some college.
- 46% had an advanced degree.

RACE & ETHNICITY

Most prevalent race or ethnicity (Fig. 4):

- White (96%).
- Hispanic (2%).
- Multiracial (1%).

INCOME

- Visitors had a mean income range of \$100,000-\$149,999 (Fig. 5).

OTHER TRIP CHARACTERISTICS

- Average group size of 2 people.
- 33% visited the refuge alone.
- 55% visited with at least one other adult.
- 12% visited with a combination of at least 1 adult and 1 child.

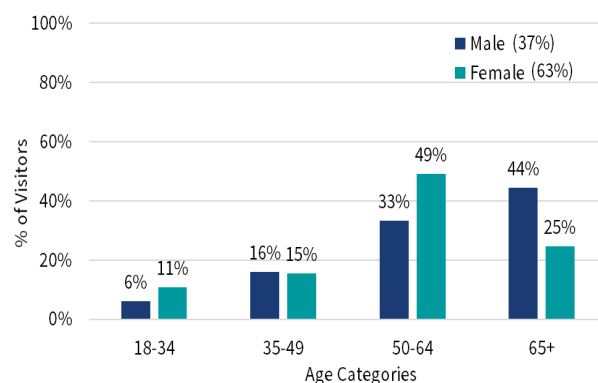


Fig. 3: Distribution of visitors to this refuge by gender and age group.

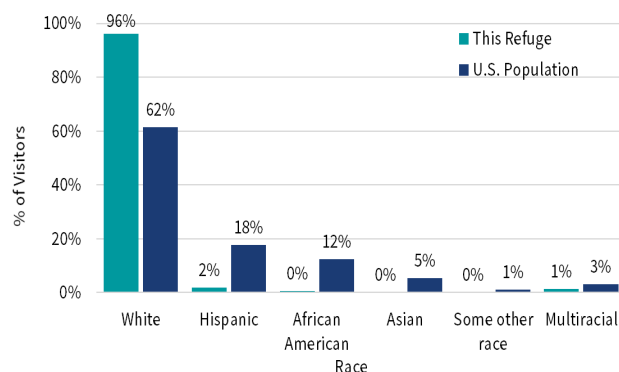


Fig. 4: Race and ethnicity of visitors to this refuge compared to the national average.

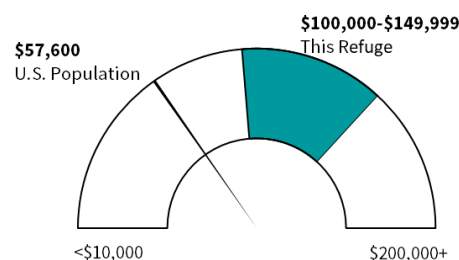


Fig. 5: Mean income range of visitors to this refuge compared to the national median income.

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 (77%) include:

- For locals, this refuge was the primary reason for their trip (81%) (Fig. 6).
- Local visitors traveled an average of 19 minutes to arrive at this refuge (Fig. 7).

NONLOCAL VISITORS

Highlights of trip characteristics for nonlocal visitors to this wildlife refuge (23%) include:

- For nonlocals, this refuge was most often one of many equally important reasons for their trip (38%) or an incidental stop as part of a trip taken for other purposes (38%) (Fig. 6).
- Nonlocal visitors traveled an average of 5 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 Rhode Island (72%) and Massachusetts (12%).

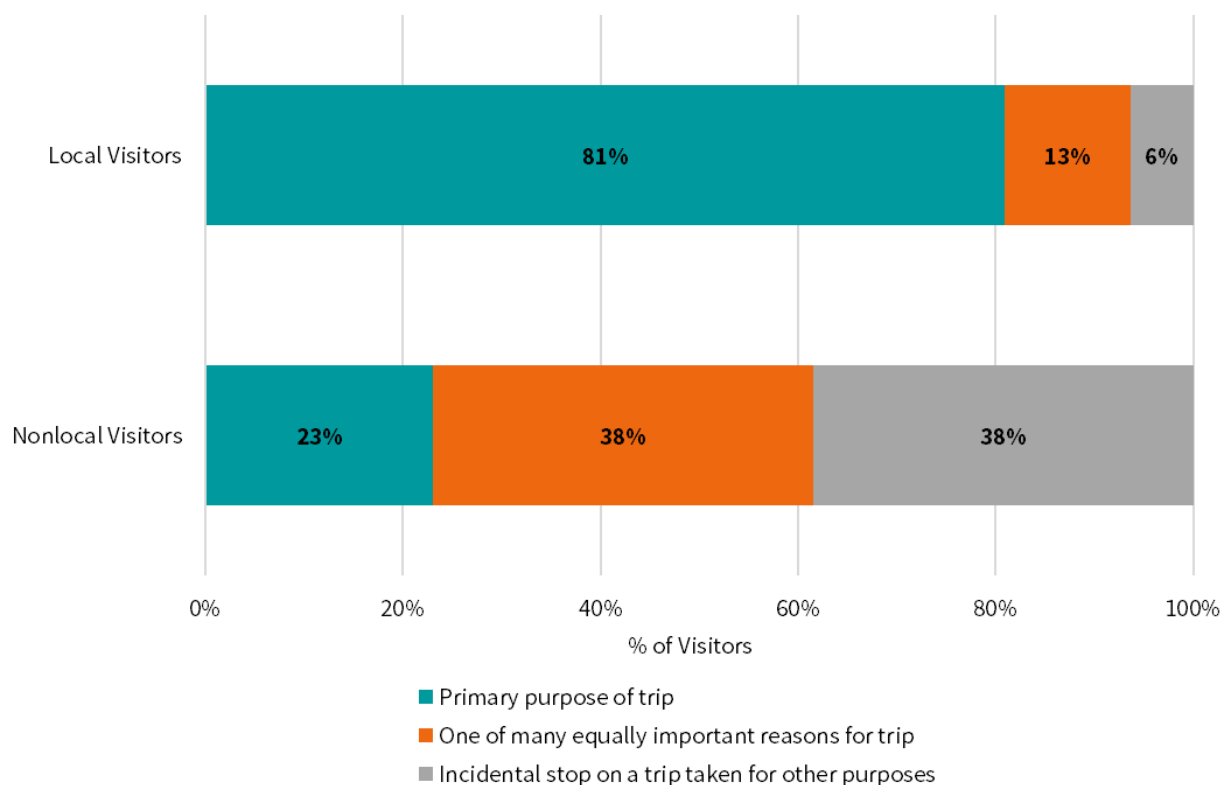


Fig. 6: Purpose of most recent refuge visit for local (living ≤ 50 miles from the refuge) and nonlocal (living > 50 miles from the refuge) visitors.

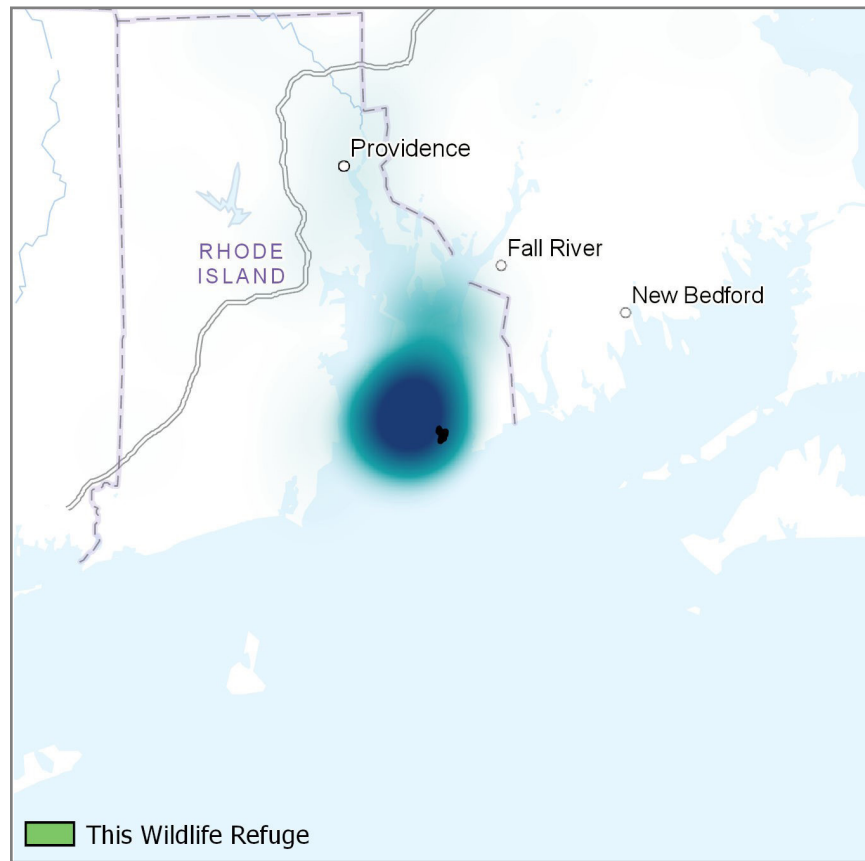


Fig. 7: Map showing residence of local visitors to this refuge. Darker shading represents relatively higher visitation from that area.

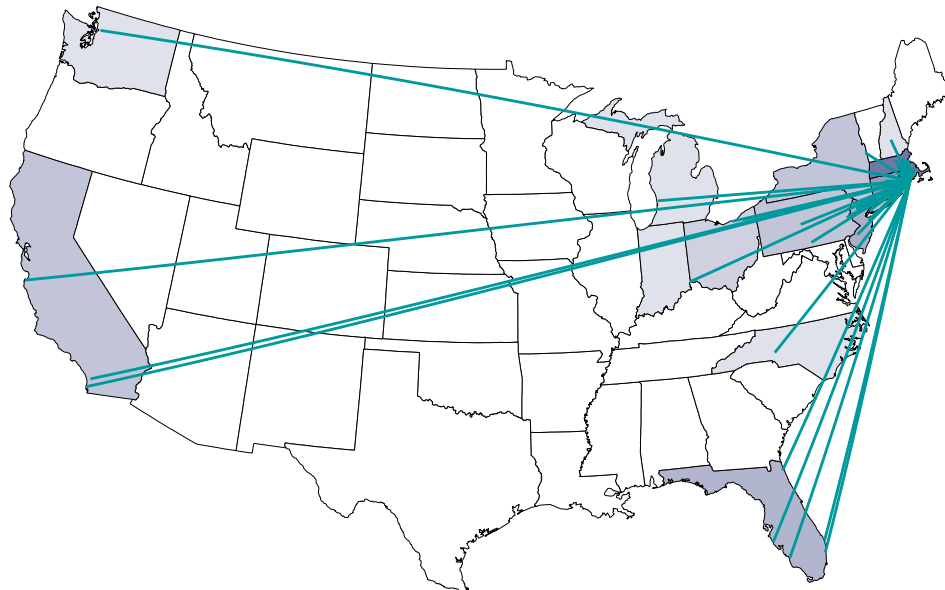


Fig. 8: Map showing residence of visitors to this refuge by zip code, with each line representing visitation from a different zip code. The convergence point of the lines is the geographical center of the refuge. Darker shading of the states represents higher visitation from that state.

OTHER TRIP CHARACTERISTICS

Other trip characteristics include:

- To get to this wildlife refuge, visitors primarily traveled by private vehicle without a trailer (89%) and by foot (16%) (Fig. 9).
- Once on the refuge, visitors primarily traveled by foot (52%) and by private vehicle without a trailer (10%) (Fig. 9).
- Visits occurred during winter (41%), spring (67%), summer (90%), and fall (75%).
- 97% of visitors made a single-day trip to this refuge, spending an average of 2 hours, while 3% of visitors were on a multi-day trip to this wildlife refuge that averaged 2 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:

- 83% were repeat visitors to this wildlife refuge, visiting an average of 36 times.
- 46% visited other national wildlife refuges, averaging 2 visits.
- 71% visited other public lands, averaging 9 visits.

