



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

# **NATIONAL WILDLIFE REFUGE VISITOR SURVEY**

*2018 Results for  
Billy Frank Jr. Nisqually  
National Wildlife Refuge*



**THE OHIO STATE  
UNIVERSITY**





## Acknowledgments

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*Front cover: Trees display their fall colors along a boardwalk trail at Billy Frank Jr. Nisqually National Wildlife Refuge. Photo credit: Michelle Ferguson.*

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# Understanding Wildlife Refuge Visitors & Their Experiences

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

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

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

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

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

This report summarizes visitors and their experiences at Billy Frank Jr. Nisqually National Wildlife Refuge, referred to as “this wildlife refuge” or “refuge” throughout this report. Percentages noted throughout the report were



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

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

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



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



# Surveying Visitors at This Wildlife Refuge

## REFUGE DESCRIPTION

Billy Frank Jr. Nisqually National Wildlife Refuge is located in northwestern Washington on the southern shore of the Puget Sound. The refuge was established in 1974 to protect the Nisqually River Delta and the fish and wildlife that depend on the delta habitat. This is significant because the majority of delta habitats in the region have been dramatically altered through dredging and development. The Nisqually Delta is a particularly productive environment; the area where the freshwaters of the Nisqually River mix with the Puget Sound creates a nutrient rich estuary. This estuary provides habitat for a variety of sea life and is particularly important for young salmon such as the endangered coho salmon. In 2009, the largest estuary restoration project in the Pacific Northwest occurred at this wildlife refuge. In addition to many fish species, the refuge is home to a variety of wading birds, aquatic mammals, turtles, and frogs.

Billy Frank Jr. Nisqually National Wildlife Refuge attracts over 201,824 visitors annually (U.S. Fish and Wildlife Service, 2018, written comm.). Located right off of Interstate-5 between the cities of Tacoma and Olympia, this wildlife

refuge is easily accessible to a large population of visitors. Visitors can enjoy walking, observing wildlife, and taking photographs from the multiple boardwalk trails on the refuge. One of the long boardwalk trails allows visitors to travel far out into the tidal flats of the estuary. This wildlife refuge also has a visitor and education center where families and school groups can participate in environmental education programs.

## SAMPLING

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

- During the two sampling periods, a total of 386 visitors agreed to participate in the survey by providing their names and addresses.
- In all, 224 visitors completed the survey online (60%) or by mail (40%) after their refuge visit, resulting in a 62% response rate.
- Results for this wildlife refuge have a  $\pm 5\%$  margin of error at the 95% confidence level. For more details on limitations of results and survey methodology, see Appendix A.



*Visitors enjoy birding on a walk led by staff at Billy Frank Jr. Nisqually National Wildlife Refuge. Photo credit: Michelle Ferguson.*

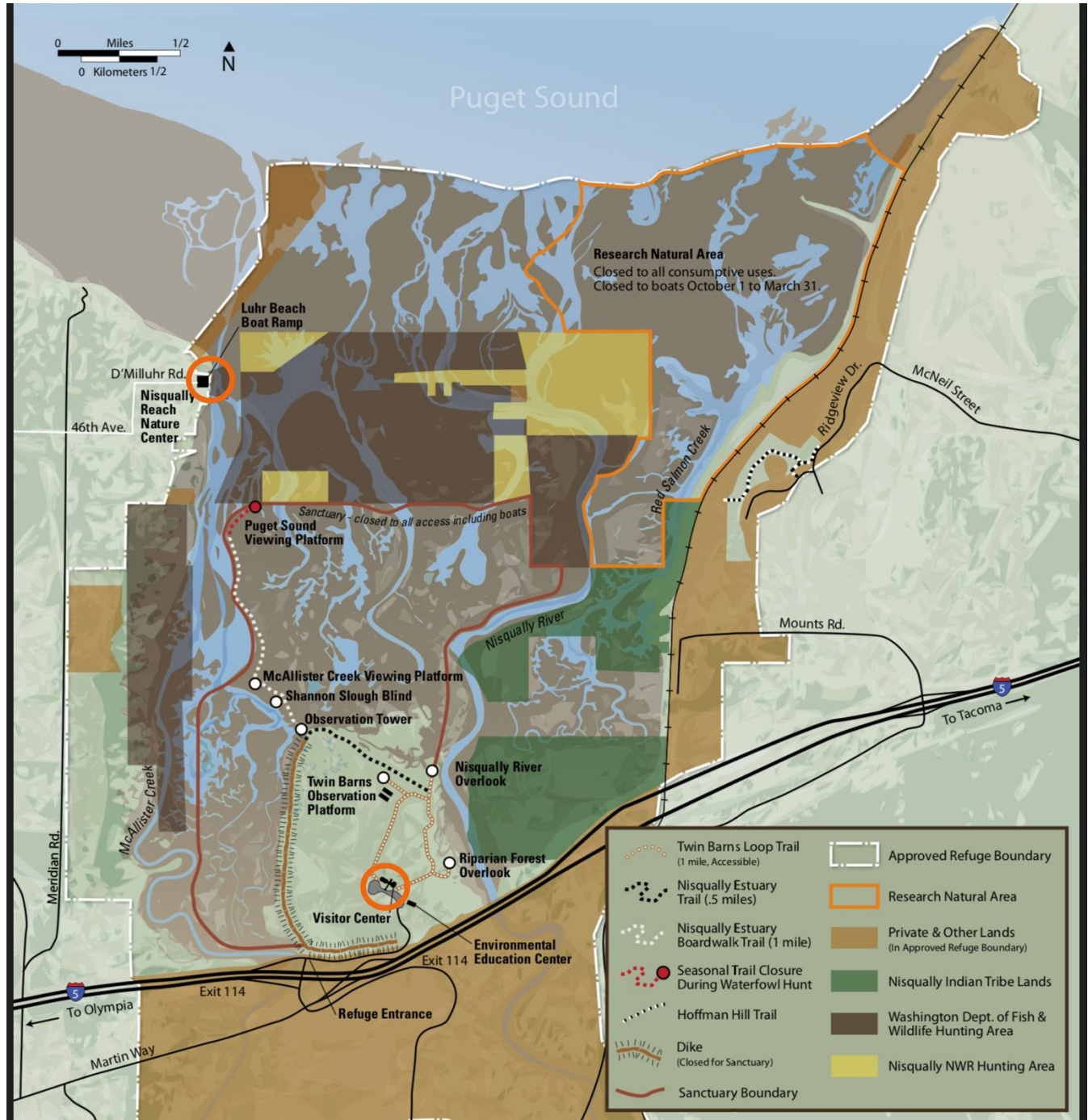


Fig. 2: Map of Billy Frank Jr. Nisqually National Wildlife Refuge. Visitors were contacted at the circled locations from 7/12/2018–7/21/2018 and 10/19/2018–10/28/2018.



# 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

- 54% of visitors were female with an average age of 55 years (Fig. 3).
- 46% were male with an average age of 57 years.

## EDUCATION

- 4% of visitors had a high school degree or less.
- 47% had at least some college.
- 49% had an advanced degree.

## RACE & ETHNICITY

Most prevalent race or ethnicity (Fig. 4):

- White (86%).
- Asian (4%).

## INCOME

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

## OTHER TRIP CHARACTERISTICS

- Average group size of 3 people.
- 23% visited the refuge alone.
- 57% visited with at least one other adult.
- 20% visited with a combination of at least 1 adult and 1 child.

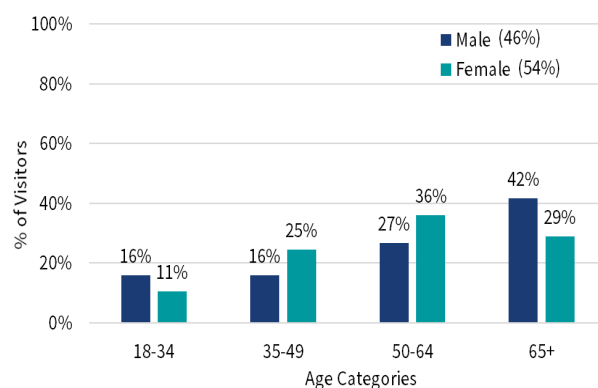


Fig. 3: Distribution of visitors to this refuge by gender and age group.

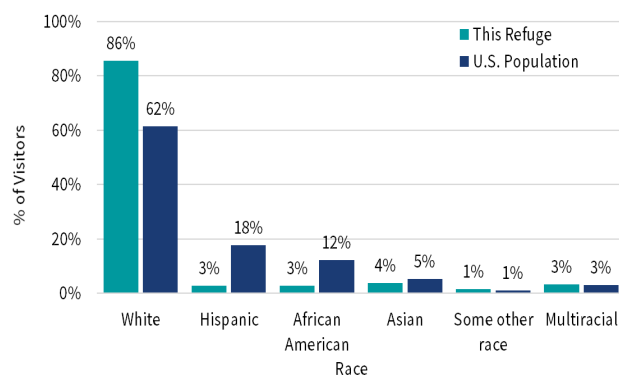


Fig. 4: Race and ethnicity of visitors to this refuge compared to the national average.

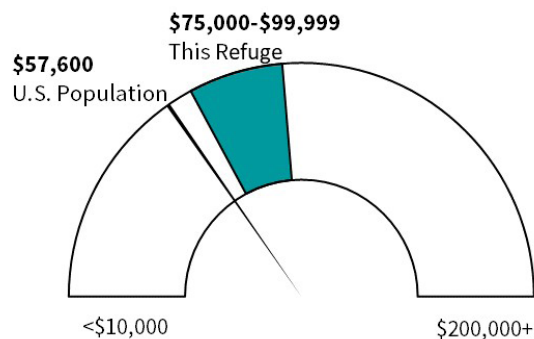


Fig. 5: Mean income range of visitors to this refuge compared to the national median income.

