



**U.S. Fish & Wildlife Service**

# **NATIONAL WILDLIFE REFUGE VISITOR SURVEY**

*2018 Results for  
Desert National Wildlife Refuge*



**THE OHIO STATE  
UNIVERSITY**



## Acknowledgments

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*Front cover: A storm rolls in over Desert National Wildlife Refuge. Photo credit: Angelica Varela.*

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



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

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

Desert National Wildlife Refuge is located in southern Nevada 30 miles outside of Las Vegas in a transition zone between the Mojave Desert and the Great Basin. The refuge was established in 1936 for the protection of desert bighorn sheep. This wildlife refuge, at 1.6 million acres, is the largest in the National Wildlife Refuge System within the lower 48 states. The plant communities of the refuge vary with changes in elevation from bristlecone pine trees dominating at the highest elevations and a saltbush community thriving at the lowest elevations. With this range of habitat types, the refuge can support a wide diversity of wildlife despite the arid climate. In addition to bighorn sheep, over 320 bird species, 52 mammal species, and 35 reptile species call the refuge home.

Desert National Wildlife Refuge attracts over 48,012 visitors annually (U.S. Fish and Wildlife Service, 2018, written comm.). In the Corn Creek area, visitors can enjoy interpretive displays at the visitor center or hike one of the trails. Multiple roadways cross this refuge and offer additional opportunities for wildlife observation and photography.



*A road leading into the expansive backcountry areas of Desert National Wildlife Refuge. Photo credit: Ellen Bley.*

Camping is allowed in the refuge both at the primitive Desert Pass campground and in the backcountry. A limited number of permits are available each year to hunt bighorn sheep. The western portion of this wildlife refuge is not open to the public, as it is used as an Air Force test and training range.

## 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 288 visitors agreed to participate in the survey by providing their names and addresses.
- In all, 143 visitors completed the survey online (43%) or by mail (57%) after their refuge visit, resulting in a 51% response rate.
- Results for this wildlife refuge have a  $\pm 7\%$  margin of error at the 95% confidence level. For more details on limitations of results and survey methodology, see Appendix A.

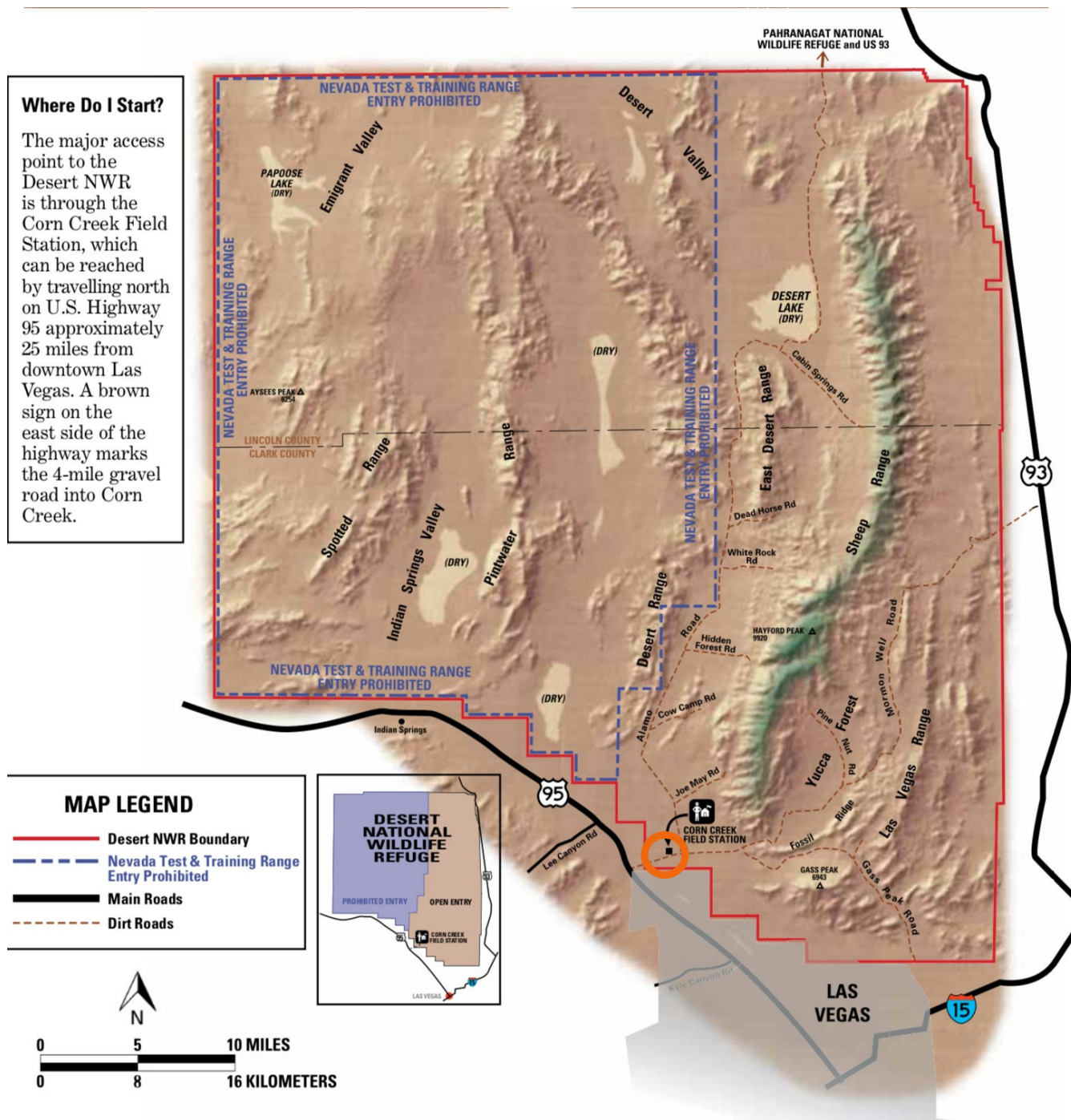


Fig. 2: Map of Desert National Wildlife Refuge. Visitors were contacted at the circled location from 3/23/2018–4/1/2018 and 9/20/2018–9/30/2018.

# 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](http://www.census.gov); [www.socialexplorer.com](http://www.socialexplorer.com)).

## AGE & GENDER

- 40% of visitors were female with an average age of 52 years (Fig. 3).
- 60% were male with an average age of 56 years.

## EDUCATION

- 9% of visitors had a high school degree or less.
- 54% had at least some college.
- 37% had an advanced degree.

## RACE & ETHNICITY

Most prevalent race or ethnicity (Fig. 4):

- White (83%).
- Hispanic (6%).
- Multiracial (5%).

## INCOME

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

## OTHER TRIP CHARACTERISTICS

- Average group size of 3 people.
- 22% visited the refuge alone.
- 60% visited with at least one other adult.
- 18% visited with a combination of at least 1 adult and 1 child.

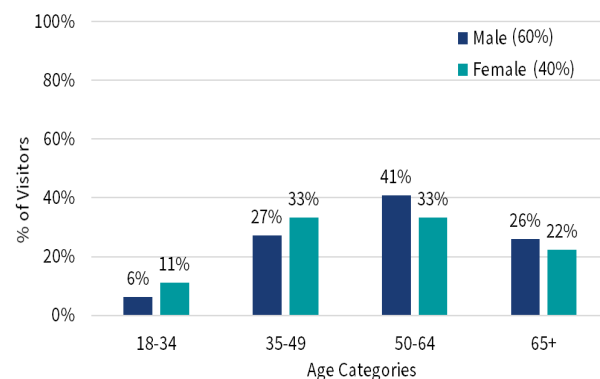


Fig. 3: Distribution of visitors to this refuge by gender and age group.

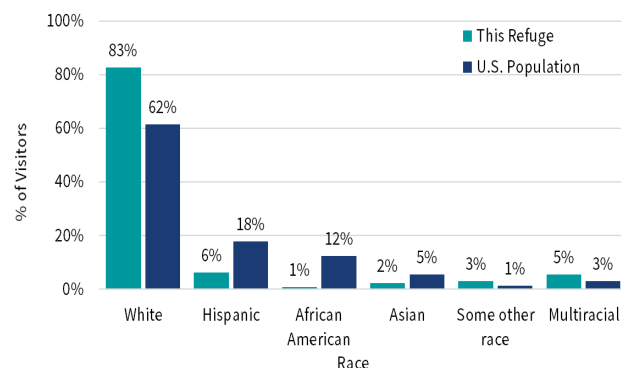


Fig. 4: Race and ethnicity of visitors to this refuge compared to the national average.

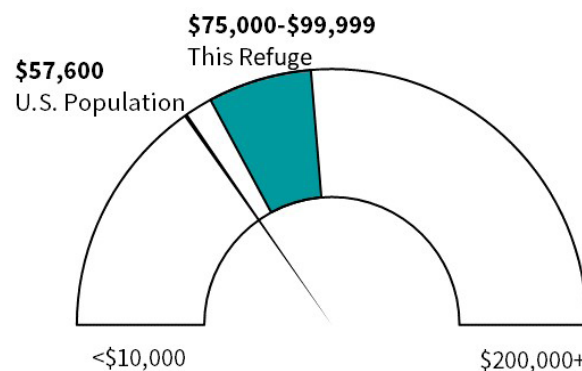


Fig. 5: Mean income range of visitors to this refuge compared to the national median income.

# 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  $\leq 50$  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

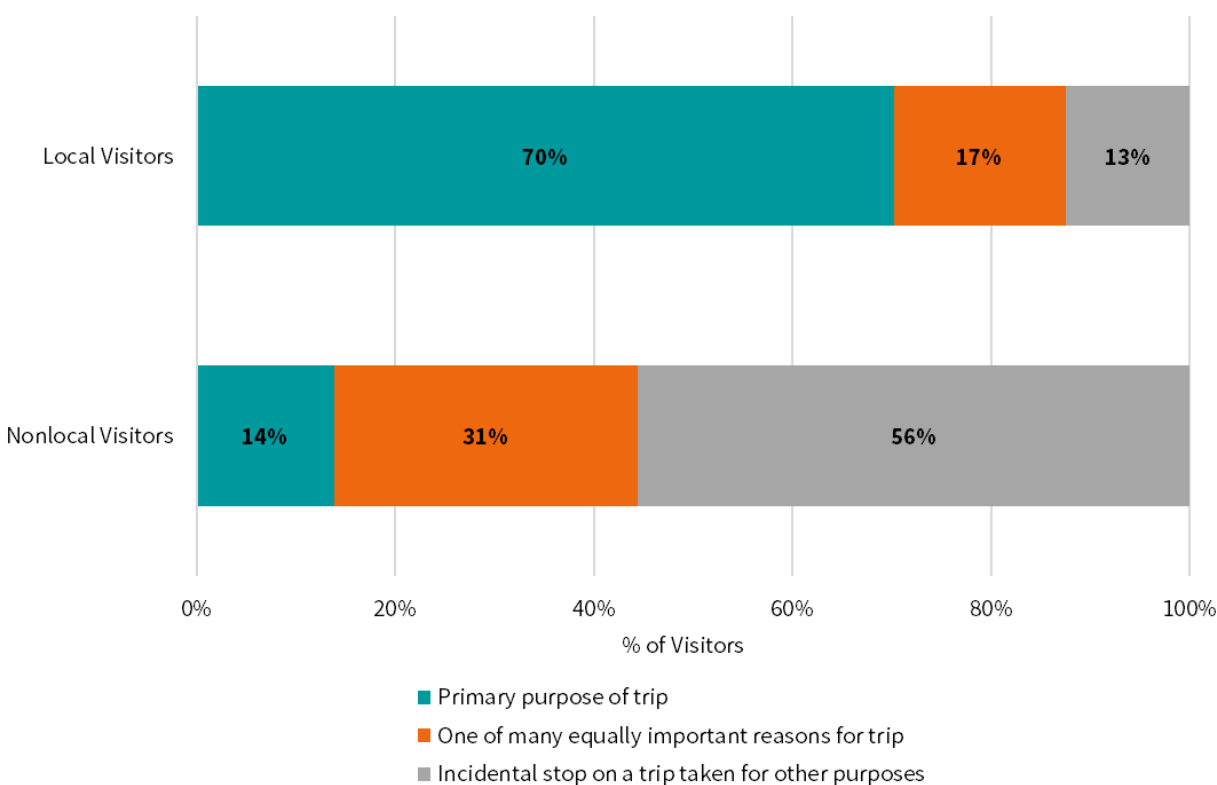
Highlights of trip characteristics for local visitors to this wildlife refuge (75%) include:

- For locals, this refuge was the primary reason for their trip (70%) (Fig. 6).
- Local visitors traveled an average of 34 minutes to arrive at this refuge (Fig. 7).

## NONLOCAL VISITORS

Highlights of trip characteristics for nonlocal visitors to this wildlife refuge (25%) include:

- For nonlocals, this refuge was an incidental stop as part of a trip taken for other purposes (56%) (Fig. 6).
- Nonlocal visitors traveled an average of 9 hours to arrive at this refuge (Fig. 8).
- Of the 98% of visitors who lived in the U.S., nonlocal visitors were most often from Nevada (73%) and California (4%).
- 2% of respondents were international visitors.