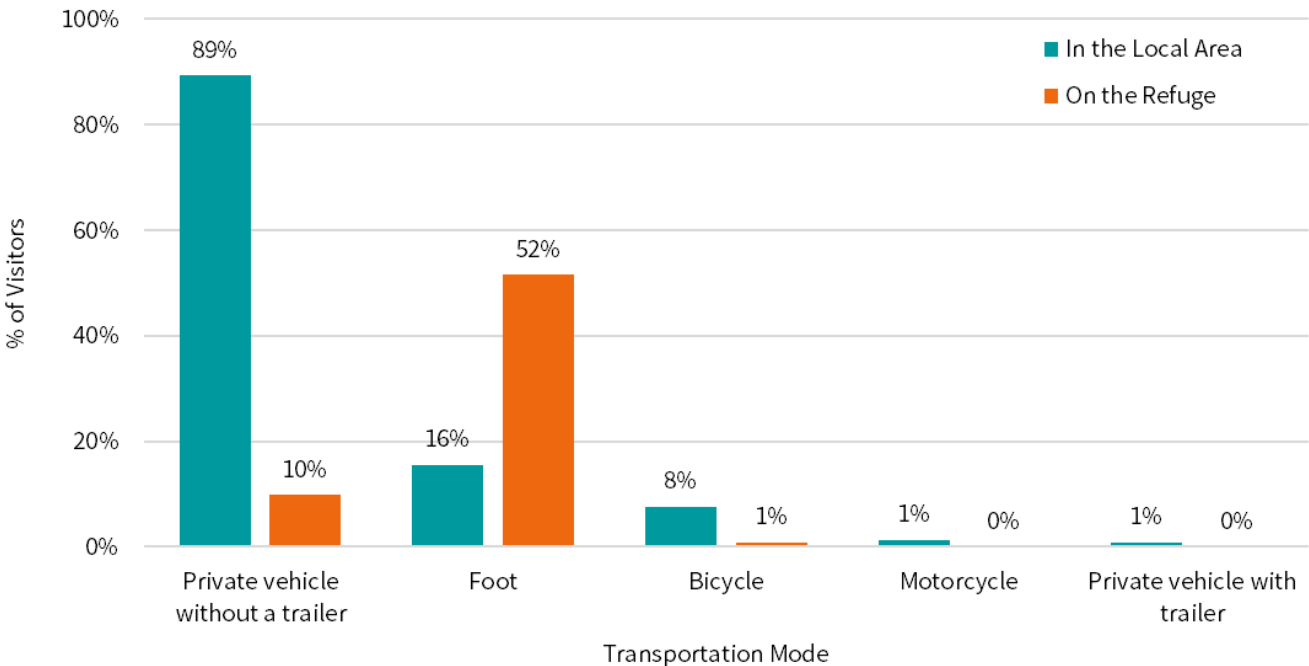


Fig. 9: Modes of transportation used by visitors to get from the local area to this refuge and within the boundaries of this refuge.

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 web-based map and printed map/atlas.
- 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).

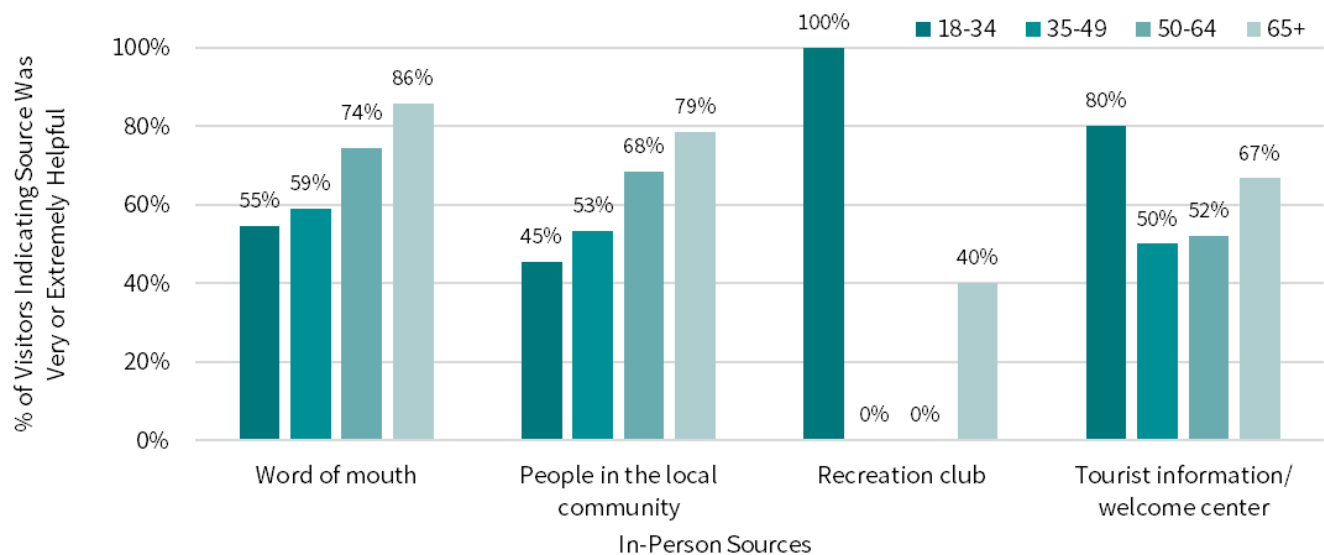


Fig. 10: Percent of visitors by age group who found in-person information sources very or extremely helpful in planning their trip.

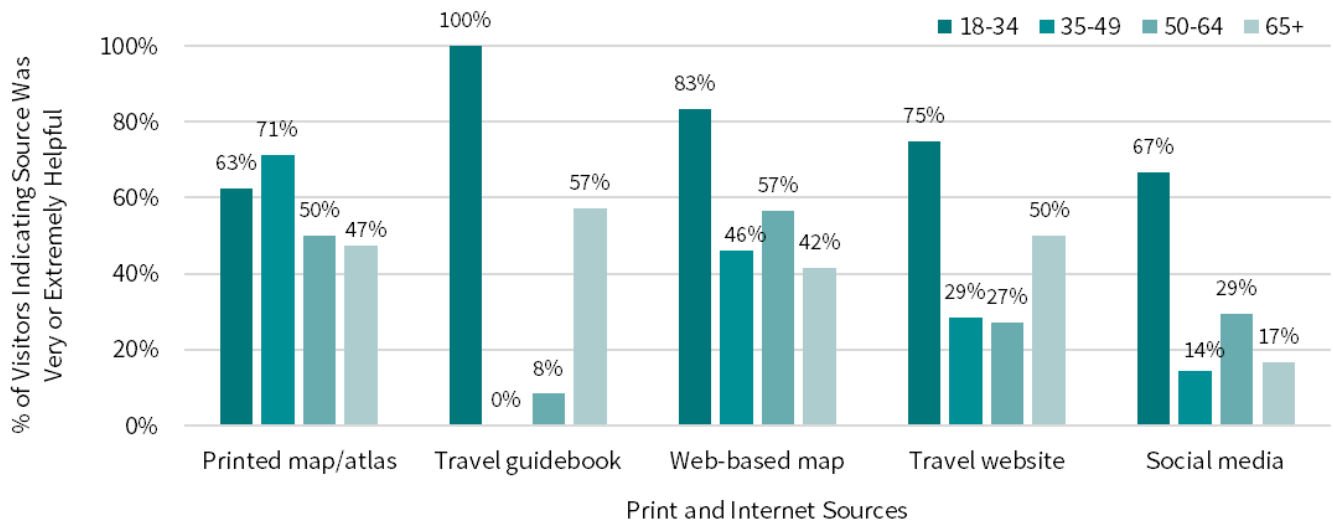


Fig. 11: Percent of visitors by age group who found print and internet information sources very or extremely helpful in planning their trip.

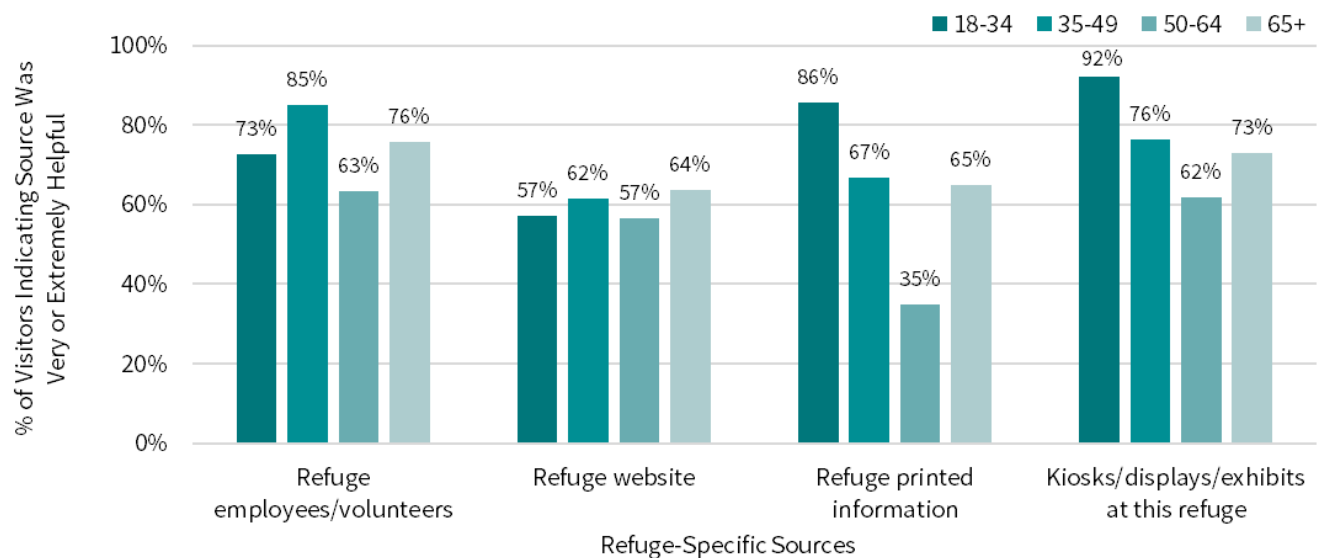


Fig. 12: Percent of visitors by age group who found refuge-specific information sources very or extremely helpful in planning their trip.

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 41% 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 (63%), Snapchat (38%), and Facebook (31%).
- Visitors 35-49 years old preferred to use Instagram (32%) and Facebook (32%).
- Visitors 50-64 years old preferred to use Facebook (40%) and Instagram (16%).
- Visitors 65 or older preferred to use Facebook (12%).

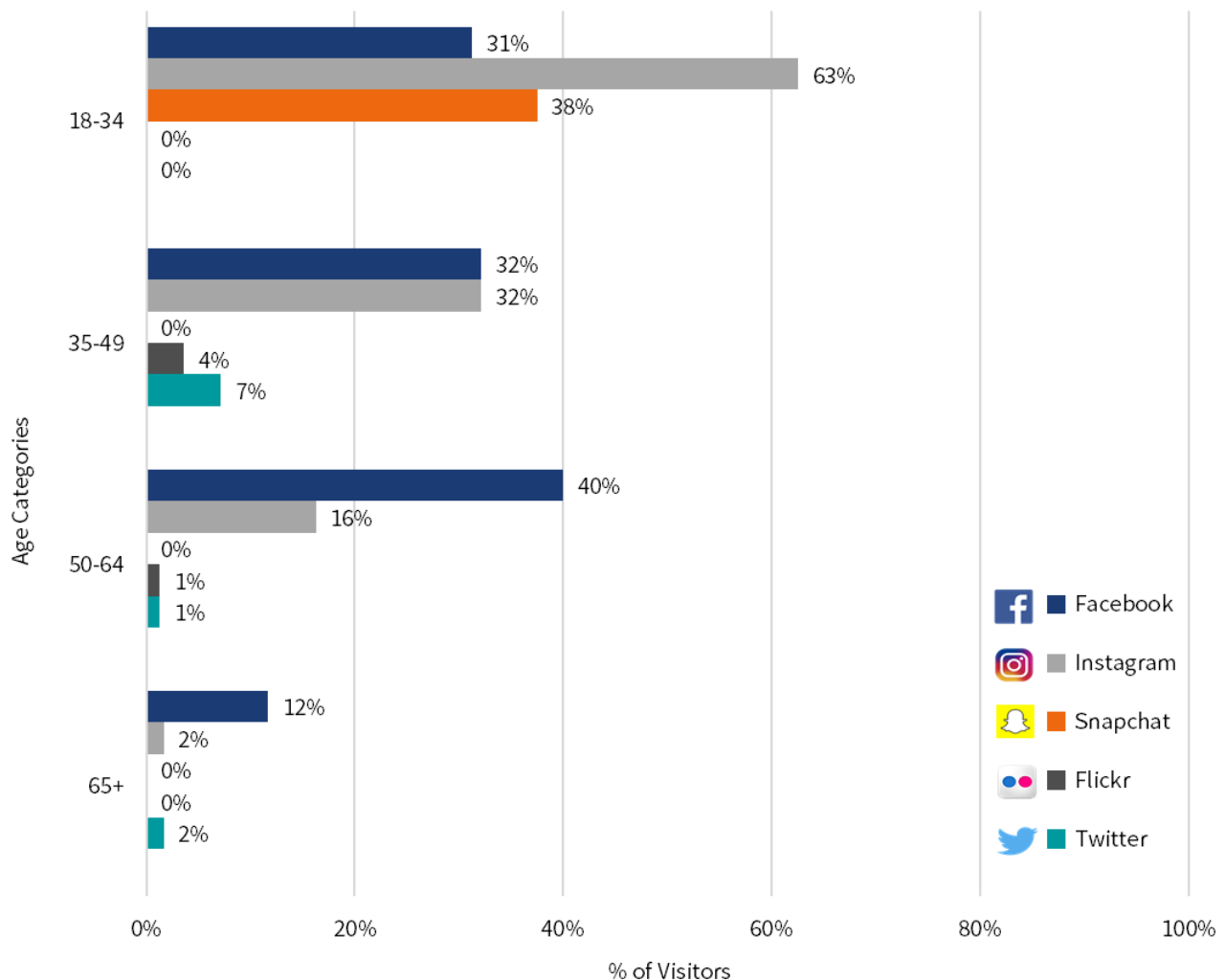


Fig. 13: Percent of visitors by age group who used various social media platforms to share their experience on this refuge with others.

