



U.S. Fish & Wildlife Service

NATIONAL WILDLIFE REFUGE VISITOR SURVEY

*2018 Results for
John Heinz National Wildlife Refuge
at Tinicum*



**THE OHIO STATE
UNIVERSITY**



Acknowledgments

This study was funded by the U.S. Fish & Wildlife Service/National Wildlife Refuge System's Natural Resource Program Center, Division of Visitor Services & Communications, and Division of Facilities, Equipment, & Transportation. The study design and survey instrument were developed collaboratively with representatives from the U.S. Fish & Wildlife Service and researchers from The Ohio State University. We would also like to thank any staff and volunteers at John Heinz National

Wildlife Refuge at Tinicum who assisted with the implementation of this survey effort. We would like to especially acknowledge the following American Conservation Experience team members for their work in implementing the on-the-ground sampling for the 2018 survey effort: Ellen Bley, Kylie Campbell, Michelle Ferguson, Justin Gole, James Puckett, Nicole Stagg, and Angelica Varela. Lastly, we thank Emily Neidhardt for designing this report.

Report citation:

Dietsch, A. M., Sexton, N. R., Lyon, K. M., Hartel, C. M., & Mengak, L. F. (2019). National Wildlife Refuge Visitor Survey: 2018 Results for John Heinz National Wildlife Refuge at Tinicum. Columbus, OH: The Ohio State University, School of Environment and Natural Resources.

Front cover: View of the Philadelphia skyline with the marshlands of John Heinz National Wildlife Refuge at Tinicum in the forefront. Photo credit: Nicole Stagg.

Contents

Acknowledgments	ii
Understanding Wildlife Refuge Visitors & Their Experiences	1
Surveying Visitors at This Wildlife Refuge	3
Visitor Characteristics	5
Trip Characteristics	6
Information Sources Used for Trip Planning.....	9
Use of Social Media	11
Participation in Recreational Activities	12
Comfort in Nature/Feeling Safe & Welcome	14
Satisfaction with Refuge Experiences	16
Economic Benefits to Local Communities & Visitors.....	20
Encouraging Return Visits & Future Recreation Participation.....	22
Conclusion.....	25
References	26
Appendix A: Survey Methodology	27
Appendix B: Response Frequencies and Averages by Survey Question	29
Appendix C: Open-Ended Survey Responses by Question.....	41

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 John Heinz National Wildlife Refuge at Tinicum, 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

John Heinz National Wildlife Refuge at Tinicum is located in southeastern Pennsylvania within the city limits of Philadelphia. Tidal marsh habitat had historically been lost to farming and development, so local citizens worked together to save the marsh in this area and set the stage for creation of the wildlife refuge, which was established in 1972 as the first urban refuge in the System. The primary purpose for the refuge's establishment was to preserve and restore Tinicum Marsh, the largest remaining freshwater tidal marsh in Pennsylvania. Located along the Atlantic Flyway, this wildlife refuge provides shelter for many migratory birds along their journey, including shorebirds, wading birds, and wintering waterfowl. In addition, the refuge supports a variety of mammals. Notably, the refuge provides the last possible habitat in the state of Pennsylvania for the marsh rice rat.

John Heinz National Wildlife Refuge at Tinicum attracts over 250,000 visitors annually (U.S. Fish and Wildlife Service, 2018, written comm.). There are a variety of ways that visitors can observe wildlife that call the refuge home. Visitors can kayak or paddle 4.5 miles of Darby

Creek, hike the 10 miles of trails, or use any of multiple observation platforms to engage in birdwatching and wildlife photography. Visitors can also go fishing or enjoy environmental education opportunities on the refuge.

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 380 visitors agreed to participate in the survey by providing their names and addresses.
- In all, 167 visitors completed the survey online (52%) or by mail (48%) after their refuge visit, resulting in a 46% 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.



A school group learns the ins and outs of a freshwater ecosystem at John Heinz National Wildlife Refuge at Tinicum. Photo credit: Nicole Stagg.

John Heinz National Wildlife Refuge at Tinicum

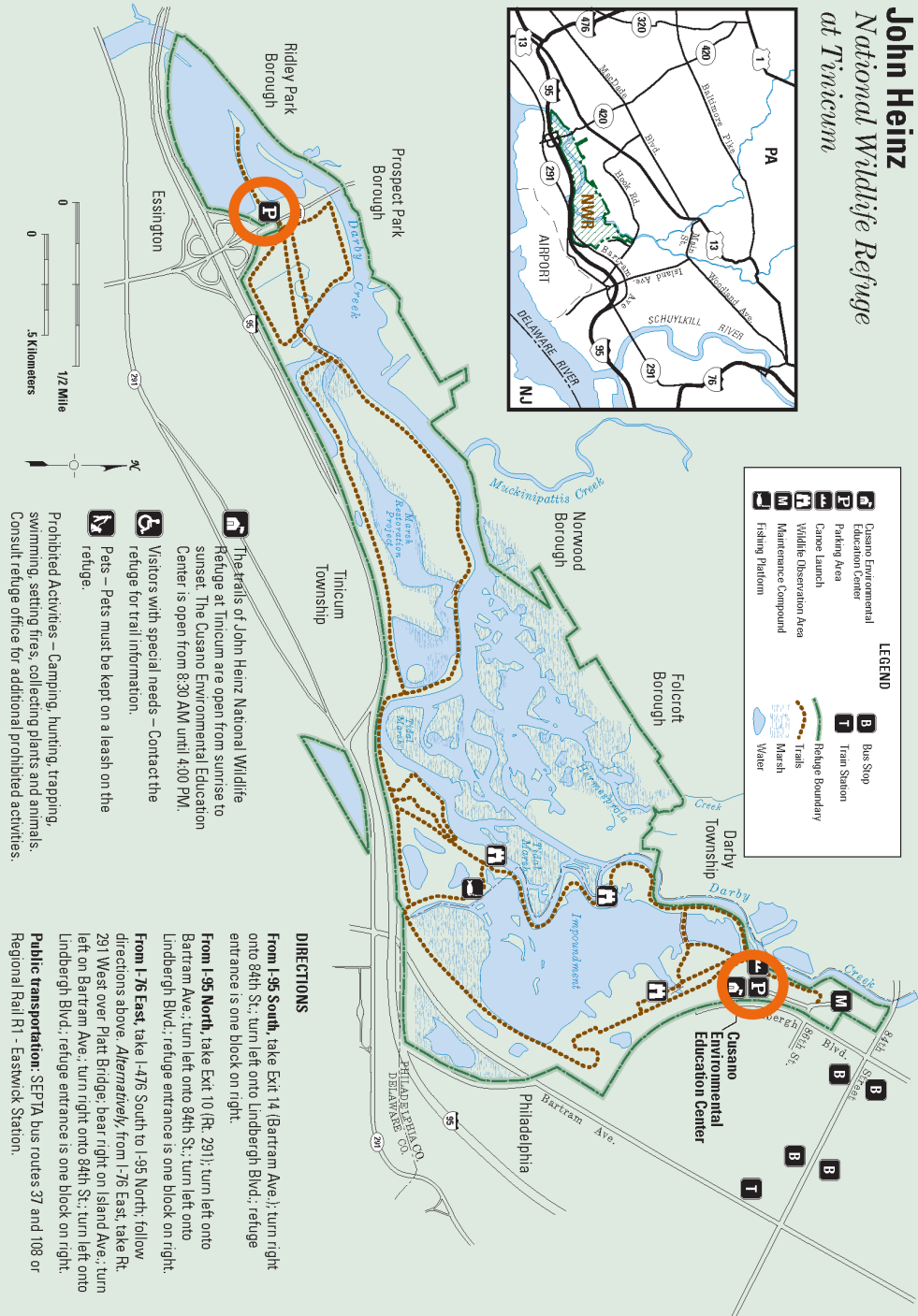


Fig. 2: Map of John Heinz National Wildlife Refuge at Tinicum. Visitors were contacted at the circled locations from 5/31/2018–6/9/2018 and 9/21/2018–9/30/2018.

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

- 51% of visitors were female with an average age of 49 years (Fig. 3).
- 49% were male with an average age of 56 years.

EDUCATION

- 8% of visitors had a high school degree or less.
- 48% had at least some college.
- 44% had an advanced degree.

RACE & ETHNICITY

Most prevalent race or ethnicity (Fig. 4):

- White (86%).
- African American (6%).
- Hispanic (3%).

INCOME

- Visitors had a mean income range of \$75,000-\$99,999 (Fig. 5).

OTHER TRIP CHARACTERISTICS

- Average group size of 2 people.
- 34% visited the refuge alone.
- 54% visited with at least one other adult.
- 12% visited with a combination of at least 1 adult and 1 child.

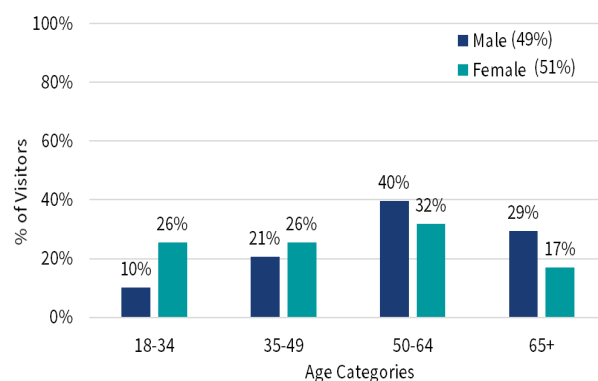


Fig. 3: Distribution of visitors to this refuge by gender and age group.

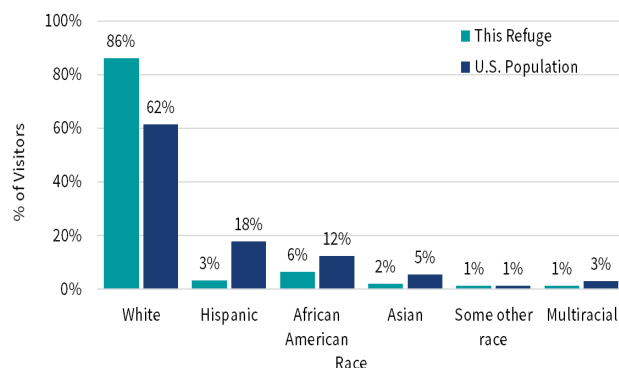


Fig. 4: Race and ethnicity of visitors to this refuge compared to the national average.

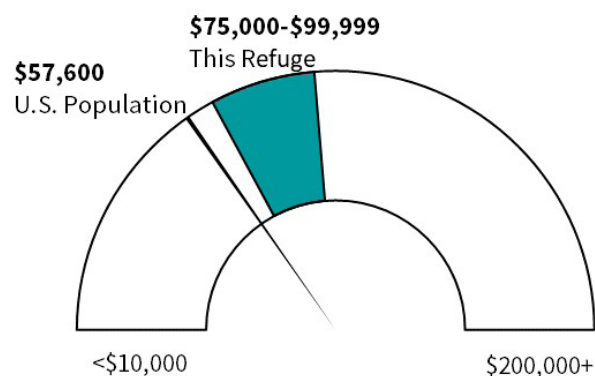


Fig. 5: Mean income range of visitors to this refuge compared to the national median income.

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 (90%) include:

- For locals, this refuge was the primary reason for their trip (87%) (Fig. 6).
- Local visitors traveled an average of 21 minutes to arrive at this refuge (Fig. 7).

NONLOCAL VISITORS

Highlights of trip characteristics for nonlocal visitors to this wildlife refuge (10%) include:

- For nonlocals, this refuge was an incidental stop as part of a trip taken for other purposes (50%) (Fig. 6).
- Nonlocal visitors traveled an average of 6 hours to arrive at this refuge (Fig. 8).
- Of the 99% of visitors who lived in the U.S., nonlocal visitors were most often from Pennsylvania (90%) and New Jersey (3%).
- 1% of respondents were international visitors.

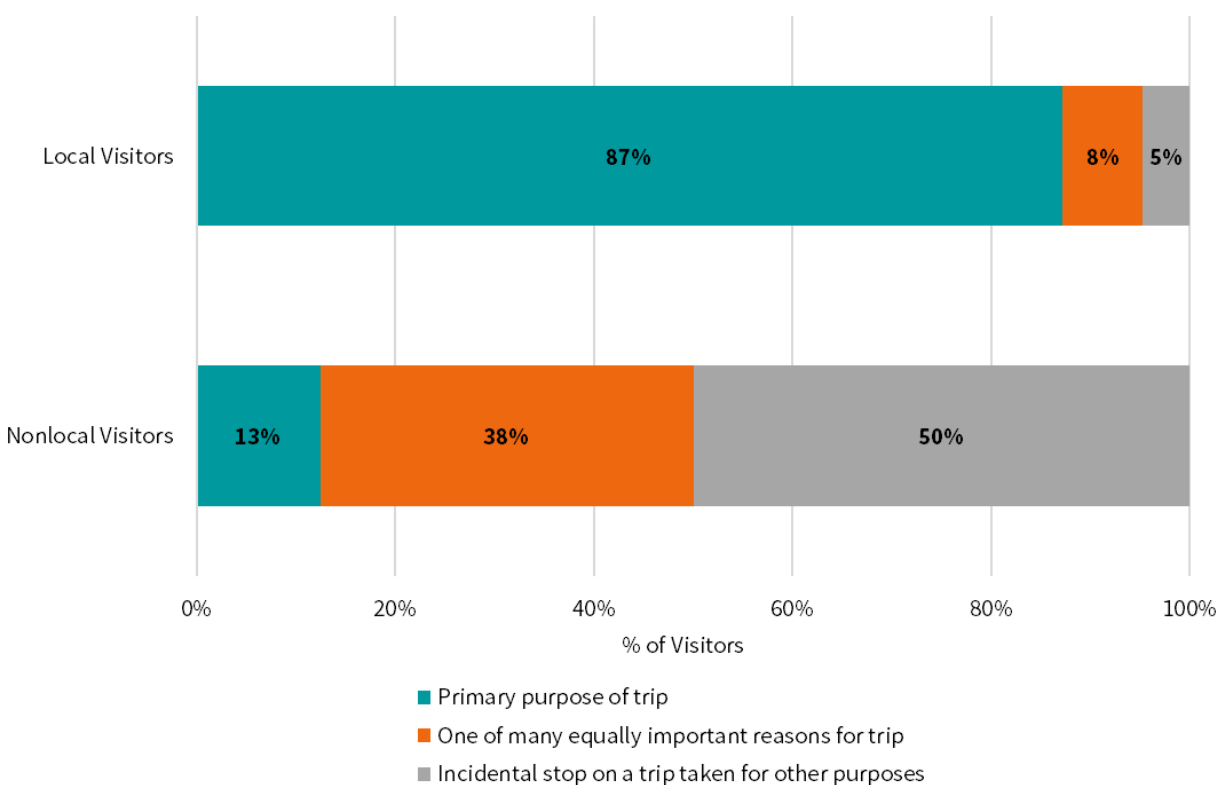


Fig. 6: Purpose of most recent refuge visit for local (living ≤ 50 miles from the refuge) and nonlocal (living > 50 miles from the refuge) visitors.