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

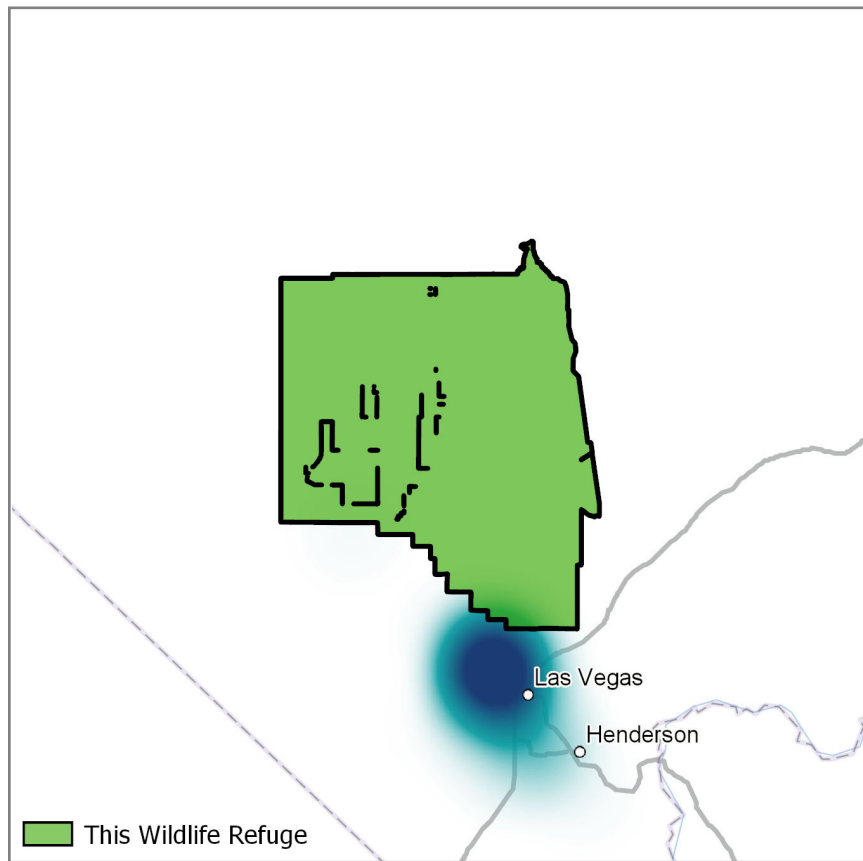


Fig. 7: Map showing residence of local visitors to this refuge. Darker shading represents relatively higher visitation from that area.

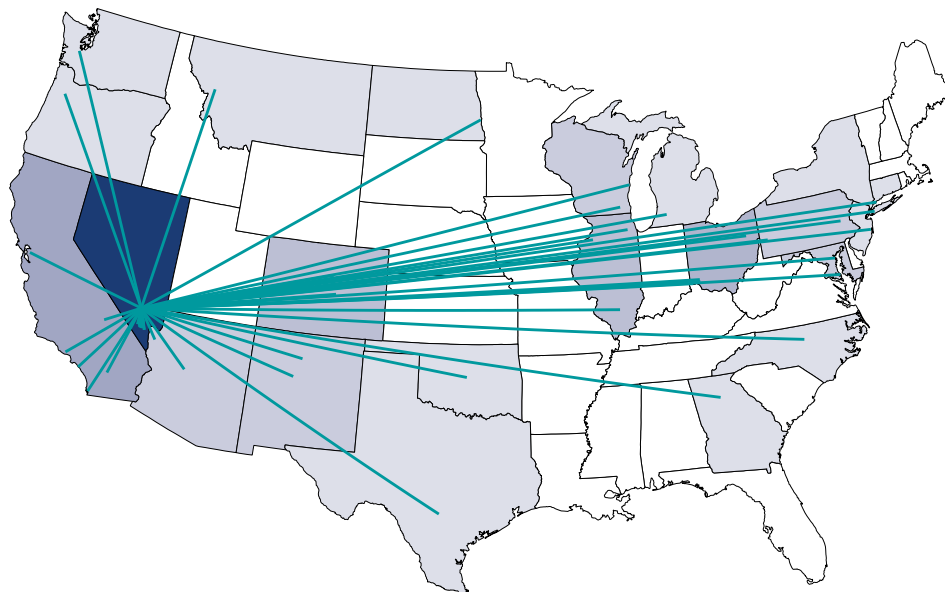


Fig. 8: Map showing residence of visitors to this refuge by zip code, with each line representing visitation from a different zip code. The convergence point of the lines is the geographical center of the refuge. Darker shading of the states represents higher visitation from that state.

## OTHER TRIP CHARACTERISTICS

Other trip characteristics include:

- To get to this wildlife refuge, visitors primarily traveled by private vehicle without a trailer (93%) and by foot (8%) (Fig. 9).
- Once on the refuge, visitors primarily traveled by private vehicle without a trailer (55%) and by foot (50%) (Fig. 9).
- Visits occurred during winter (33%), spring (64%), summer (30%), and fall (67%).
- 93% of visitors made a single-day trip to this refuge, spending an average of 3 hours, while 7% of visitors were on a multi-day trip to this wildlife refuge that averaged 2 days.

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

- 57% were repeat visitors to this wildlife refuge, visiting an average of 10 times.
- 60% visited other national wildlife refuges, averaging 4 visits.
- 86% visited other public lands, averaging 13 visits.

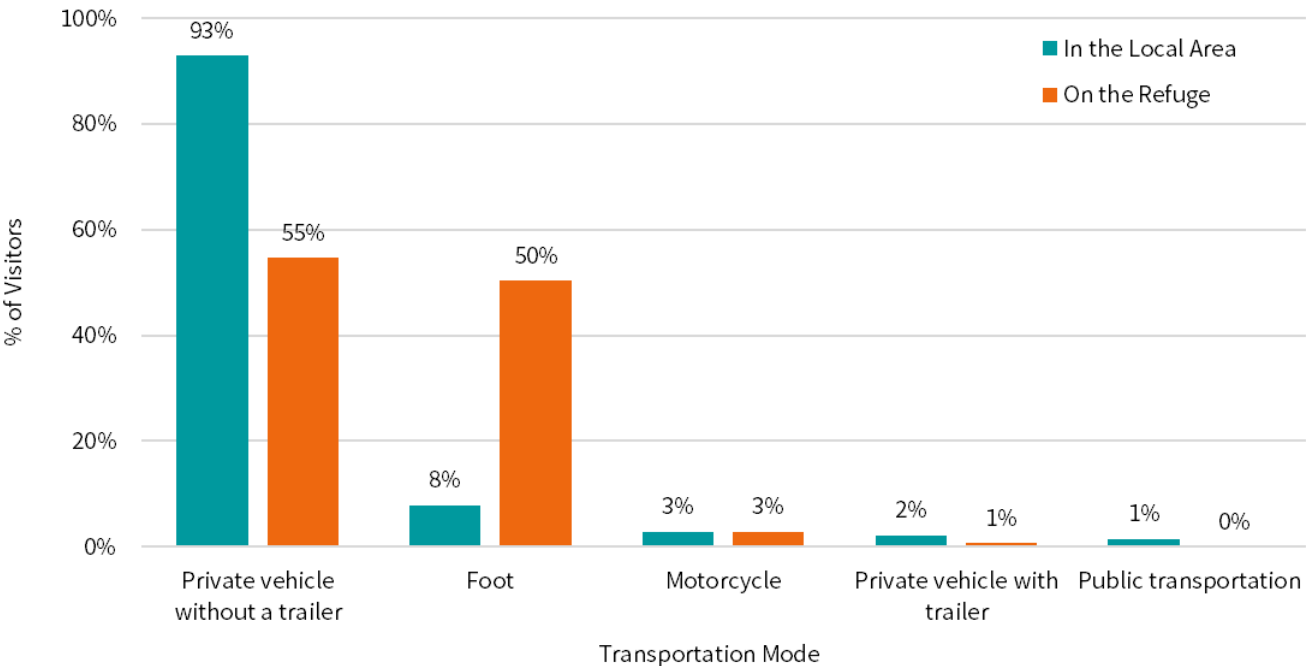


Fig. 9: Modes of transportation used by visitors to get from the local area to this refuge and within the boundaries of this refuge.

## 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 printed map/atlas and web-based map.
- Refuge-specific sources that were most helpful to visitors regardless of age included kiosks/displays/exhibits at this refuge and refuge employees/volunteers.
- Use of information sources varied by age groups (see Figs. 10-12 for details).

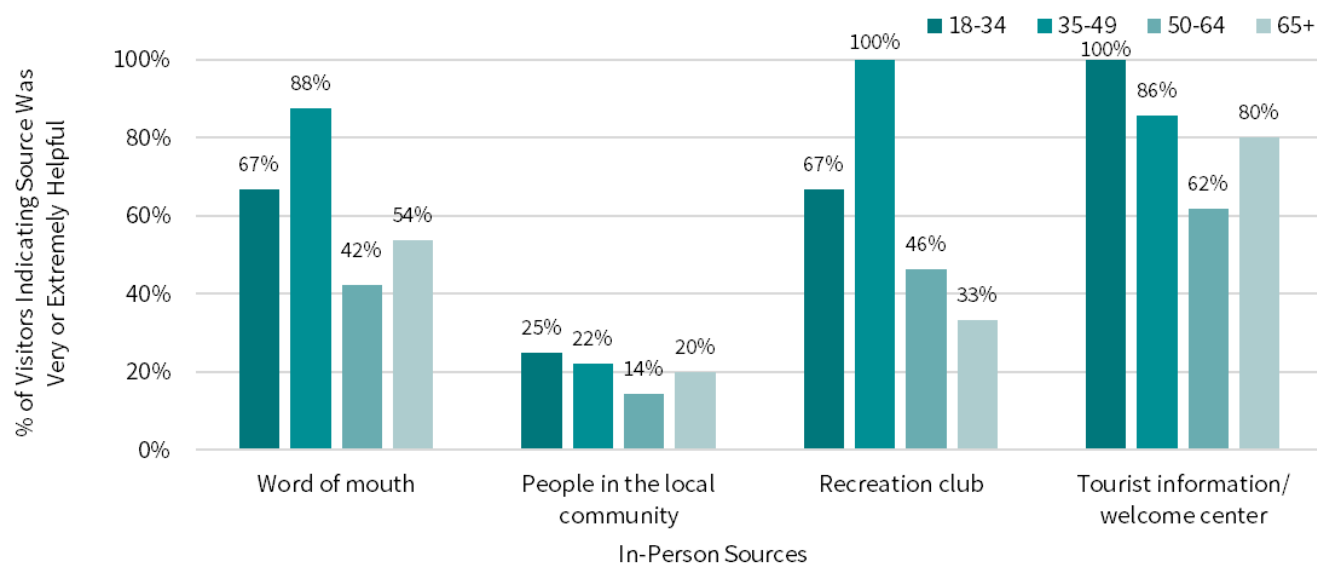


Fig. 10: Percent of visitors by age group who found in-person information sources very or extremely helpful in planning their trip.

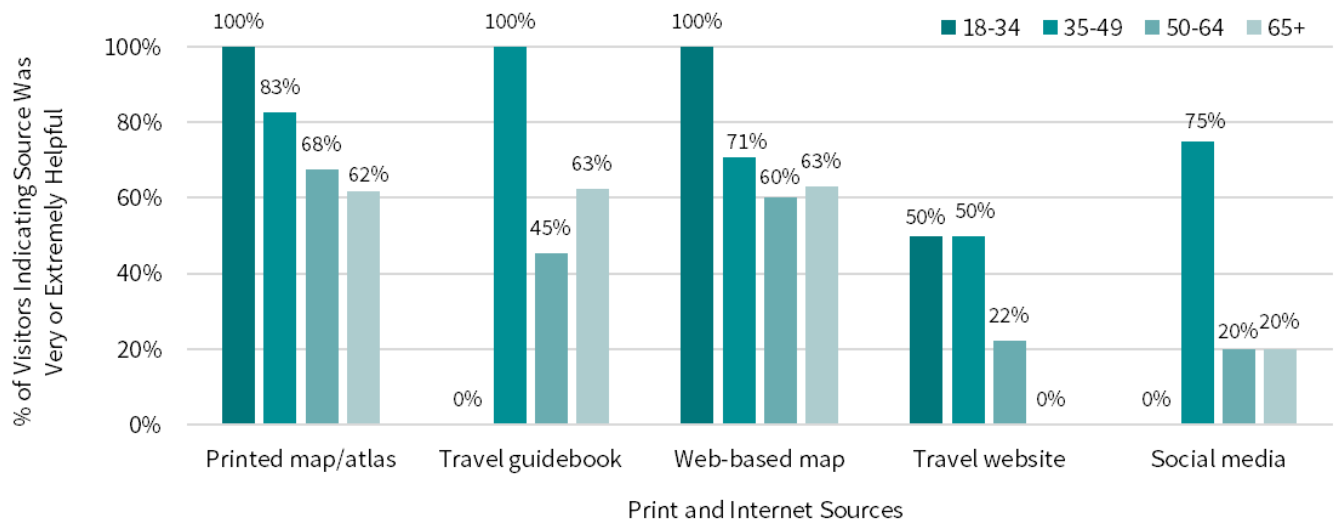


Fig. 11: Percent of visitors by age group who found print and internet information sources very or extremely helpful in planning their trip.

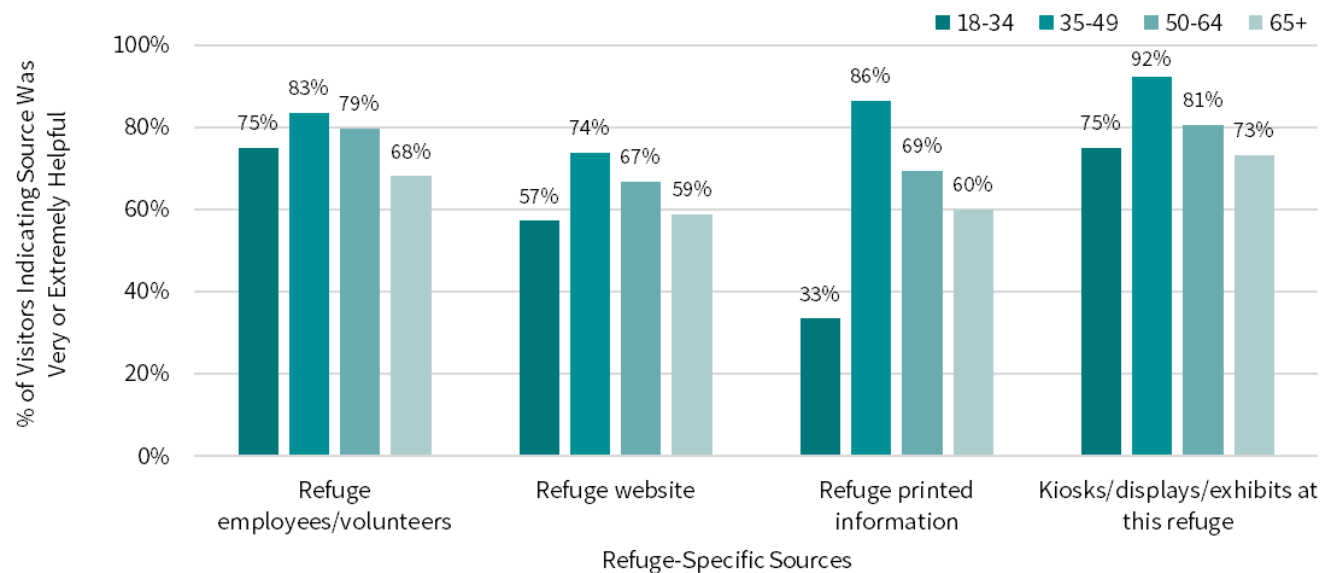


Fig. 12: Percent of visitors by age group who found refuge-specific information sources very or extremely helpful in planning their trip.