# 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

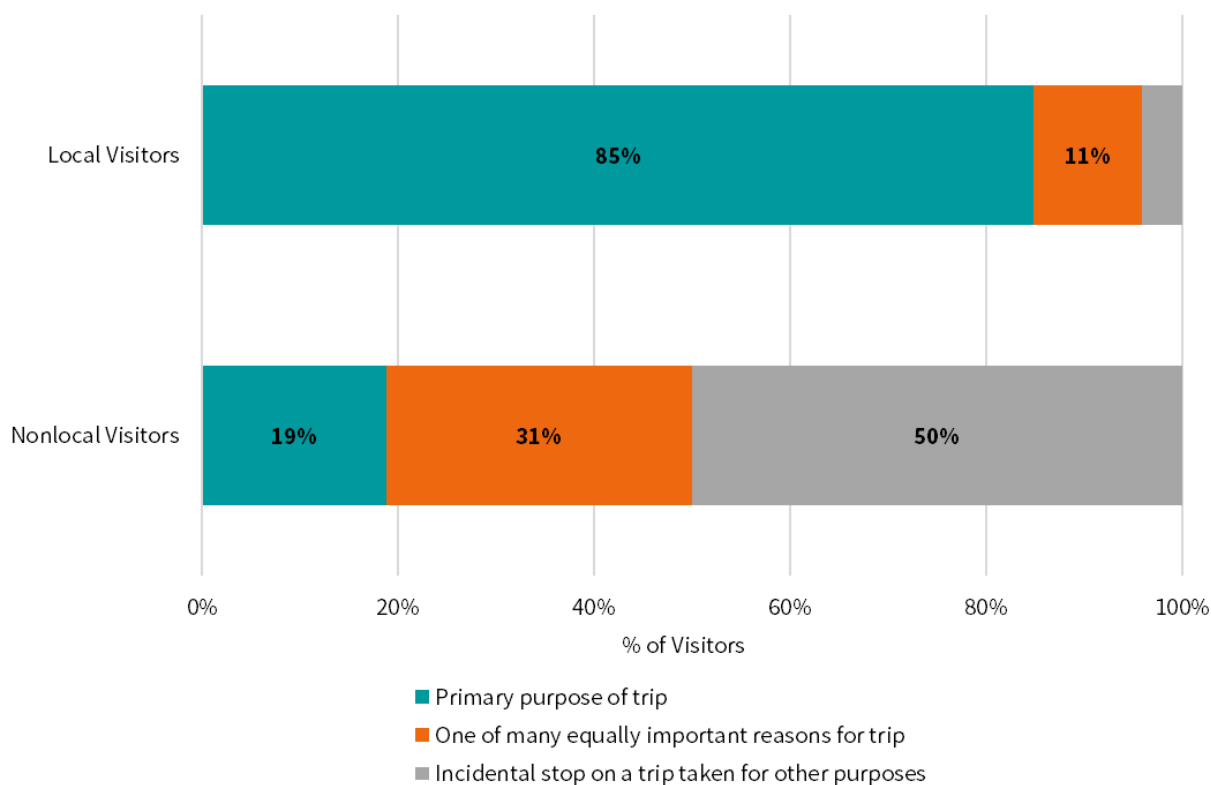
Highlights of trip characteristics for local visitors to this wildlife refuge (77%) include:

- For locals, this refuge was the primary reason for their trip (85%) (Fig. 6).
- Local visitors traveled an average of 26 minutes to arrive at this refuge (Fig. 7).

## NONLOCAL VISITORS

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

- For nonlocals, this refuge was an incidental stop as part of a trip taken for other purposes (50%) (Fig. 6).
- Nonlocal visitors traveled an average of 6 hours to arrive at this refuge (Fig. 8).
- Of the 100% of visitors who lived in the U.S., nonlocal visitors were most often from Washington (88%) and California (3%).



*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.*



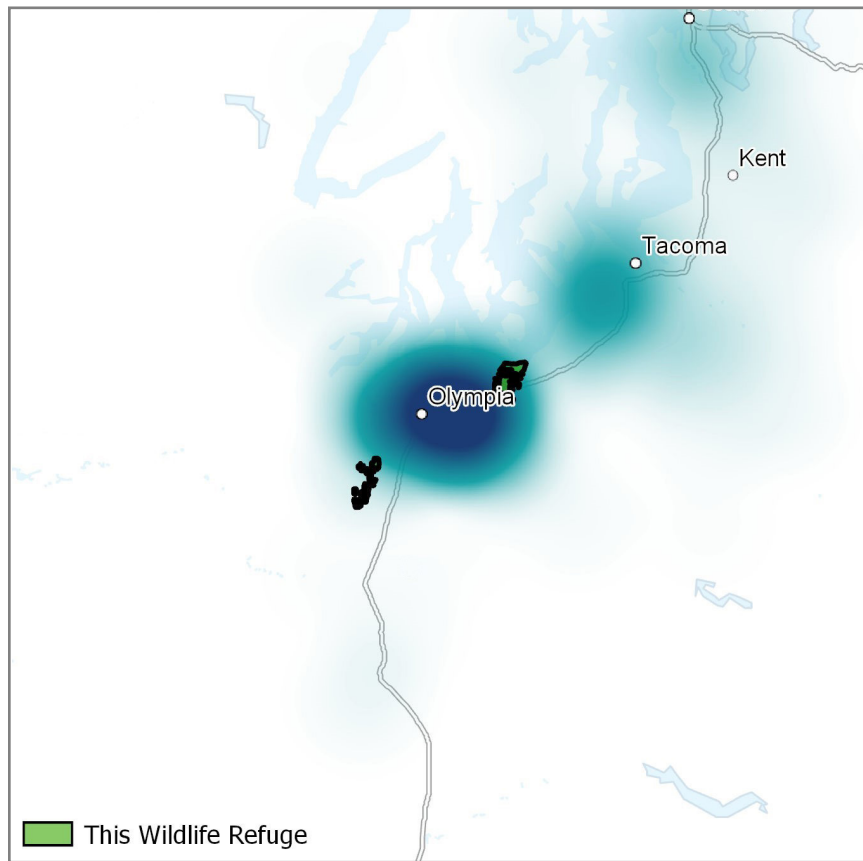


Fig. 7: Map showing residence of local visitors to this refuge. Darker shading represents relatively higher visitation from that area.

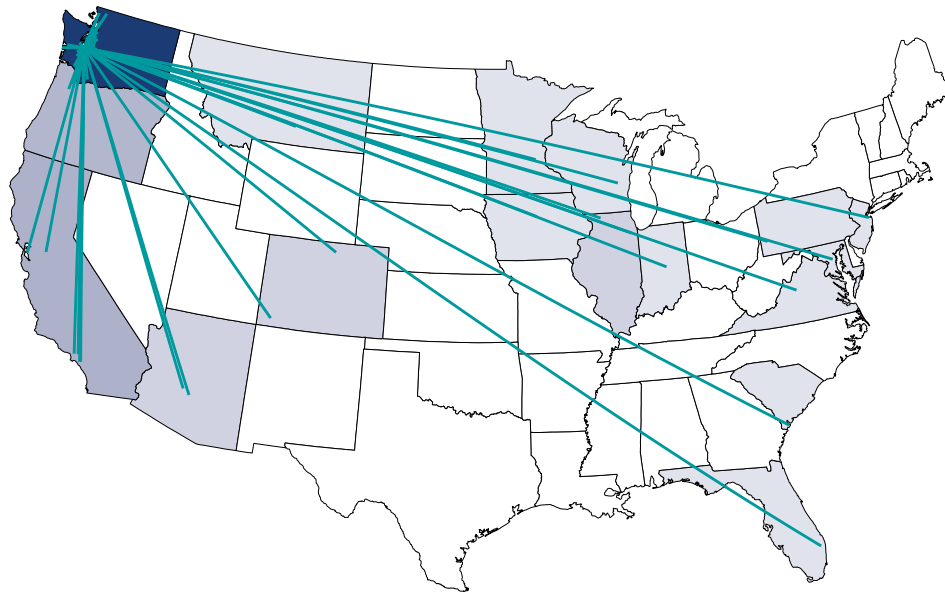


Fig. 8: Map showing residence of visitors to this refuge by zip code, with each line representing visitation from a different zip code. The convergence point of the lines is the geographical center of the refuge. Darker shading of the states represents higher visitation from that state.

## OTHER TRIP CHARACTERISTICS

Other trip characteristics include:

- To get to this wildlife refuge, visitors primarily traveled by private vehicle without a trailer (94%) and by foot (7%) (Fig. 9).
- Once on the refuge, visitors primarily traveled by foot (52%) and by private vehicle without a trailer (29%) (Fig. 9).
- Visits occurred during winter (44%), spring (58%), summer (77%), and fall (73%).
- 98% of visitors made a single-day trip to this refuge, spending an average of 3 hours, while 2% 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:

- 72% were repeat visitors to this wildlife refuge, visiting an average of 22 times.
- 57% visited other national wildlife refuges, averaging 3 visits.
- 87% visited other public lands, averaging 11 visits.

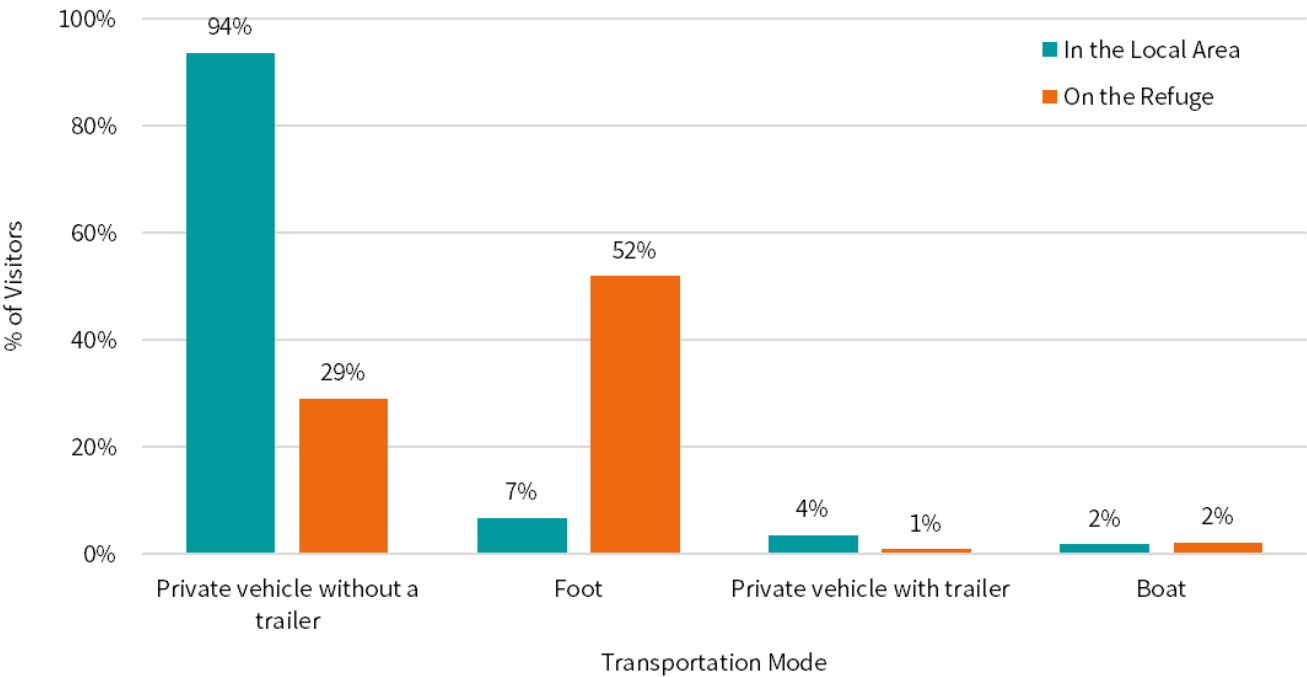


Fig. 9: Modes of transportation used by visitors to get from the local area to this refuge and within the boundaries of this refuge.