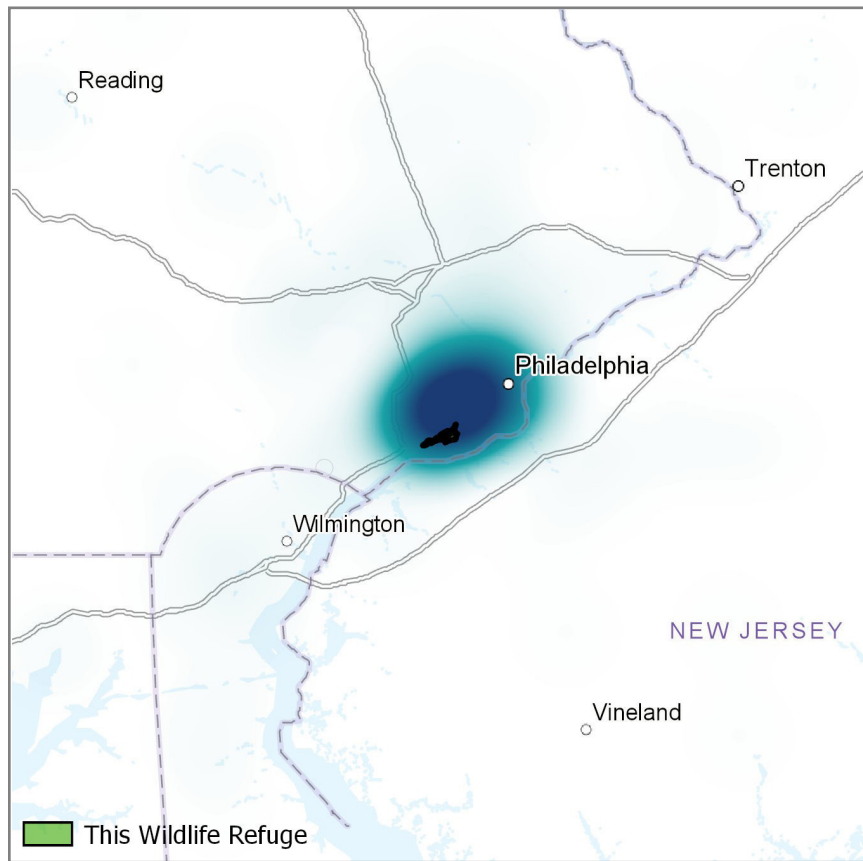


Fig. 7: Map showing residence of local visitors to this refuge. Darker shading represents relatively higher visitation from that area.

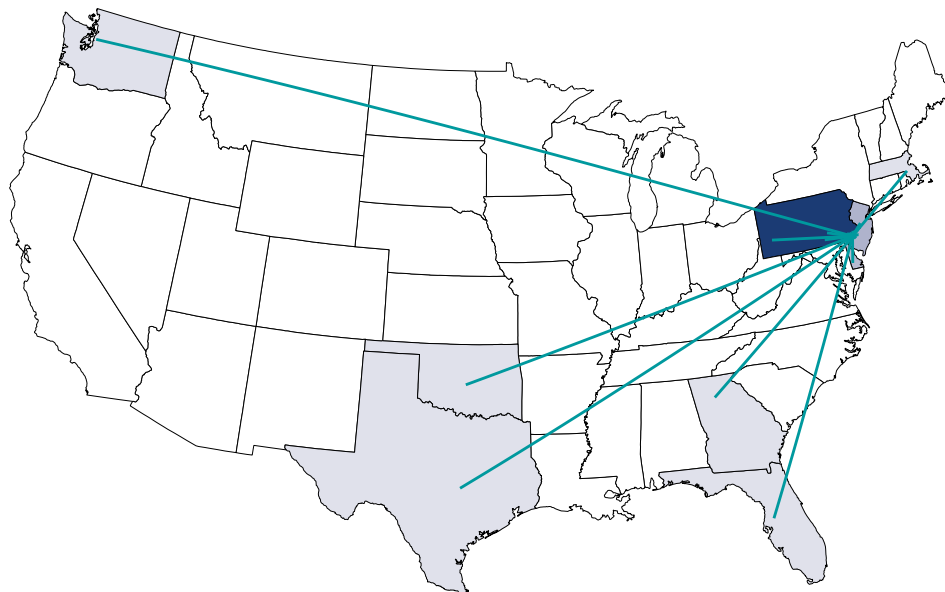


Fig. 8: Map showing residence of visitors to this refuge by zip code, with each line representing visitation from a different zip code. The convergence point of the lines is the geographical center of the refuge. Darker shading of the states represents higher visitation from that state.

OTHER TRIP CHARACTERISTICS

Other trip characteristics include:

- To get to this wildlife refuge, visitors primarily traveled by private vehicle without a trailer (90%), by foot (12%), and by bicycle (9%) (Fig. 9).
- Once on the refuge, visitors primarily traveled by foot (61%), private vehicle without a trailer (16%), and bicycle (13%) (Fig. 9).
- Visits occurred during winter (46%), spring (73%), summer (78%), and fall (81%).
- 99% of visitors made a single-day trip to this refuge, spending an average of 3 hours, while 1% 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:

- 83% were repeat visitors to this wildlife refuge, visiting an average of 36 times.
- 47% visited other national wildlife refuges, averaging 3 visits.
- 79% visited other public lands, averaging 9 visits.

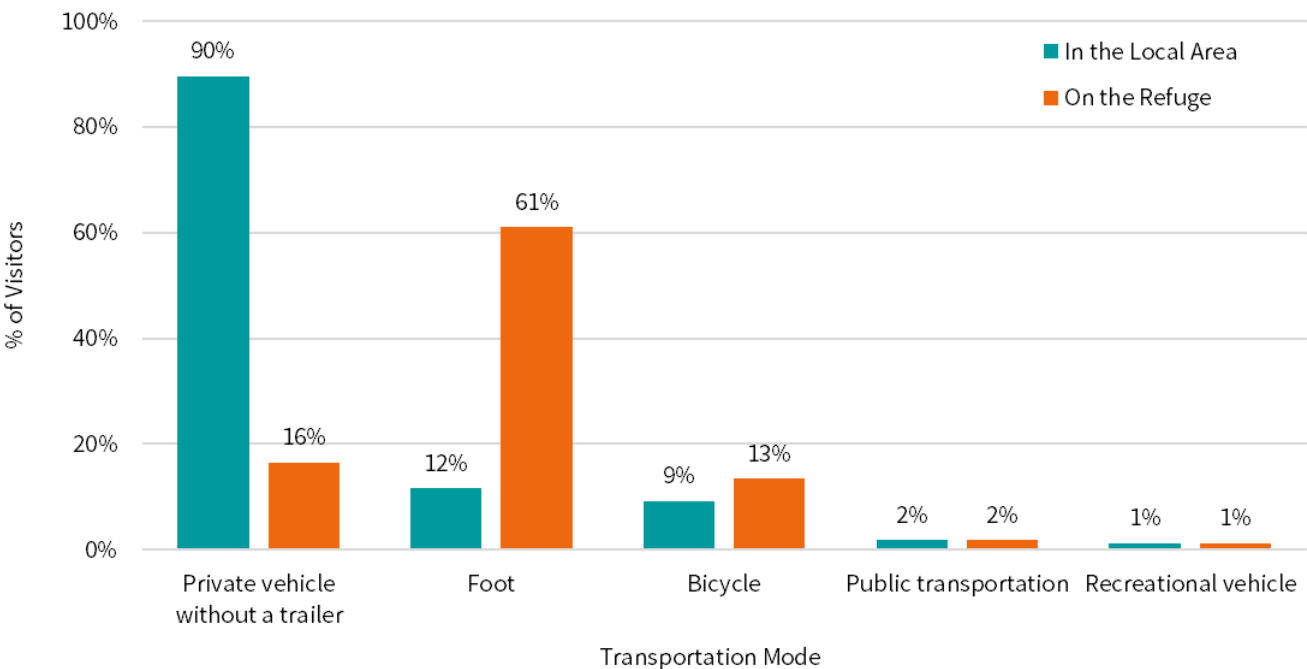


Fig. 9: Modes of transportation used by visitors to get from the local area to this refuge and within the boundaries of this refuge.

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 tourist information/welcome center and word of mouth.
- 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).

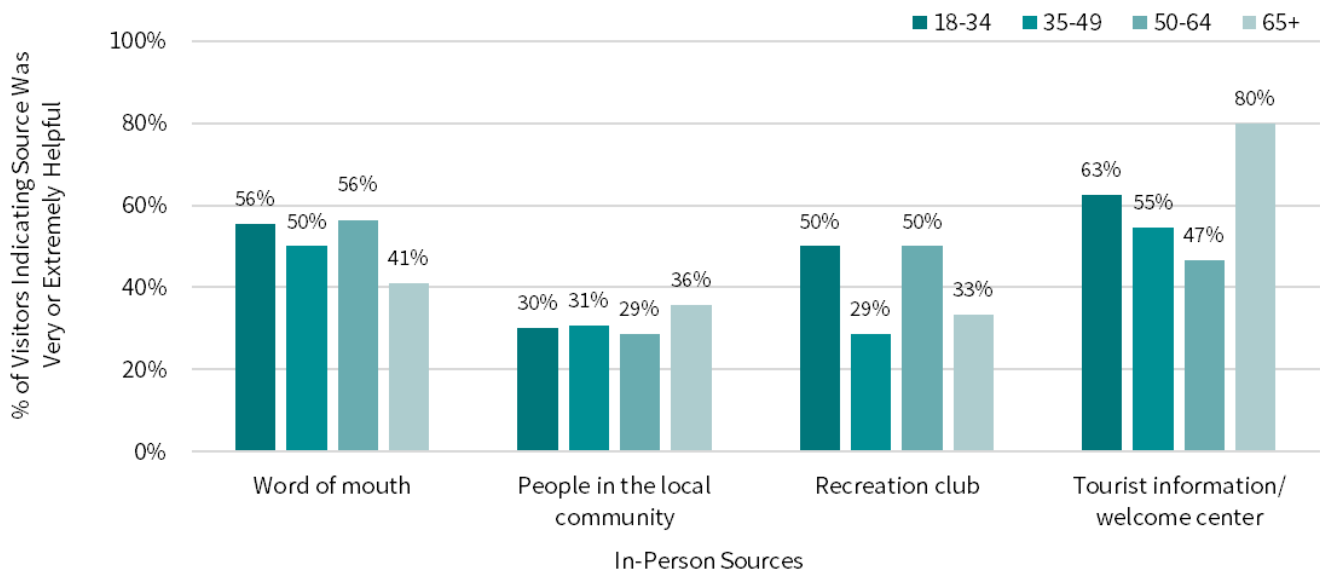


Fig. 10: Percent of visitors by age group who found in-person information sources very or extremely helpful in planning their trip.

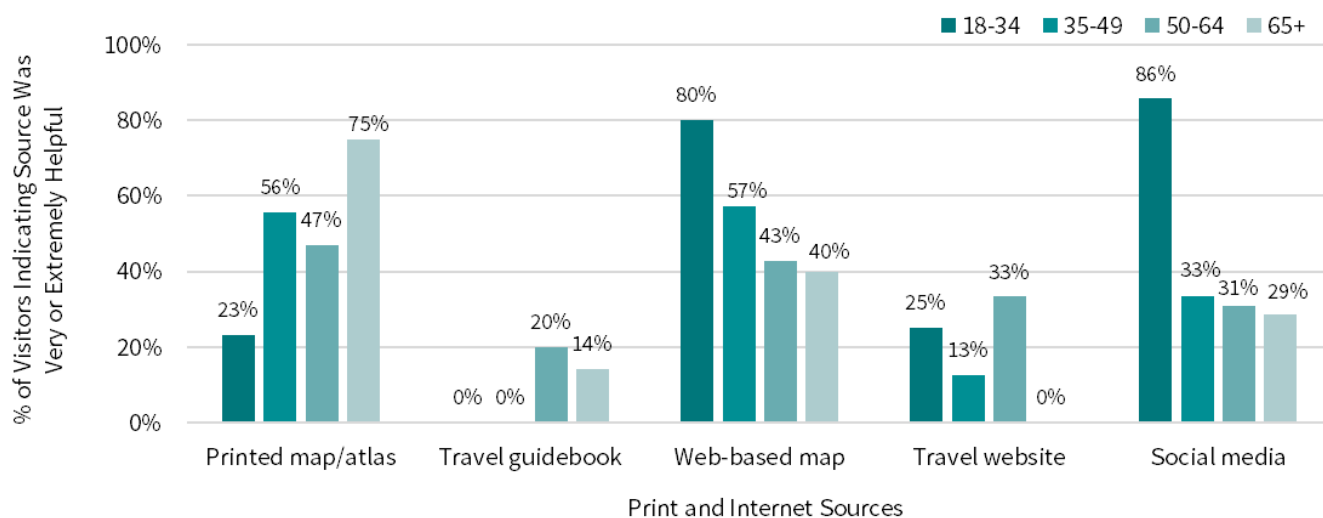


Fig. 11: Percent of visitors by age group who found print and internet information sources very or extremely helpful in planning their trip.