## 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 43% of visitors to share their experience on this refuge with others. Use of specific social media platforms varied by age group (Fig. 13):

- Visitors 18-34 years old preferred to use Facebook (55%) and Instagram (45%).
- Visitors 35-49 years old preferred to use Facebook (47%) and Instagram (25%).
- Visitors 50-64 years old preferred to use Facebook (35%).
- Visitors 65 or older preferred to use Facebook (25%).

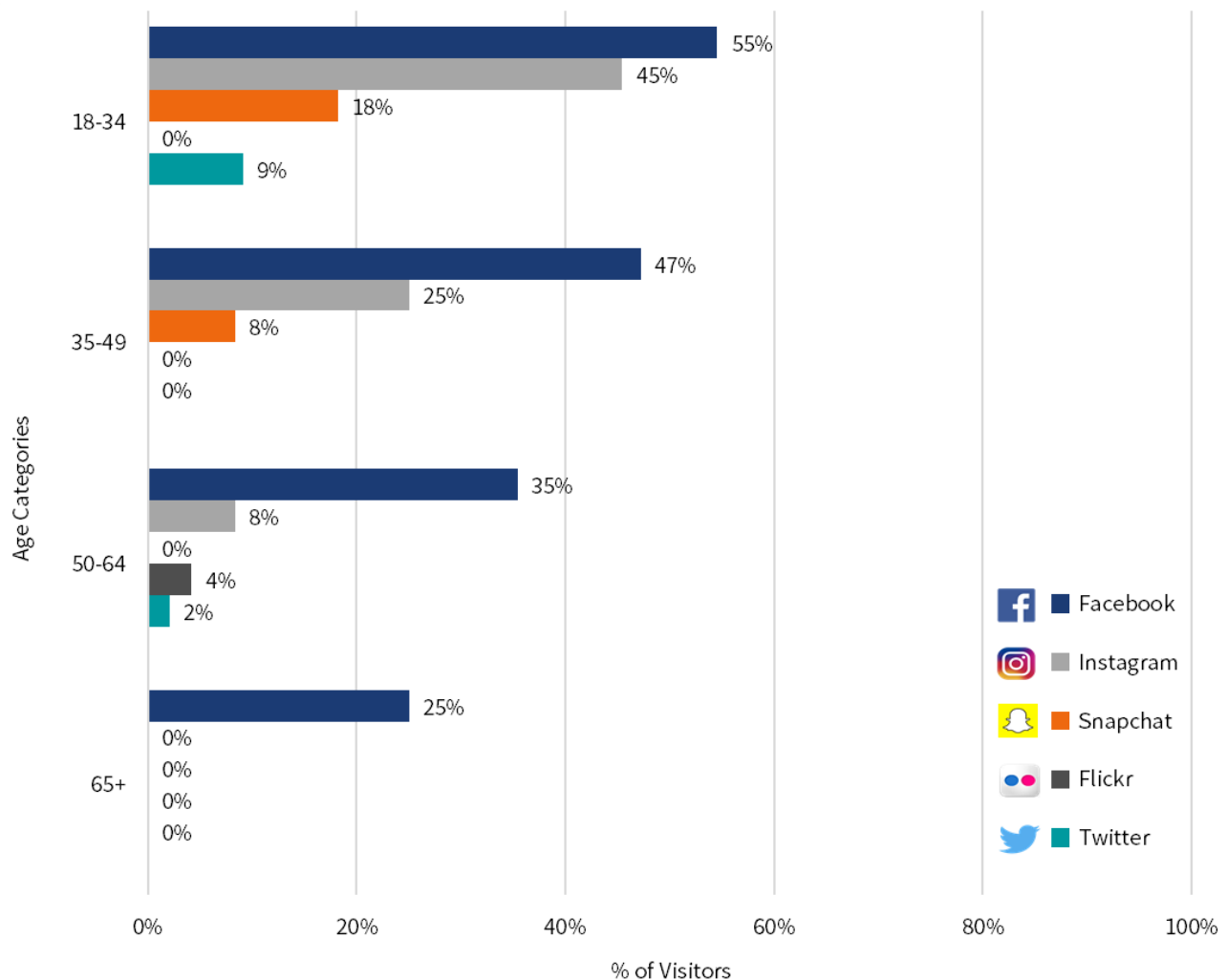


Fig. 13: Percent of visitors by age group who used various social media platforms to share their experience on this refuge with others.

## 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 (88%), wildlife observation (73%), and photography (52%) (Fig. 14).
- The top three activities noted as their primary activity on the day visitors were contacted to participate in the survey were hiking (38%), bird watching (18%), and auto tour route/driving (12%) (Fig. 14).
- Approximately 80% of visitors went to the visitor center, and they most often viewed the exhibits (80%), used the facilities (75%), visited the gift shop or bookstore (61%), and asked for information (58%) (Fig. 15).



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

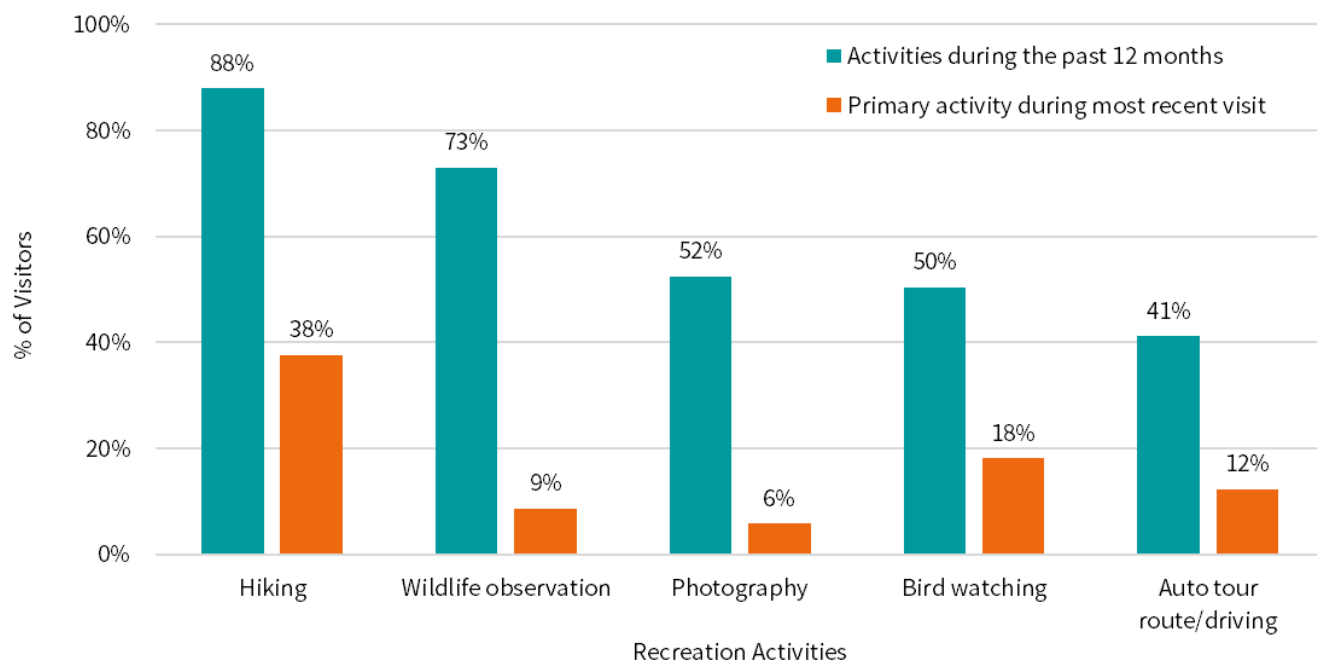


Fig. 14: Recreational activities visitors participated in during the past 12 months and their primary activity during their most recent visit to this refuge.

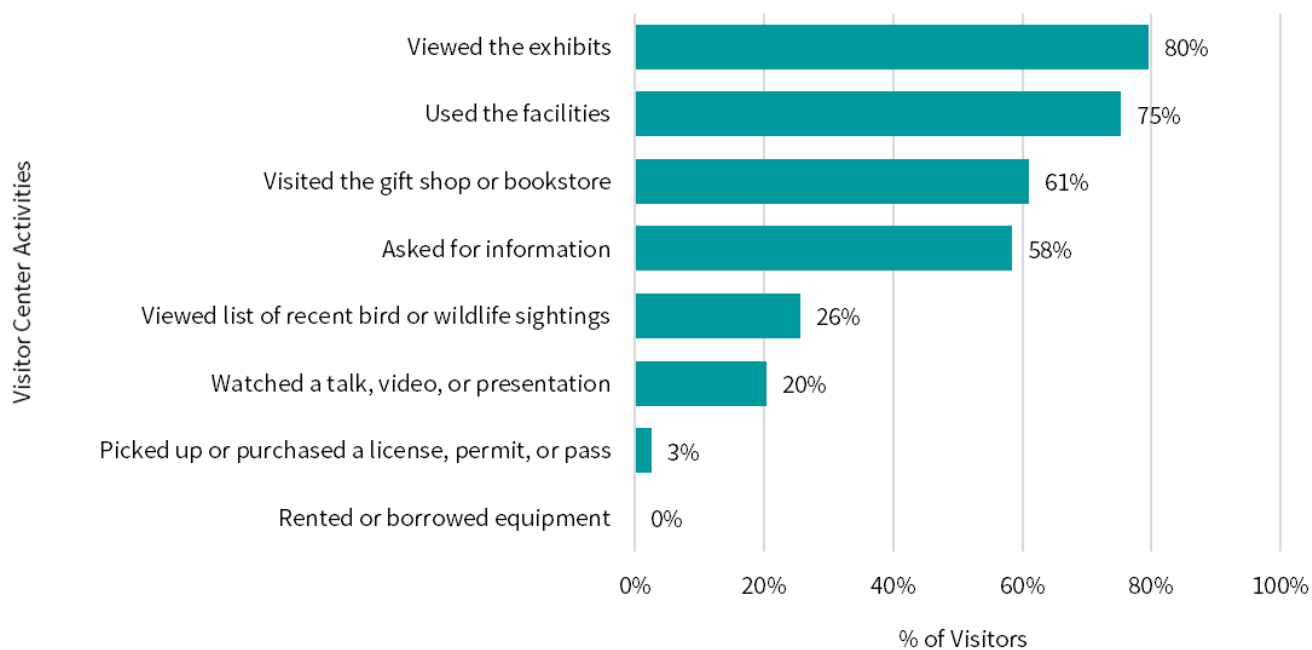


Fig. 15: Reasons visitors used the visitor center during their most recent visit to this refuge.

## Comfort in Nature/Feeling Safe & Welcome

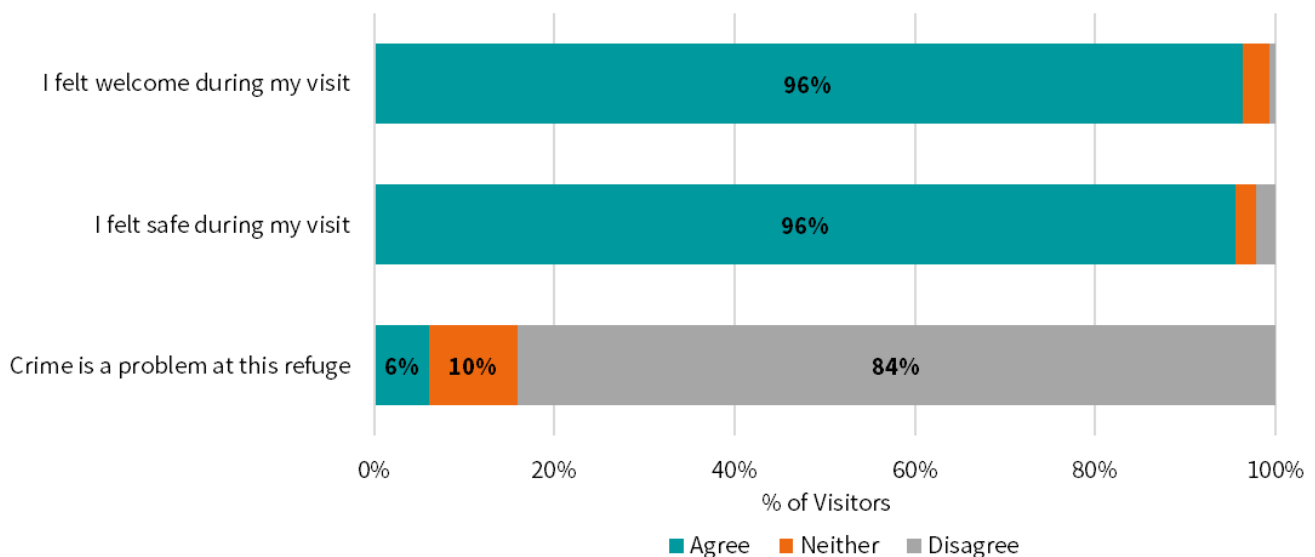
While many people are repeat visitors to refuges, each year thousands of people experience these lands and waters for the first time. One barrier for some visitors, particularly those living in urban areas or with little past exposure to nature-based recreation, is the perception that being in nature 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:

- 96% of visitors felt welcome during their refuge visit (Fig. 16).
- 96% of visitors felt safe during their refuge visit (Fig. 16).
- 98% of visitors felt comfortable in nature, but 10% did not like being in nature alone (Fig. 17).