## Information Sources Used for Trip Planning

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

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

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

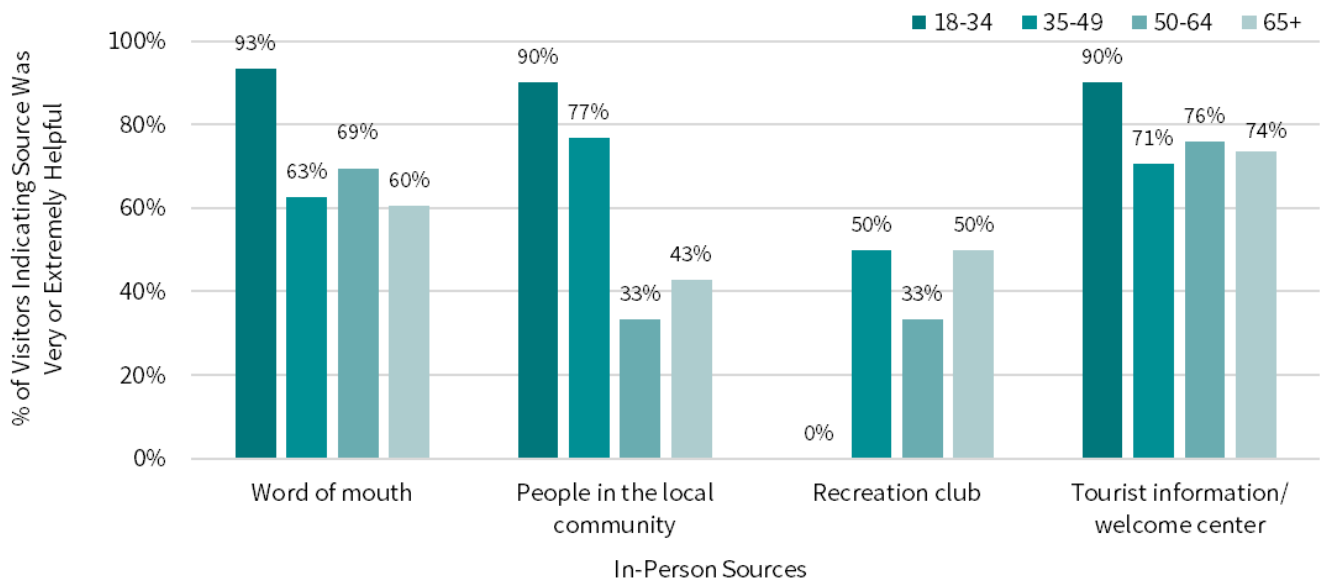


Fig. 10: Percent of visitors by age group who found in-person information sources very or extremely helpful in planning their trip.

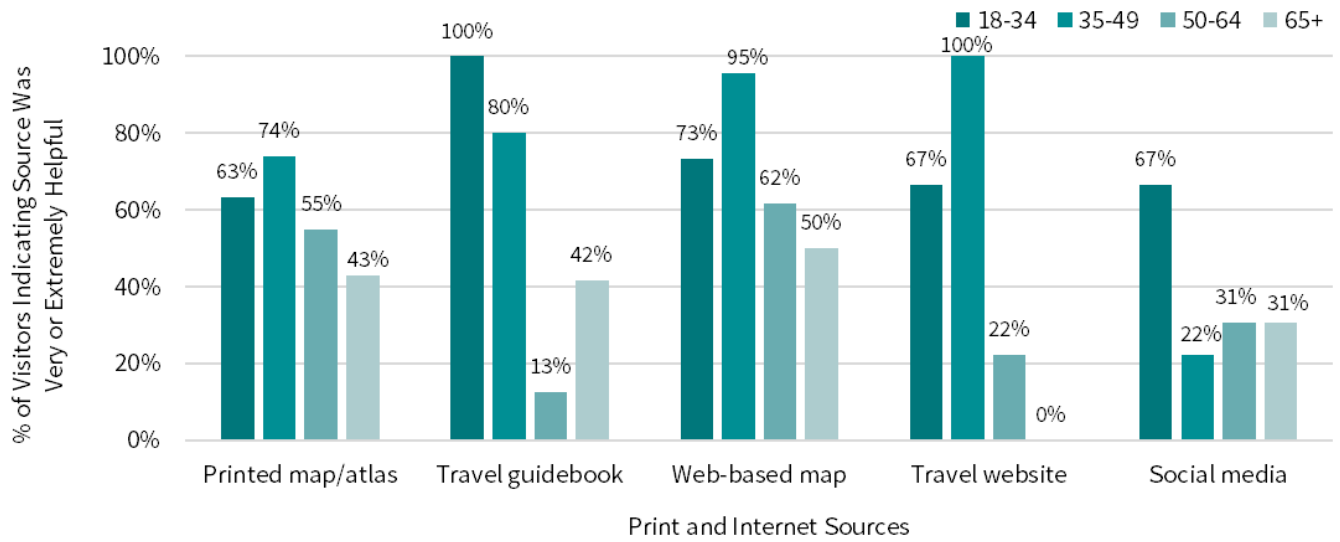


Fig. 11: Percent of visitors by age group who found print and internet information sources very or extremely helpful in planning their trip.

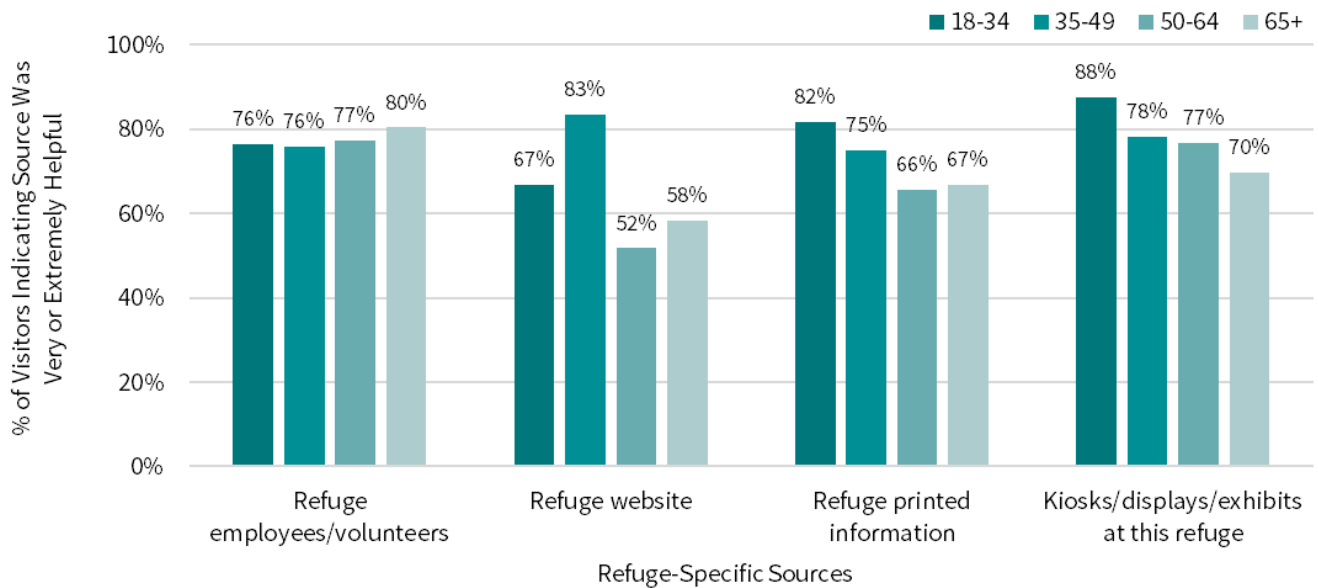


Fig. 12: Percent of visitors by age group who found refuge-specific information sources very or extremely helpful in planning their trip.

## Use of Social Media

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

Social media was used by 53% of visitors to share their experience on this refuge with others. Use of specific social media platforms varied by age group (Fig. 13):

- Visitors 18-34 years old preferred to use Facebook (48%) and Instagram (43%).
- Visitors 35-49 years old preferred to use Facebook (44%) and Instagram (33%).
- Visitors 50-64 years old preferred to use Facebook (45%).
- Visitors 65 or older preferred to use Facebook (28%).

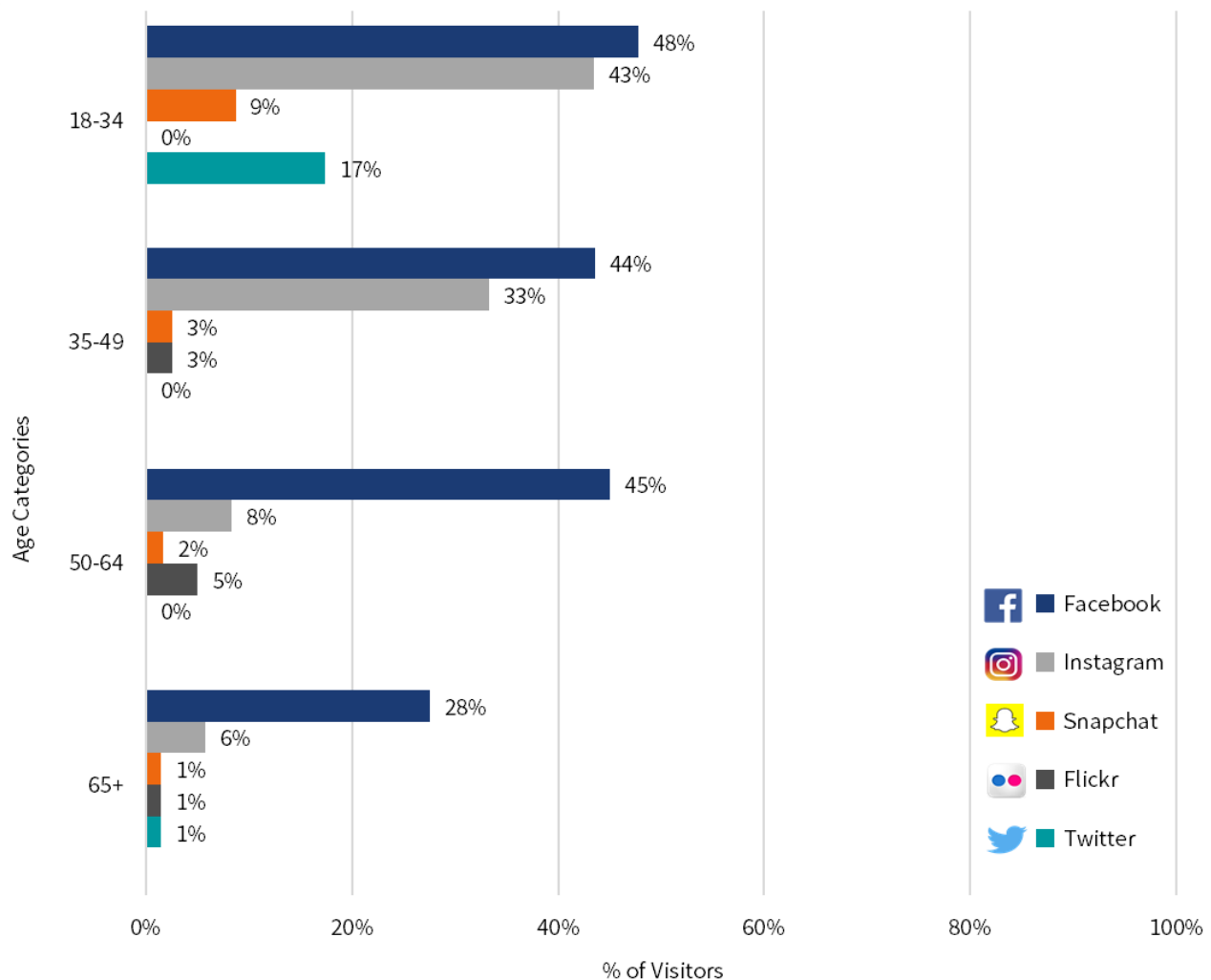


Fig. 13: Percent of visitors by age group who used various social media platforms to share their experience on this refuge with others.