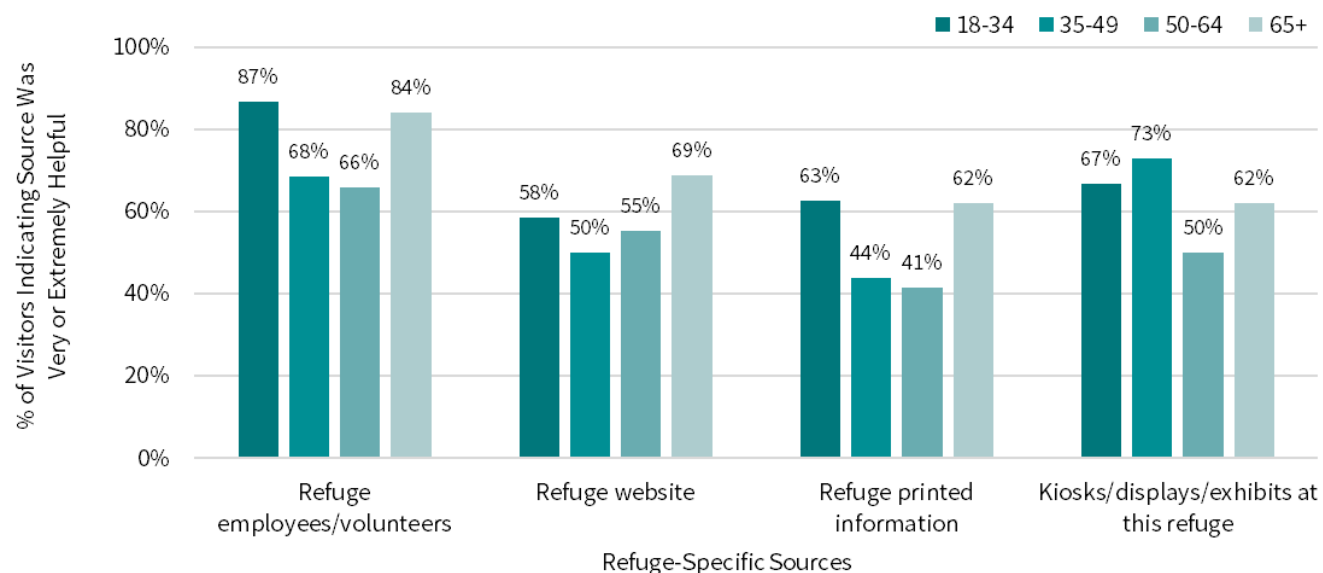


Fig. 12: Percent of visitors by age group who found refuge-specific information sources very or extremely helpful in planning their trip.

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 53% 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 (56%), Facebook (30%), and Snapchat (22%).
- Visitors 35-49 years old preferred to use Facebook (47%) and Instagram (35%).
- Visitors 50-64 years old preferred to use Facebook (48%).
- Visitors 65 or older preferred to use Facebook (19%).

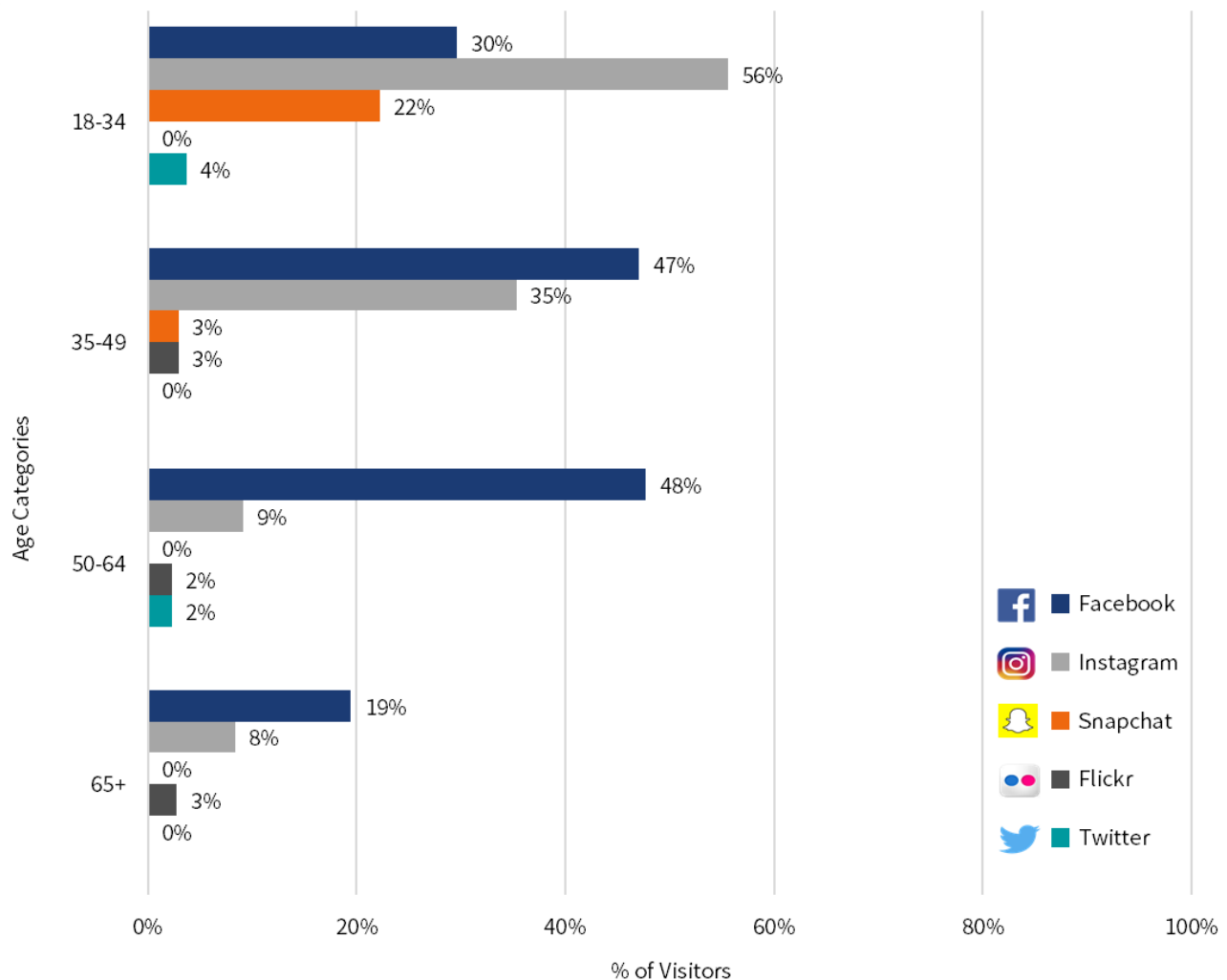


Fig. 13: Percent of visitors by age group who used various social media platforms to share their experience on this refuge with others.

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 (87%), wildlife observation (68%), and bird watching (51%) (Fig. 14).
- The top three activities noted as their primary activity on the day visitors were contacted to participate in the survey were hiking (46%), bird watching (19%), and jogging/exercising (11%) (Fig. 14).
- Approximately 50% of visitors went to the visitor center, and they most often used the facilities (34%), asked for information (22%), and viewed the exhibits (20%) (Fig. 15).



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

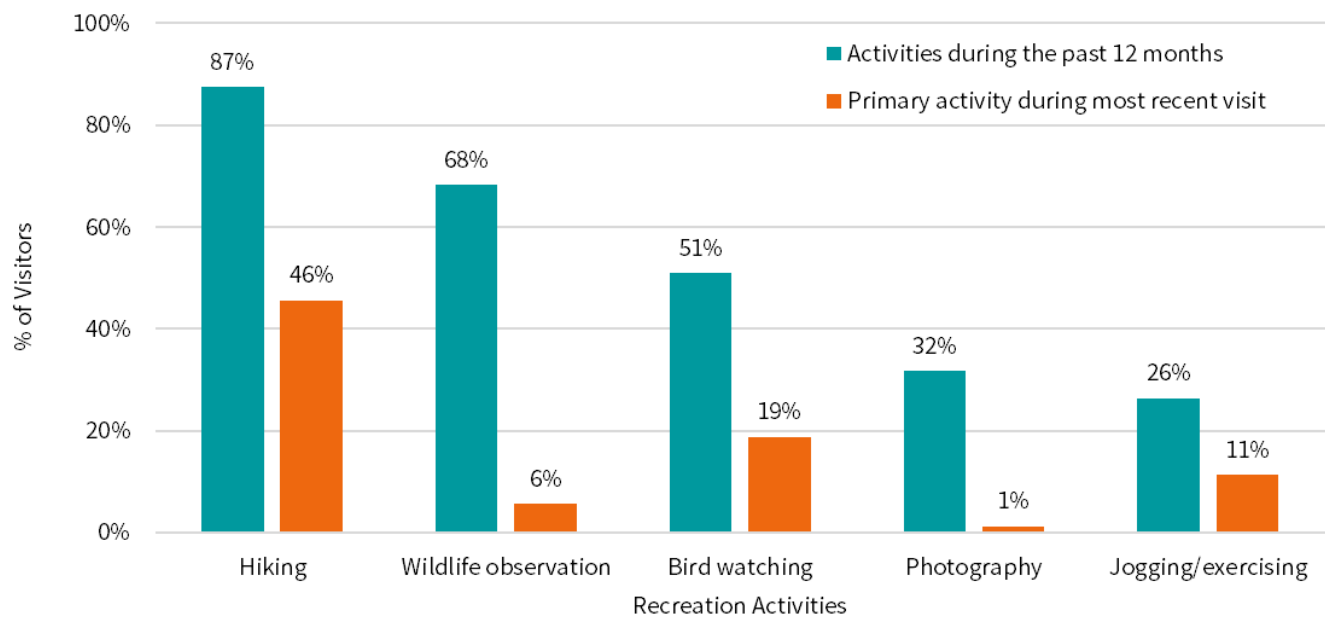


Fig. 14: Recreational activities visitors participated in during the past 12 months and their primary activity during their most recent visit to this refuge.

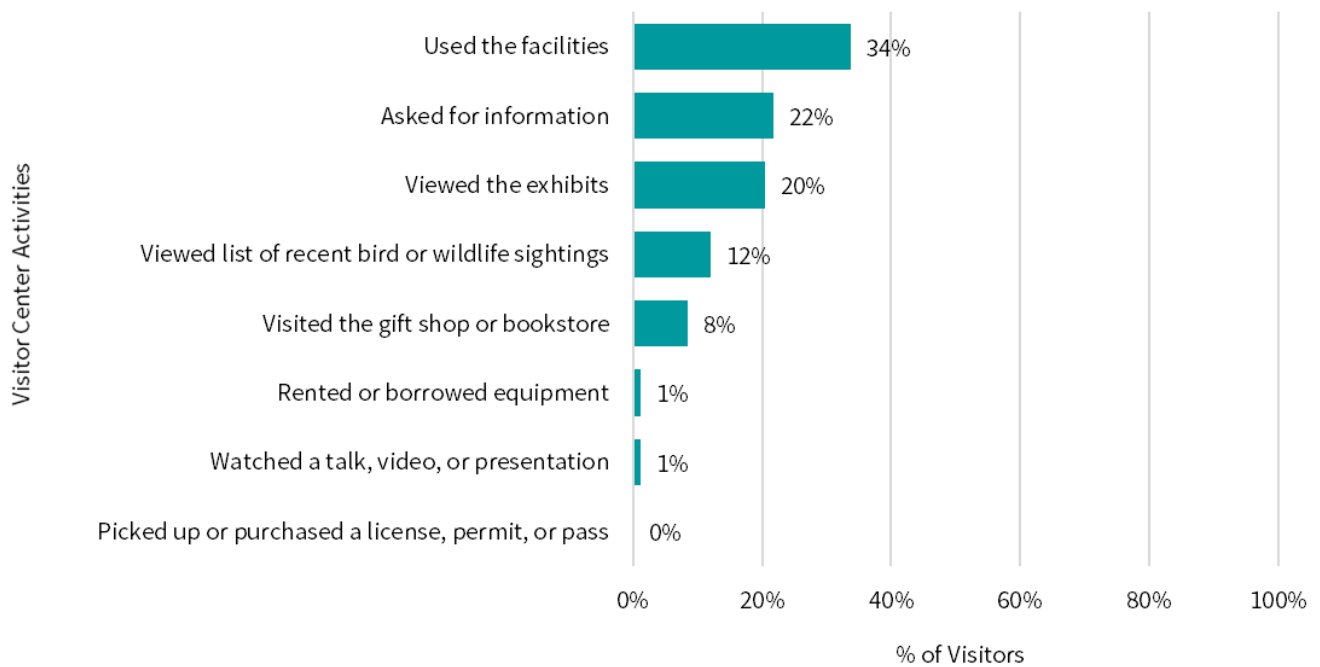


Fig. 15: Reasons visitors used the visitor center during their most recent visit to this refuge.

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).
- 93% 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).