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 (97%), wildlife observation (69%), and bird watching (47%) (Fig. 14).
- The top two activities noted as their primary activity on the day visitors were contacted to participate in the survey were hiking (74%) and jogging/exercising (10%) (Fig. 14).
- Approximately 71% of visitors went to the visitor center, and they most often used the facilities (61%), viewed the exhibits (42%), and viewed list of recent bird or wildlife sightings (34%) (Fig. 15).



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

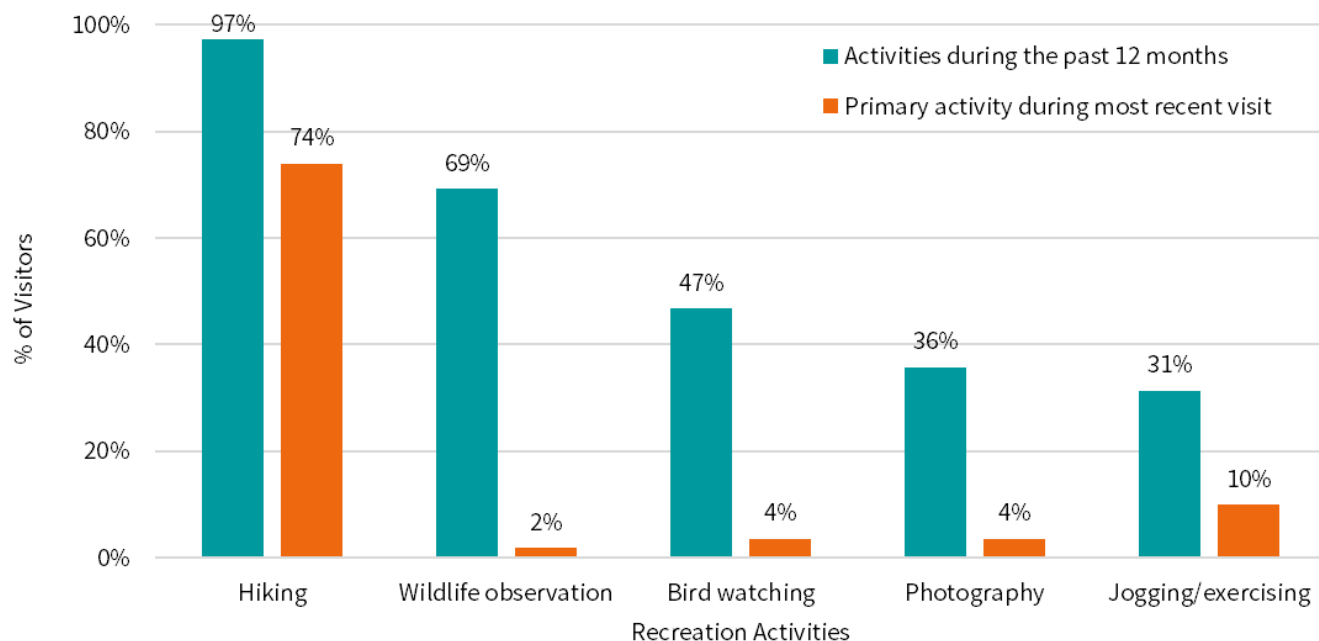


Fig. 14: Recreational activities visitors participated in during the past 12 months and their primary activity during their most recent visit to this refuge.

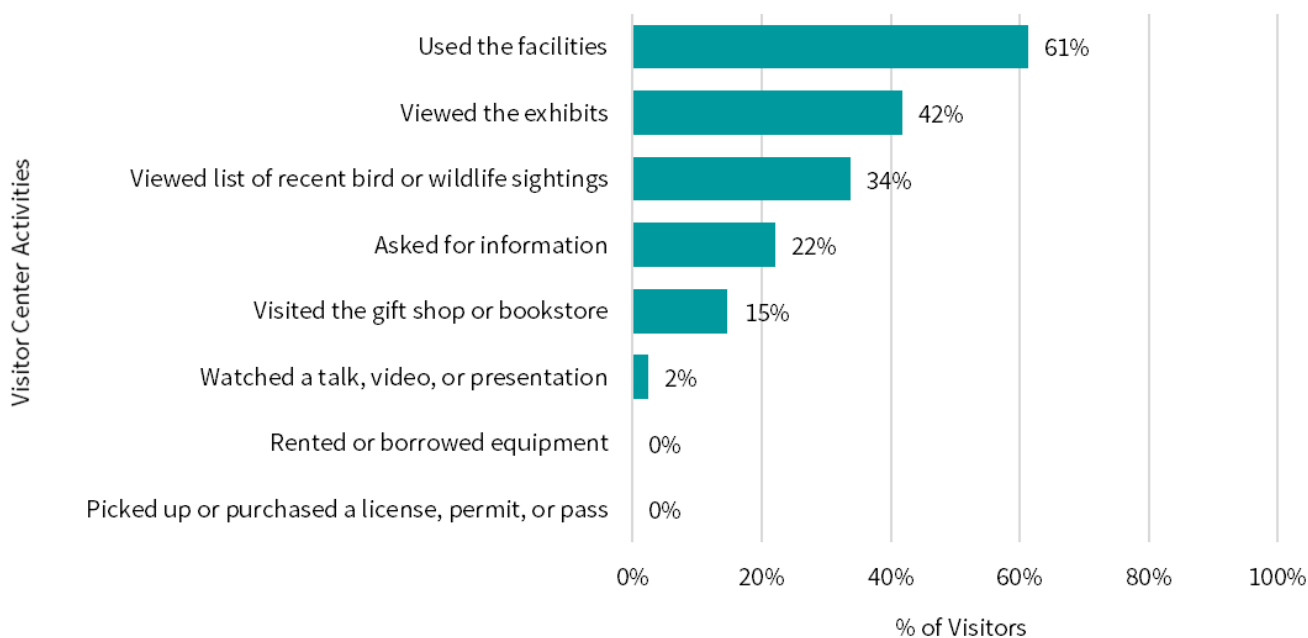


Fig. 15: Reasons visitors used the visitor center during their most recent visit to this refuge.

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:

- 92% of visitors felt welcome during their refuge visit (Fig. 16).
- 97% of visitors felt safe during their refuge visit (Fig. 16).
- 99% of visitors felt comfortable in nature, but 8% did not like being in nature alone (Fig. 17).

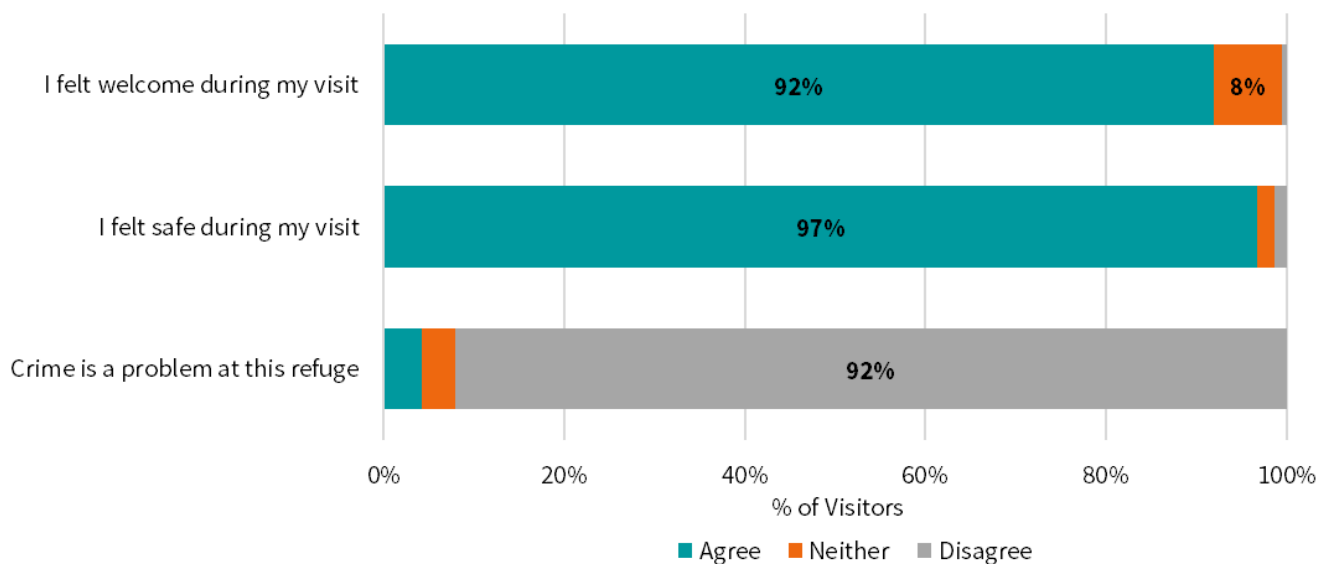


Fig. 16: Visitors' perceptions of safety and feeling welcome at this refuge during their visit.

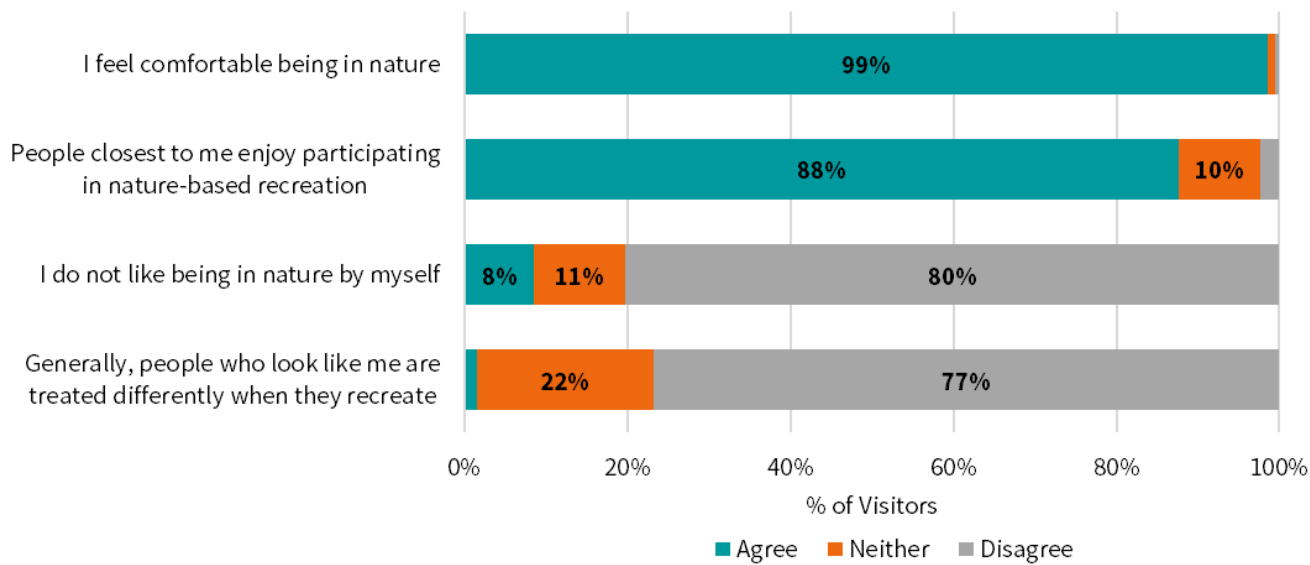


Fig. 17: Visitors’ comfort with being in nature.



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:

- 95% of visitors were very or extremely satisfied with the overall experience at this wildlife refuge (Fig. 18).
- 89% 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 (90%),
- restrooms (90%),
- visitor center (87%), and
- courteous and welcoming employees/volunteers (86%).