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

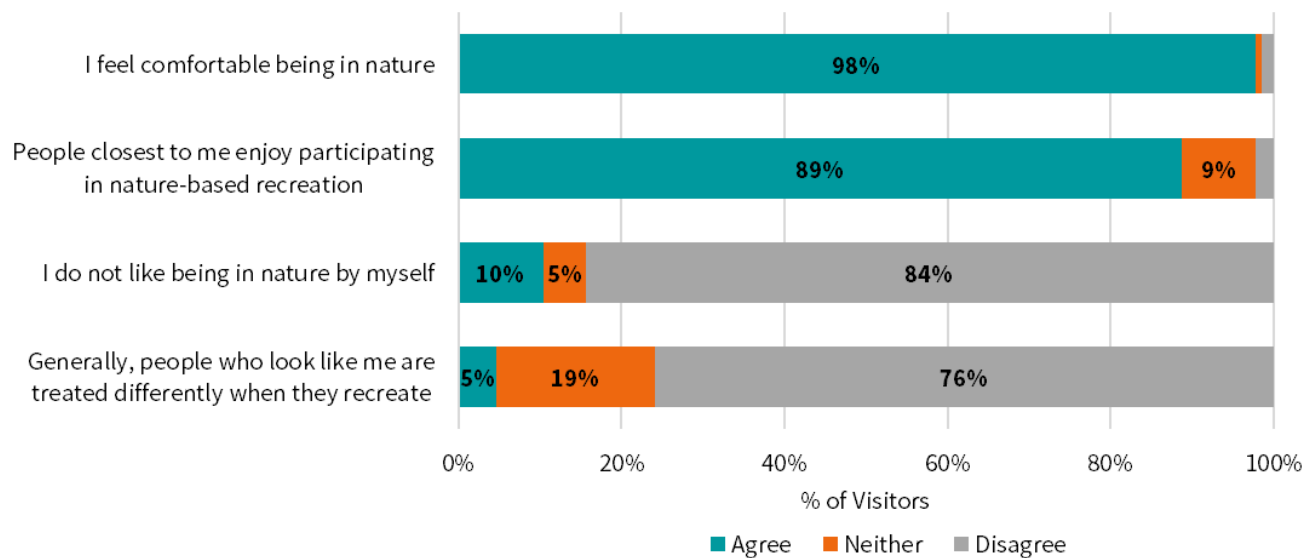


Fig. 17: Visitors' comfort with being in nature.



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:

- 92% of visitors were very or extremely satisfied with the overall experience at this wildlife refuge (Fig. 18).
- 85% 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):

- restrooms (96%),
- visitor center (91%), and
- courteous and welcoming employees/volunteers (90%).

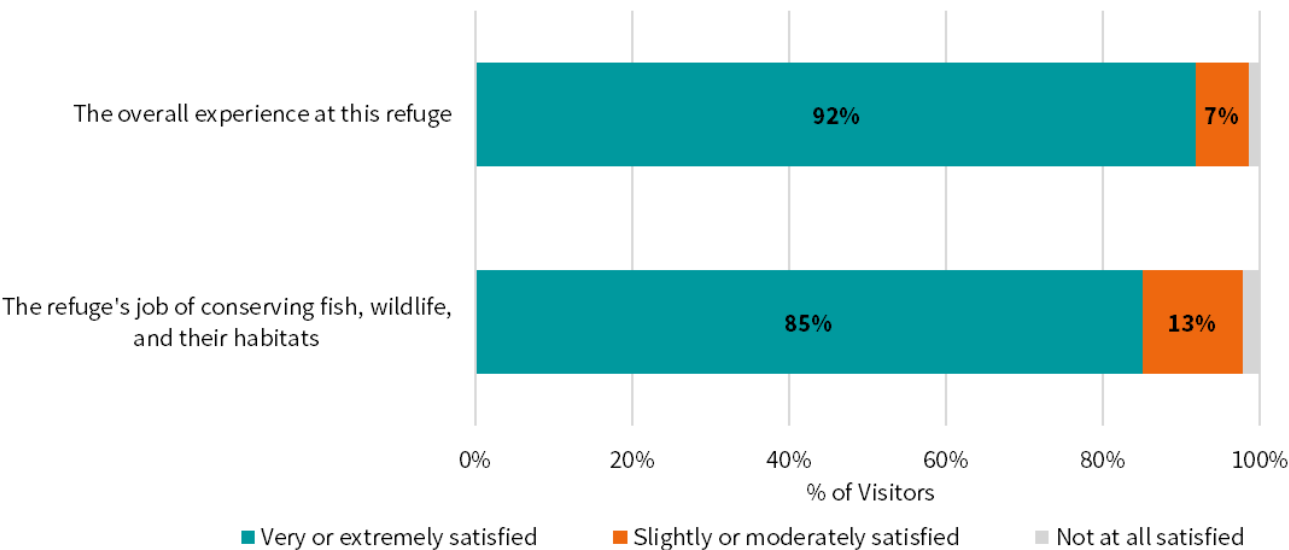


Fig. 18: Visitors' satisfaction with their experience at this refuge and with this refuge's job of conserving fish, wildlife, and habitats.

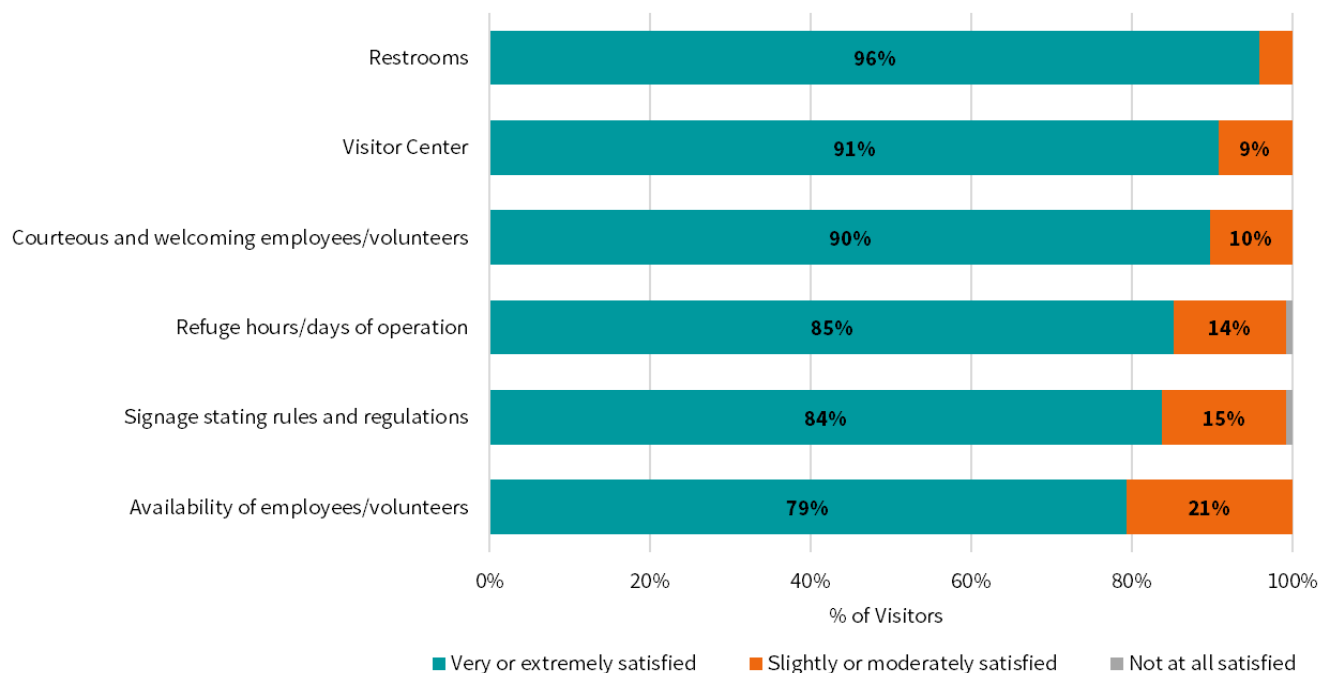


Fig. 19: Visitors' satisfaction with customer service and amenities at this refuge.

## RECREATIONAL OPPORTUNITIES

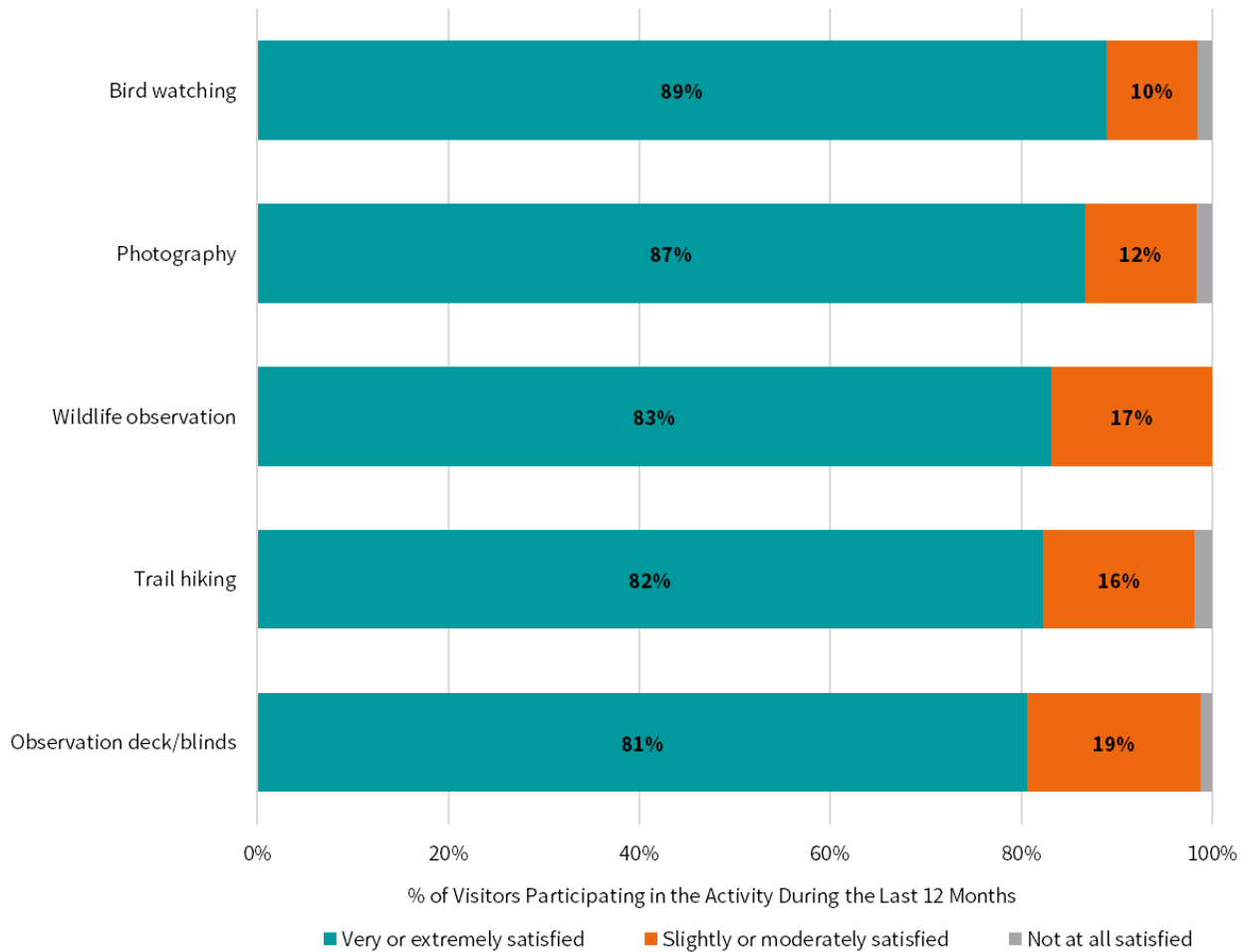
Outdoor recreation on wildlife refuges is a fundamental part of a visit. As American's values toward wildlife and their relationship with nature continue to shift (Kellert et al., 2017; Manfredo et al., 2018), public desires for recreational experiences on public lands are also likely to shift. In addition, 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 (89%),
- photography (87%), and
- wildlife observation (83%).

*"I have never had a bad experience at [Desert National Wildlife Refuge]. The staff and volunteers that I have met over the years have been helpful and friendly. The facilities support my birding and wildlife-watching well." – Visitor to Desert National Wildlife Refuge*



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

## TRANSPORTATION SAFETY & ACCESS

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

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

- Getting to this wildlife refuge, visitors were most satisfied with safety of refuge road entrances and exits (90%).
- Getting around this wildlife refuge, visitors were most satisfied with condition of parking areas (96%), number of parking places (92%), and condition of bridges on roadways (90%).
- Accessing recreation on this wildlife refuge, visitors were most satisfied with safety of roads or trails for nonmotorized use (88%), condition of boat launches (85%), and condition of trails and boardwalks (84%).