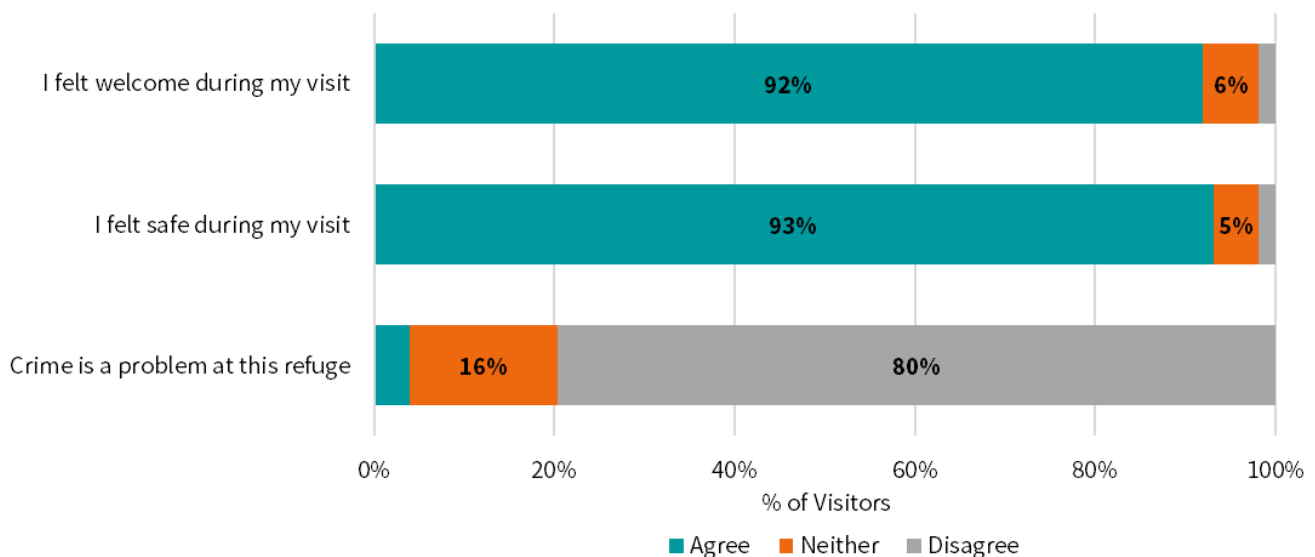


Fig. 16: Visitors' perceptions of safety and feeling welcome at this refuge during their visit.

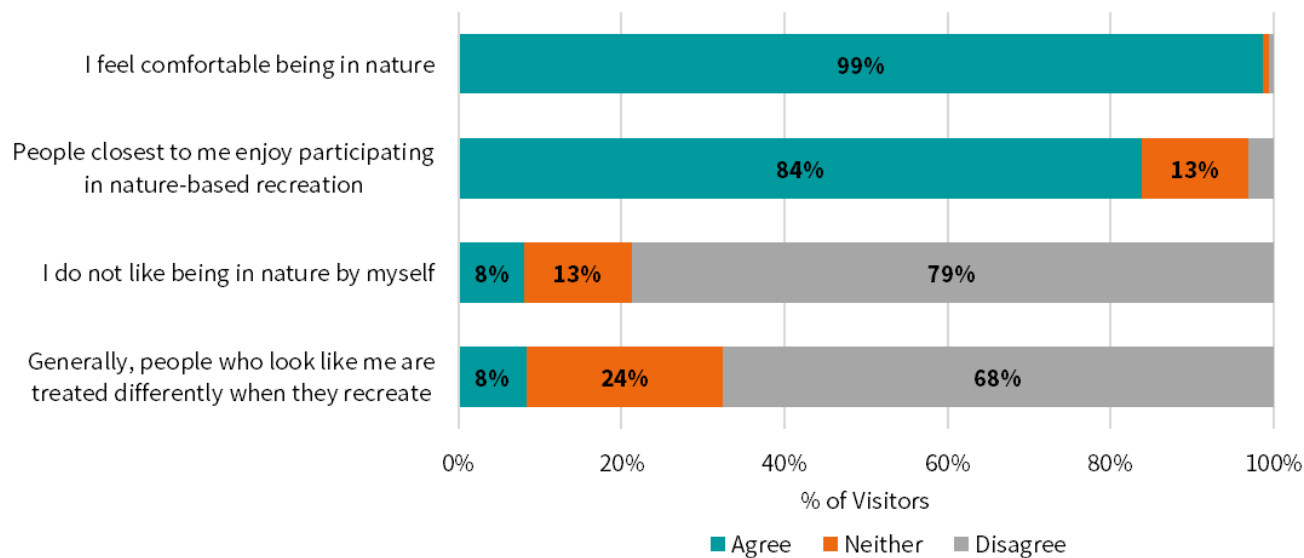


Fig. 17: Visitors’ comfort with being in nature.



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:

- 87% of visitors were very or extremely satisfied with the overall experience at this wildlife refuge (Fig. 18).
- 81% 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 (93%),
- visitor center (84%), and
- courteous and welcoming employees/volunteers (83%).

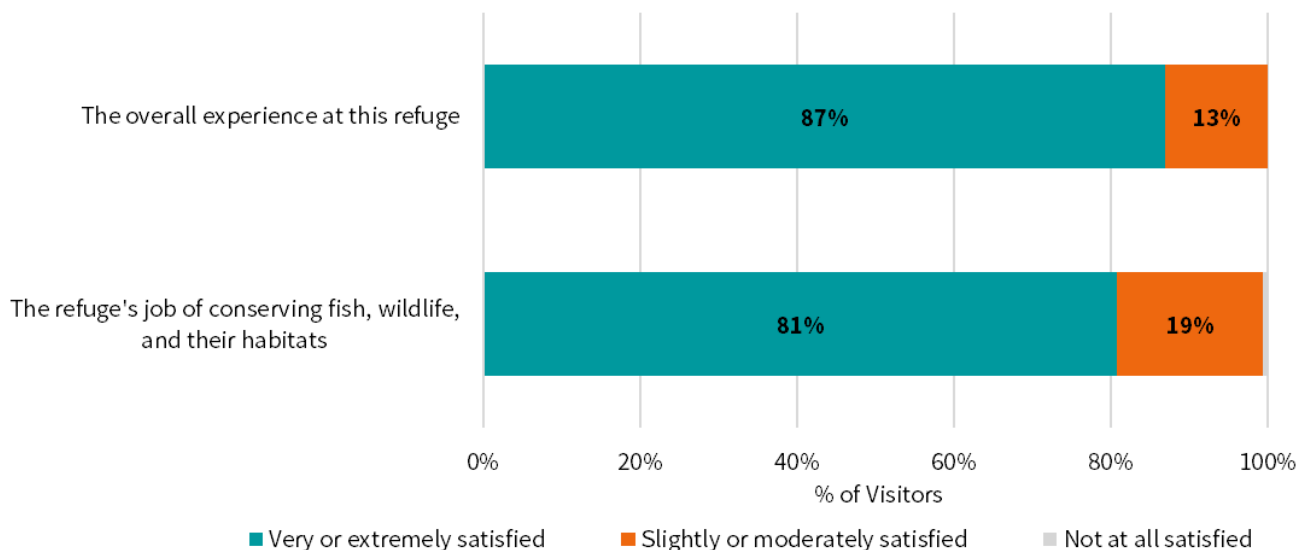


Fig. 18: Visitors' satisfaction with their experience at this refuge and with this refuge's job of conserving fish, wildlife, and habitats.

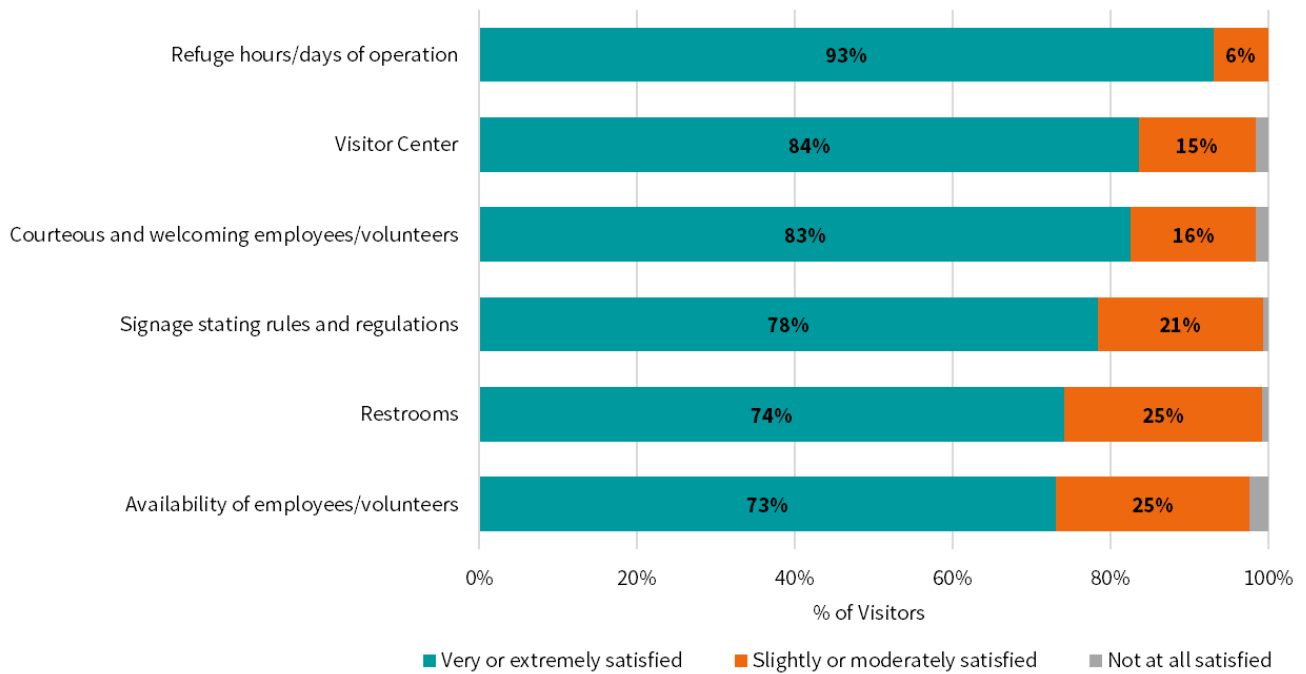


Fig. 19: Visitors’ satisfaction with customer service and amenities at this refuge.

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):

- bird watching (92%),
- environmental education (90%),
- bicycling (85%), and
- photography (85%).

“I love this wildlife refuge – the diversity of species, the neighborliness of the staff and visitors, the unique location in a major metropolitan area, and the mission it serves to support wildlife and conserve open space. [John Heinz National Wildlife Refuge at Tinicum] is a gem.” – Visitor to John Heinz National Wildlife Refuge at Tinicum

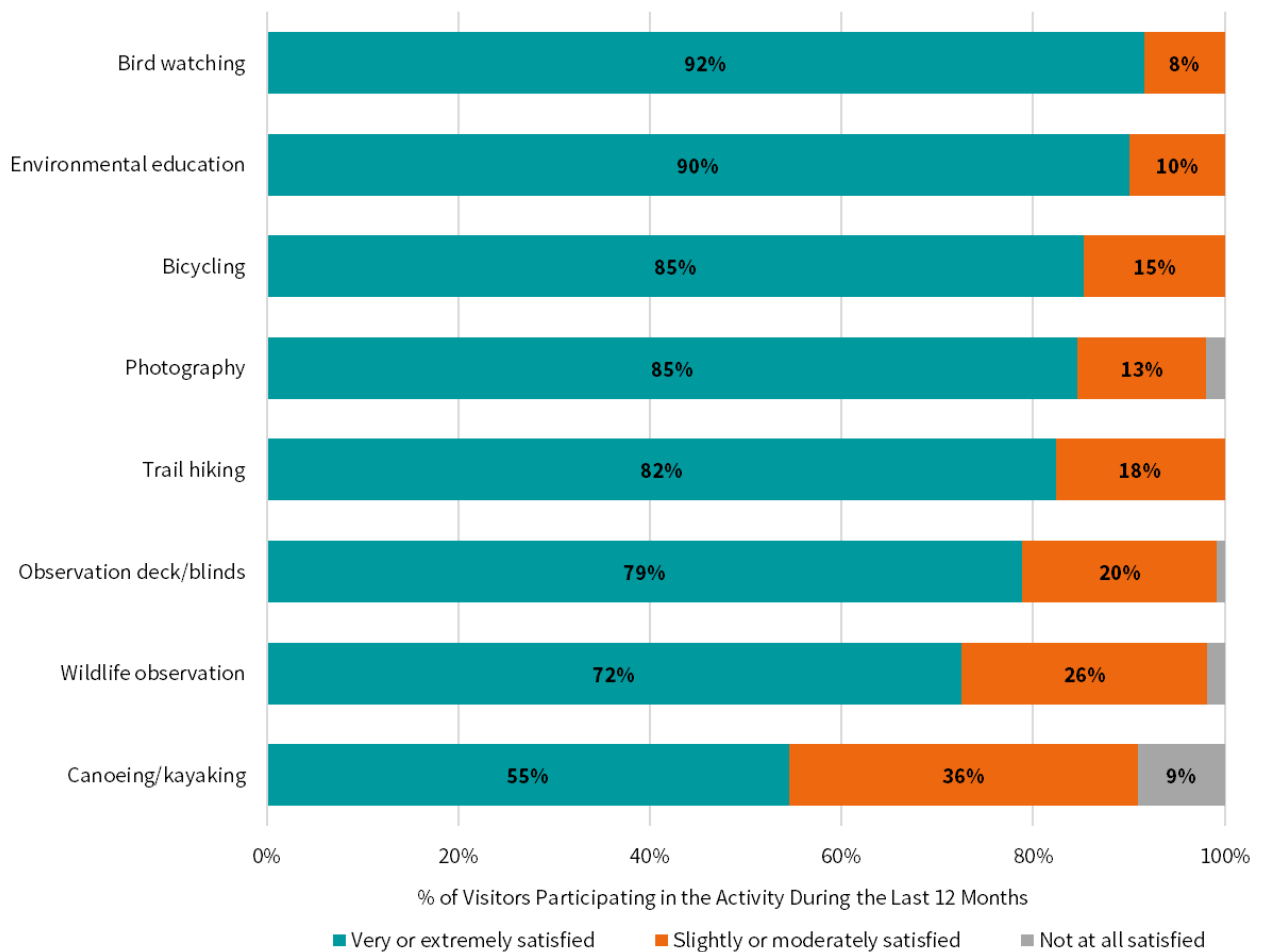


Fig. 20: Visitors' satisfaction with recreational opportunities at this refuge. Only visitors (10 or more) who participated in activities related to each opportunity at this refuge during the last 12 months were included.