## 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 (90%), wildlife observation (87%), and bird watching (76%) (Fig. 14).
- The top three activities noted as their primary activity on the day visitors were contacted to participate in the survey were hiking (43%), bird watching (22%), and wildlife observation (18%) (Fig. 14).
- Approximately 66% of visitors went to the visitor center, and they most often used the facilities (80%), visited the gift shop or bookstore (57%), viewed the exhibits (48%), and asked for information (46%) (Fig. 15).



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

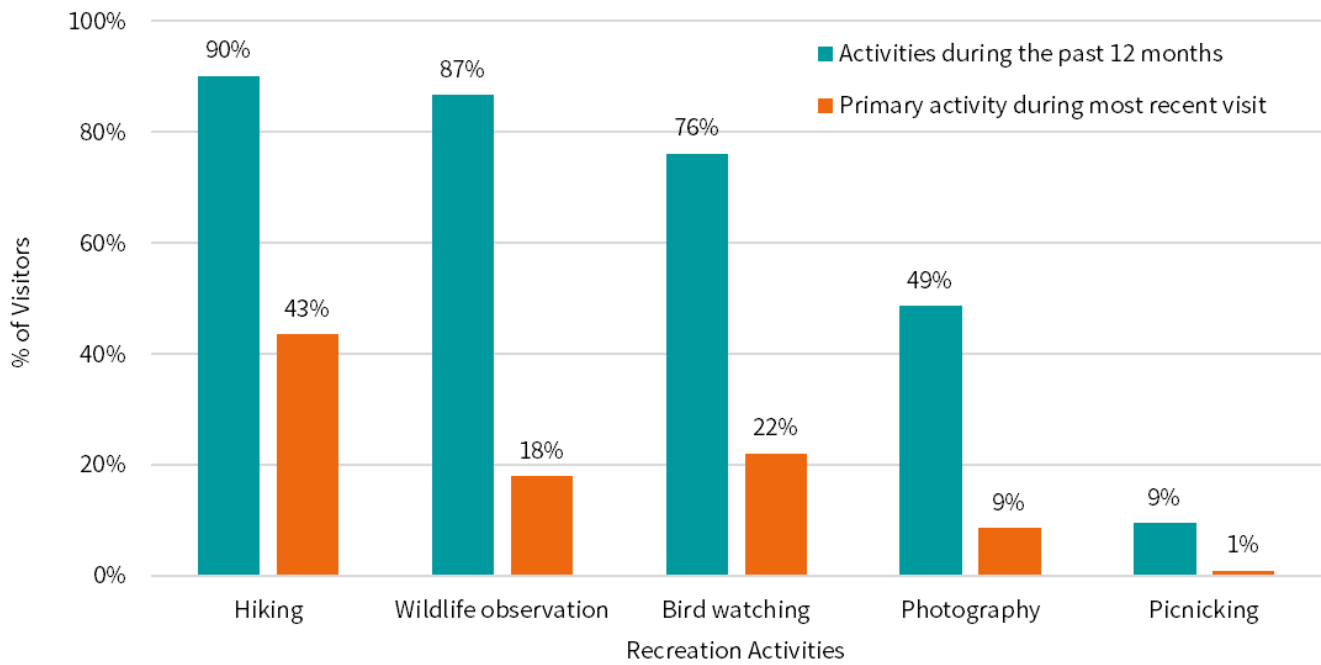


Fig. 14: Recreational activities visitors participated in during the past 12 months and their primary activity during their most recent visit to this refuge.

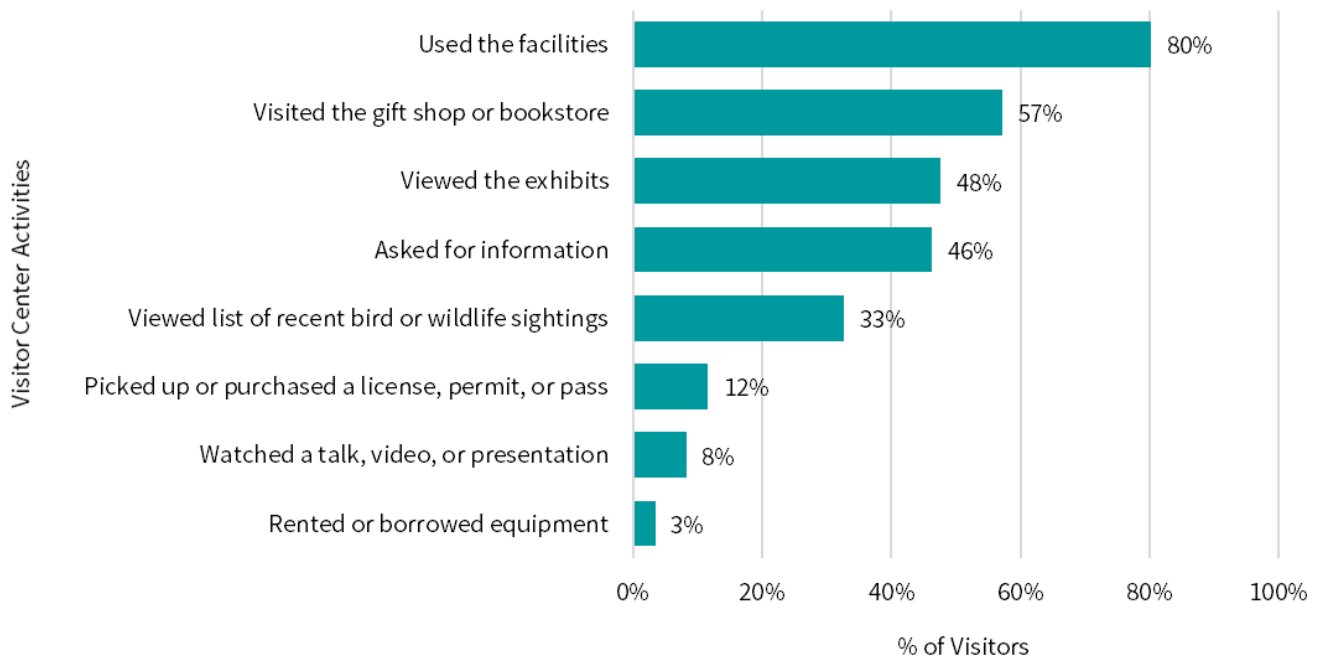


Fig. 15: Reasons visitors used the visitor center during their most recent visit to this refuge.

## 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:

- 93% of visitors felt welcome during their refuge visit (Fig. 16).
- 99% of visitors felt safe during their refuge visit (Fig. 16).
- 100% of visitors felt comfortable in nature, but 4% did not like being in nature alone (Fig. 17).

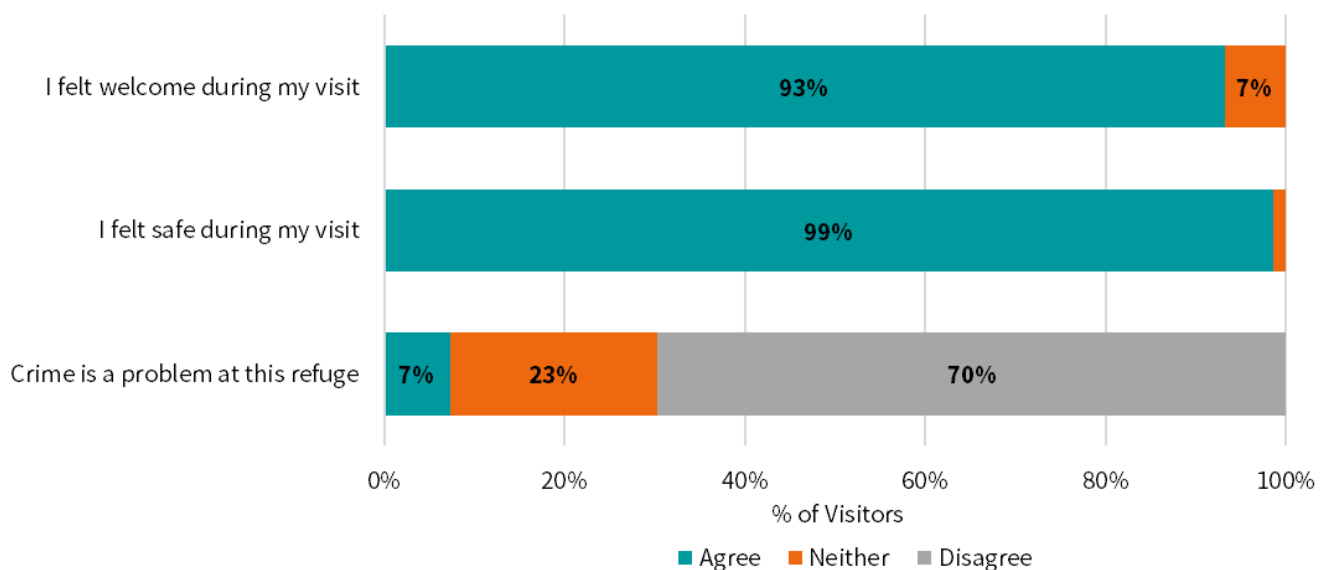


Fig. 16: Visitors' perceptions of safety and feeling welcome at this refuge during their visit.