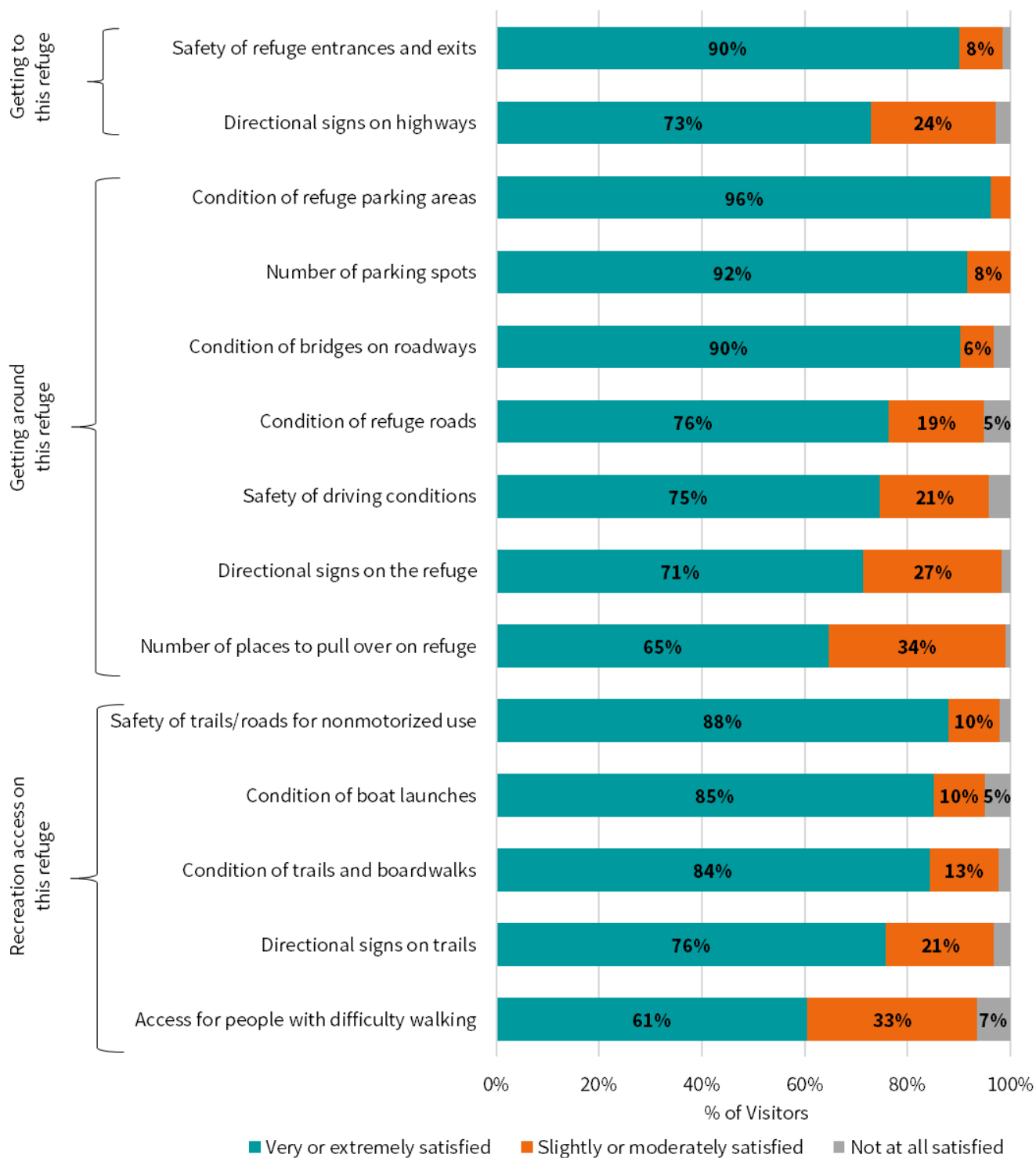


Fig. 21: Visitors' satisfaction with how the refuge is managing transportation-related features.

## 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  $\leq 50$  miles from this wildlife refuge; 75%) are as follows:

- On average, local visitors accounted for 20% of expenditures.
- Top trip expenditures by locals were for transportation and food/drink (Fig. 22).
- The average amount paid by locals to visit this wildlife refuge was \$52 per person per day (Fig. 22).
- Local visitors were personally willing to pay an additional \$44 per day on average to visit this wildlife refuge (Fig. 23).

Results for nonlocal visitors (those living  $>50$  miles from this wildlife refuge; 25%) are as follows:

- On average, nonlocals accounted for 80% of expenditures.
- Top trip expenditures by nonlocals were for lodging and food/drink (Fig. 22).
- The average amount paid by nonlocals to visit this wildlife refuge was \$142 per person per day (Fig. 22).
- Nonlocal visitors were personally willing to pay an additional \$175 per day on average to visit this wildlife refuge (Fig. 23).
- Nonlocal visitors spent an average of 6 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.

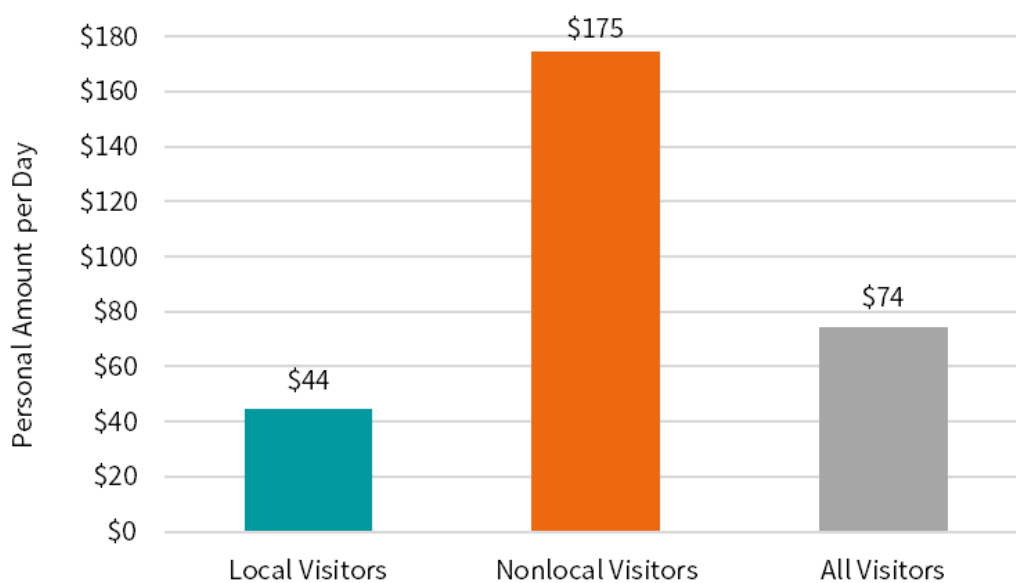


Fig. 23: Total personal willingness to pay per day above and beyond most recent trip expenses if costs were to increase for local, nonlocal, and all visitors. Due to the fixed-response question format, estimates of willingness to pay may underestimate the amount visitors would actually pay. Responses 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 (61%) and highlighting unique local culture (57%) (Fig. 24).
- The top two factors likely to increase visitors' future participation in their primary recreation activity were more infrastructure (15%) and more people participating in my primary activity (11%) (Fig. 25).
- The top two factors likely to decrease visitors' future participation in their primary recreation activity were less regulations on hunting (27%), and more people participating in my primary activity (23%) (Fig. 25).

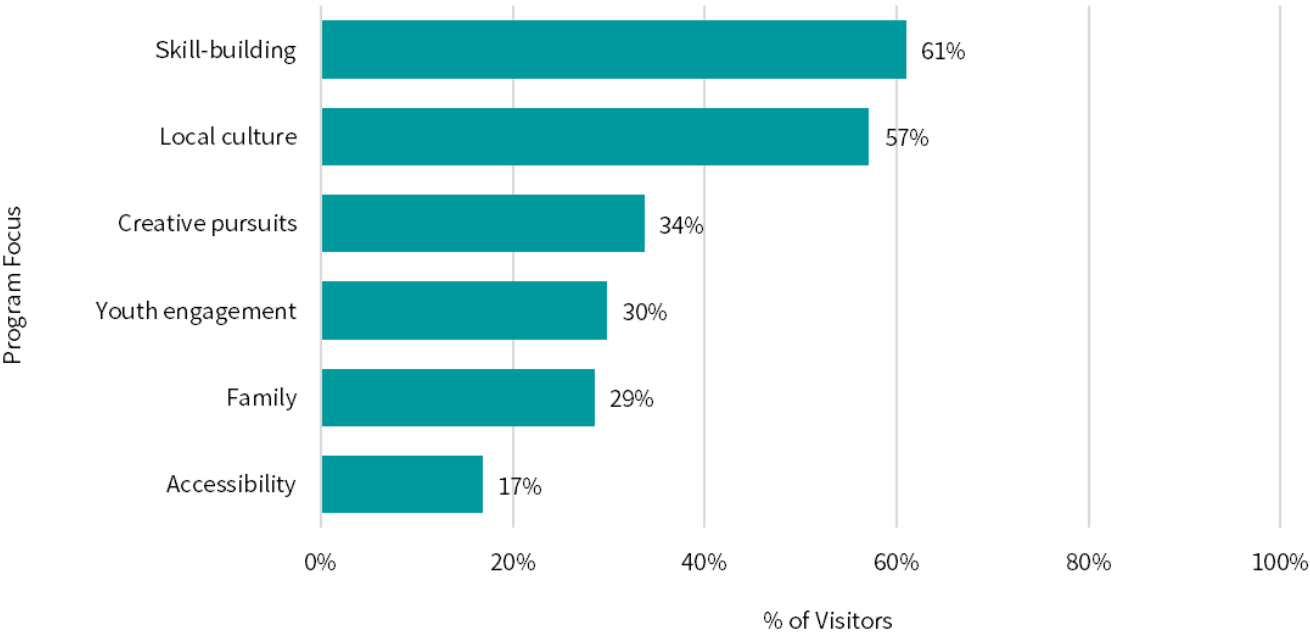


Fig. 24: Types of programs that would encourage visitors to return to this refuge.

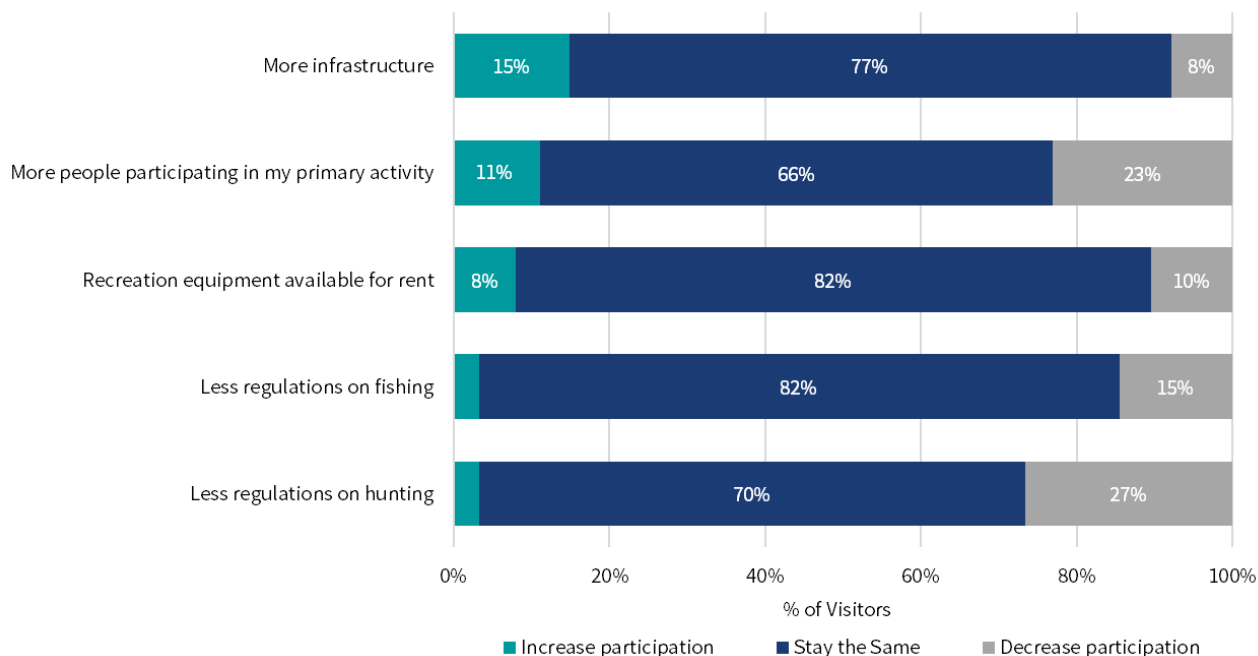


Fig. 25: Changes in visitors’ participation in their primary activity if the listed recreation factors were to change.

### 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):

- bus/tram that provides a guided tour (21%),
- pedestrian paths (20%), and
- bus/tram that takes passengers to different points within refuge boundaries (17%).

### ECOSYSTEM SERVICES

Natural processes associated with wildlife refuges can provide benefits to people, including provisioning services such as food

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

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

- The top two resource changes likely to increase visitors’ future participation in their primary recreation activity were an improvement in the quality of wildlife habitat other than wetlands (59%) and a greater diversity of species (59%).
- The top two resource changes likely to decrease visitors’ future participation in their primary recreation activity were more acreage open to hunting and fishing (26%) and less water available for recreation (26%).

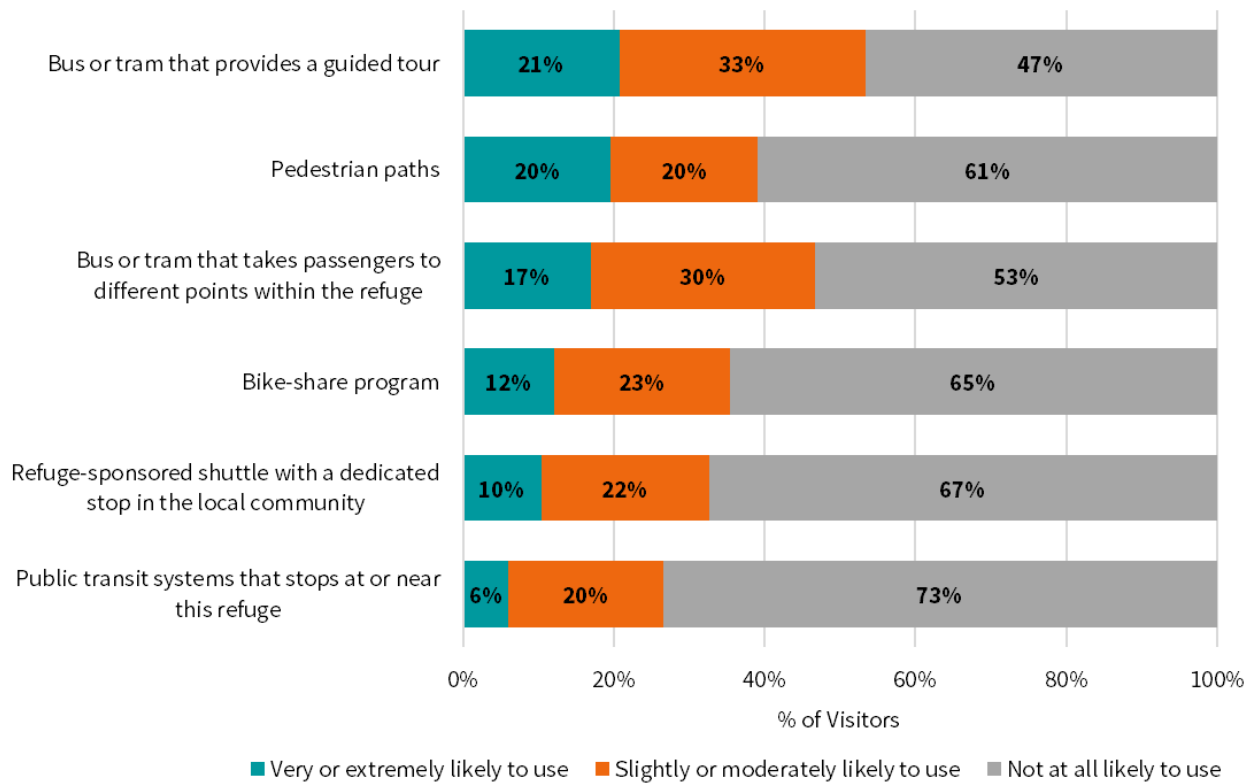


Fig. 26: Visitors' likelihood of using alternative transportation options if offered at this refuge.