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 (85%).
- Getting around this wildlife refuge, visitors were most satisfied with condition of parking areas (87%), condition of bridges on roadways (85%), and safety of driving conditions on refuge roads (80%).
- Accessing recreation on this wildlife refuge, visitors were most satisfied with condition of trails and boardwalks (78%), and safety of roads or trails for nonmotorized use (73%).

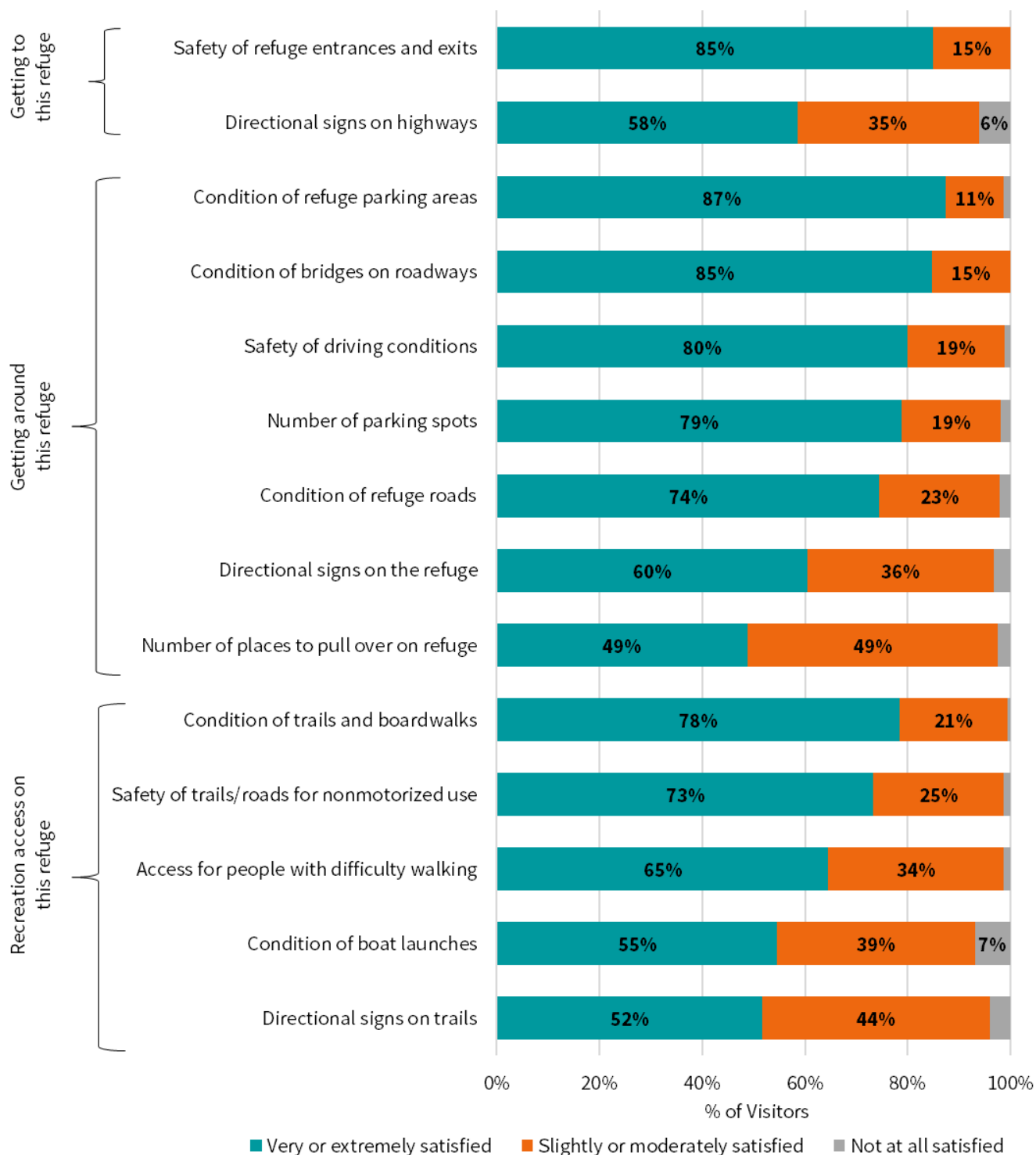


Fig. 21: Visitors' satisfaction with how the refuge is managing transportation-related features.

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; 90%) are as follows:

- On average, local visitors accounted for 32% 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 \$12 per person per day (Fig. 22).
- Local visitors were personally willing to pay an additional \$17 per day on average to visit this wildlife refuge (Fig. 23).

Results for nonlocal visitors (those living >50 miles from this wildlife refuge; 10%) are as follows:

- On average, nonlocals accounted for 68% 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 \$73 per person per day (Fig. 22).
- Nonlocal visitors were personally willing to pay an additional \$140 per day on average to visit this wildlife refuge (Fig. 23).
- Nonlocal visitors spent an average of 4 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.

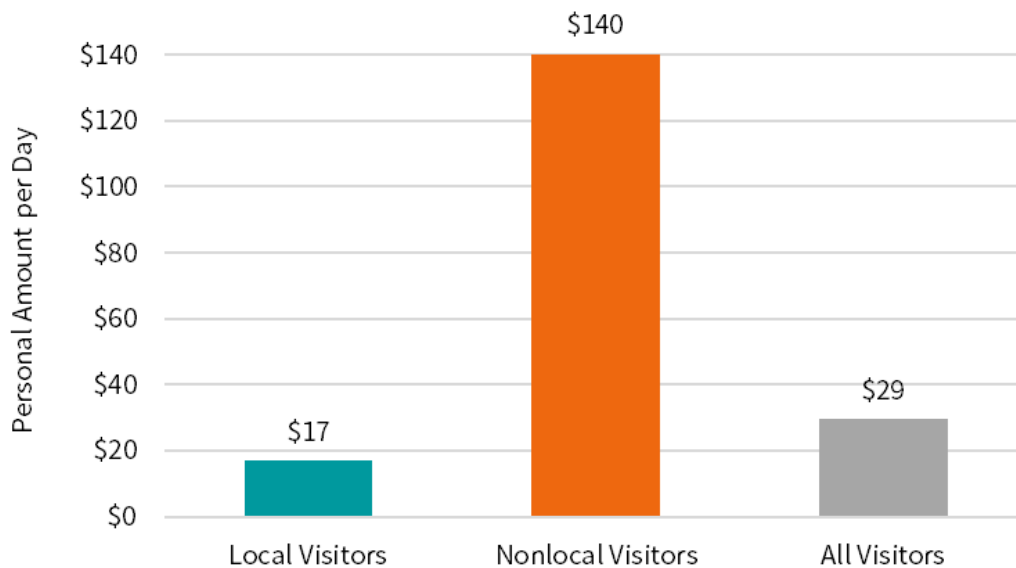


Fig. 23: Total personal willingness to pay per day above and beyond most recent trip expenses if costs were to increase for local, nonlocal, and all visitors. Due to the fixed-response question format, estimates of willingness to pay may underestimate the amount visitors would actually pay. Responses 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 (68%), creative pursuits (45%), and highlighting unique local culture (40%) (Fig. 24).
- The top two factors likely to increase visitors' future participation in their primary recreation activity were recreation equipment available for rent (32%) and more infrastructure (30%) (Fig. 25).
- The top two factors likely to decrease visitors' future participation in their primary recreation activity were less regulations on hunting (42%) and less regulations on fishing (20%) (Fig. 25).

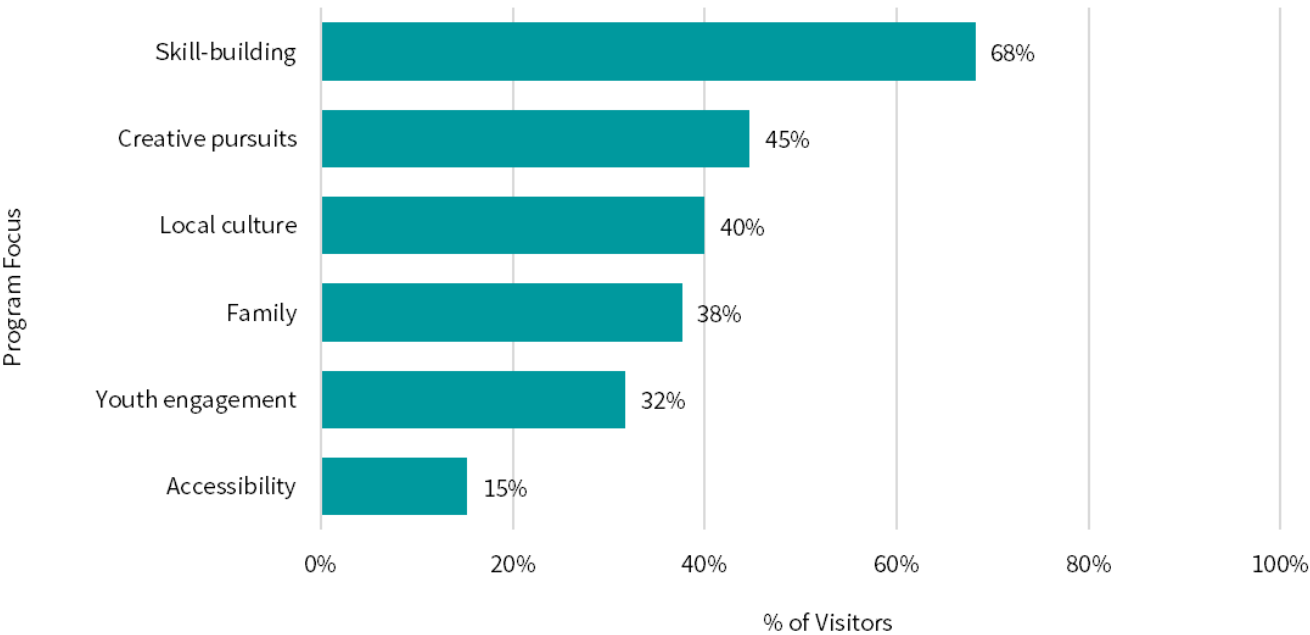


Fig. 24: Types of programs that would encourage visitors to return to this refuge.

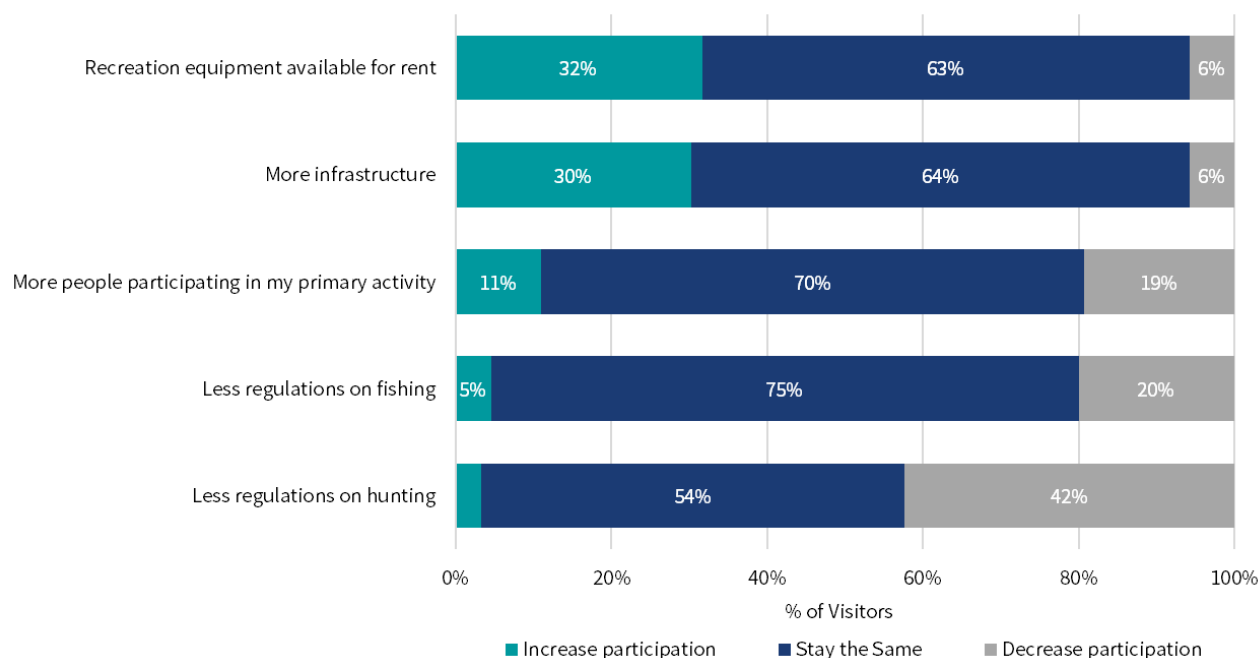


Fig. 25: Changes in visitors’ participation in their primary activity if the listed recreation factors were to change.