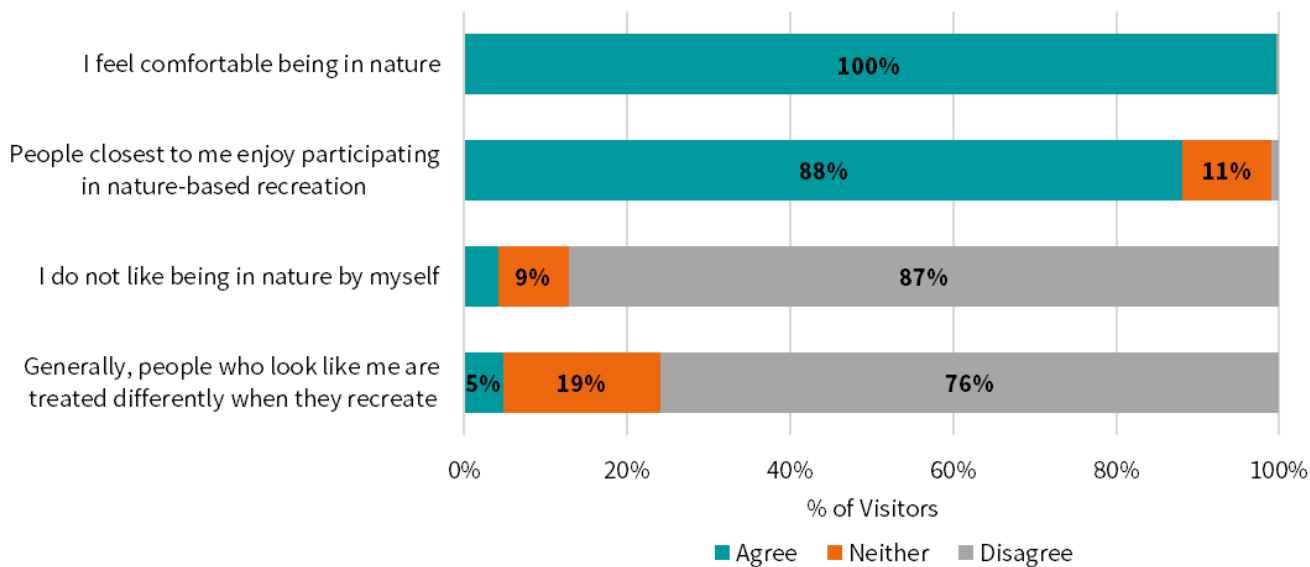


Fig. 17: Visitors' comfort with being in nature.



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:

- 94% of visitors were very or extremely satisfied with the overall experience at this wildlife refuge (Fig. 18).
- 92% of visitors were very or extremely satisfied with this wildlife refuge's job of conserving fish, wildlife, and their habitats (Fig. 18).

## CUSTOMER SERVICE

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

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

- refuge hours/days of operation (94%),
- visitor center (93%),
- restrooms (92%), and
- courteous and welcoming employees/volunteers (91%).

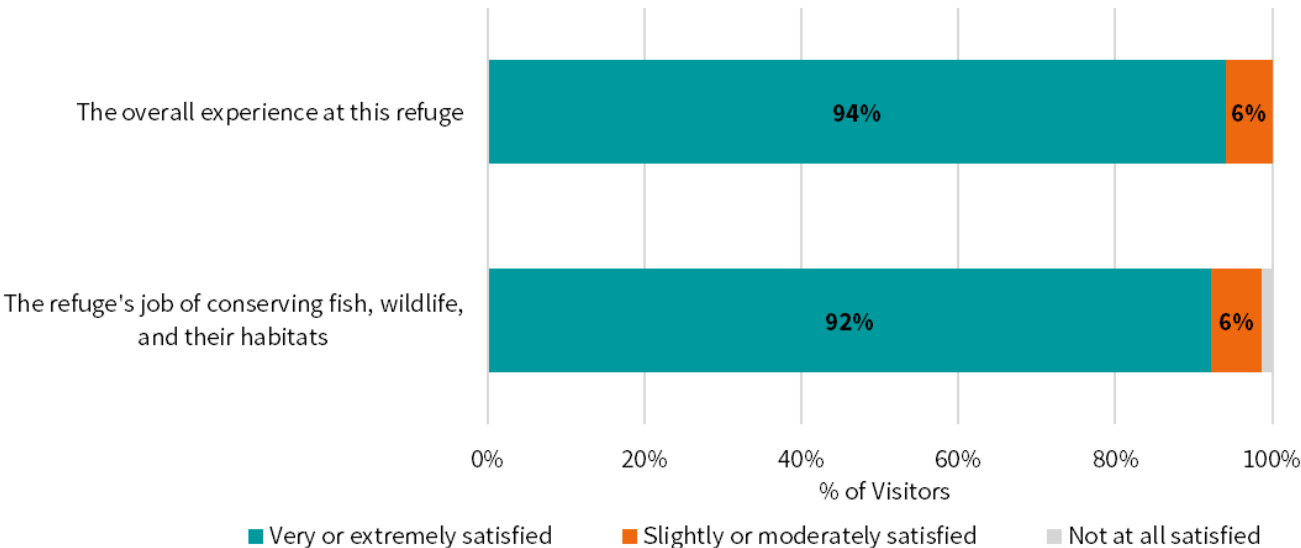


Fig. 18: Visitors' satisfaction with their experience at this refuge and with this refuge's job of conserving fish, wildlife, and habitats.

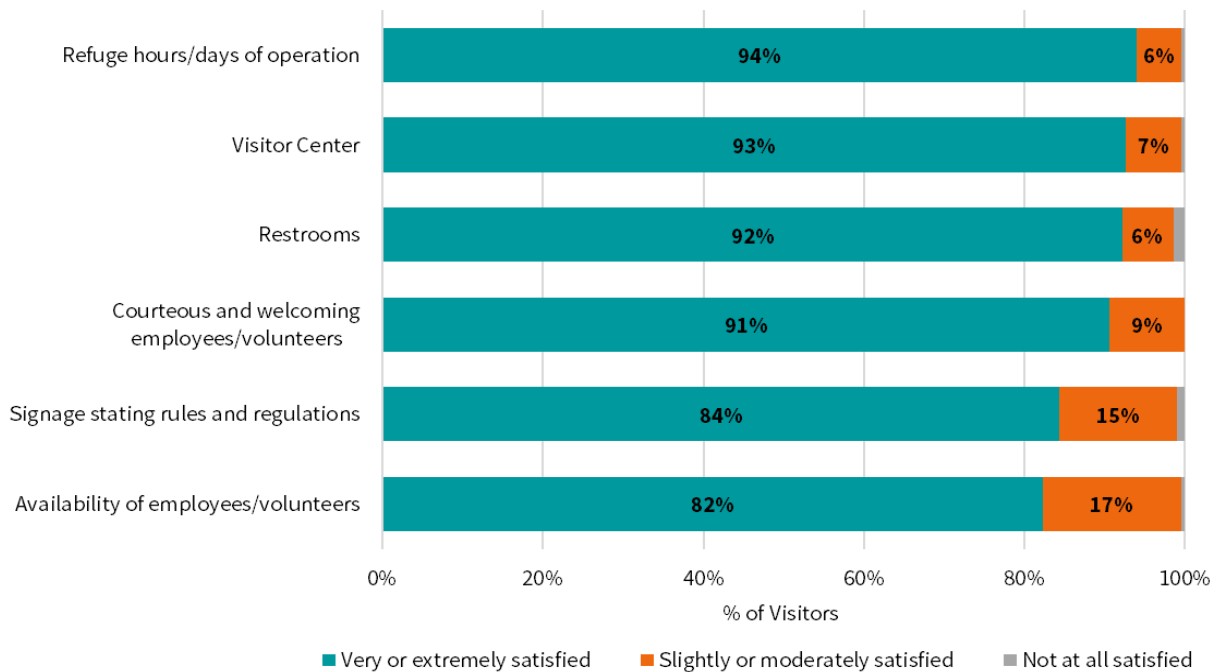


Fig. 19: Visitors' satisfaction with customer service and amenities at this refuge.

## RECREATIONAL OPPORTUNITIES

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

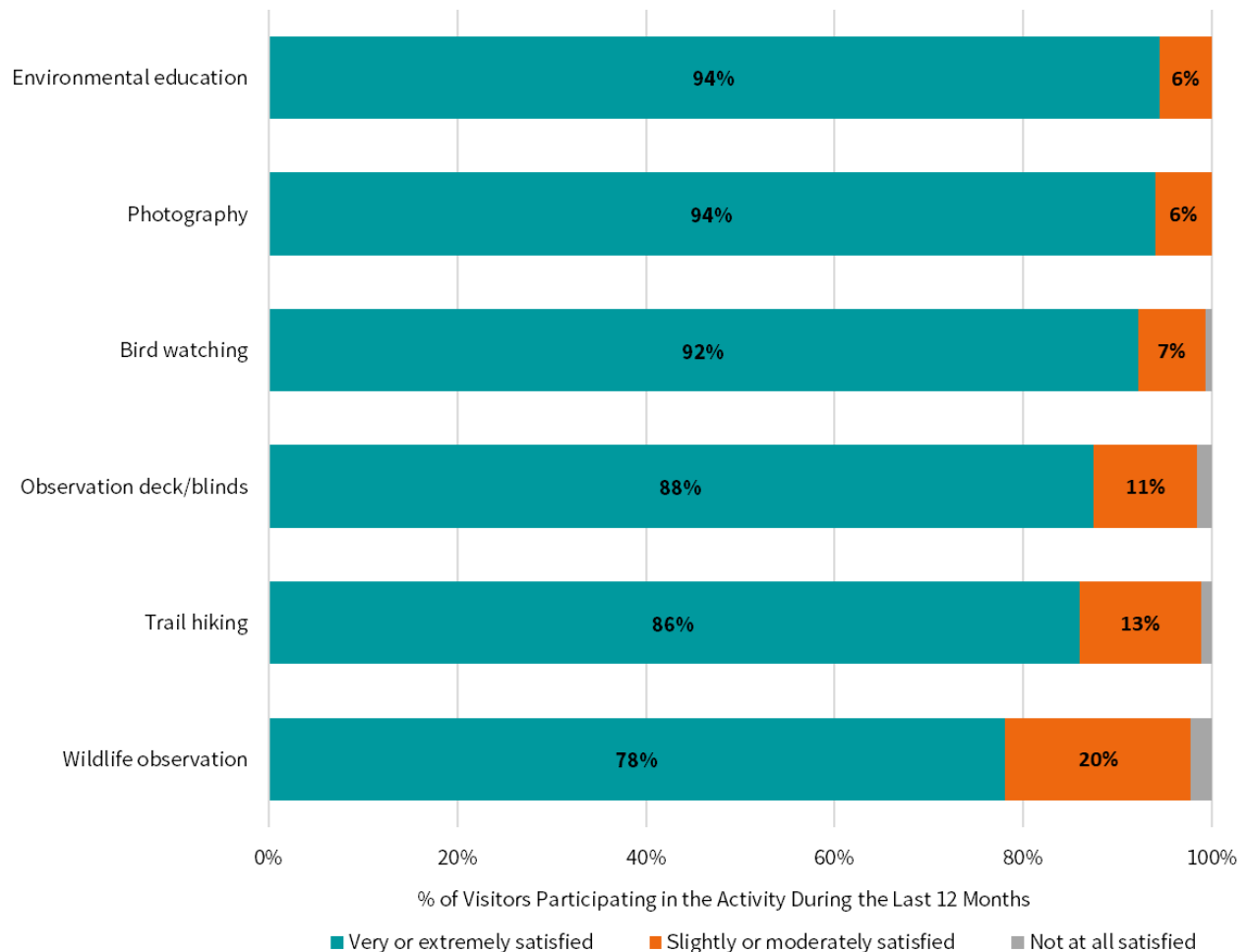
framework for monitoring and responding to these recreation trends across time.