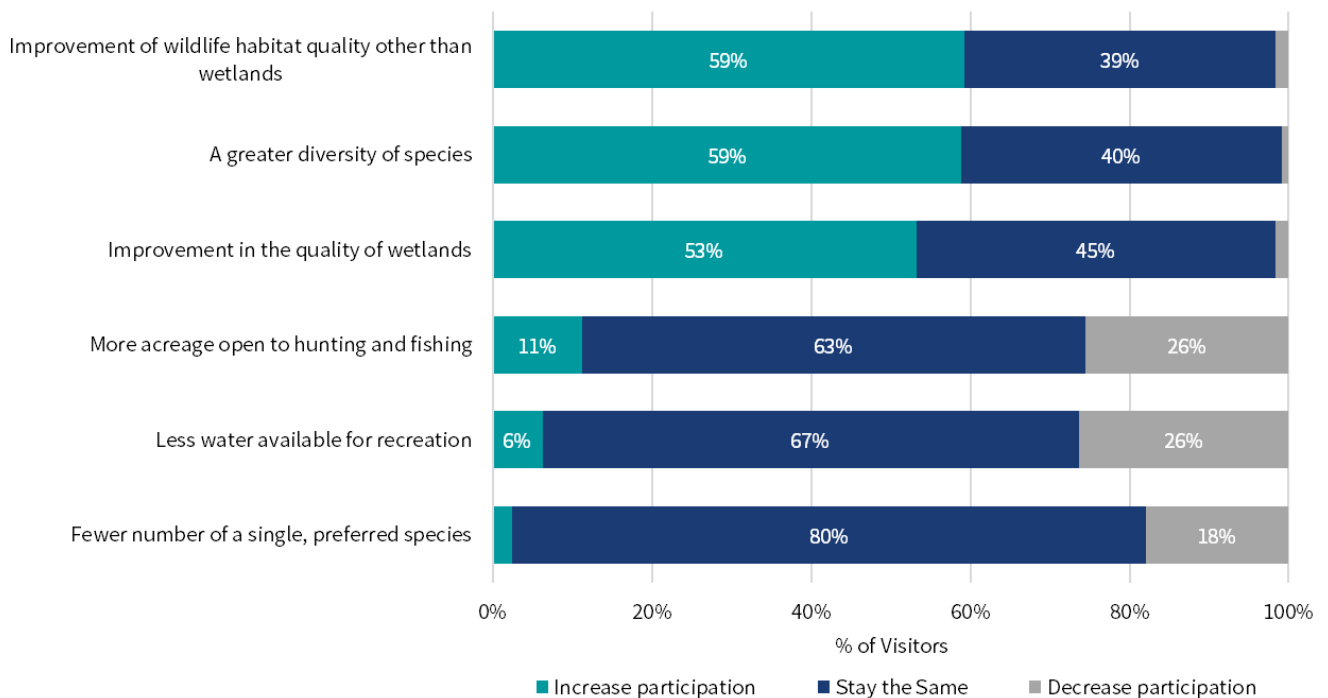


Fig. 27: Changes in visitors' participation in their primary activity if the listed resources were to change.

## Conclusion

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

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



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

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## Appendix A: Survey Methodology

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

### SAMPLING SCHEDULE

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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

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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

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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

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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

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

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

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

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# National Wildlife Refuge Visitor Survey



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

**PLEASE READ THIS FIRST:**

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

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

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**SECTION 1. Your visit to this refuge**

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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"/> 73% Wildlife observation	<input type="checkbox"/> 88% Hiking/Walking	<input type="checkbox"/> 6% Volunteering
<input type="checkbox"/> 50% Bird watching	<input type="checkbox"/> 6% Jogging/Running/Exercising	<input type="checkbox"/> 3% Environmental education program (classroom visits, labs)
<input type="checkbox"/> 52% Photography	<input type="checkbox"/> 3% Bicycling	
<input type="checkbox"/> 1% Big game hunting	<input type="checkbox"/> 41% Auto tour route/Driving	<input type="checkbox"/> 2% Interpretative program (bird walks, staff/volunteer-led talks)
<input type="checkbox"/> 0% Upland/Small game hunting	<input type="checkbox"/> 0% Motorized boating	
<input type="checkbox"/> 0% Waterfowl/Migratory bird hunting	<input type="checkbox"/> 0% Nonmotorized boating (canoeing, kayaking)	<input type="checkbox"/> 2% Refuge special event ( <i>specify</i> ) _____ <u>See Appendix C</u>
<input type="checkbox"/> 0% Freshwater fishing	<input type="checkbox"/> 0% Foraging (berries, nuts, other)	<input type="checkbox"/> 11% Other ( <i>specify</i> ) _____ <u>See Appendix C</u>
<input type="checkbox"/> 0% Saltwater fishing	<input type="checkbox"/> 16% 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"/> 56% It was the primary purpose or sole destination of my trip.
<input type="checkbox"/> 21% It was one of many equally important reasons or destinations for my trip.
<input type="checkbox"/> 24% It was just an incidental or spur-of-the-moment stop on a trip taken for other purposes or to other destinations.

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

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

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

☐ 20% No / Not Applicable

☐ 80% Yes → If yes, what did you do there? (*Mark all that apply.*)

☐ 58% Asked information of employees/volunteers

☐ 26% Looked at list of recent bird/wildlife sightings

☐ 20% Attended a talk/video/presentation

☐ 75% Stopped to use the facilities (for example, got water, used restroom)

☐ 80% Viewed the exhibits

☐ 3% Picked up/purchased a license, permit, or pass

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

☐ 61% 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: 2 day(s)

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

☐ 75% Yes

☐ 25% No → How much time did you spend in **the local area** on this trip?

If you spent less than one day in the local area, enter the number of hours: 4 hour(s)

If you spent one day or more in the local area, enter the number of days: 6 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: 34 minutes

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

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

☐ 64% Spring  
(March-May)

☐ 30% Summer  
(June-August)

☐ 67% Fall  
(September-November)

☐ 33% Winter  
(December-February)

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

...this refuge (including this visit?) 6 number of visits

...other national wildlife refuges? 4 number of visits

...other public lands (for example, national or state parks) to participate in the same primary activity as this visit? 13 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"/> 4%	Snapchat	<input type="checkbox"/> 0%	Personal blog (for example, Tumblr, Wordpress)
<input type="checkbox"/> 2%	Flickr	<input type="checkbox"/> 2%	Twitter	<input type="checkbox"/> 1%	Travel-related website (for example, Trip Advisor)
<input type="checkbox"/> 14%	Instagram	<input type="checkbox"/> 1%	Vimeo	<input type="checkbox"/> 5%	Other ( <i>specify</i> ) <u>See Appendix C</u>
<input type="checkbox"/> 0%	Pinterest	<input type="checkbox"/> 1%	YouTube	<input type="checkbox"/> 57%	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"/> 6%	<input type="checkbox"/> 12%	<input type="checkbox"/> 19%	<input type="checkbox"/> 62%	<input type="checkbox"/> 33%
Word of mouth (for example, a friend or relative)	<input type="checkbox"/> 14%	<input type="checkbox"/> 11%	<input type="checkbox"/> 14%	<input type="checkbox"/> 29%	<input type="checkbox"/> 32%	<input type="checkbox"/> 54%
People in the local community near the refuge	<input type="checkbox"/> 29%	<input type="checkbox"/> 24%	<input type="checkbox"/> 29%	<input type="checkbox"/> 3%	<input type="checkbox"/> 16%	<input type="checkbox"/> 68%
Refuge employees or volunteers	<input type="checkbox"/> 3%	<input type="checkbox"/> 5%	<input type="checkbox"/> 14%	<input type="checkbox"/> 26%	<input type="checkbox"/> 52%	<input type="checkbox"/> 21%
Printed map or atlas	<input type="checkbox"/> 4%	<input type="checkbox"/> 3%	<input type="checkbox"/> 20%	<input type="checkbox"/> 34%	<input type="checkbox"/> 38%	<input type="checkbox"/> 27%
Web-based map (for example, Google Maps, Waze)	<input type="checkbox"/> 9%	<input type="checkbox"/> 6%	<input type="checkbox"/> 15%	<input type="checkbox"/> 30%	<input type="checkbox"/> 40%	<input type="checkbox"/> 37%
Refuge website	<input type="checkbox"/> 6%	<input type="checkbox"/> 10%	<input type="checkbox"/> 18%	<input type="checkbox"/> 35%	<input type="checkbox"/> 31%	<input type="checkbox"/> 42%
Travel website (for example, TripAdvisor)	<input type="checkbox"/> 45%	<input type="checkbox"/> 14%	<input type="checkbox"/> 14%	<input type="checkbox"/> 14%	<input type="checkbox"/> 14%	<input type="checkbox"/> 81%
Other website ( <i>specify</i> ) <u>See Appendix C</u>	<input type="checkbox"/> 12%	<input type="checkbox"/> 0%	<input type="checkbox"/> 12%	<input type="checkbox"/> 18%	<input type="checkbox"/> 59%	<input type="checkbox"/> 82%
Social media (for example, Facebook, Instagram)	<input type="checkbox"/> 39%	<input type="checkbox"/> 9%	<input type="checkbox"/> 26%	<input type="checkbox"/> 17%	<input type="checkbox"/> 9%	<input type="checkbox"/> 80%
Recreation club or organization	<input type="checkbox"/> 35%	<input type="checkbox"/> 4%	<input type="checkbox"/> 12%	<input type="checkbox"/> 27%	<input type="checkbox"/> 23%	<input type="checkbox"/> 78%
Refuge printed information (for example, brochure)	<input type="checkbox"/> 7%	<input type="checkbox"/> 4%	<input type="checkbox"/> 20%	<input type="checkbox"/> 24%	<input type="checkbox"/> 45%	<input type="checkbox"/> 26%
Kiosks/displays/exhibits at the refuge	<input type="checkbox"/> 4%	<input type="checkbox"/> 2%	<input type="checkbox"/> 13%	<input type="checkbox"/> 40%	<input type="checkbox"/> 40%	<input type="checkbox"/> 25%
Travel guidebook or other book	<input type="checkbox"/> 20%	<input type="checkbox"/> 4%	<input type="checkbox"/> 16%	<input type="checkbox"/> 32%	<input type="checkbox"/> 28%	<input type="checkbox"/> 79%
Tourist information or welcome center	<input type="checkbox"/> 10%	<input type="checkbox"/> 6%	<input type="checkbox"/> 8%	<input type="checkbox"/> 22%	<input type="checkbox"/> 54%	<input type="checkbox"/> 59%
Other source ( <i>specify</i> ) <u>See Appendix C</u>	<input type="checkbox"/> 11%	<input type="checkbox"/> 0%	<input type="checkbox"/> 11%	<input type="checkbox"/> 11%	<input type="checkbox"/> 67%	<input type="checkbox"/> 90%

### 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
8%	13%	31%	30%	19%	Surface conditions of refuge roads	5%	8%	10%	39%	37%	NA
12%	19%	33%	24%	12%	Surface conditions of parking areas	0%	0%	4%	38%	59%	NA
13%	5%	25%	31%	25%	Condition of bridges on roadways	3%	0%	6%	50%	40%	NA
3%	6%	27%	41%	23%	Condition of trails and boardwalks	2%	2%	12%	41%	43%	NA
54%	6%	20%	14%	6%	Condition of boat launches	5%	0%	10%	65%	20%	NA
7%	13%	30%	37%	13%	Number of places for parking	0%	2%	7%	44%	48%	NA
12%	8%	32%	32%	17%	Number of places to pull over on refuge roads	1%	7%	27%	40%	24%	NA
4%	9%	24%	31%	31%	Safety of driving conditions on refuge roads	4%	5%	16%	45%	30%	NA
3%	8%	23%	35%	31%	Safety of refuge road entrances/exits	2%	2%	6%	46%	44%	NA
4%	10%	22%	35%	30%	Safety of roads/trails for nonmotorized users (for example, bicyclists and hikers)	2%	0%	10%	54%	34%	NA
4%	9%	22%	37%	27%	Signs on highways directing you to this refuge	3%	6%	18%	44%	29%	NA
3%	7%	25%	40%	26%	Signs directing you around refuge roads	2%	6%	21%	45%	27%	NA
2%	7%	19%	41%	31%	Signs directing you on trails	3%	3%	18%	43%	33%	NA
17%	12%	23%	27%	20%	Access for people with physical disabilities or who have difficulty walking	7%	4%	29%	36%	25%	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	93%	55%
Private/rental vehicle with a trailer (for boat, camper, or other)	2%	1%
Recreational vehicle (RV)	1%	1%
Refuge shuttle bus/tram	0%	1%
Tour bus/van	0%	0%
Public transportation	1%	0%
Motorcycle	3%	3%
Bicycle	1%	1%
Foot (for example, walking/hiking)	8%	50%
Boat	0%	0%
Other ( <i>specify</i> ): <u>See Appendix C</u>	2%	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)	53%	14%	16%	11%	6%
Bus or tram that provides a guided tour of the refuge with information about this refuge and its resources	47%	14%	19%	15%	6%
Refuge-sponsored shuttle with a dedicated stop in the local community for picking up people at set times	67%	14%	8%	5%	5%
Public transit system that stops at or near this refuge	73%	16%	5%	3%	3%
Bike-share program that offers bicycles for rent on or near this refuge	65%	11%	12%	6%	6%
Pedestrian paths for access to this refuge from the local community	61%	10%	10%	12%	8%