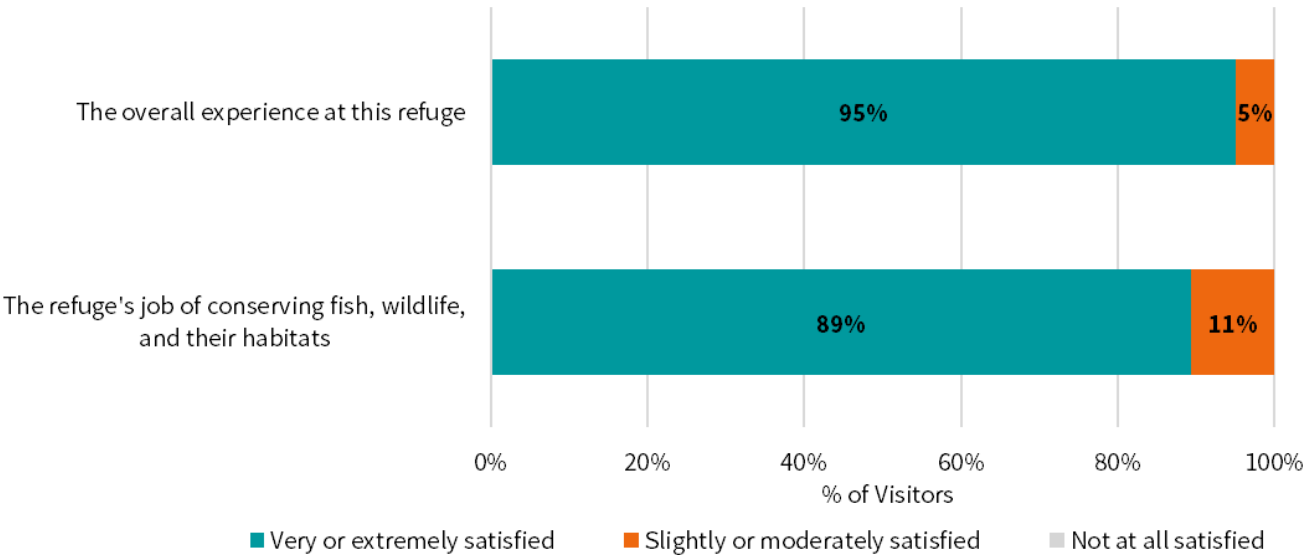


Fig. 18: Visitors' satisfaction with their experience at this refuge and with this refuge's job of conserving fish, wildlife, and habitats.

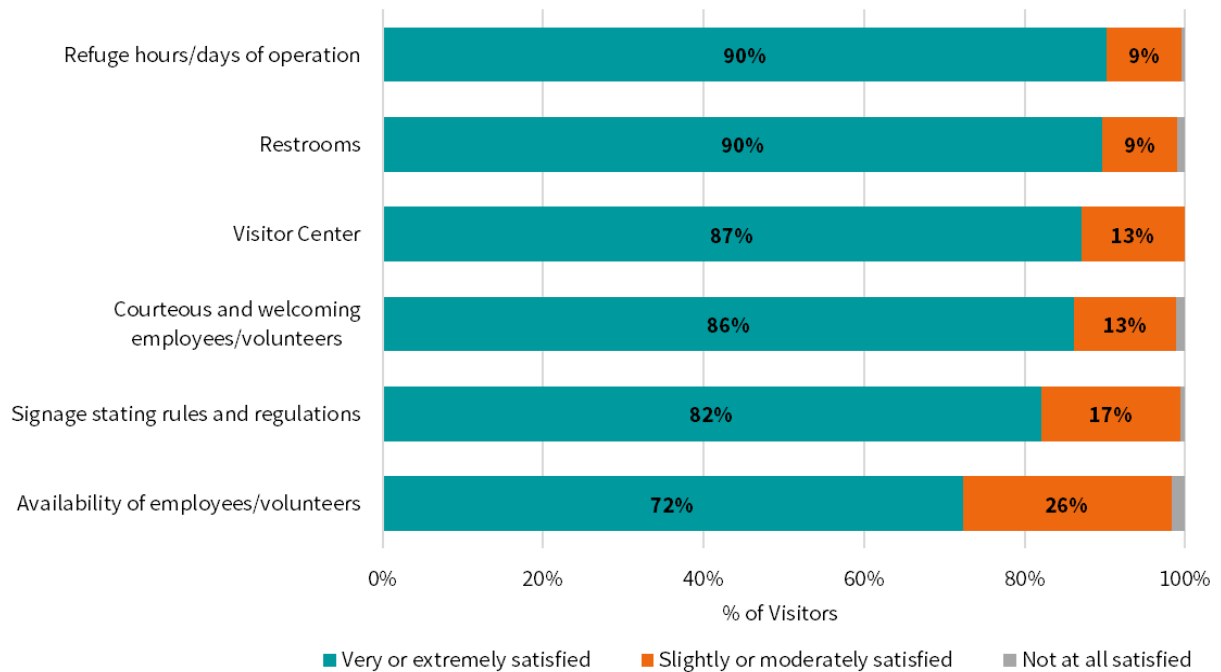


Fig. 19: Visitors' satisfaction with customer service and amenities at this refuge.

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):

- fishing (100%),
- trail hiking (93%), and
- photography (93%).

"This place is my little piece of heaven. It's perfect." – Visitor to Sachuest Point National Wildlife Refuge

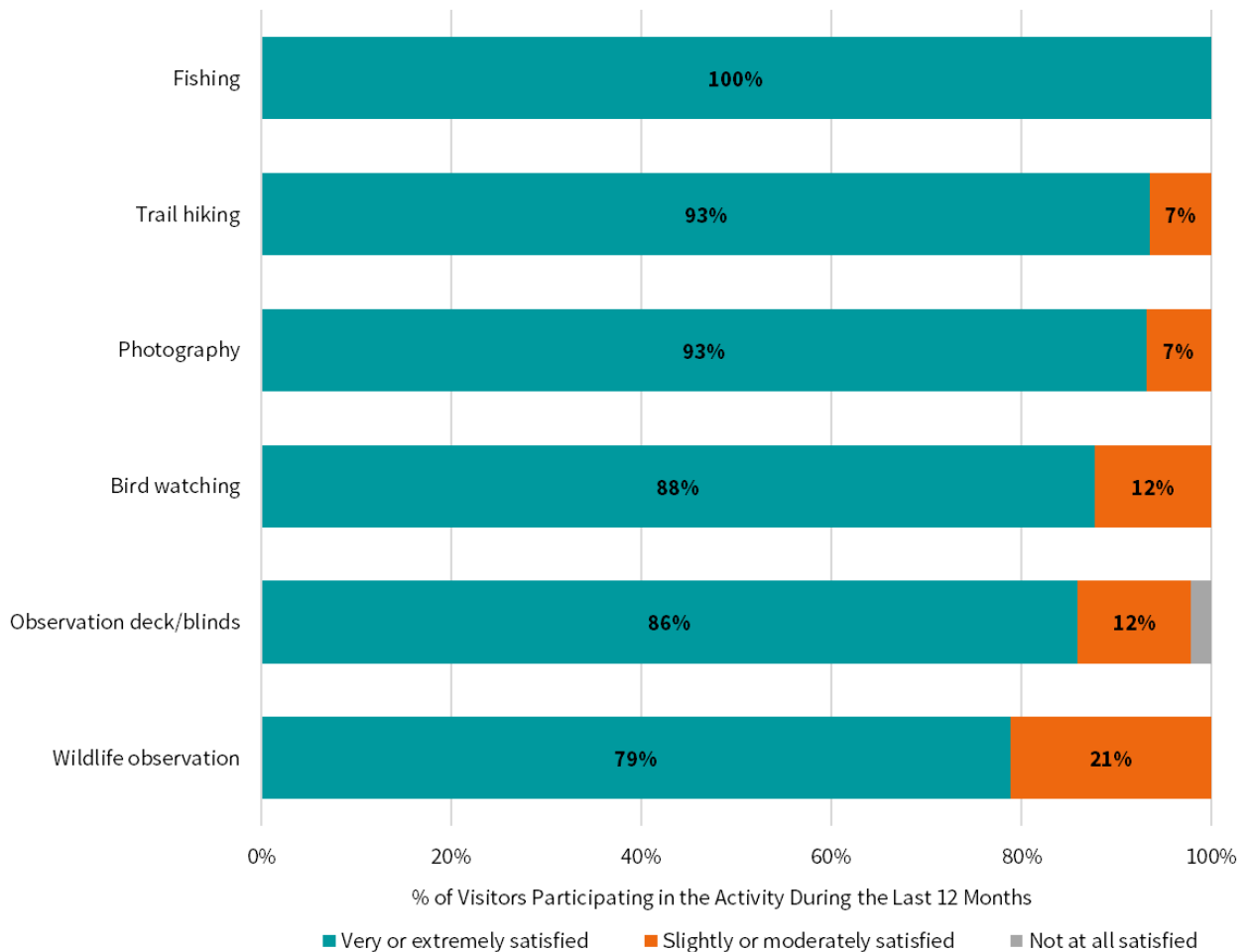


Fig. 20: Visitors' satisfaction with recreational opportunities at this refuge. Only visitors (10 or more) who participated in activities related to each opportunity at this refuge during the last 12 months were included.

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 (91%).
- Getting around this wildlife refuge, visitors were most satisfied with condition of parking areas (92%), condition of bridges on roadways (91%), and condition of refuge roads (90%).
- Accessing recreation on this wildlife refuge, visitors were most satisfied with condition of trails and boardwalks (89%), and safety of roads or trails for nonmotorized use (88%).

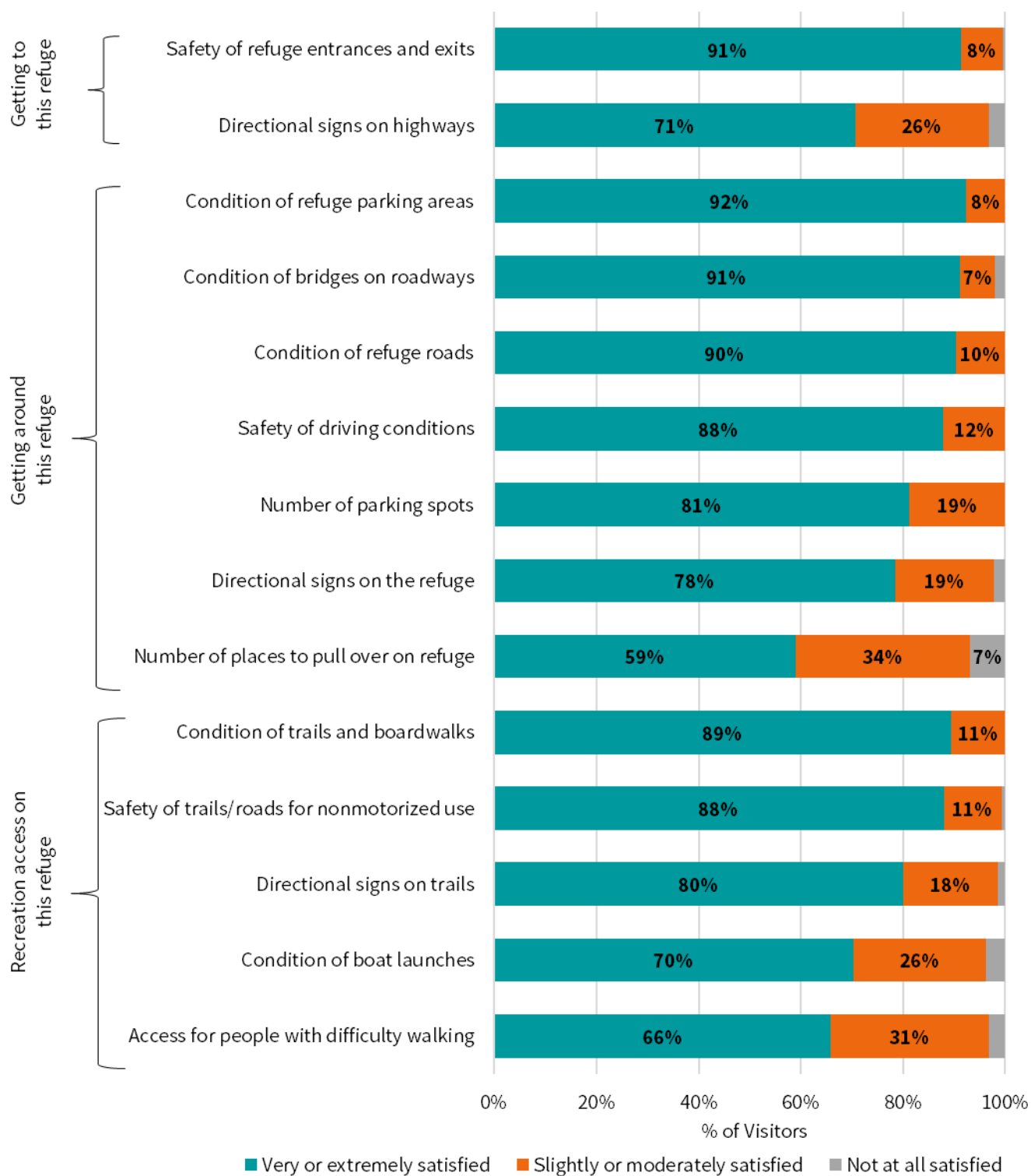


Fig. 21: Visitors' satisfaction with how the refuge is managing transportation-related features.