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

- environmental education (94%),
- photography (94%), and
- bird watching (92%).

*"I love Nisqually National Wildlife Refuge! I go as many times a week as I can. I feel safe [walking] by myself, and everyone is very friendly. I go for the opportunity to exercise (you can walk many miles), and also to observe and photograph wildlife, while feeling completely at ease. It's an incredibly beautiful place, and I see something different every time I go!" – Visitor to Billy Frank Jr. Nisqually 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 (96%).
- Getting around this wildlife refuge, visitors were most satisfied with safety of driving conditions on refuge roads (96%), condition of refuge roads (96%), condition of bridges on roadways (96%), and condition of refuge parking areas (95%).
- Accessing recreation on this wildlife refuge, visitors were most satisfied with condition of trails and boardwalks (93%), and safety of roads or trails for nonmotorized use (91%).

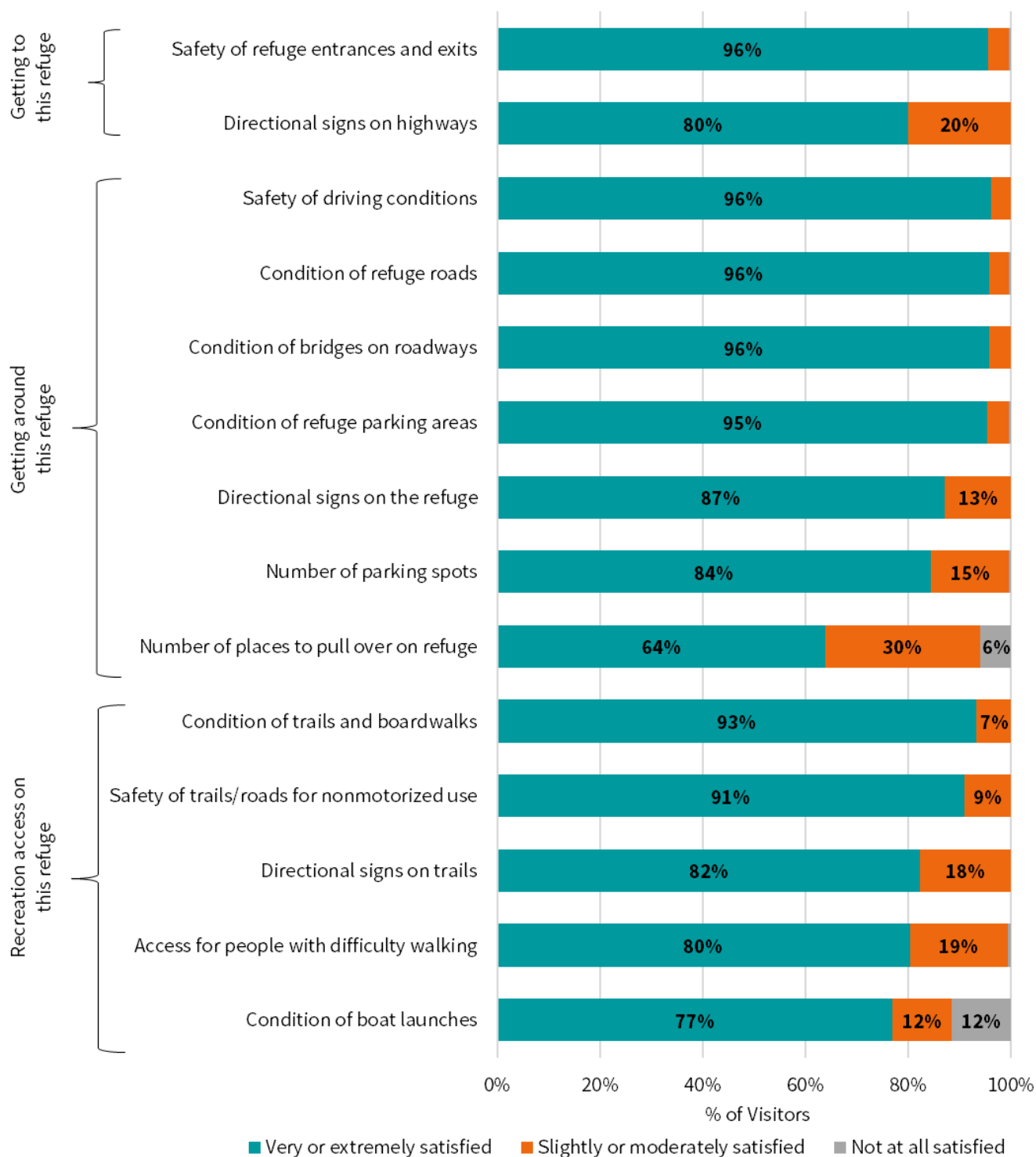


Fig. 21: Visitors' satisfaction with how the refuge is managing transportation-related features.

## 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; 77%) are as follows:

- On average, local visitors accounted for 54% of expenditures.
- Top trip expenditures by locals were for retail and food/drink (Fig. 22).
- The average amount paid by locals to visit this wildlife refuge was \$72 per person per day (Fig. 22).
- Local visitors were personally willing to pay an additional \$85 per day on average to visit this wildlife refuge (Fig. 23).

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

- On average, nonlocals accounted for 46% of expenditures.
- Top trip expenditures by nonlocals were for transportation and lodging (Fig. 22).
- The average amount paid by nonlocals to visit this wildlife refuge was \$109 per person per day (Fig. 22).
- Nonlocal visitors were personally willing to pay an additional \$31 per day on average to visit this wildlife refuge (Fig. 23).
- Nonlocal visitors spent an average of 4 days in the local community during this visit.







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

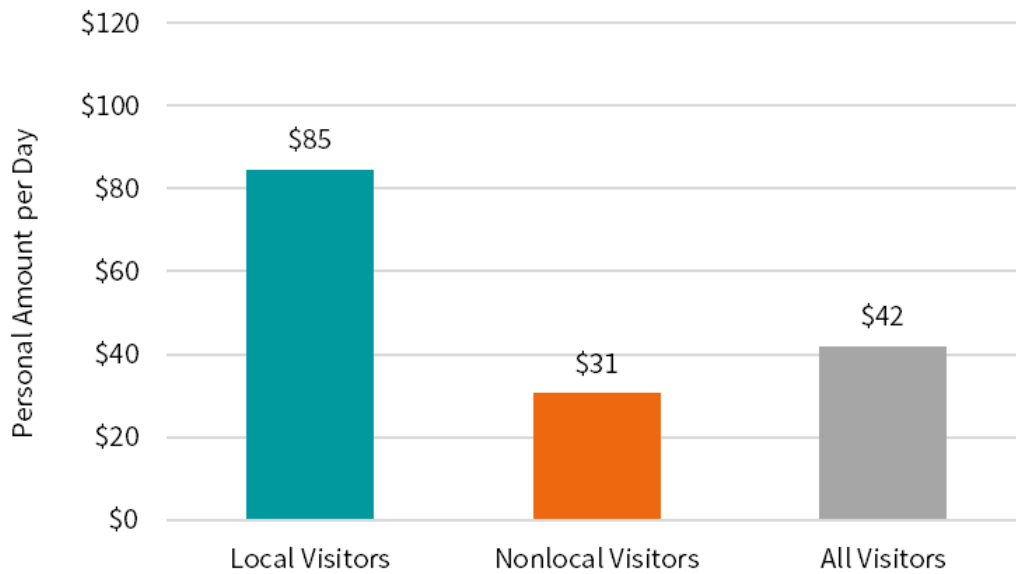


Fig. 23: Total personal willingness to pay per day above and beyond most recent trip expenses if costs were to increase for local, nonlocal, and all visitors. Due to the fixed-response question format, estimates of willingness to pay may underestimate the amount visitors would actually pay. Responses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

# Encouraging Return Visits & Future Recreation Participation

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

## PROGRAMS AND OTHER OFFERINGS

Programming and other offerings that are compatible with the purpose of a refuge and the Refuge System mission can encourage people to continue visiting the refuge. Additionally, changes to regulations and access for improving

resource availability may increase or decrease future participation, or have little effect at all.

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

- Programs most likely to encourage visitors to return to this wildlife refuge included those focused on skill-building (67%), highlighting unique local culture (52%), and engaging youth (42%) (Fig. 24).
- The top two factors likely to increase visitors' future participation in their primary recreation activity were more infrastructure (28%) and recreation equipment available for rent (16%) (Fig. 25).
- The top two factors likely to decrease visitors' future participation in their primary recreation activity were less regulations on hunting (43%) and less regulations on fishing (29%) (Fig. 25).