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 (26%),
- a bike-share program (22%), and
- public transit systems that stops at or near this refuge (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 an improvement in the quality of wetlands (58%) and an improvement in the quality of wildlife habitat other than wetlands (56%).
- The top two resource changes likely to decrease visitors’ future participation in their primary recreation activity were more acreage open to hunting and fishing (39%) and less water available for recreation (28%).

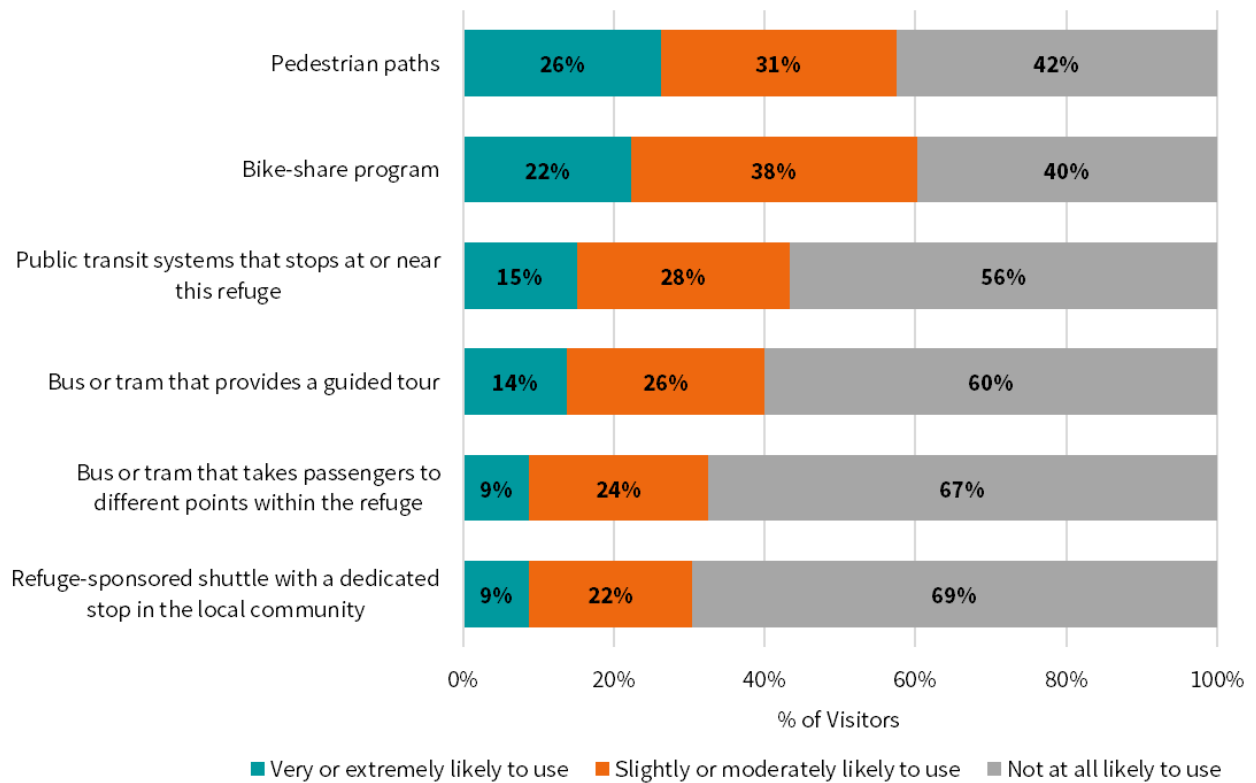


Fig. 26: Visitors' likelihood of using alternative transportation options if offered at this refuge.

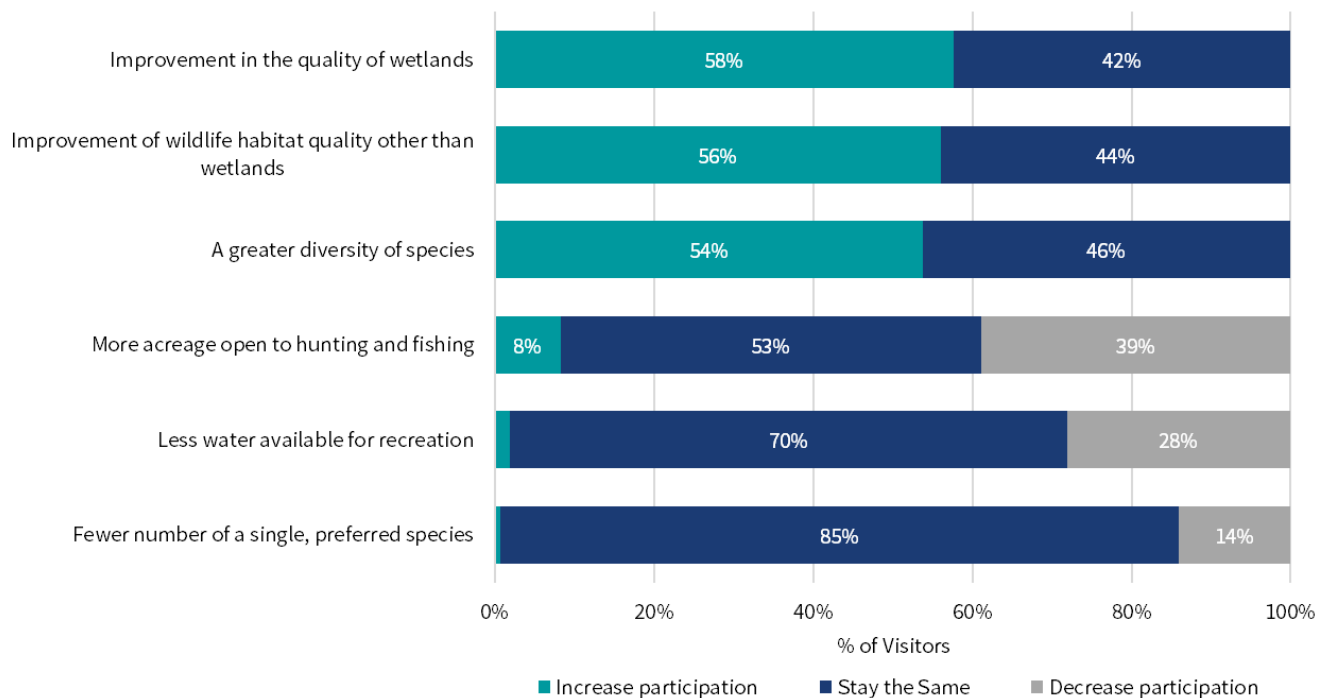


Fig. 27: Changes in visitors' participation in their primary activity if the listed resources were to change.

Conclusion

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

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



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

References

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

Appendix A: Survey Methodology

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

SAMPLING SCHEDULE

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

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

CONTACTING VISITORS ONSITE

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

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

COMPLETING A SURVEY AT HOME

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

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

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

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

DATA ENTRY & ANALYSIS

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

LIMITATIONS OF RESULTS

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

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

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

REFERENCES

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

National Wildlife Refuge Visitor Survey



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

PLEASE READ THIS FIRST:

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

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

SECTION 1. Your visit to this refuge

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

<input type="checkbox"/> 68% Wildlife observation	<input type="checkbox"/> 87% Hiking/Walking	<input type="checkbox"/> 5% Volunteering
<input type="checkbox"/> 51% Bird watching	<input type="checkbox"/> 26% Jogging/Running/Exercising	<input type="checkbox"/> 5% Environmental education program (classroom visits, labs)
<input type="checkbox"/> 32% Photography	<input type="checkbox"/> 22% Bicycling	
<input type="checkbox"/> 0% Big game hunting	<input type="checkbox"/> 2% 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"/> 1% Motorized boating	
<input type="checkbox"/> 0% Waterfowl/Migratory bird hunting	<input type="checkbox"/> 6% Nonmotorized boating (canoeing, kayaking)	<input type="checkbox"/> 5% Refuge special event (<i>specify</i>) <u>See Appendix C</u>
<input type="checkbox"/> 4% Freshwater fishing	<input type="checkbox"/> 2% Foraging (berries, nuts, other)	<input type="checkbox"/> 3% Other (<i>specify</i>) <u>See Appendix C</u>
<input type="checkbox"/> 0% 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"/> 80% It was the primary purpose or sole destination of my trip.
<input type="checkbox"/> 11% It was one of many equally important reasons or destinations for my trip.
<input type="checkbox"/> 9% 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?

☐ 50% No / Not Applicable

☐ 50% Yes → If yes, what did you do there? (*Mark all that apply.*)

☐ 22% Asked information of employees/volunteers

☐ 12% Looked at list of recent bird/wildlife sightings

☐ 1% Attended a talk/video/presentation

☐ 34% Stopped to use the facilities (for example, got water, used restroom)

☐ 20% Viewed the exhibits

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

☐ 1% Rented/borrowed equipment (for example, binoculars, fishing rod, snowshoes)

☐ 8% 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: 1 day(s)

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

☐ 90% Yes

☐ 10% 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: 4 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: 21 minutes

If you travelled more than one hour, round to the nearest hour: 5 hours

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

☐ 73% Spring
(March-May)

☐ 78% Summer
(June-August)

☐ 81% Fall
(September-November)

☐ 46% 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? 3 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"/> 36% Facebook	<input type="checkbox"/> 5% Snapchat	<input type="checkbox"/> 1% Personal blog (for example, Tumblr, Wordpress)
<input type="checkbox"/> 2% Flickr	<input type="checkbox"/> 1% Twitter	<input type="checkbox"/> 1% Travel-related website (for example, Trip Advisor)
<input type="checkbox"/> 23% Instagram	<input type="checkbox"/> 0% Vimeo	<input type="checkbox"/> 4% Other (<i>specify</i>) <u>See Appendix C</u>
<input type="checkbox"/> 0% Pinterest	<input type="checkbox"/> 1% YouTube	<input type="checkbox"/> 47% 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"/> 1%	<input type="checkbox"/> 2%	<input type="checkbox"/> 13%	<input type="checkbox"/> 33%	<input type="checkbox"/> 50%	<input type="checkbox"/> 13%
Word of mouth (for example, a friend or relative)	<input type="checkbox"/> 6%	<input type="checkbox"/> 16%	<input type="checkbox"/> 26%	<input type="checkbox"/> 27%	<input type="checkbox"/> 24%	<input type="checkbox"/> 30%
People in the local community near the refuge	<input type="checkbox"/> 24%	<input type="checkbox"/> 20%	<input type="checkbox"/> 25%	<input type="checkbox"/> 20%	<input type="checkbox"/> 10%	<input type="checkbox"/> 54%
Refuge employees or volunteers	<input type="checkbox"/> 3%	<input type="checkbox"/> 4%	<input type="checkbox"/> 20%	<input type="checkbox"/> 39%	<input type="checkbox"/> 34%	<input type="checkbox"/> 28%
Printed map or atlas	<input type="checkbox"/> 6%	<input type="checkbox"/> 11%	<input type="checkbox"/> 33%	<input type="checkbox"/> 31%	<input type="checkbox"/> 19%	<input type="checkbox"/> 39%
Web-based map (for example, Google Maps, Waze)	<input type="checkbox"/> 7%	<input type="checkbox"/> 9%	<input type="checkbox"/> 29%	<input type="checkbox"/> 32%	<input type="checkbox"/> 23%	<input type="checkbox"/> 44%
Refuge website	<input type="checkbox"/> 4%	<input type="checkbox"/> 5%	<input type="checkbox"/> 32%	<input type="checkbox"/> 32%	<input type="checkbox"/> 26%	<input type="checkbox"/> 39%
Travel website (for example, TripAdvisor)	<input type="checkbox"/> 44%	<input type="checkbox"/> 4%	<input type="checkbox"/> 28%	<input type="checkbox"/> 12%	<input type="checkbox"/> 12%	<input type="checkbox"/> 77%
Other website (<i>specify</i>) <u>See Appendix C</u>	<input type="checkbox"/> 33%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 11%	<input type="checkbox"/> 56%	<input type="checkbox"/> 89%
Social media (for example, Facebook, Instagram)	<input type="checkbox"/> 25%	<input type="checkbox"/> 5%	<input type="checkbox"/> 28%	<input type="checkbox"/> 20%	<input type="checkbox"/> 23%	<input type="checkbox"/> 66%
Recreation club or organization	<input type="checkbox"/> 35%	<input type="checkbox"/> 17%	<input type="checkbox"/> 9%	<input type="checkbox"/> 9%	<input type="checkbox"/> 30%	<input type="checkbox"/> 79%
Refuge printed information (for example, brochure)	<input type="checkbox"/> 7%	<input type="checkbox"/> 4%	<input type="checkbox"/> 39%	<input type="checkbox"/> 32%	<input type="checkbox"/> 18%	<input type="checkbox"/> 44%
Kiosks/displays/exhibits at the refuge	<input type="checkbox"/> 7%	<input type="checkbox"/> 8%	<input type="checkbox"/> 22%	<input type="checkbox"/> 40%	<input type="checkbox"/> 22%	<input type="checkbox"/> 35%
Travel guidebook or other book	<input type="checkbox"/> 61%	<input type="checkbox"/> 6%	<input type="checkbox"/> 17%	<input type="checkbox"/> 11%	<input type="checkbox"/> 6%	<input type="checkbox"/> 84%
Tourist information or welcome center	<input type="checkbox"/> 18%	<input type="checkbox"/> 4%	<input type="checkbox"/> 20%	<input type="checkbox"/> 33%	<input type="checkbox"/> 24%	<input type="checkbox"/> 64%
Other source (<i>specify</i>) <u>See Appendix C</u>	<input type="checkbox"/> 33%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 50%	<input type="checkbox"/> 17%	<input type="checkbox"/> 92%