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; 77%) are as follows:

- On average, local visitors accounted for 16% of expenditures.
- Top trip expenditures by locals were for food/drink and transportation (Fig. 22).
- The average amount paid by locals to visit this wildlife refuge was \$44 per person per day (Fig. 22).
- Local visitors were personally willing to pay an additional \$35 per day on average to visit this wildlife refuge (Fig. 23).

Results for nonlocal visitors (those living >50 miles from this wildlife refuge; 23%) are as follows:

- On average, nonlocals accounted for 84% 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 \$144 per person per day (Fig. 22).
- Nonlocal visitors were personally willing to pay an additional \$154 per day on average to visit this wildlife refuge (Fig. 23).
- Nonlocal visitors spent an average of 10 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.

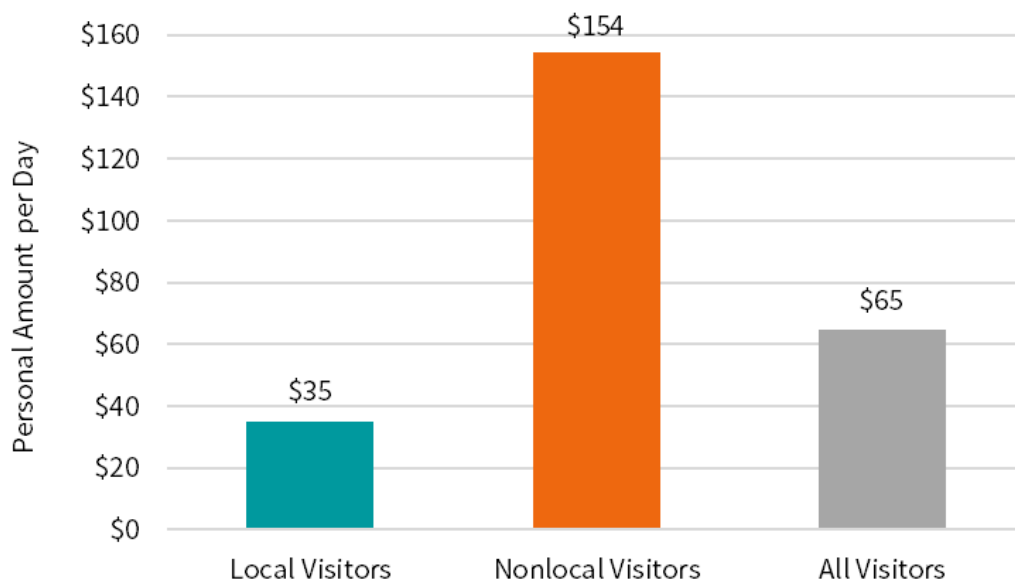


Fig. 23: Total personal willingness to pay per day above and beyond most recent trip expenses if costs were to increase for local, nonlocal, and all visitors. Due to the fixed-response question format, estimates of willingness to pay may underestimate the amount visitors would actually pay. Responses 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 (59%), highlighting unique local culture (50%), and engaging families and multiple generations (42%) (Fig. 24).
- The top two factors likely to increase visitors' future participation in their primary recreation activity were more infrastructure (23%) and recreation equipment available for rent (19%) (Fig. 25).
- The top two factors likely to decrease visitors' future participation in their primary recreation activity were less regulations on hunting (41%) and more people participating in their primary activity (24%) (Fig. 25).

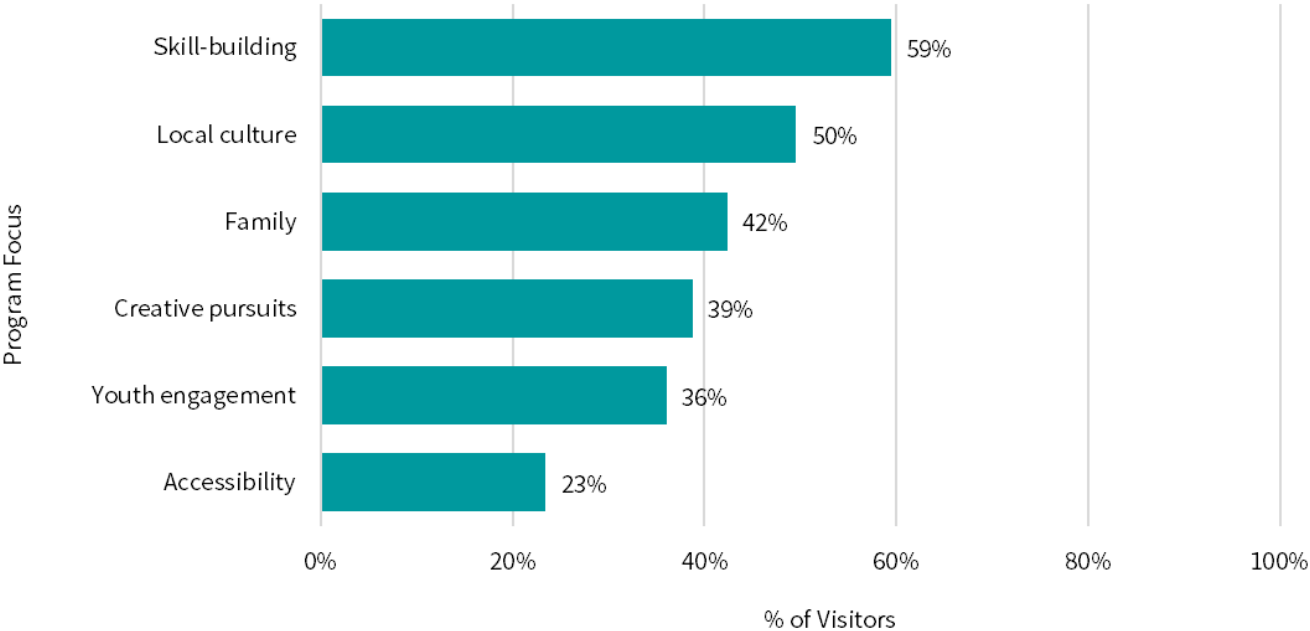


Fig. 24: Types of programs that would encourage visitors to return to this refuge.

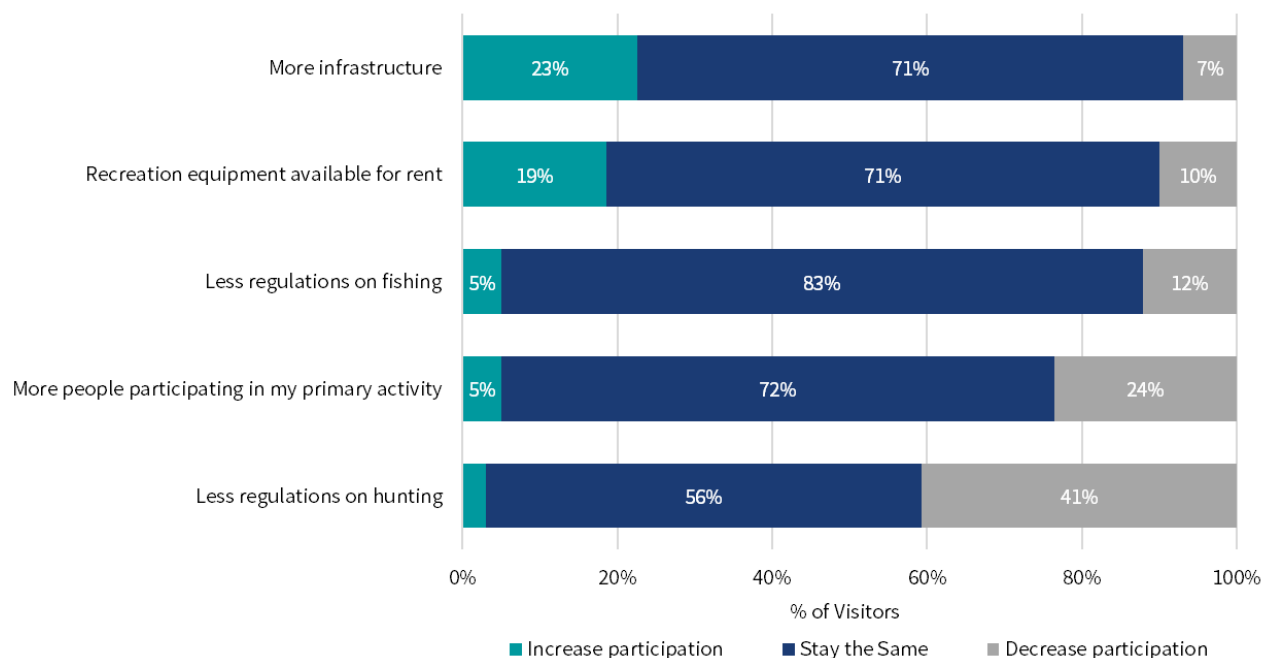


Fig. 25: Changes in visitors’ participation in their primary activity if the listed recreation factors were to change.

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 (36%), and
- a bike-share program (15%).

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 a greater diversity of species (42%) and an improvement in the quality of wildlife habitat other than wetlands (36%).
- The top two resource changes likely to decrease visitors’ future participation in their primary recreation activity were more acreage open to hunting and fishing (35%) and less water available for recreation (20%).

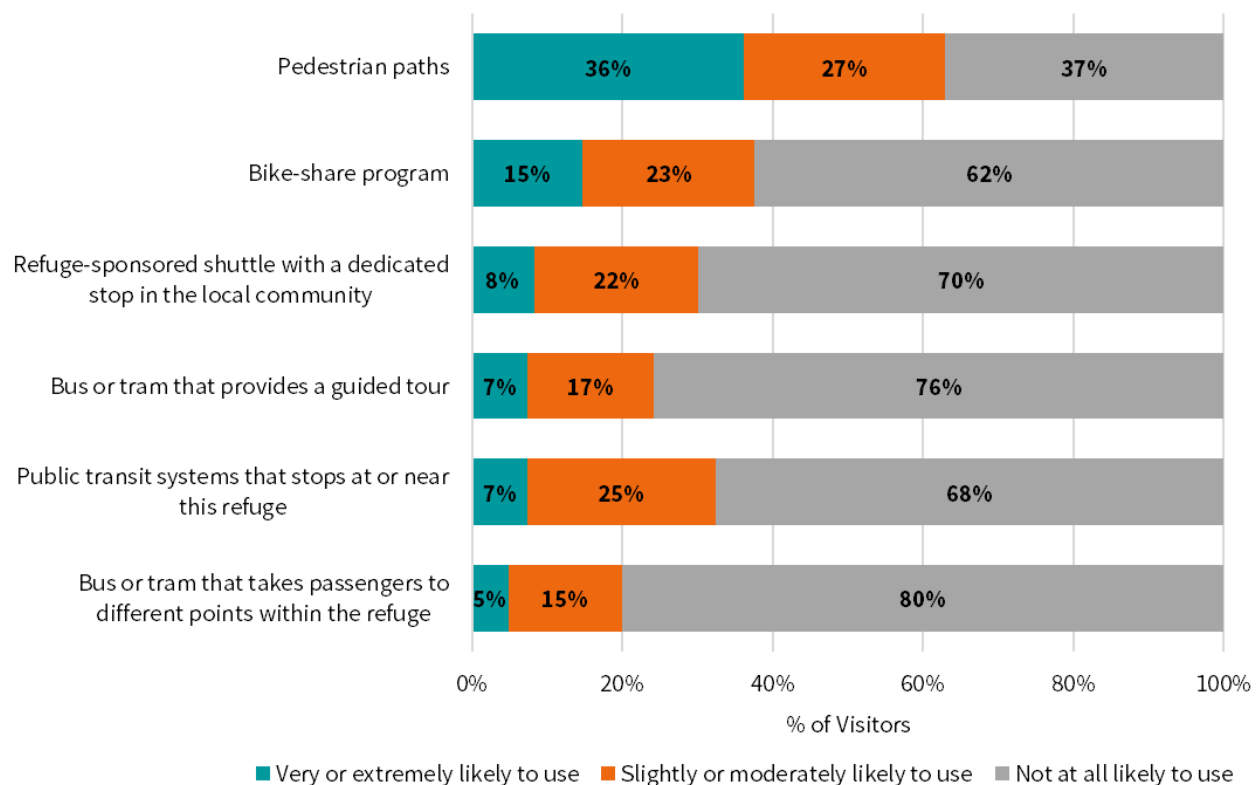


Fig. 26: Visitors' likelihood of using alternative transportation options if offered at this refuge.