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## SECTION 4. Your expenses related to your refuge visit

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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>	

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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"/> 7% \$0	<input type="checkbox"/> 25% \$30	<input type="checkbox"/> 10% \$100	<input type="checkbox"/> 2% \$250
<input type="checkbox"/> 7% \$5	<input type="checkbox"/> 10% \$45	<input type="checkbox"/> 1% \$125	<input type="checkbox"/> 0% \$350
<input type="checkbox"/> 9% \$10	<input type="checkbox"/> 4% \$60	<input type="checkbox"/> 3% \$150	<input type="checkbox"/> 2% \$500
<input type="checkbox"/> 13% \$20	<input type="checkbox"/> 2% \$75	<input type="checkbox"/> 4% \$200	<input type="checkbox"/> 2% \$750

## SECTION 5. Your experience at this refuge

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

Importance <i>Circle one for each item.</i>					Refuge Services, Facilities, and Opportunities	Satisfaction <i>Circle one for each item.</i>					
Not at all Important	Slightly Important	Moderately important	Very Important	Extremely Important		Not at all Satisfied	Slightly Satisfied	Moderately satisfied	Very Satisfied	Extremely Satisfied	Not Applicable
2%	2%	17%	37%	42%	Convenient hours/days of operation for this refuge	1%	1%	13%	34%	51%	NA
11%	15%	38%	21%	15%	Availability of employees or volunteers	0%	2%	19%	39%	41%	NA
7%	12%	23%	32%	26%	Courteous and welcoming employees or volunteers	0%	2%	9%	37%	53%	NA
4%	11%	25%	40%	21%	Signs with rules/regulations for this refuge	1%	2%	14%	44%	40%	NA
3%	9%	24%	38%	26%	Visitor center	0%	2%	8%	31%	60%	NA
2%	5%	12%	34%	47%	Well-maintained restrooms	0%	0%	4%	31%	65%	NA
8%	14%	29%	27%	23%	Recreational structures (decks, blinds, platforms)	1%	3%	18%	42%	36%	NA
8%	12%	23%	21%	36%	Bird-watching opportunities	1%	0%	10%	48%	40%	NA
4%	5%	18%	35%	38%	Opportunities to observe wildlife other than birds	0%	0%	21%	45%	34%	NA
2%	8%	22%	32%	37%	Opportunities to photograph wildlife and scenery	1%	2%	14%	43%	41%	NA
10%	14%	28%	30%	18%	Environmental education opportunities	0%	9%	24%	42%	26%	NA
81%	7%	6%	2%	4%	Hunting opportunities	16%	16%	21%	47%	0%	NA
59%	9%	21%	5%	6%	Fishing opportunities	12%	6%	35%	35%	12%	NA
2%	2%	10%	36%	50%	Trail hiking opportunities	3%	5%	13%	37%	43%	NA
36%	15%	24%	14%	11%	Bicycling opportunities	3%	11%	27%	43%	16%	NA
45%	12%	21%	11%	13%	Water trail opportunities for canoeing or kayaking	22%	17%	17%	44%	0%	NA
35%	19%	20%	13%	13%	Volunteer opportunities	0%	10%	35%	33%	22%	NA
10%	6%	22%	27%	36%	Wilderness experience opportunities	1%	2%	20%	42%	34%	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%	0%	3%	32%	64%
I felt safe during my visit to this refuge.	1%	1%	2%	24%	71%
Crime <u>is</u> a problem at this refuge.	66%	18%	10%	3%	3%
I feel comfortable being in nature.	1%	0%	1%	21%	77%
I do <u>not</u> like being in nature by myself.	73%	11%	5%	9%	1%
People closest to me enjoy participating in nature-based recreation.	1%	1%	9%	33%	56%
Generally, people who look like me are treated differently when they participate in nature-based recreation.	61%	15%	19%	2%	2%

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

	Not at all Satisfied	Slightly Satisfied	Moderately satisfied	Very Satisfied	Extremely Satisfied
The job this refuge is doing of conserving fish, wildlife, and their habitats.	2%	2%	11%	44%	41%
The quality of the overall experience when visiting this refuge.	1%	2%	4%	41%	51%

## 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	26%	67%	6%
More acreage open to hunting and fishing	26%	63%	11%
More infrastructure (for example, bathrooms, observation decks)	8%	77%	15%
Recreation equipment available for rent (for example, fishing rods, binoculars, snowshoes)	10%	82%	8%
Less regulations on fishing	15%	82%	3%
Less regulations on hunting	27%	70%	3%
A greater diversity of species	1%	40%	59%
Fewer numbers of a single, preferred species	18%	80%	2%
More people participating in my primary activity	23%	66%	11%
An improvement in the quality of wetlands	2%	45%	53%
An improvement in the quality of wildlife habitat other than wetlands	2%	39%	59%

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

53% Yes      25% No      23% 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.*)

40% 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:

30% Programs that engage youth

34% Programs that focus on creative pursuits (for example, art, writing, meditation)

29% Programs that focus on family/multiple-generations

17% Programs that support people with accessibility concerns (for example, difficulty walking, in a wheelchair)

61% Programs that teach skills to visitors

14% Other (*specify*) See Appendix C

57% Programs that highlight unique local culture

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## SECTION 7. A little about you

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

1. Are you? ☐ 60% Male ☐ 40% Female

2. In what year were you born?  1964 (YYYY)

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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
(elementary)					(junior high or middle school)			(high school)				(college or technical school)				(graduate or professional school)			
					<input type="checkbox"/> 1%			<input type="checkbox"/> 9%				<input type="checkbox"/> 54%				<input type="checkbox"/> 37%			

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

<input type="checkbox"/> 91% White	<input type="checkbox"/> 5% American Indian or Alaska Native
<input type="checkbox"/> 6% Hispanic, Latino, or Spanish	<input type="checkbox"/> 1% Middle Eastern or North African
<input type="checkbox"/> 2% Black or African American	<input type="checkbox"/> 2% Native Hawaiian or Other Pacific Islander
<input type="checkbox"/> 5% Asian	<input type="checkbox"/> 4% Some other race or ethnicity

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

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

<input type="checkbox"/> 1% Less than \$10,000	<input type="checkbox"/> 10% \$35,000 - \$49,999	<input type="checkbox"/> 23% \$100,000 - \$149,999
<input type="checkbox"/> 3% \$10,000 - \$24,999	<input type="checkbox"/> 19% \$50,000 - \$74,999	<input type="checkbox"/> 15% \$150,000 - \$199,999
<input type="checkbox"/> 4% \$25,000 - \$34,999	<input type="checkbox"/> 15% \$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"/> 51% Employed full-time	<input type="checkbox"/> 1% Unemployed	<input type="checkbox"/> 32% Retired
<input type="checkbox"/> 4% Employed part-time	<input type="checkbox"/> 4% Homemaker/caregiver	<input type="checkbox"/> 1% Disabled/unable to work
<input type="checkbox"/> 4% Self-employed	<input type="checkbox"/> 1% Student	<input type="checkbox"/> 1% Other (specify): <u>See Appendix C</u>

**Thank you for completing the survey.**

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

## Comments?

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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
Trail maintenance	1

Other Activity	Frequency
4 wheeling	1
Camping	5
Enjoy natural landscapes	1
Gift shop	1
Junior Ranger badge for my son	1
Looking for a camping spot other than what is provided	1
Nature scavenger hunt w/kids	1
Never visited site before and was interested to see what was offered.	1
Overnight backpacking	1
Visiting the visitor center	2
Watched movie in center	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)	2
Auto tour route/driving	17
Bird watching	25
Camping	4
Environmental education	2
Fishing	1
Hiking	52
Interpretation	2
Nature observation	2
Other	3
Photography	8
Sightseeing	2
Special event	1
Wildlife observation	12

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
Checked maps of entire reserve	1
Cultural & religious practices	1
Junior Ranger Program	1
Walked nature trail	1

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

Other Social Media Outlets	Frequency
eBird	2
iNaturalist	1
Olli Hikers website	1
Parkstamps.org	1
Sierra Club newsletter	1
WhatsApp	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
Birdandhike.com	7
Birding hiking Las Vegas	1
eBird	5
Hikingproject.com	1
iResearch	1
Nevadawilderness.org and meetup.com	1
Parkstamps.org	1

Other Information Sources	Frequency
AAA	1
Birds & Bloom magazine	1
Map printed from refuge website	1
Newspaper	1
Refuge signs	2
Regional flood control	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
Gambling	3
Photography expense	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	3
Hiking-related programs	3
Nature-related programs	1
Photography-related programs	1
Programs for adults	1
Wildlife-related programs	1

#### Survey Section 7

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

Other Employment	Frequency
Missionary	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=48)

All are in good condition and well-maintained.

Aside from the area around the visitor center, the vast majority of the refuge is accessible only by dirt road and is rarely visited, thereby keeping it truly wild.

Corn Creek is a great oasis and migrant trap for birds.

Could maybe use a few more signs on the refuge roads.

Desert Wildlife Refuge boasts beautiful country and a lot of it, but is inaccessible without a specialized vehicle, which is sad.

Did not realize you needed a 4-wheel to go on roads. Was unable to complete our visit because of this.

Do not improve the roads - I have been there 30 years ago and now access has been blocked to off-roading via jeep.

Do not pave any more roads in the DWR. It will increase traffic and would make those areas too accessible. The cut roads are fine for those who wish to get there.

Due to the conditions of the roads in this area, handicapped access is virtually non-existent.

Excellent approach road and parking. Walking trails in first-class condition.

Experience limited to the visitor center and drive to and from volunteer trail maintenance site. This is 1% of the refuge other than the visitor center. Think highly of the visitor center.

Good work.

I felt the surface condition of the roads was horrible, however, I was "slightly satisfied" with the unique experience of driving on them. It is likely I would have visited additional areas of the refuge and stayed longer if the roads within the refuge would have been better.

I had not been to the refuge in several years. Was pleased to see the improvements, particularly the covered parking.

I just love the new paved road in from the main, it makes such a difference. Especially for me on my motorcycle full-time, that dirt road would have stopped me. Glad I'm able to keep visiting. Thanks.

I love that the rough roads keep attendance rates down. The solitude at DNWR is the reason we go.

I visited this refuge to drive off the road.

I want to explore more but do not have 4-wheel drive.

I went to the visitor's center and just stayed in the very close, nearby trails.

It is [expletive] driving on the first section of the road. If this section was better, I would visit more often.

It is rough terrain. The roads are minimally graded but still passable. Keeps nature as undisturbed as possible.

Last time I went to Desert NWR, the road in was not paved but now it is, and it made a big difference.

Many of the trails there are accessible, some are more difficult than others due to location and natural terrain issues. Overall, I think they do an excellent job with accessibility. The visitor center has many wonderful educational exhibits that cover the animals, flora and original peoples who have lived in the area. It's a little jewel in the Las Vegas area.

My father, who visited once before bringing his grandchildren and myself there, tried to take a road and said it was undrivable, never-ending dirt road, bouncing them around, unpaved and he never got to his destination. He was disappointed and said don't ever take that road.

Need more signage on hiking leading to wildlife refuge!!

Really enjoyed the experience. Will return many more times. Our hiking group, which is affiliated with OLLI at UNLV, a program for seniors, found this hike perfect for most of our members.

Roads need improvement.

Should have better warning from highway that the visitor center turn-off road is approaching.

Some trails were slightly difficult for strollers.

The addition of the paved access road has made visiting the refuge safer. The old dirt road would occasionally wash out in thunderstorms and make getting to the ranger station more difficult.

The back roadways are rough, but the recent paving of the road to Corn Creek is amazing. Love the new visitor center. It is a desert and we cannot expect all roads to be smooth.

The facilities have been upgraded very well in the last few years at DNWR and it works well, I particularly like the crossing signs warning of desert tortoises.

The pathways in front of the lawn area used to be comfortable to walk on. Now the gravel on it is too deep and is harder to walk on. I think it would be impossible for a wheelchair.

The refuge seems to promote that its roads are primitive & they live up to that! If not intended to be primitive, then they are not doing a very good job. I came prepared for very primitive & that's what was there. Other refuges I visit have more modern facilities & promote that. I visit Bosque del Apache a lot, which is highly visited & has the facilities for it.

The road to Deadman's Canyon trailhead is pretty rough. Saw two cars broken down that needed towing. However, it is pretty well-mentioned on the website that a high-clearance vehicle is very recommended/encouraged.

The roads could use some grading.

The signs to locate the Desert National Wildlife Refuge are too small and close to the access road. Also, there is no exit lane off US 95 north, so you have to use the shoulder lane.

The surface of the Corn Creek field station trails has been poorly managed. Gravel binder does not work, and the gravel becomes loose and very loud!

The trail surfaces were recently made unusable by wheelchairs and difficult and noisy to walk on. This was done by staff, who installed deep gravel, too deep to solidify with a fixative. The damage is being repaired, and it seems the paths will fairly soon be 75% as usable as they were before work began.

The trails were recently ruined by the addition of deep gravel that is extremely noisy and difficult to walk on. The trails were excellent before the gravel was added. I know staff is aware of the problem and is working on it, but they keep trying to make the gravel work when what they should be doing is removing it.

The vast majority of refuge roads could only be accessed by off-road type vehicles.

There is only one sign on the highway, exactly at the entrance. There should be at least one more going north. I'm sure that would help with more visitors.