SECTION 3. Transportation and access at this refuge

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

Importance <i>Circle one for each item.</i>					Transportation-Related Features	Satisfaction <i>Circle one for each item.</i>					
Not at all Important	Slightly Important	Moderately important	Very Important	Extremely Important		Not at all Satisfied	Slightly Satisfied	Moderately Satisfied	Very Satisfied	Extremely Satisfied	Not Applicable
10%	13%	35%	29%	13%	Surface conditions of refuge roads	2%	2%	21%	40%	34%	NA
11%	19%	41%	20%	9%	Surface conditions of parking areas	1%	1%	10%	47%	40%	NA
10%	11%	35%	28%	16%	Condition of bridges on roadways	0%	1%	14%	46%	39%	NA
3%	6%	20%	42%	29%	Condition of trails and boardwalks	1%	4%	17%	45%	33%	NA
52%	12%	19%	10%	7%	Condition of boat launches	7%	9%	30%	32%	23%	NA
5%	11%	30%	40%	15%	Number of places for parking	2%	3%	17%	45%	34%	NA
39%	13%	35%	12%	2%	Number of places to pull over on refuge roads	2%	5%	44%	24%	24%	NA
21%	10%	27%	26%	15%	Safety of driving conditions on refuge roads	1%	4%	15%	43%	37%	NA
13%	5%	26%	35%	20%	Safety of refuge road entrances/exits	0%	2%	13%	47%	38%	NA
7%	4%	19%	33%	36%	Safety of roads/trails for nonmotorized users (for example, bicyclists and hikers)	1%	2%	23%	40%	34%	NA
14%	8%	31%	33%	15%	Signs on highways directing you to this refuge	6%	6%	29%	33%	25%	NA
14%	7%	25%	35%	19%	Signs directing you around refuge roads	3%	8%	28%	32%	28%	NA
7%	3%	24%	33%	32%	Signs directing you on trails	4%	13%	31%	30%	22%	NA
19%	5%	32%	24%	20%	Access for people with physical disabilities or who have difficulty walking	1%	5%	29%	41%	24%	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	90%	16%
Private/rental vehicle with a trailer (for boat, camper, or other)	0%	1%
Recreational vehicle (RV)	1%	1%
Refuge shuttle bus/tram	1%	1%
Tour bus/van	1%	1%
Public transportation	2%	2%
Motorcycle	1%	1%
Bicycle	9%	13%
Foot (for example, walking/hiking)	12%	61%
Boat	0%	3%
Other (<i>specify</i>): <u>See Appendix C</u>	1%	1%
Other (<i>specify</i>): <u>See Appendix C</u>	0%	1%

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)	68%	15%	9%	4%	4%
Bus or tram that provides a guided tour of the refuge with information about this refuge and its resources	60%	15%	11%	8%	6%
Refuge-sponsored shuttle with a dedicated stop in the local community for picking up people at set times	70%	13%	9%	5%	4%
Public transit system that stops at or near this refuge	57%	14%	14%	6%	9%
Bike-share program that offers bicycles for rent on or near this refuge	40%	15%	23%	11%	11%
Pedestrian paths for access to this refuge from the local community	43%	11%	21%	13%	13%

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"/> 7% \$30	<input type="checkbox"/> 5% \$100	<input type="checkbox"/> 0% \$250
<input type="checkbox"/> 18% \$5	<input type="checkbox"/> 4% \$45	<input type="checkbox"/> 1% \$125	<input type="checkbox"/> 1% \$350
<input type="checkbox"/> 23% \$10	<input type="checkbox"/> 3% \$60	<input type="checkbox"/> 0% \$150	<input type="checkbox"/> 1% \$500
<input type="checkbox"/> 14% \$20	<input type="checkbox"/> 1% \$75	<input type="checkbox"/> 0% \$200	<input type="checkbox"/> 1% \$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%	15%	40%	42%	Convenient hours/days of operation for this refuge	0%	0%	7%	44%	49%	NA
11%	23%	36%	19%	11%	Availability of employees or volunteers	2%	5%	20%	41%	32%	NA
12%	16%	27%	29%	15%	Courteous and welcoming employees or volunteers	2%	4%	12%	40%	42%	NA
4%	11%	28%	36%	22%	Signs with rules/regulations for this refuge	1%	4%	17%	43%	35%	NA
4%	13%	37%	31%	15%	Visitor center	2%	4%	11%	43%	41%	NA
1%	4%	17%	36%	42%	Well-maintained restrooms	1%	6%	19%	36%	38%	NA
5%	8%	23%	39%	25%	Recreational structures (decks, blinds, platforms)	1%	3%	16%	47%	33%	NA
5%	14%	25%	23%	33%	Bird-watching opportunities	1%	2%	17%	34%	46%	NA
1%	7%	26%	34%	32%	Opportunities to observe wildlife other than birds	2%	4%	25%	33%	36%	NA
8%	14%	23%	25%	30%	Opportunities to photograph wildlife and scenery	1%	1%	19%	34%	44%	NA
10%	14%	31%	26%	19%	Environmental education opportunities	3%	4%	29%	34%	30%	NA
85%	6%	6%	1%	2%	Hunting opportunities	8%	0%	35%	19%	38%	NA
57%	12%	14%	10%	7%	Fishing opportunities	4%	2%	26%	30%	38%	NA
3%	2%	8%	28%	59%	Trail hiking opportunities	1%	1%	17%	40%	42%	NA
19%	7%	23%	24%	28%	Bicycling opportunities	1%	5%	19%	39%	37%	NA
22%	17%	25%	18%	18%	Water trail opportunities for canoeing or kayaking	7%	16%	29%	27%	21%	NA
26%	21%	24%	17%	12%	Volunteer opportunities	4%	4%	27%	39%	25%	NA
15%	15%	25%	22%	23%	Wilderness experience opportunities	2%	7%	25%	36%	30%	NA

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

See Appendix C

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

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I felt welcome during my visit to this refuge.	1%	1%	6%	39%	53%
I felt safe during my visit to this refuge.	1%	1%	5%	43%	50%
Crime <u>is</u> a problem at this refuge.	41%	39%	16%	3%	1%
I feel comfortable being in nature.	0%	1%	1%	36%	63%
I do <u>not</u> like being in nature by myself.	51%	28%	13%	6%	2%
People closest to me enjoy participating in nature-based recreation.	0%	3%	13%	44%	40%
Generally, people who look like me are treated differently when they participate in nature-based recreation.	42%	25%	25%	4%	4%

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.	1%	2%	17%	49%	32%
The quality of the overall experience when visiting this refuge.	0%	2%	11%	49%	38%

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	28%	70%	2%
More acreage open to hunting and fishing	39%	53%	8%
More infrastructure (for example, bathrooms, observation decks)	6%	64%	30%
Recreation equipment available for rent (for example, fishing rods, binoculars, snowshoes)	6%	63%	32%
Less regulations on fishing	20%	75%	5%
Less regulations on hunting	42%	54%	3%
A greater diversity of species	0%	46%	54%
Fewer numbers of a single, preferred species	14%	85%	1%
More people participating in my primary activity	19%	70%	11%
An improvement in the quality of wetlands	0%	42%	58%
An improvement in the quality of wildlife habitat other than wetlands	0%	44%	56%

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

91% Yes 1% No 9% 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.*)

43% 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:

32% Programs that engage youth

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

38% Programs that focus on family/multiple-generations

15% Programs that support people with accessibility concerns (for example, difficulty walking, in a wheelchair)

68% Programs that teach skills to visitors

8% Other (*specify*) See Appendix C

40% 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? ☐ 49% Male ☐ 51% Female

2. In what year were you born? 1966 (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"/> 48%				<input type="checkbox"/> 44%			

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

<input type="checkbox"/> 87% White	<input type="checkbox"/> 0% American Indian or Alaska Native
<input type="checkbox"/> 3% Hispanic, Latino, or Spanish	<input type="checkbox"/> 0% Middle Eastern or North African
<input type="checkbox"/> 6% Black or African American	<input type="checkbox"/> 0% Native Hawaiian or Other Pacific Islander
<input type="checkbox"/> 3% Asian	<input type="checkbox"/> 2% 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"/> 0% Less than \$10,000	<input type="checkbox"/> 11% \$35,000 - \$49,999	<input type="checkbox"/> 20% \$100,000 - \$149,999
<input type="checkbox"/> 3% \$10,000 - \$24,999	<input type="checkbox"/> 24% \$50,000 - \$74,999	<input type="checkbox"/> 13% \$150,000 - \$199,999
<input type="checkbox"/> 7% \$25,000 - \$34,999	<input type="checkbox"/> 13% \$75,000 - \$99,999	<input type="checkbox"/> 10% \$200,000 or more

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

<input type="checkbox"/> 48% Employed full-time	<input type="checkbox"/> 1% Unemployed	<input type="checkbox"/> 28% Retired
<input type="checkbox"/> 9% Employed part-time	<input type="checkbox"/> 1% Homemaker/caregiver	<input type="checkbox"/> 0% Disabled/unable to work
<input type="checkbox"/> 12% Self-employed	<input type="checkbox"/> 1% Student	<input type="checkbox"/> 0% Other (specify): <u>See Appendix C</u>

Thank you for completing the survey.

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

Comments?

See Appendix C

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

Appendix C: Open-Ended Survey Responses by Question

Survey Section 1

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

Special Event	Frequency
Fall fun festival, volunteer activities	1
Film screening	1
Groundhog Day celebration	1
Guided bird/owl/bat walks	1
October fun festival	1
Owl watch	1
Site clean up	1
Spring and fall festivals	1
Other Activity	Frequency
Cub Scout badge, fur/feather	1
Dog walking	3
Writing	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)	6
Bicycling	8
Bird watching	30
Environmental education	1
Exercising	4
Fishing	4
Hiking	73
Interpretation	4
Nonmotorized boating	1
Other	1
Photography	2
Research	1
Running	14
Special event	1
Wildlife observation	9

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
Fill out volunteer application	1
Interview the manager of the visitor center	1
Walking my dog	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
Delaware Riverkeeper network website	1
eBird	2
iCloud photo sharing	1
MapMyWalk	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	2
eBird	1

Other Information Sources	Frequency
Birding expo	1
Literature distributed at the 2018 Pennsylvania Horticultural Society flower show	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
Filling bike tires at air pump	1

Survey Section 6

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

Other Programs	Frequency
Bird-related programs	2
Hiking-related programs	1
Nature-related programs	2
Other	1
Volunteering	1
Water-based activities	1

Survey Section 3

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

Comments on Transportation-Related Features at This Refuge (n=35)

Bicycles can be disruptive for other activities like bird watching.

Visitation from community (surrounding refuge) seems low, especially local African American community. I suggest increasing visibility with signs in area.

Could use a bigger parking lot. It's getting more popular every year.

Could use a few more park benches on the refuge trails.

Entrance on Route 420, as well as trails along 420, need more attention. Some are not passable during the summer.

Grass is overgrown in the center of certain stretches of trail. Makes it difficult to walk through.

Heinz needs to update their trail signs.

I do not support widening of roads or larger parking lots for cars.

I have not had the need to consider how people who are wheelchair-bound may be able to access this wonderful site. The gravel walkway is fine for biking and walking, but perhaps for those with mobility issues, you may want to include a paved walkway. It is such a beautiful site and would be wonderful to open to all.

I think the trails and the actual center could be more identified for people traveling from out of the area.

I was very pleased that the refuge is highly accessible to pedestrians, residents who live near the refuge, and via public transportation.

It had rained recently, which may account for poor road conditions.

It would be great if distances were listed on the trail signs.

It would be nice to see mile markers on the trails.

It would have been nice to have quarter mile signs, also trail names or numbers and arrows to show shortcuts.

More attention should be directed in keeping that portion of the trail which runs parallel to I-95 from becoming overgrown.

More maps.

Not really designed for physical disabilities on trails.

Overall positive, could use maintenance & periodic/seasonal upkeep.

Rough riding on the trail but enjoyable respite from busy roads.

Some of the trails are a little overgrown and hard to pass through.

Some of the walking/hiking trails, even though not for bike use, but people, I feel could be trimmed back a bit wider. It won't keep ticks off. I understand that I knew what I was in for before entering, but I feel it could help a bit. During my last visit, there were several trees down on the walking trails - only a few traverses.

Some trails need gravel surface repair so that they are not so muddy.

The refuge could use more finely ground gravel treatment on the trail path that is on the same side as the observation deck. The rocks used to cover certain parts of the trail on that side are too large.

The refuge was well marked, it was easy to park, and the signage/information provided was excellent.

The signs on the far side of the main loop where the trail branches off are fairly confusing

The signs showing where the trails are and where they go are extremely helpful! I'm hoping to walk all of them one day!

The trails could be maintained a bit better - there are many areas with holes or large rocks that can be dangerous. Additionally, the vegetation becomes overgrown on several of the trails, making them unusable.

The transportation features at John Heinz National Wildlife Refuge are great. Even though the refuge is so close to the Philadelphia International Airport, signage to get to the refuge is clear and helpful. The parking lot is smooth. The trails are clean. The maps along the trail that appear to be brand new - at least their pristine condition made it seem that way. The visitor's center, while I only popped in briefly to use the restroom, was very impressive just from a quick stroll through. Accessible, safe, welcoming, clean would be words I would use to describe these features.

They do a good job with maintaining the trails and adding new stones to keep the trails from getting too muddy.

They used to open the main gate too late in the morning but have been better lately.

Trails are covered by greenery/brushes, etc. More in recent years. Seems more secluded, safety concerns, than in past years. Saw a man lying face down in the grass, just off the trail w/no shirt on. I was alone and did not approach. Doesn't feel completely safe. It is rare to see refuge employees except during events.

Very convenient to the city. Wonderful resource especially for an urban area. This combination makes John Heinz unique.

Very easy to get to since it is located in Philadelphia.