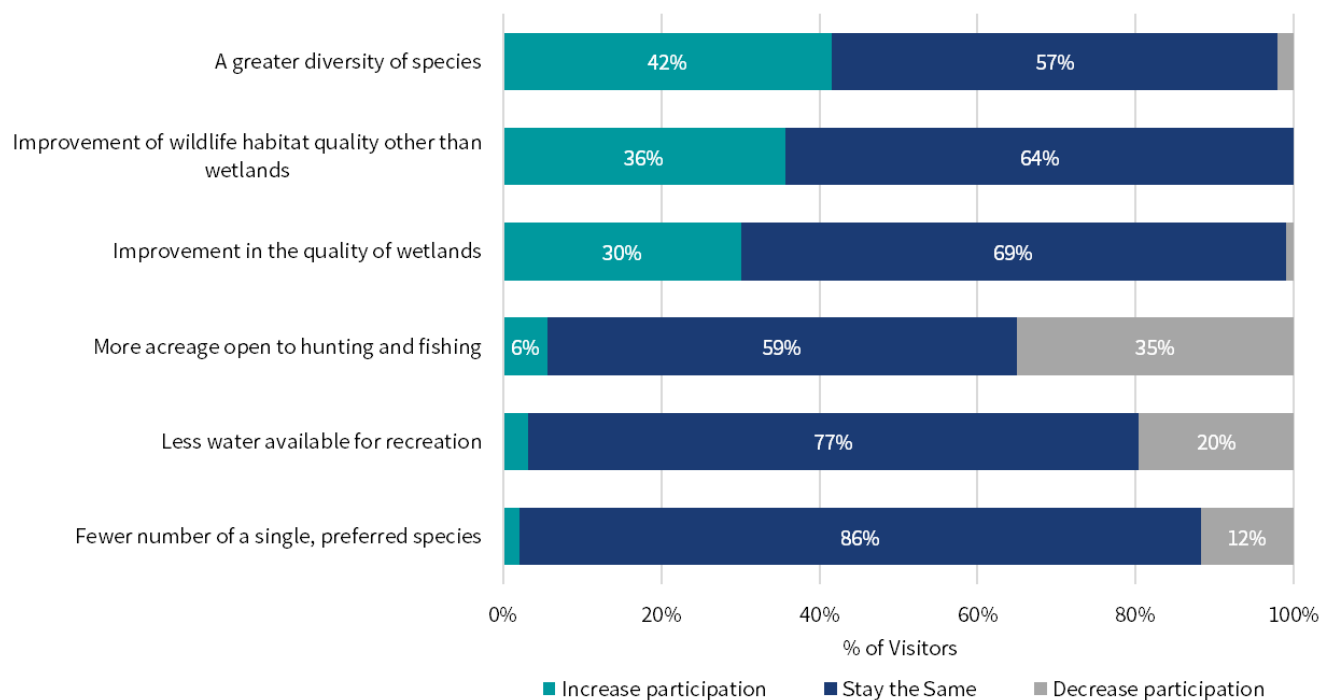


Fig. 27: Changes in visitors' participation in their primary activity if the listed resources were to change.

Conclusion

These individual refuge results provide a summary of trip characteristics and experiences of a sample of visitors to Sachuest Point 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

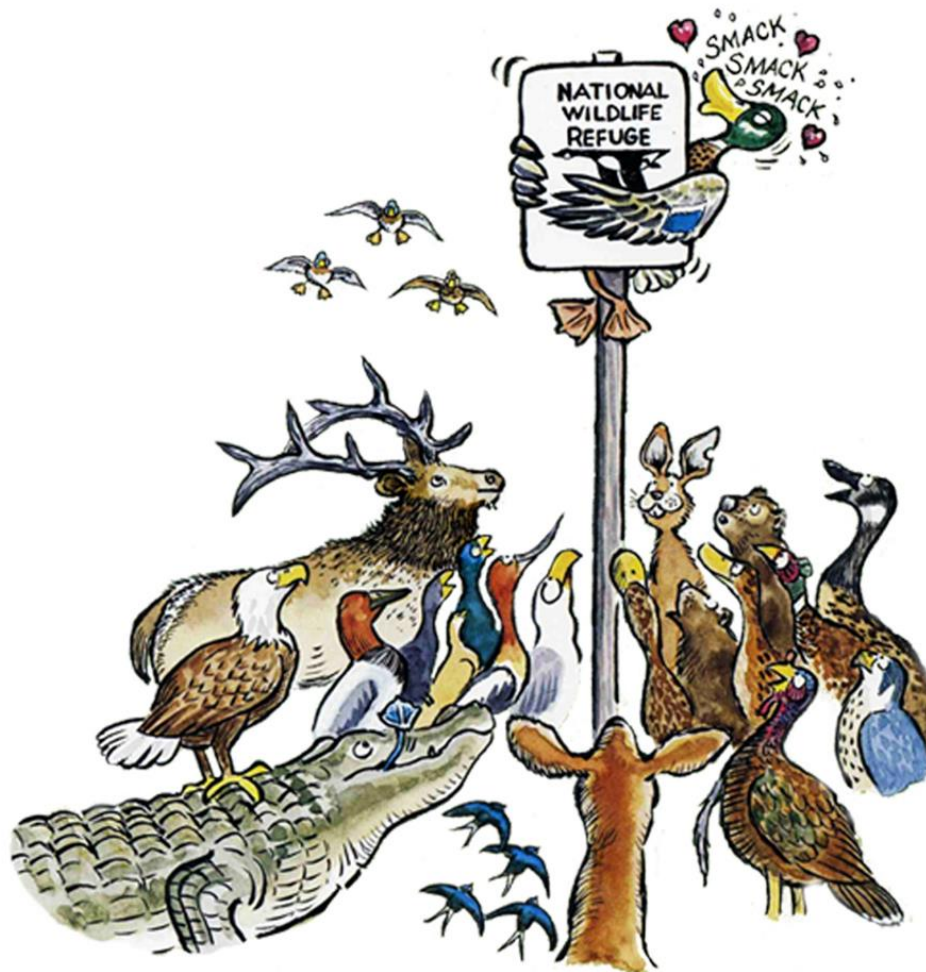
response distribution, meaning if respondents were given a dichotomous choice question, approximately 80% of respondents would select one choice and 20% would select the other (Salant & Dillman, 1994).

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"/> 69% Wildlife observation	<input type="checkbox"/> 97% Hiking/Walking	<input type="checkbox"/> 3% Volunteering
<input type="checkbox"/> 47% Bird watching	<input type="checkbox"/> 31% Jogging/Running/Exercising	<input type="checkbox"/> 2% Environmental education program (classroom visits, labs)
<input type="checkbox"/> 36% Photography	<input type="checkbox"/> 3% Bicycling	
<input type="checkbox"/> 0% Big game hunting	<input type="checkbox"/> 3% Auto tour route/Driving	<input type="checkbox"/> 3% Interpretative program (bird walks, staff/volunteer-led talks)
<input type="checkbox"/> 0% Upland/Small game hunting	<input type="checkbox"/> 0% Motorized boating	
<input type="checkbox"/> 0% Waterfowl/Migratory bird hunting	<input type="checkbox"/> 3% Nonmotorized boating (canoeing, kayaking)	<input type="checkbox"/> 1% Refuge special event (<i>specify</i>) <u>See Appendix C</u>
<input type="checkbox"/> 0% Freshwater fishing	<input type="checkbox"/> 3% Foraging (berries, nuts, other)	<input type="checkbox"/> 3% Other (<i>specify</i>) <u>See Appendix C</u>
<input type="checkbox"/> 5% Saltwater fishing	<input type="checkbox"/> 5% 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"/> 68% It was the primary purpose or sole destination of my trip.
<input type="checkbox"/> 19% It was one of many equally important reasons or destinations for my trip.
<input type="checkbox"/> 14% 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.)

2 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?

☐ 29% No / Not Applicable

☐ 71% Yes → If yes, what did you do there? (*Mark all that apply.*)

☐ 22% Asked information of employees/volunteers

☐ 34% Looked at list of recent bird/wildlife sightings

☐ 2% Attended a talk/video/presentation

☐ 61% Stopped to use the facilities (for example, got water, used restroom)

☐ 42% Viewed the exhibits

☐ 0% Picked up/purchased a license, permit, or pass

☐ 0% Rented/borrowed equipment (for example, binoculars, fishing rod, snowshoes)

☐ 15% Visited the gift shop or bookstore

☐ 2% 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: 2 hour(s)

If you spent one day or more at this refuge, enter the number of days: 2 day(s)

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

☐ 77% Yes

☐ 23% 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: 6 hour(s)

If you spent one day or more in the local area, enter the number of days: 10 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: 20 minutes

If you travelled more than one hour, round to the nearest hour: 6 hours

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

☐ 67% Spring
(March-May)

☐ 90% Summer
(June-August)

☐ 75% Fall
(September-November)

☐ 41% Winter
(December-February)

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

...this refuge (including this visit)? 30 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? 9 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"/> 28% Facebook	<input type="checkbox"/> 3% Snapchat	<input type="checkbox"/> 1% Personal blog (for example, Tumblr, Wordpress)
<input type="checkbox"/> 1% Flickr	<input type="checkbox"/> 2% Twitter	<input type="checkbox"/> 2% Travel-related website (for example, Trip Advisor)
<input type="checkbox"/> 18% Instagram	<input type="checkbox"/> 0% Vimeo	<input type="checkbox"/> 2% Other (<i>specify</i>) <u>See Appendix C</u>
<input type="checkbox"/> 1% Pinterest	<input type="checkbox"/> 1% YouTube	<input type="checkbox"/> 59% 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"/> 9%	<input type="checkbox"/> 29%	<input type="checkbox"/> 58%	<input type="checkbox"/> 16%
Word of mouth (for example, a friend or relative)	<input type="checkbox"/> 3%	<input type="checkbox"/> 5%	<input type="checkbox"/> 18%	<input type="checkbox"/> 33%	<input type="checkbox"/> 41%	<input type="checkbox"/> 32%
People in the local community near the refuge	<input type="checkbox"/> 3%	<input type="checkbox"/> 11%	<input type="checkbox"/> 18%	<input type="checkbox"/> 37%	<input type="checkbox"/> 31%	<input type="checkbox"/> 41%
Refuge employees or volunteers	<input type="checkbox"/> 2%	<input type="checkbox"/> 7%	<input type="checkbox"/> 17%	<input type="checkbox"/> 40%	<input type="checkbox"/> 34%	<input type="checkbox"/> 30%
Printed map or atlas	<input type="checkbox"/> 6%	<input type="checkbox"/> 13%	<input type="checkbox"/> 24%	<input type="checkbox"/> 34%	<input type="checkbox"/> 23%	<input type="checkbox"/> 47%
Web-based map (for example, Google Maps, Waze)	<input type="checkbox"/> 8%	<input type="checkbox"/> 5%	<input type="checkbox"/> 30%	<input type="checkbox"/> 30%	<input type="checkbox"/> 27%	<input type="checkbox"/> 57%
Refuge website	<input type="checkbox"/> 5%	<input type="checkbox"/> 18%	<input type="checkbox"/> 13%	<input type="checkbox"/> 42%	<input type="checkbox"/> 22%	<input type="checkbox"/> 60%
Travel website (for example, TripAdvisor)	<input type="checkbox"/> 21%	<input type="checkbox"/> 21%	<input type="checkbox"/> 21%	<input type="checkbox"/> 21%	<input type="checkbox"/> 17%	<input type="checkbox"/> 79%
Other website (<i>specify</i>) <u>See Appendix C</u>	<input type="checkbox"/> 25%	<input type="checkbox"/> 0%	<input type="checkbox"/> 50%	<input type="checkbox"/> 25%	<input type="checkbox"/> 0%	<input type="checkbox"/> 93%
Social media (for example, Facebook, Instagram)	<input type="checkbox"/> 26%	<input type="checkbox"/> 15%	<input type="checkbox"/> 32%	<input type="checkbox"/> 9%	<input type="checkbox"/> 18%	<input type="checkbox"/> 76%
Recreation club or organization	<input type="checkbox"/> 36%	<input type="checkbox"/> 23%	<input type="checkbox"/> 27%	<input type="checkbox"/> 9%	<input type="checkbox"/> 5%	<input type="checkbox"/> 84%
Refuge printed information (for example, brochure)	<input type="checkbox"/> 10%	<input type="checkbox"/> 5%	<input type="checkbox"/> 26%	<input type="checkbox"/> 31%	<input type="checkbox"/> 29%	<input type="checkbox"/> 59%
Kiosks/displays/exhibits at the refuge	<input type="checkbox"/> 4%	<input type="checkbox"/> 4%	<input type="checkbox"/> 20%	<input type="checkbox"/> 43%	<input type="checkbox"/> 29%	<input type="checkbox"/> 33%
Travel guidebook or other book	<input type="checkbox"/> 32%	<input type="checkbox"/> 16%	<input type="checkbox"/> 20%	<input type="checkbox"/> 28%	<input type="checkbox"/> 4%	<input type="checkbox"/> 82%
Tourist information or welcome center	<input type="checkbox"/> 13%	<input type="checkbox"/> 4%	<input type="checkbox"/> 23%	<input type="checkbox"/> 30%	<input type="checkbox"/> 30%	<input type="checkbox"/> 62%
Other source (<i>specify</i>) <u>See Appendix C</u>	<input type="checkbox"/> 20%	<input type="checkbox"/> 20%	<input type="checkbox"/> 40%	<input type="checkbox"/> 20%	<input type="checkbox"/> 0%	<input type="checkbox"/> 94%