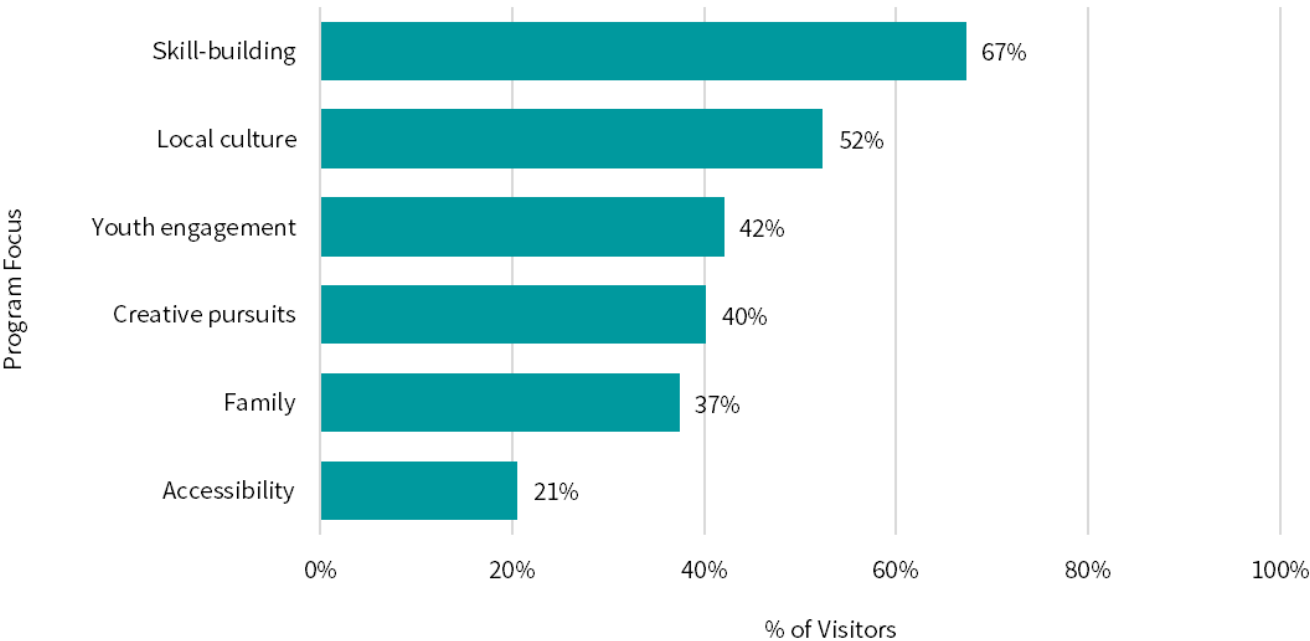


Fig. 24: Types of programs that would encourage visitors to return to this refuge.

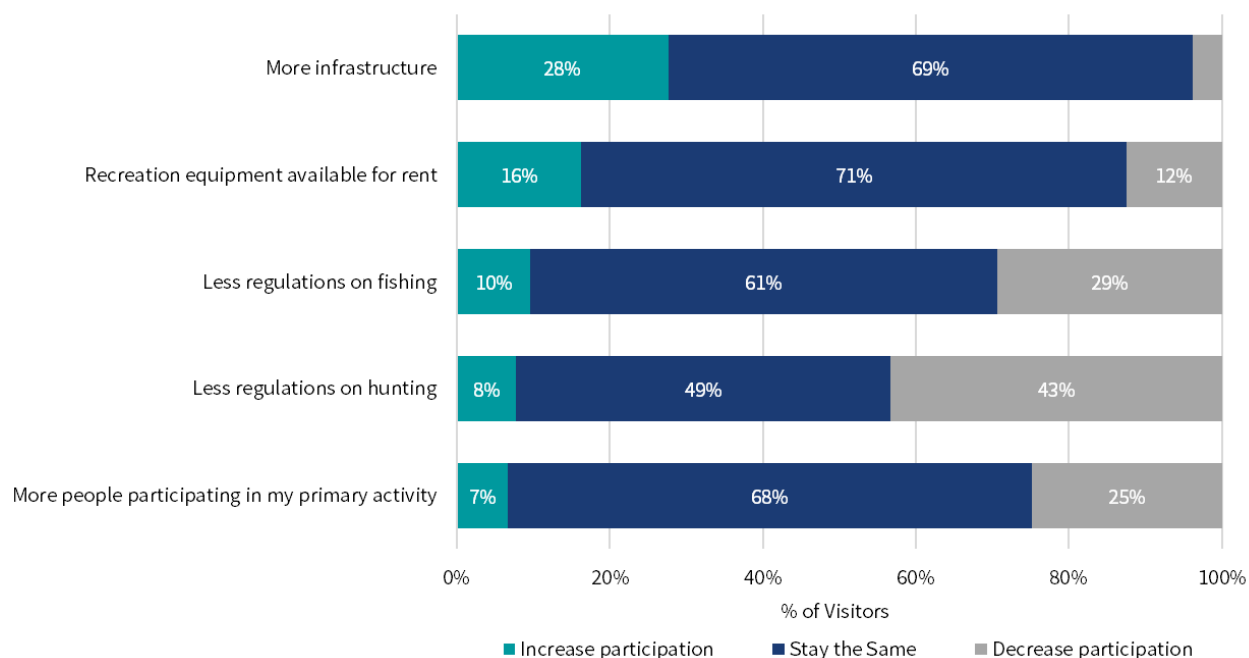


Fig. 25: Changes in visitors’ participation in their primary activity if the listed recreation factors were to change.

## ALTERNATIVE TRANSPORTATION

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

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

- pedestrian paths (14%),
- bus/tram that provides a guided tour (10%), and
- public transit systems that stops at or near this refuge (9%).

## ECOSYSTEM SERVICES

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

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

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

- The top two resource changes likely to increase visitors’ future participation in their primary recreation activity were a greater diversity of species (67%) and an improvement in the quality of wildlife habitat other than wetlands (64%).
- The top two resource changes likely to decrease visitors’ future participation in their primary recreation activity were more acreage open to hunting and fishing (56%) and less water available for recreation (33%).



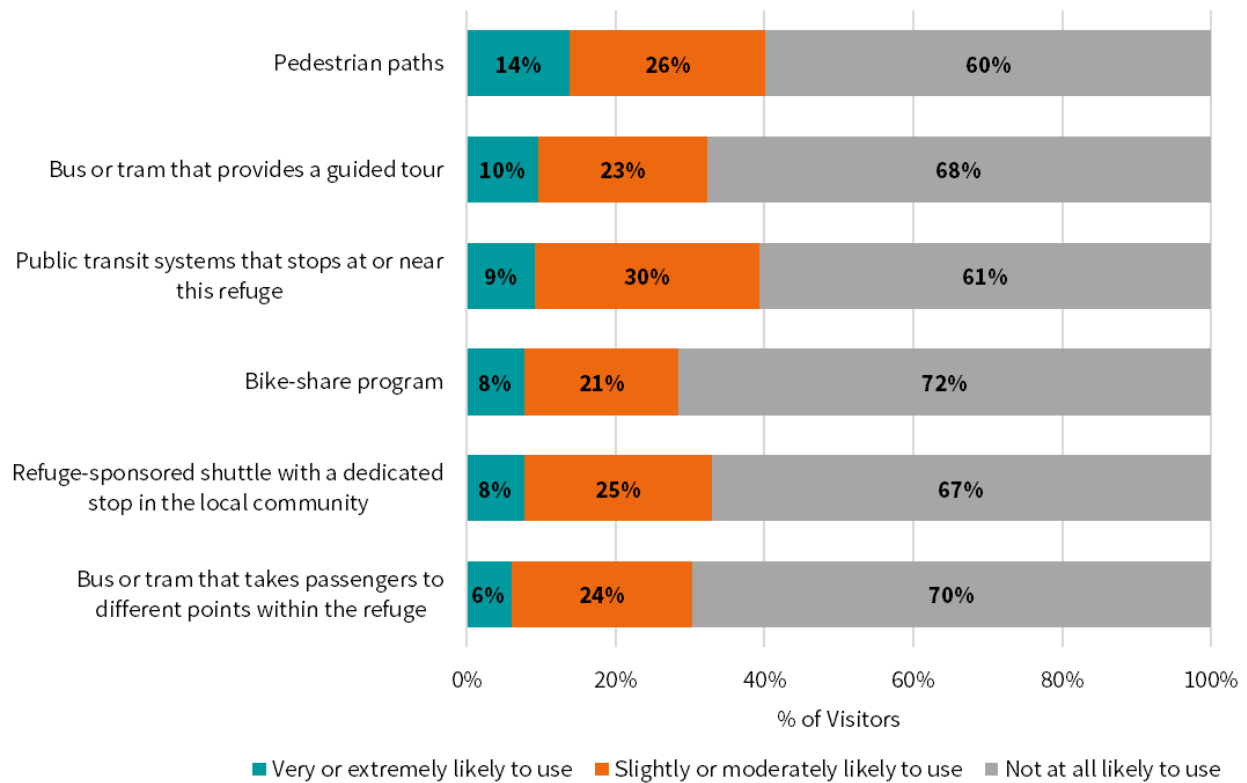


Fig. 26: Visitors' likelihood of using alternative transportation options if offered at this refuge.

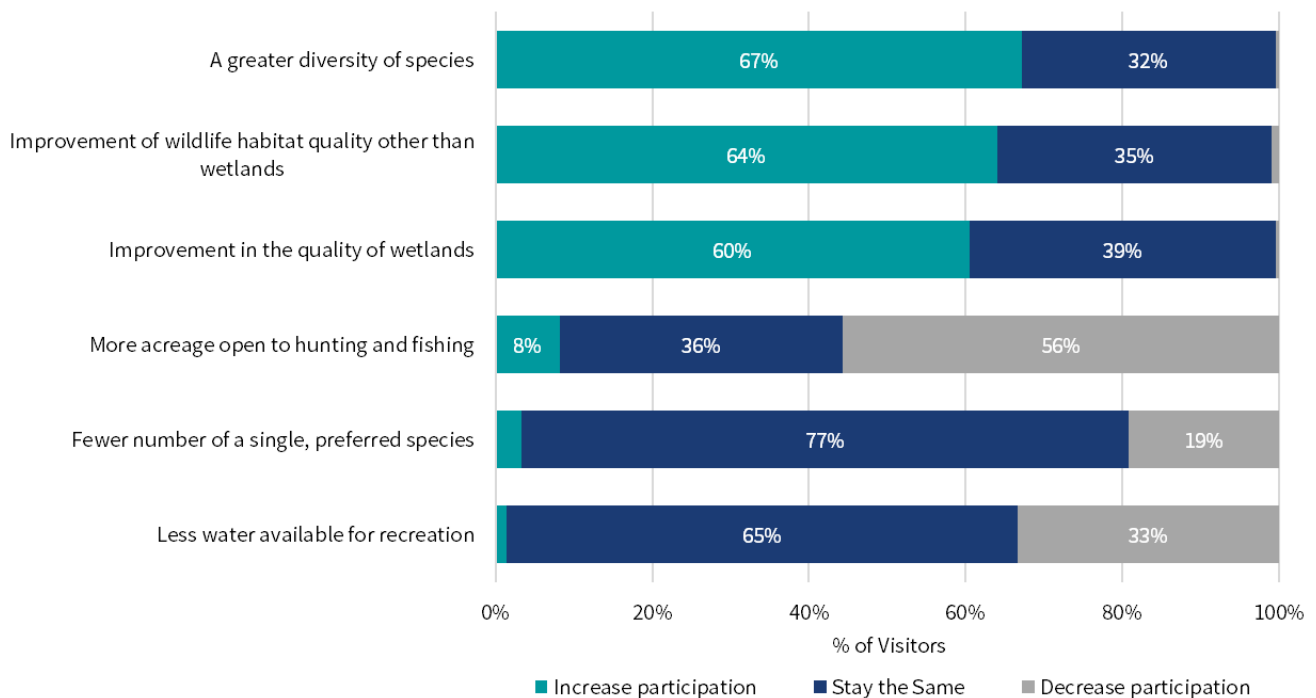


Fig. 27: Changes in visitors' participation in their primary activity if the listed resources were to change.