There should be a left turn lane on I-95 south to turn onto to the road leading to the refuge. Cars are travelling very fast on I-95 and having to slow down and make a turn from the left lane (i.e. fast lane) of this highway is dangerous.

This particular refuge has primitive roads.

Unless you had 4-wheel drive - road too rough to go very far.

Used the road when it was a dirt road and then a gravel road. So very happy that it is now a paved road.

We had a nice visit.

We no longer own a jeep. Used to travel refuge roads extensively, Mormon Well Rd., etc. Now we just visit the visitor center and adjunct trails.

## Survey Section 5

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

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### Comments on Services, Facilities, and Opportunities at This Refuge (n=39)

At the Desert National Wildlife Refuge, I would like to know how far it was to a lookout point. They were unsure on what cars and trucks would make the trail without getting stuck.

Better signage from highway.

Corey invited me to view the semi-annual pup fish count at Devil's Hole. Very interesting.

Corn Creek area is very well-maintained and nice. Back country areas less well-maintained (roads) and somewhat of an impediment for visiting. Condition of roads needs better signage - can vary greatly due to weather/maintenance variability from month to month.

Corn Creek used to be a premier bird watching location, but the field station at the refuge has been very poorly managed. The pond habitat has become a disastrous mistake. And vegetation has been very poorly managed as well.

DNWR has fantastic facilities well worth a visit and will be returning in the future. Extending the trails would be interesting and perhaps the driving into the wilderness could be slightly easier for day trippers wanting to do

this? Realize this comes at a cost though to revamp tracks and also, you'd need to restrict numbers also perhaps wanting to do this?

Do not like my tax dollars spent on this facility, four-million-dollar center takes away from the experience.

Every visit to DWR and its other sites has always been terrific. My family spends a lot of time there due to its remoteness. This allows my family with a local back to nature day and overnight trip close to home.

Excellent facility; well cared for and an excellent visitor center. Very clean and well-maintained restrooms. All trails are in excellent condition. The entire refuge is very well-maintained.

Excellent visitor center. Been visiting for years. Would like more info on use of the Alamo Rd. or if it closed.

Explain who was Whispering Ben!!! You have a trail dedicated to a Paiute elder named Whispering Ben, but then you have no background story!!! It sounds like it was a joke of the Paiutes, whom consulted on the creation of the trail.

Extremely welcome and beautiful. We walk the paths once a week.

Facilities were well-maintained and in great shape.

I have never had a bad experience at the DNWR. The staff and volunteers that I have met over the years have been helpful and friendly. The facilities support my birding and wildlife-watching well.

I was surprised how interesting and nice the exhibits were and the movie.

If possible, it's great to be able to park in a shady spot.

It would be nice to have a flat pedestal stand (like at many NPS) to steady your camera on to take unaided photos in front of monument signs.

It's been several years since we visited this refuge. We were pleasantly surprised at the improvements. It used to be pretty bare-bones and is now comparable to other facilities.

More hiking/biking trails beyond the visitor's center.

Not a big fan of the desert, so not likely to return for recreation since it means 40mi+ drive on dirt/off-road past the visitor center to a site with water/trees/camping and maybe some wildlife like the beloved bighorn sheep. Glad wildlife has a home. Glad there is some boundary to the sprawl, which is still expanding here in Vegas. Much more interesting recreation opportunities no farther from Vegas than this.

Services and facilities have improved greatly since the last time I was there.

Services are good for the location and environment of this refuge.

Several interesting exhibits at the visitor center.

Signage on the public access road could be better. We were not clear what facilities are available at the visitor's center until we arrived. It is a very nice visitor's center with helpful volunteers and nice exhibits.

The facilities were all in excellent condition and the staff was very friendly and helpful.

The facilities were fantastic, and the staff was extremely helpful.

The refuge is designed as a back-country experience with limited facilities, etc., which they are doing a good job of. If not intended, then doing a poor job. Was very difficult to find much info from refuge.

The visitor center staff was amazing in getting me started on my activities.

The visitor center was only open 4 days/week - not on the days I visited. It looked like an interesting building, but I had no opportunity to get inside. Since volunteers are mostly staffing these visitor centers, why not engage more of them and have these resource investments open full-time to the public?

The visitors center at Desert NWR is new and really nice.

The whole area has changed unbelievably since I visited 10-20 years ago. It is totally modernized. And up-to-date but lost some of its charm and wildlife doesn't abound in the same way as before. No frogs to be seen or heard, pond had been cemented in and cattails, bulrushes banished! A sterile place compared to the past. Just like in the song "they've paved the parking lot, etc." Retired teacher of the gifted and talented, Las Vegas, NV.

Unfortunately, on the day we visited, the wind picked up and there wasn't much bird or wildlife activity due to the gusts and turbulence. We hope to return soon on a calmer morning.

Very courteous and knowledgeable staff. I appreciated all they had to offer and share with my daughter and self.

Very friendly staff over the 12 years I have visited (every 2-3 weeks) but I miss the former earthen "lakes" with more critters.

Very nice shaded parking structure, picnic area, restrooms and visitor center. But, beyond the doors of the visitor center, the experience was not as good as what I expected.

Very nice visitor center.

We always have a great time. More people should take the opportunity to visit this place. It has wildlife and history on display. With its natural water source, the refuge has a variety of landscapes, and all kinds of desert wildlife. We saw more lizards around every bend of the trail this spring.

Well-maintained.

Would love guided bike and hiking tours.

## End of Survey

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### General Comments (n=30)

Hope the government does not close this refuge down for more Air Force land. Need the refuge for my grandchildren and future generations. Been going to the refuge since the early 70s. Have pictures of dessert sheep when they were at this site. Thank you.

I am disturbed by reports I hear about the future of Corn Creek field station. Apparently, the overall plan is to make it more "natural". I hear the fruiting mulberry trees that attract hordes of birds were to be removed until the public objected. Olive trees are quietly being removed. Corn creek is not just a wildlife refuge; it also contains more than 100 years of local history, and the orchard that was planted a century ago should be maintained, not removed. Terrible mistakes have been made by management. The most glorious cottonwood tree had the stream that fed it cut off, and the tree was allowed to die. The very natural pond that was full of birds, plants, and bullfrogs was replaced by what everyone now calls the bathtub, an antiseptic concrete pond that is supposed to keep out crawdads. It is a running joke, because crawdads are some of the very few creatures that thrive there. Corn Creek needs an advisory committee of users who can

comment on changes before they are made and can help explain changes to the community. A few more mistakes could ruin the place entirely.

I feel my comments are not entirely valid because I was there only because my OLLI group scheduled a hike there. In the past I went with Univ. continuing ed. Although I like the trails and the information and the work you're doing, I would not be inclined to go on my own - unless I were taking company. It's just a little out of the way - yet close enough that I wouldn't schedule an overnight trip there. I'm shocked at your questions about hunting. I thought it was a wildlife refuge - unless you're talking about overpopulation - hunting? At a wildlife refuge - doesn't make sense and should never be allowed.

I hope the United States Air Force will not be allowed to take over the Desert National Wildlife Refuge.

I love this refuge! Many avenues to explore! Not well known to the locals. I especially enjoy visiting in the spring when the desert is in bloom.

I think I have provided most comments within the survey; however, it would be great to see other refuges with such facilities as DNWR. I visit many refuges while on business in the USA and my family when holidaying in the USA too. We visit such locations to view wildlife and the kids get so much out of the visitor centers and information provided. Keep up the good work and extend the network of great facilities!

If the roads were a bit more upkept, we would visit more often. If I had a better off-road vehicle I would be there more. I love how secluded it is. Thanks :)

I'm an explorer by nature

It was a beautiful refuge. I enjoyed my visit.

It was wonderful to bring our 3 dogs up to the hidden forest trail. Please continue to offer overnight backpacking and wildlife viewing opportunities for the residents in Las Vegas and surrounding areas. Please also educate/encourage visitors to pack out what they pack in and "leave no trace" so this land can remain available to both human visitors, and the wildlife that call this area home. Thank you for all that you do! We love having this refuge within an hour from our home!

Many tend to want drive-up accessibility to many of our beautiful places, but there is a cost for easy access. I have been all around our NP, BLM, NM, and other places. Many have become so over crowded that they are no longer those places that one gets to connect with on a personal level. Nature in many places is more like manicured gardens rather than natural habitats. Cell towers, McDonald's, Wi-Fi, drive by waterfalls, all make our beautiful county look like frontier land at Disney. Not to sound cliché, but don't take the wild out of wildlife. The journey for many Americans makes the destinations a far more meaningful trip. Most of us don't want a Hilton, Olive Garden, and rental Jeep. We wish to camp in a garden and tent, cook over an open fire, and drive our own.

My experience at the Mojave Desert Refuge was really wonderful even though all I did was stay on that tiny oasis around the center. I was in Las Vegas, not planning on going anywhere in particular. Just wanted a place to shoot some great photos which I found. I loved the woman who was working at the center first day. She was terrific!

My husband and I were traveling cross country from Pennsylvania. We were staying in Las Vegas. We do not plan a return trip.

Pleasant visit always, well-kept.

Please don't let the Air Force take over more of our refuge here in Las Vegas.

Please write your congressional representative and senators to vote against the Air Force's efforts to permanently take of 3/4 of the Desert National Wildlife Refuge so they can expand bombing ranges and the Nevada test and training range. Please also contact the offices of senators Catherine Cortez Masto and Dean Heller (possibly Jacky Rosen depending on the mid-terms) and demand that they tell the Air Force "#dontbombthebighorn". Seriously, the Air Force is likely going to get their way. Please help!!!

Protecting our natural resources and being good stewards of all public lands should continue to be a priority so future generations can enjoy and utilize.

Refuges like this are very important for conservation in general and specific in this case for birds and desert bighorn sheep.

Resolve ongoing issues with USAF over boundaries and use of this land! Make backcountry experience more accessible.

Staff apparently wants to return the area to a more natural state, removing olives and other non-native plants. This is a bad idea. The non-native plants are part of the history of the site, having been put there more than a century ago. They are prime attractants for birds. Terrible mistakes have been made in the last few decades. The old pond, which was home to bullfrogs and other species, was replaced by the current cement pond, apparently to get rid of crawdads. That didn't work. The cement pond is an ugly and mostly sterile addition that no one likes, though it is an excellent breeding spot for crawdads. We cannot believe that the stream was cut off from the giant cottonwood tree, causing it to die and recently to fall. The whole experience was shocking. We watched the tree die over many years, while staff did nothing. Most recently we waited for the pomegranates to ripen, which always attract all kinds of birds. Instead, this year most of the pomegranates suddenly disappeared, apparently harvested by staff or visitors. That was disappointing.

Thank you for the opportunity to rate this facility. We traveled extensively this summer expressly to visit National Parks from Rocky Mtn. National Park to Shenandoah National Park, Voyageurs, Teddy Roosevelt Southern Unit and many others. We also stayed at many state parks and visited several wildlife refuges. We stopped at the facility in this survey while staying in Las Vegas, not knowing what to expect. The visitor's center looks very new and is very nice. We had limited information from the internet and website, so did not know what to expect. We like the idea of wildlife viewing and hiking in less crowded areas like this facility (most national parks are overrun with visitors in the summer). As mentioned in the survey, a sign or two along 95 would be helpful, but otherwise access to the visitor's center is easy. A more helpful website or other internet content would be helpful for first time visitors. Thank you.

Thank you! More activities (outdoor) beyond hunting and fishing is appreciated.

The Corn Creek pond/water resources have been disastrously managed. A concrete pond was installed to help with crayfish management, but at the cost of removing a lot of dense vegetation/wetland habitat. Now the habitat is gone, but the crayfish have not been removed. So, what was the point of this management decision?? The trails are poorly managed. Fruit-bearing trees, native and non-native, have been poorly managed. Maybe the refuge needs to engage the bird-watching community more when making these decisions? Something needs to change to keep this key demographic visiting the refuge.

The Junior Refuge Ranger Day was outstanding at the DNWR! The work the FWS did to make all the activities enjoyable for all generations was exemplary and must have taken a lot of time and effort. I must commend all the staff and volunteers that made this day "one to remember!"

The problem wasn't the roads, it was the manner in which they were repaired. Washed out areas were treated with deep, loose gravel that is nearly impossible to manage with an automobile. There were signs indicating the need for a 4-wheel drive, but that precludes the vast majority of the population from ever seeing the interior of the park. Kind of stupid.

This is a lovely preserve. A real diamond in the rough. Thank you, U.S. government.

This is a great place to take our grandkids and our dog to hike and see the desert. There are large mountain ranges on each side of the refuge with snow visible well into spring. With binoculars you can sometimes see mountain goats. The springs attract all kinds of critters, with coyote scat present all the time. There are large old trees down by the stream that form a kind of oasis in the desert and make a great cooling off spot when the heat starts coming on. Only minutes from the Las Vegas strip, but we usually only run into out of state visitors when we are there. A real shame more locals don't make use of this place.

Time marches on. Probably a million dollars spent on this facility which I intend to Google. However, there could have been a part of the area left as an intact wetland wilderness or more pictures mounted so people could see how it was before and why and how the indigenous people used this treasure of an area. Corn Creek. [name and email].

Very odd I never heard of this place until recently. Maybe that is good for a wildlife refuge? True, even for a leave no trace, human-powered outdoor rec guy like me.

We did not have much time to visit, but agreed this refuge is worthy of another, longer visit and exploration.

We originally just wanted to take a drive. We saw the satellite many times and thought we would go 4 wheeling on the path and see if there was a road. We never found it, but we did end up coming out into an area that was all fenced in and no way out. I should say that we were coming out of the mountain range near the Aliante Casino-ish area. We got trapped with nowhere to exit and ended up having to call a number posted at what I believe was a gun range. The man was there very quickly to let us out and we were happy we didn't have to drive all the way back because we would have probably run out of gas. Maybe a suggestion would be to post a sign letting people know that even though there is clearly an off-road path for trucks - there is no outlet. The lady who greeted us was very pleasant. A couple jeeps we passed said something about a path with the name "gas" in it, so we went and that's where we ended up fenced in.