Would love for some signage to indicate which trails are out-and-back vs. loop, and, possibly, the distance from that sign to the welcome center.

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=46)

A great area for the local community, nowhere else nearby can provide the views of birds and wildlife. Visiting is always a welcome break from big city life. I especially love being able to watch wildlife over the change of the seasons during the year at the refuge.

All meets expectations, well-maintained, been going for years, and that will continue.

All the staff at this refuge are friendly and professional.

As the popularity of the refuge has increased, so too have the number of visitors who may not be well versed in the ways of acceptable behavior. It is my belief that the refuge should be staffed year-round at all times during hours of operation to provide assistance and educate those who may need direction on proper etiquette.

Better kept trails and landscaping would be nice, very pleasant. Notification of events. Not sure if it still takes place but annual tour, hot dogs, and other animals, parrots, owls, snakes and other exotic birds was an event we used to look forward to.

Boat rentals would be nice to see/\$\$ opportunity.

Everyone who works at the refuge is so friendly and knowledgeable. It is a pleasure to visit John Heinz.

Extremely well-run and maintained.

For such a large water impoundment area, the areas open to fishing are almost nonexistent. Very disappointing.

Gift shop was shut down, no one asked if I needed help in the visitor center and also no drinking water available for us or the dog. This site has gone very downhill since I last visited the site.

Heinz is a big part of my life. It's existence and vitality are very important to me.

I am a bird walk leader at this refuge. The staff are always helpful and supportive.

I am usually there when the staff has left for the day but when they are there, they are very helpful.

I am very pleased at the conditions of this park. I like that it is not crowded with people and that the platforms and boardwalk are in good condition. I have no interest in fishing. The visitor's center is lovely, and the bathrooms are clean. I am concerned about the water and air quality of the area, but the park is so close to metro Philadelphia that I am not sure what else they can do to remedy the situation.

I came to the refuge to photograph birds. It's a new hobby that I've taken up in the past year. This trip was my most successful. I saw herons and warblers and woodpeckers and ducks and swans and catbirds and red-winged blackbirds and honestly, I'm probably forgetting some more. I saw that people had been kayaking at the refuge before I arrived. I noticed a programming schedule that offered educational and active opportunities. The visitor's center was welcoming and clean and interesting. The trails were clear and accessible, and I shared them with joggers, walkers and cyclists alike. I believe the refuge is a gem in Philadelphia that we are lucky to have, and I think those who work to make it what it is deserve a great deal of gratitude.

I didn't see any picnic tables along the trail.

I don't like it when there are large groups of screaming school children or events happening.

I enjoy the small huts/viewing platforms (especially if it is raining) that have been built in the past few years.

I have been to this refuge for hiking, just recently for volunteering and an owl walk. Amazing and knowledgeable staff!

I have noticed improvements throughout the years. Snack shop would be nice.

I love the Heinz and enjoy visiting several times a year for birds and wildlife. This visit was especially good as there has been a lot of rain and the marshes look really good. Our previous visit was in the fall when the water levels were very low and not much was happening.

I love this refuge! It is well-maintained. I enjoy being able to get away from the city and being in a quiet, well-maintained green space. I have been able to observe many different kinds of animals while biking and walking on the trails. The trees and general environment are amazing. I am truly grateful that we have this wildlife refuge available to us. I genuinely hope that it is maintained. I am concerned about the amount of trash that seems to be in the waterways. This seems to come in from the waterways, not necessarily from people using the wildlife park. This refuge is a wonderful gem in our community and is a refuge for the community as well as wildlife!

I mostly just come to this refuge to walk and look at wildlife (i.e. mostly birds). I don't avail myself of any other opportunities that may be offered.

I only use this place to run.

I wish parts of the compound were available to canoers and kayakers, some of the best spots to fish at are off limits to fishing.

I'm from Philly and have never visited John Heinz (before the day a friend and I decided to go on a walk there). Such beautiful nature and wildlife so close to the city - it would be great to make it super accessible from the city (paths to connect from the city to the refuge, public transportation that goes directly from the city to the refuge, etc.).

Just riding through.

Loose gravel makes it harder for strollers, biking for kids.

Love this place for birding. Unique in the area. Well-used by so many different people for different purposes. Don't let anything happen to it.

Need more park guards to do ticketing. Problems with dogs being walked off leash, despite posting.

New toilets are great. Improving every year. The first sentence in their brochure talks about the possibility of marsh rice rat being seen there. A couple years ago I took pictures of one on the refuge. Told the biologist. She really didn't care. I thought it was a big deal - a new mammal species on the refuge.

No security at all in the evening. People routinely fishing on walking boardwalk even though signs are posted for no fishing. Very dangerous. Security should be a major priority in the area of Philadelphia.

Not really sure where services are actually listed within the refuge.

Staff and volunteers do not communicate well. Although volunteers are a core function, they are not treated as such.

The facilities at this refuge are excellent. Having accessible restroom facilities is important. Having trail and birding opportunities is an absolute! And this refuge is one of the best I've experienced!

The longer trails are in some areas I wasn't sure if they'd be safe.

The new kiosks and maps are great. The new launch for boats also great - it took a long time, but so happy the launch is fixed. I hope FWS acquires the adjacent 130 acres that could be part of the refuge to expand opportunities and increase wetlands protection.

The opportunities for school groups to engage and learn from refuge staff have greatly been enhanced the last couple of years. Thank you for that! I always enjoy how welcoming and willing to share their knowledge the staff and volunteers are at the refuge.

The restroom facilities were poorly maintained and had no toilet paper available.

The staff are friendly and helpful.

They should not allow hunting. This is an urban area.

This refuge needs more platforms that extend out into the water for observing waterfowl. In the summer three quarters of the lake is not visible from the trail. Significant segments of lake shoreline are off limits.

Toilet paper was out in the restroom at entrance to park.

We enjoyed the fishing opportunity provided. We had only expected to go for a walk and were happy to participate.

We like it how it is, so no complaints.

Would like to see better maintenance of foliage on trails.

End of Survey

General Comments (n=39)

Again, I love this wildlife refuge. I visit here frequently and love the site. It's well-maintained and a great place to bike, walk, and observe wildlife. Each time I visit, I see a new creature that I hadn't seen before. It's calm, quiet, and peaceful. Please continue to support this refuge, as it is important to our community.

All of the people associated with the refuge seem extremely friendly and cheerful.

Awesome staff at John Heinz. The other organizations are all very kind and informative also. Awesome overall experience! Keep up the good work!

Been coming to this refuge for many years. Seen many changes. My husband also did volunteer work for the refuge. Clean ups mostly. We know most of the officers that work there. I loved riding my bike there, but I noticed they have changed a lot of the roads for bikes that we used to use. This is a great place for all ages. Keep up the good work. I am hoping my nephew might do some volunteer work in the future. Thanks for all you do.

Boardwalks are a unique feature and well-maintained! Lovely views and an appropriate number of conservation/educational signs throughout walking trails. Some additional trail options off main loop would be nice. Great observation and photography opportunities.

Enjoyed the park very much, thank you.

For my taste, there is more development than I would like.

Heinz Wildlife Refuge needs more resources to serve the urban youth and low-income communities with outreach and other programs.

I don't want to see deer hunting at John Heinz. Power walking the trails has become a daily ritual. I love it.

I love going to the Heinz Refuge to run and be with nature. All of the staff there are very friendly, as are the other people using the refuge. They do a great job!

I love John Heinz National Wildlife Refuge. It is a beautiful park and I appreciate that it exists and hope it has a great future where more and more people know of it and visit it. Thank you.

I love the center! Hidden treasure.

I love this place for a time to feel away from the city, even if I can still hear and see the highway - would be great if there was a shuttle from the entrance at 84th to the other entrance in Ridley Creek/Rt 420. So, you could park at one and walk all the way through.

I love this urban wildlife refuge - the diversity of species, the neighborliness of the staff and visitors, the unique location in a major metropolitan area, and the mission it serves to support wildlife and conserve open space. Heinz is a gem.

I primarily come here because it is a nice place to walk my dog. The trail is clear, and I know about how long it will take. The only real challenge I face is that if I come alone, I feel like I can't go in the visitor's center because I have my dog with me, and it's a really nice visitor's center. More trashcans would be helpful to throw away poop bags.

I want to acknowledge all of the work done at John Heinz to engage local, underrepresented youth and to get them out in nature. While not programs I participate in, they are so important to the people in Philly. Also, unlike lots of other refuges, it isn't one you really drive around in, so lots of the transportation questions aren't too applicable. But this place is my oasis in the city, and I love it and realize how rare it is to have in such a large city.

I was surprised by the amount of pollution in the Darby Creek. Thousands of tires, plastic of all kinds.

I wish people wouldn't throw trash on the ground and that there would be an organized effort to pick up trash around the refuge.

I'm glad the refuge is well-used and that it still feels quiet and not crowded when I visit. This place is important to me. I'm an amateur birder and love walking/hiking in the beauty of the refuge and seeing others do the same.

Keep it as wild as possible.

Love that there is a place (this refuge) which serves as a real refuge from the worst of the urban environment, which is so close and so awful. Although the highway and train tracks are visible from much of the trail it is not too hard to tune out the artificial noise and focus on the birds and insects. And even though you can watch

planes taking off, angling up over the trees from the airport just steps away, you can also see the bald eagles soar high and the swallows dart over the water. It is a precious space.

Love the Tinicum refuge!!!

Main entrance of the refuge is immaculate and well taken care of. The other entrance (420) Prospect Park is not at all taken care of – has overgrown roads (access to refuse vehicles), roads rutted some a foot deep, benches that are there covered by weeds, couldn't sit if you wanted. Deck is not maintained, overgrown with weeds after it was installed, forgotten about. The refuge only cares about front around visitor's center and installing signs. That's it, nothing for the other entrance (420).

My wife and I have been walking at John Heinz refuge for approximately 17 or 18 years at least 5 days per week. My wife's mother grew up next to the refuge, way before it was officially a refuge. Up until a change in management a couple years ago, we really enjoyed visiting. Primarily hiking the entire route. Since the change in management, it's not such a pleasant experience. Graffiti has appeared, the deer and wild turkeys have disappeared and there is no security of any kind in the evenings, which is when we visit. Certain people routinely fish off the boardwalk, although prominent signs are posted. My wife was recently almost caught by a hook as someone was casting on the boardwalk. It seems like there have been a lot of cosmetic changes such as black top, outhouses, etc. But the important things, such as wildlife sightings, have greatly diminished. We can now go for weeks without seeing a deer. Also, recently I noticed a few really nice birch trees have been cut down at the main buildings entrance. We are tree lovers and things like this are greatly disturbing to my wife and me. It seems like the new management is intent on making this as a park for people and not a refuge for wildlife. Also, I would like to reiterate, security in the evenings is sorely needed!

One of my favorite places to visit. Thank you for all the care and consideration that has been shared to make this a refuge for all.

Perfect place to practice/run 5k. I run at John Heinz 2-4 times a week.

Please do more to involve the local, multi-ethnic community. Reach out to local schools (Academy Park High School and K-center and 4 1-8 schools in SE Delco school district). I love this refuge!

Please send more if I can help with the environment [name and address].

Section 1 #11 - I wrote in this section, and it might not have been clear because I squeezed it in a small space, but the primary reason I live in the refuge area - I live across the street - is because the refuge is here. I sometimes literally roll out of bed and go right to the refuge, let me correct that, I could roll out of bed and go right to the refuge - about three years ago, I lived about 3 miles from the refuge, and I was fighting anxiety, so I did, at that time, roll out of bed, pack my breakfast, ride my bike to the refuge, eat my breakfast at the refuge while watching the hawks catch fish, then ride my bike home, 12 miles total on the daily bike trip. I did this every day because at that time I was retired. Oh, and many times I would buy lunch on the way home.

So lucky to have a refuge so close to home! I plan on visiting more often.

Thank you to the staff and volunteers for keeping the John Heinz National Wildlife Refuge beautiful. Please let the public know if we can help in being better stewards of wildlife habitats.

Thank you! We love our state and national parks, areas, refuges, etc.!

The bike trail has had large stones placed on the trail making it hard to ride on! Please fix the bike trails!

This is a great refuge, easily accessible with walkable trails and a variety of wildlife and birds like no other place in and around the metropolitan Philadelphia area. It's critical habitat that must be preserved for future generations. I love coming to this refuge. It's by far my favorite within the 20-mile radius surrounding Philadelphia.

This refuge although very nice, actually surprisingly nice, is located in a bad neighborhood and we worry about our vehicles being broken into while we were hiking. Also, it's located near the Philadelphia International Airport and Interstate I-95. It's pretty loud there. If I lived in the area though, this would be a great place to go. We live in DE, very close to a multitude of state parks.

Tinicum wildlife --- needed to be cutback a little --- don't remember being that dense on the walkways.

We have recently taken up birding. We really enjoyed "warbler woods", and the many great blue herons and egrets. Also, were pleasantly surprised to see the resident bald eagle perched in the tree right where the refuge sign suggested!

We love the Heinz Refuge! We live in Center City and have been frequent visitors for the last several years. It is always well-maintained, and employees are always friendly. Our primary activity has always been walking or running, but we are hoping to start biking as well.

We purchased a home in Drexel Hill, as it was within a 20-minute drive to the John Heinz refuge, where I would be able to go after work to enjoy canoeing and kayaking and nature viewing and wetlands exploration. It was important to us. We live near a "wilder space" despite being near the city and suburbs. With the launch broken most of this season, it really made me remember how important this time in the refuge is to me. I value the wildlife conservation you all do. I hope that the 130 plus acres are purchased by federal and mixed dollars so that the refuge space can continue to grow. This unique habitat of a tidally influenced PA wetland along the Delaware River is essential. It's the larger urban refuge and I will happily continue to help it grow larger. Thanks for all you do.