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
9%	15%	31%	31%	14%	Surface conditions of refuge roads	0%	1%	9%	47%	43%	NA
6%	19%	36%	23%	16%	Surface conditions of parking areas	0%	1%	7%	49%	44%	NA
11%	10%	29%	34%	16%	Condition of bridges on roadways	2%	2%	5%	52%	39%	NA
3%	4%	12%	51%	30%	Condition of trails and boardwalks	0%	1%	9%	40%	49%	NA
60%	7%	17%	13%	4%	Condition of boat launches	4%	4%	22%	44%	26%	NA
2%	9%	21%	47%	23%	Number of places for parking	0%	4%	15%	48%	33%	NA
30%	16%	31%	15%	8%	Number of places to pull over on refuge roads	7%	12%	22%	34%	25%	NA
14%	9%	20%	37%	21%	Safety of driving conditions on refuge roads	0%	2%	11%	46%	42%	NA
7%	9%	20%	39%	24%	Safety of refuge road entrances/exits	1%	2%	6%	47%	44%	NA
11%	2%	12%	37%	38%	Safety of roads/trails for nonmotorized users (for example, bicyclists and hikers)	1%	1%	10%	44%	44%	NA
21%	12%	24%	29%	14%	Signs on highways directing you to this refuge	3%	7%	19%	44%	27%	NA
16%	10%	22%	37%	15%	Signs directing you around refuge roads	2%	2%	18%	47%	32%	NA
5%	2%	17%	47%	29%	Signs directing you on trails	1%	3%	15%	40%	40%	NA
17%	9%	26%	31%	17%	Access for people with physical disabilities or who have difficulty walking	3%	3%	28%	47%	19%	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	89%	10%
Private/rental vehicle with a trailer (for boat, camper, or other)	1%	0%
Recreational vehicle (RV)	0%	0%
Refuge shuttle bus/tram	0%	0%
Tour bus/van	0%	0%
Public transportation	0%	0%
Motorcycle	1%	0%
Bicycle	8%	1%
Foot (for example, walking/hiking)	16%	52%
Boat	0%	0%
Other (<i>specify</i>): <u>See Appendix C</u>	0%	0%
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)	80%	8%	7%	4%	0%
Bus or tram that provides a guided tour of the refuge with information about this refuge and its resources	76%	10%	7%	5%	2%
Refuge-sponsored shuttle with a dedicated stop in the local community for picking up people at set times	70%	10%	12%	5%	3%
Public transit system that stops at or near this refuge	68%	15%	10%	4%	3%
Bike-share program that offers bicycles for rent on or near this refuge	62%	11%	12%	8%	6%
Pedestrian paths for access to this refuge from the local community	37%	12%	15%	20%	16%

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"/> 19% \$0	<input type="checkbox"/> 7% \$30	<input type="checkbox"/> 6% \$100	<input type="checkbox"/> 3% \$250
<input type="checkbox"/> 17% \$5	<input type="checkbox"/> 5% \$45	<input type="checkbox"/> 0% \$125	<input type="checkbox"/> 1% \$350
<input type="checkbox"/> 16% \$10	<input type="checkbox"/> 2% \$60	<input type="checkbox"/> 2% \$150	<input type="checkbox"/> 3% \$500
<input type="checkbox"/> 10% \$20	<input type="checkbox"/> 5% \$75	<input type="checkbox"/> 2% \$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
3%	2%	8%	48%	39%	Convenient hours/days of operation for this refuge	0%	2%	7%	42%	48%	NA
11%	21%	40%	19%	10%	Availability of employees or volunteers	2%	2%	24%	42%	31%	NA
9%	13%	28%	31%	19%	Courteous and welcoming employees or volunteers	1%	2%	11%	44%	42%	NA
5%	3%	26%	41%	25%	Signs with rules/regulations for this refuge	1%	2%	16%	46%	36%	NA
5%	6%	28%	40%	22%	Visitor center	0%	2%	11%	38%	49%	NA
2%	1%	11%	41%	45%	Well-maintained restrooms	1%	3%	7%	44%	46%	NA
8%	12%	30%	33%	17%	Recreational structures (decks, blinds, platforms)	2%	2%	11%	48%	37%	NA
8%	13%	21%	33%	25%	Bird-watching opportunities	0%	1%	13%	42%	44%	NA
3%	7%	25%	41%	25%	Opportunities to observe wildlife other than birds	0%	3%	20%	40%	37%	NA
6%	12%	19%	36%	27%	Opportunities to photograph wildlife and scenery	0%	2%	11%	41%	46%	NA
10%	16%	32%	27%	15%	Environmental education opportunities	1%	12%	24%	40%	22%	NA
91%	6%	1%	2%	1%	Hunting opportunities	38%	6%	16%	22%	19%	NA
60%	14%	13%	6%	7%	Fishing opportunities	9%	3%	18%	32%	38%	NA
1%	0%	6%	28%	65%	Trail hiking opportunities	0%	0%	6%	31%	62%	NA
40%	9%	25%	12%	15%	Bicycling opportunities	22%	5%	16%	33%	25%	NA
35%	10%	26%	16%	13%	Water trail opportunities for canoeing or kayaking	12%	10%	21%	24%	33%	NA
36%	14%	33%	9%	9%	Volunteer opportunities	13%	7%	33%	26%	21%	NA
19%	8%	32%	27%	14%	Wilderness experience opportunities	4%	4%	23%	41%	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.	0%	0%	8%	41%	51%
I felt safe during my visit to this refuge.	0%	1%	2%	41%	56%
Crime <u>is</u> a problem at this refuge.	69%	23%	4%	2%	2%
I feel comfortable being in nature.	0%	0%	1%	33%	65%
I do <u>not</u> like being in nature by myself.	57%	23%	11%	6%	3%
People closest to me enjoy participating in nature-based recreation.	0%	2%	10%	43%	45%
Generally, people who look like me are treated differently when they participate in nature-based recreation.	57%	19%	22%	1%	0%

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.	0%	1%	10%	45%	44%
The quality of the overall experience when visiting this refuge.	0%	1%	4%	37%	58%

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	20%	77%	3%
More acreage open to hunting and fishing	35%	59%	6%
More infrastructure (for example, bathrooms, observation decks)	7%	71%	23%
Recreation equipment available for rent (for example, fishing rods, binoculars, snowshoes)	10%	71%	19%
Less regulations on fishing	12%	83%	5%
Less regulations on hunting	41%	56%	3%
A greater diversity of species	2%	57%	42%
Fewer numbers of a single, preferred species	12%	86%	2%
More people participating in my primary activity	24%	72%	5%
An improvement in the quality of wetlands	1%	69%	30%
An improvement in the quality of wildlife habitat other than wetlands	0%	64%	36%

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

86% Yes 3% No 11% 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.*)

45% 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:

36% Programs that engage youth	39% Programs that focus on creative pursuits (for example, art, writing, meditation)
42% Programs that focus on family/multiple-generations	23% Programs that support people with accessibility concerns (for example, difficulty walking, in a wheelchair)
59% Programs that teach skills to visitors	5% Other (<i>specify</i>) <u>See Appendix C</u>
50% 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? ☐ 37% Male ☐ 63% Female

2. In what year were you born? 1961 (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"/> 0%			<input type="checkbox"/> 8%				<input type="checkbox"/> 46%				<input type="checkbox"/> 46%			

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

<input type="checkbox"/> 98% White	<input type="checkbox"/> 0% American Indian or Alaska Native
<input type="checkbox"/> 2% 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"/> 0% Some other race or ethnicity

5. How many people (including yourself) live in your household? 2 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"/> 6% \$35,000 - \$49,999	<input type="checkbox"/> 28% \$100,000 - \$149,999
<input type="checkbox"/> 1% \$10,000 - \$24,999	<input type="checkbox"/> 18% \$50,000 - \$74,999	<input type="checkbox"/> 13% \$150,000 - \$199,999
<input type="checkbox"/> 3% \$25,000 - \$34,999	<input type="checkbox"/> 15% \$75,000 - \$99,999	<input type="checkbox"/> 16% \$200,000 or more

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

<input type="checkbox"/> 42% Employed full-time	<input type="checkbox"/> 1% Unemployed	<input type="checkbox"/> 31% Retired
<input type="checkbox"/> 11% Employed part-time	<input type="checkbox"/> 5% Homemaker/caregiver	<input type="checkbox"/> 1% Disabled/unable to work
<input type="checkbox"/> 7% Self-employed	<input type="checkbox"/> 2% 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
Cleanup	1
Earth Day Cleanup from beach below	1
Swimming	1

Other Activity	Frequency
Beach	1
Finding sea grass	1
Meditation	1
Painting	1
Relaxation	1
Warn people of wildlife approaching	1
Wave/ocean observation at Rock Beach	1

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

Primary Activity	Frequency
Art	1
Beach activity	3
Bicycling	1
Bird watching	8
Exercising	5
Fishing	5
Hiking	163
Hunting	1
Other	2
Photography	8
Running	18
Wildlife observation	4

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
Advised of ice hazard (roof)	1
Dropped off homemade muffins, do this or cookies during holidays. Looked at bunkers pictures and where you could picnic in the 60s	1
Visitor center 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
Google Maps	1
Google Photos	1
My company website	1
Strava	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
AllTrails	1

Other Information Sources	Frequency
Refuge signs	1
Road signs only	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
Donation	1
Parking fees	1
Toll	2
YMCA tour	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
General environmental education	1
Hiking-related programs	1
Local history programs	1
Nature-related programs	1
Photography-related programs	1

Survey Section 7

Question 7: “Which of the following best describes your current employment situation?”

Other Employment	Frequency
Semi-retired	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=28)

Absolutely beautiful views at Sachuest Point, RI. I am a Rhode Islander who travels to Newport routinely, but did not know about this until a local took me there.

After a lot of rain or melting snow, some of the spots on the trail are too muddy and it is difficult to get through. You need to try to avoid the mud and often get scratched by trees and shrubs. Wood planks would be a good idea where this happens.

As a blind person, I do notice others riding bikes on the trails, motorized scooter, and bringing dogs or cats that are not service dogs but are comfort dogs. Also, we notice a lot of others dropping their passengers off at the beach then driving up to the park and leaving their cars there for the day - no fee. Also, at the exit-only you see cars going in the wrong direction to get a quick parking space instead of going with the flow and following others. Need more people out there directing traffic.

Beautiful, but not built for wheelchairs or walkers.

Because RI has a high tick population, I think that one section of the longer loop trail that has some grass on the middle of it (even though the grass is cut pretty low) should be groomed similarly as the rest of the trail is (i.e. crushed stone etc.).

For better access for people with disabilities, a paved part of the trail from the parking area and visitor center to say, bench #1, would be scenic and much more accessible.

Good signage for buses, motor bike/cycles, and auxiliary parking on heavy birding days (snowy owl and razorbills).

I wish the brushes/brush was cut back a little on the trails. My friend had a tick on her after a walk and though I know it's nature, it was a concern.

More parking is needed. The total distance of walking both trails might be nice.

My family has been visiting Sachuest Point in Middletown since 1984; seen changes in making walking trails wider/better; that's fine but don't want the next step to be paved trails! Love our Sachuest Point!

Need more signs along trails explaining how to get back to info center/visitor's center.

Parking can be a serious issue at Sachuest Point because it has a small lot and we saw several people walking up to the lot from the nearby beach to avoid paying for parking there. It was posted that beach parking was prohibited, but it clearly isn't enforced. We went there to enjoy the trails and tranquility of this special spot, but almost had to leave due to lack of parking. Needless to say, we were disappointed to see all the beachgoers returning to their cars when it started raining later.

Parking can be problematic in the summer. Beach goers park for free... although they are not supposed to... and their cars are there all day.

Puddles on certain sections of the trails after rain showers, must walk on the very edge of the trail to avoid getting shoes muddy and wet. Certain areas were unavoidable. It needs to be filled in and leveled off. Also drainage ditches would be helpful.

Regarding my response about access - I am not sure if there is access for people with disabilities but it would be easily accessible with off-road wheelchairs. Although parking can get tight, parking is sufficient, it is just a popular place during tourist season. Overall, this refuge is well-managed.

Sachuest Point is a small refuge with roads only in/out. Trails should not be open to bicycles - would not walk on these trails.

Walking the trails at Sachuest Point is like going to church.

Sometimes unable to get a parking space, especially on a summer weekend.

The sign at the T from the visitor center to the ocean loop trail (to the right) and the Flint Pt. trail (to the left) is gone. It's fine for me, but new visitors may be confused.

The trails should be wider for passing. I hate when runners approach me from behind.

There were very few parking spots.

This is a lovely refuge and well-maintained by thoughtful, caring volunteers.

This is a refuge with a parking lot and walking trails only. The parking lot is adequate with overflow parking and there is a bike rack.

This place is my little piece of heaven. It's perfect.

Very happy with trails that could easily be accessed with a stroller.

Very pleased that trails have been recently improved.

Wish for direct buses just for beaches and parks for all of Aquidneck Island. Also, bike and walking paths.

Would like a bicycle track alongside walking trails.

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=51)

A wonderfully serene and beautiful place to come to relax with nature. Sitting on the rocks, listening to the waves and bird calls is a meditation.

All great!

As a member of Save the Bay and Appalachians Mtn. Club, I understand the difficulty of trail maintenance, they have recently done work on erosion control, creating rock/funnel water bars very well. Railroad wood/gravel bars, are needed!!

Bathroom - 1 was closed, other was heavily used and unpleasant.

Beautiful views.

Center was closed after 4 pm on Labor Day weekend. Would like expanded hours for visitor's center.

Facilities are awesome!

Favorite place on Earth!! So beautiful! Very lucky to live so close to Sachuest Point!!

Great morning and evening walk! We do it often.

Group who introduced the survey were very nice, although not well-informed about the refuge, since they were traveling around the northeast to conduct the interviews.

Hours that the restrooms are available could be earlier, especially on the weekends. 8 am would be great.

I feel I cannot truly enjoy or explore the non-beach portion of this refuge because my service dog is not allowed (according to a very hostile employee); therefore, I am limited to certain activities and the beach area where he is permitted.

I live locally and went to walk the trails. I will definitely come back and tour the refuge. The interns we met were very nice.

I love my refuge. Sometimes I've seen people walking dogs - more signs/enforcement needed.

I love Sachuest Point!! Besides the amazing views, it's peaceful with well-maintained trails, helpful volunteers that we bump into sometimes along the paths. There is always a helpful volunteer in the visitor's center to answer questions about recent events/sightings and they keep the facilities clean and orderly. I feel like it's a hidden gem in RI and like that the trails don't get too crowded.

I love Sachuest Wildlife Sanctuary and am so grateful that it's nearby for me to visit.

I visit the refuge at least once a week because it has all of the services and facilities I need. I mostly visit for the fresh air and scenery but hike with family on the weekends.

I would like dogs on a leash to be allowed, as well as bikes during set hours.

It is well-run with helpful, friendly staff. It was a pleasant experience with no complaints. I visit often, good job, we need more of these facilities. Thank you, I enjoy it very much.

It would be nice if more things on the path were labeled. I would like to know what plants I am looking at.

It would be nice to have volunteers or employees on hand to enforce regulations; such as no dogs, no bikes on-trail, no beach parking.

It would be perfect if that one area was all dirt path because the long grass on the trail leads to ticks. Friends do not want to come back once they find ticks on them.

It's a beautiful spot that we are grateful to take advantage of for running. The paths are nice, the volunteers great, and always glad to use a clean, safe restroom.

It's a great place to bring your young children. Volunteers are friendly and helpful. A lot to see and experience both inside the facility and outside on trails and beaches. My son and I loved coming here during our time in RI.

Known for trails with beautiful ocean views, fishing off the rocks, snowy white owls in the winter and a variety of birds and waterfowl and deer. A beautiful location. The restroom open from the outside is much appreciated.

Many of trails repaired this season - much appreciated!

More healthy food options.

Only 2 bathrooms, long lines. Visitor center was closed.

People need to stop smoking cigarettes on the trail. There are butts everywhere and children who should not be exposed. This should be enforced.

Primary purpose of my visits is walking, which I do several times a week during warm months. When I have stopped into the visitor center, it is always clean and informative.

Sachuest is one of the best facilities; everything is clean and well-maintained, and the trails are great. We always see many birds and occasionally deer.

Sachuest Point is well mapped out, has valuable volunteers.

So glad the restroom was made available even into the evening.

Such welcoming volunteers in the welcome center. Very informative signs. Clean bathrooms.

Summer hours for the visitor's center are a bit short. Sun up until 8:30 pm but the center closes at (I think) 4:30 or 5:00 pm.

Thank you!

The bathrooms can be gross at times. Even designation of ladies'/men's can help with this, I think. They are unspecified.

The big standing binoculars overlooking the rocks are kind of awkward and hard to adjust. I don't think it is the fault of the refuge, just the nature of the beast!

The employees were not engaged when I visited. I tried to ask a question and they clearly did not want to be asked. This was on a previous visit in the summer of 2016.

The restrooms could be cleaner.

There is no bicycling on the trails. Also, garbage is left from others, as there are no containers to put your garbage in - if more people were around, they might monitor the garbage and have those leaving it, pick it up themselves. Love that Fish & Wildlife was there writing tickets to those who had fished without a license!

This refuge is a peaceful spot on the outskirts of Newport, a great place to walk/run and see many birds and occasionally deer, often at very close range. It is clean, safe and well-maintained.

This refuge is not the best place for water access for kayaking, but not necessary since a boat landing is nearby. We have not used nature/welcome center often; we just walk trails and fish from shore.

Trails are well-maintained, some of the shrubs are now blocking view of ocean.

Very nice as is.

Visitor center more than adequate, trails excellent, views of nature outstanding.

We enjoy walking the trails at Sachuest Point Wildlife Refuge. We appreciate that there is a well-kept visitor center and restrooms. We wish more wildlife refuges and hiking areas had restrooms and centers with programs, video interactive activities, and guided hikes.

We feel fortunate to have such a fine area in our area. Well-run. An oasis!

Wonderful refuge and facility that we use often.

Wonderful.

Would like to see more benches for one to rest and enjoy the view - currently only 1 bench in the parking area!

End of Survey

General Comments (n=38)

A wonderful place for us to walk. Don't have to fight traffic crossing streets, get a well-tended path, lovely views and wildlife views and the ever-changing foliage. Occasional visits to the visitor center, and everyone is always friendly and ready to answer questions. A little more parking would be nice and maybe another trail somewhere for variety. Thanks.

Enforce smoking laws for the health of other people and for the wildlife.

For such a small state, Rhode Island has to rank up there with the quantity and quality with wildlife refuges, parks, and management news.

Girl taking survey information was very nice.

Have a great day!

Hi! It was a pleasure to meet you! Best of luck as you move forward with your travels for nature and passion for wildlife! Best, [name] from Rhode Island.

I am local to Aquidneck Island and visit Sachuest Point 5 to 7 times to enjoy nature and my morning hello's to other locals and tourists visiting the area. It is a safe environment, which is very important to me and I appreciate all the hard work of the Fish & Wildlife rangers, as well as the volunteers who maintain the trails and educate visitors.

I like the refuge the way it is. No improvements are needed.

I lived in Rhode Island for over 20 years and I used to visit this refuge several times a year, in all seasons. I have moved from Rhode Island 13 years ago, but whenever I'm in the state, I try to get to Sachuest for a walk around. I was sad to learn that seals are no longer stopping by on their migrations.

I thought this survey was going to be about the area that is sectioned off on Second Beach in Middletown, RI. And how you could do a better job about protecting the endangered birds. I live at the campground all summer and sit by the roped off area and observe all the people, all day long. Some people read the sign and ignore the warning all together. Some don't read the sign at all. Some parents tell their children that the birds and the area are protected and then go in and play ball or frisbee. One lady said that you could go in the area, just not on the rocks where the nests are. When I tell them that it is against the law, they look very puzzled. Some people use the rope for a volleyball net. Many are on the rocks, collecting seashells. There should be better signage and the entire area should have a rope around it. There should be a sign on every pole! Many people

are ignorant and think that the rules don't apply to them. I collect sea glass and would like nothing more than to go on those rocks looking for it, but I don't and follow the rules!

I took a walk on the beach and was asked by a very nice intern to complete this survey. I am an environmental lawyer and a huge supporter of all parks.

I value our parks and the opportunities to preserve nature, habitat, and wildlife.

Increased signage and education on prevention of Lyme disease is important for out-of-town visitors with young children. The refuge is next to 2 town beaches and located near Newport, RI which is a travel destination.

It's a great place to walk. I wish there was a more defined trail/walkway on the way down from the refuge leaving. Walking from the beach to the refuge, you have to walk in the road and there isn't much room to get over to avoid the cars.

Love the Sachuest Wildlife Refuge in Middletown, RI.

Love visiting the park every Sat/Sun and especially during the winter when we can observe pheasants, seals on the rocks, snowy white owl, falcon, eagles, hawks, deer in many stages of their lives and more tranquil - not many visitors during below 0 temperatures, so we feel like we have the park to ourselves. Love it! Appreciate all you do for us by being there, that we will drop off homemade, healthy zucchini muffins and holiday cookies in the winter. Wish they could offer water - we carry our own, but with litter, things are not able to be done there.

Need to cut brush for better ocean view.

Refuge is very nice and is well-run. Volunteer staffing is excellent, personally and observing. Air conditioned, very clean (building and bathrooms and trails). Parking area is fine. A nice place to visit and to bring our visitors. In fact, we are proud to bring visitors there or refer them. Only wish is extended, open hours for restrooms, birders/hikers are there early in the morning and later in evenings.

Refuge was very well-maintained, and visitor's center was informative. Staff was helpful.

RI Park Department is doing a great job in environmental management. Including management of trails and cleanup. The facility is always clean. I am 73 years old and I walk the trails every day.

Sachuest Point is a small place for bird watching with hike/walking trails along the ocean. A lot of these questions don't apply. It is a peaceful walking spot for a nature fix of pretty scenery.

Sachuest Point is a treasure! My only concern is the sport fishermen who access the water from the area. That is the only reason I feel unsafe walking the trails alone. Otherwise, the area is used by families and people of all ages.

Sachuest Point is a treasured area on Aquidneck Island. I can imagine having my ashes spread there some day.

Sachuest Point Wildlife Refuge is a beautiful place - please keep on doing what is being done! I would like to visit the other refuges in RI, also.

Sachuest Wildlife Refuge in Middletown, RI is a true treasure. It is well-maintained, offers stunning photography opportunities, and the people are nice. This is a well-kept secret to Rhode Islanders based on the fact there never seems to be a lot of people there.

Such a great resource for everyone! All the people there were loving it!

Thank you for taking the time to gather our feedback. Keep it up.

Thanks to everyone (refuge, university collaborators). Hope the survey is productive.

This is a great public space and it seems more and more people are taking advantage of it. There is, however, a need for better signage, especially regarding dogs! Dogs are not permitted and yet more and more people are bringing them into the refuge, especially after hours when the volunteers and/or employees have left the refuge. The trails were recently improved (finally!) and hopefully will, for the first time, be passable this winter, but the grass along the trails is cut but once or twice a year, creating a health risk due to the very large deer tick population, especially for (young) children. Apart from these concerns, things seem to be managed well.

This refuge is one of my favorite places to hike and I feel lucky to live close to it.

Too far from home for a return visit but it was beautiful.

Unfortunately, invasive plants have gotten a deep hold on the refuge grounds. Their management would be difficult.

We come here sometimes 3 times a year to experience the different seasons and it's always beautiful, with the trails through grasslands and walking near the ocean. It is a fabulous wildlife refuge.

We enjoyed meeting and talking with your representatives.

We love the refuge. The views are lovely, and it is enjoyed by all ages, giving us time to enjoy nature, do a healthy activity (walking) and respite from the busy, noisy world we live in. Thank you for your endeavors to evaluate these special places.

We love the Sachuest Point National Wildlife Refuge! The only thing we didn't like about our visit was seeing a picture of Donald Trump and Mike Pence on the wall.

Wonderful place!!! Would be better if a path was put in from second campground on side of the road to make it safe to walk from Second Beach.

Wonderful visit.