## Conclusion

These individual refuge results provide a summary of trip characteristics and experiences of a sample of visitors to Billy Frank Jr. Nisqually 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).

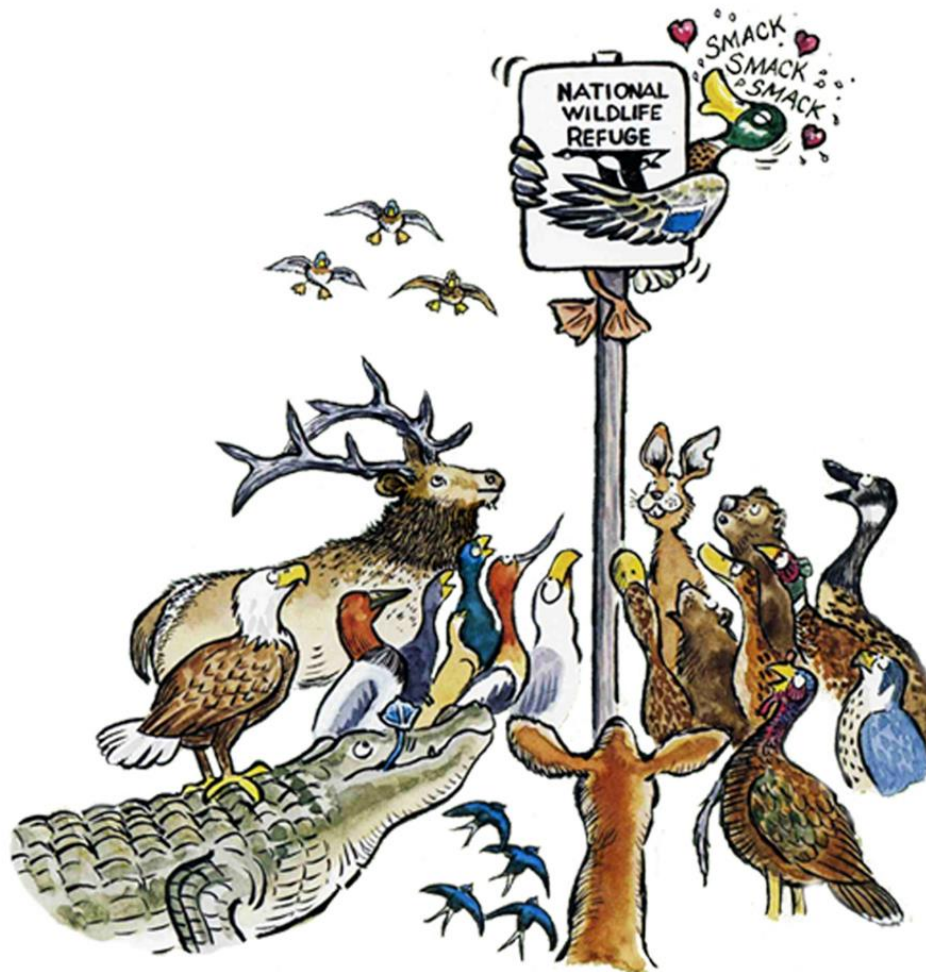
While OSU designed the standardized sampling protocol to account for spatial and temporal visitation patterns, the geography and infrastructure of wildlife refuges vary widely. This variation can affect who is ‘captured’ as part of the survey. For example, contacting visitors is much easier if everyone 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"/> 87%	Wildlife observation	<input type="checkbox"/> 90%	Hiking/Walking	<input type="checkbox"/> 4%	Volunteering
<input type="checkbox"/> 76%	Bird watching	<input type="checkbox"/> 3%	Jogging/Running/Exercising	<input type="checkbox"/> 5%	Environmental education program (classroom visits, labs)
<input type="checkbox"/> 49%	Photography	<input type="checkbox"/> 0%	Bicycling		
<input type="checkbox"/> 0%	Big game hunting	<input type="checkbox"/> 3%	Auto tour route/Driving	<input type="checkbox"/> 6%	Interpretative program (bird walks, staff/volunteer-led talks)
<input type="checkbox"/> 0%	Upland/Small game hunting	<input type="checkbox"/> 1%	Motorized boating		
<input type="checkbox"/> 4%	Waterfowl/Migratory bird hunting	<input type="checkbox"/> 3%	Nonmotorized boating (canoeing, kayaking)	<input type="checkbox"/> 4%	Refuge special event ( <i>specify</i> )
					<u>See Appendix C</u>
<input type="checkbox"/> 1%	Freshwater fishing	<input type="checkbox"/> 9%	Foraging (berries, nuts, other)	<input type="checkbox"/> 3%	Other ( <i>specify</i> )
<input type="checkbox"/> 1%	Saltwater fishing	<input type="checkbox"/> 9%	Picnicking		<u>See Appendix C</u>

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"/> 70%	It was the primary purpose or sole destination of my trip.
<input type="checkbox"/> 15%	It was one of many equally important reasons or destinations for my trip.
<input type="checkbox"/> 14%	It was just an incidental or spur-of-the-moment stop on a trip taken for other purposes or to other destinations.

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

2 number of people 18 years and older      1 number of people under 18 years

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

☐ 34% No / Not Applicable

☐ 66% Yes → If yes, what did you do there? (*Mark all that apply.*)

☐ 46% Asked information of employees/volunteers

☐ 33% Looked at list of recent bird/wildlife sightings

☐ 8% Attended a talk/video/presentation

☐ 80% Stopped to use the facilities (for example, got water, used restroom)

☐ 48% Viewed the exhibits

☐ 12% Picked up/purchased a license, permit, or pass

☐ 3% Rented/borrowed equipment (for example, binoculars, fishing rod, snowshoes)

☐ 57% Visited the gift shop or bookstore

☐ 2% Other (*specify*) See Appendix C

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

If you spent less than one day at this refuge, enter the number of hours: 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)?

☐ 77% Yes

☐ 23% No → How much time did you spend in **the local area** on this trip?

If you spent less than one day in the local area, enter the number of hours: 3 hour(s)

If you spent one day or more in the local area, enter the number of days: 4 day(s)

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

If you travelled less than one hour, enter the number of minutes: 25 minutes

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

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

☐ 58% Spring  
(March-May)

☐ 77% Summer  
(June-August)

☐ 73% Fall  
(September-November)

☐ 44% Winter  
(December-February)

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

...this refuge (including this visit?) 16 number of visits

...other national wildlife refuges? 3 number of visits

...other public lands (for example, national or state parks) to participate in the same primary activity as this visit? 11 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"/> 39% Facebook	<input type="checkbox"/> 3% Snapchat	<input type="checkbox"/> 2% Personal blog (for example, Tumblr, Wordpress)
<input type="checkbox"/> 3% Flickr	<input type="checkbox"/> 3% Twitter	<input type="checkbox"/> 1% Travel-related website (for example, Trip Advisor)
<input type="checkbox"/> 17% Instagram	<input type="checkbox"/> 0% Vimeo	<input type="checkbox"/> 5% Other ( <i>specify</i> ) <u>See Appendix C</u>
<input type="checkbox"/> 1% Pinterest	<input type="checkbox"/> 1% YouTube	<input type="checkbox"/> 47% I do not use social media

## SECTION 2. Information about this refuge and its resources

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

Information source	For those who used a source, the % who found it to be...					Did not use
	Not at all helpful	Slightly helpful	Moderately helpful	Very helpful	Extremely helpful	
Personal knowledge from previous visit(s)	<input type="checkbox"/> 1%	<input type="checkbox"/> 1%	<input type="checkbox"/> 7%	<input type="checkbox"/> 33%	<input type="checkbox"/> 58%	<input type="checkbox"/> 21%
Word of mouth (for example, a friend or relative)	<input type="checkbox"/> 7%	<input type="checkbox"/> 9%	<input type="checkbox"/> 18%	<input type="checkbox"/> 36%	<input type="checkbox"/> 31%	<input type="checkbox"/> 43%
People in the local community near the refuge	<input type="checkbox"/> 19%	<input type="checkbox"/> 5%	<input type="checkbox"/> 23%	<input type="checkbox"/> 24%	<input type="checkbox"/> 28%	<input type="checkbox"/> 65%
Refuge employees or volunteers	<input type="checkbox"/> 4%	<input type="checkbox"/> 4%	<input type="checkbox"/> 15%	<input type="checkbox"/> 41%	<input type="checkbox"/> 36%	<input type="checkbox"/> 30%
Printed map or atlas	<input type="checkbox"/> 7%	<input type="checkbox"/> 4%	<input type="checkbox"/> 32%	<input type="checkbox"/> 32%	<input type="checkbox"/> 25%	<input type="checkbox"/> 47%
Web-based map (for example, Google Maps, Waze)	<input type="checkbox"/> 9%	<input type="checkbox"/> 4%	<input type="checkbox"/> 17%	<input type="checkbox"/> 43%	<input type="checkbox"/> 28%	<input type="checkbox"/> 62%
Refuge website	<input type="checkbox"/> 6%	<input type="checkbox"/> 12%	<input type="checkbox"/> 20%	<input type="checkbox"/> 40%	<input type="checkbox"/> 22%	<input type="checkbox"/> 56%
Travel website (for example, TripAdvisor)	<input type="checkbox"/> 48%	<input type="checkbox"/> 4%	<input type="checkbox"/> 13%	<input type="checkbox"/> 22%	<input type="checkbox"/> 13%	<input type="checkbox"/> 89%
Other website ( <i>specify</i> ) <u>See Appendix C</u>	<input type="checkbox"/> 42%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 25%	<input type="checkbox"/> 33%	<input type="checkbox"/> 93%
Social media (for example, Facebook, Instagram)	<input type="checkbox"/> 33%	<input type="checkbox"/> 13%	<input type="checkbox"/> 23%	<input type="checkbox"/> 15%	<input type="checkbox"/> 15%	<input type="checkbox"/> 82%
Recreation club or organization	<input type="checkbox"/> 38%	<input type="checkbox"/> 6%	<input type="checkbox"/> 13%	<input type="checkbox"/> 25%	<input type="checkbox"/> 19%	<input type="checkbox"/> 85%
Refuge printed information (for example, brochure)	<input type="checkbox"/> 6%	<input type="checkbox"/> 5%	<input type="checkbox"/> 20%	<input type="checkbox"/> 36%	<input type="checkbox"/> 32%	<input type="checkbox"/> 49%
Kiosks/displays/exhibits at the refuge	<input type="checkbox"/> 5%	<input type="checkbox"/> 6%	<input type="checkbox"/> 15%	<input type="checkbox"/> 37%	<input type="checkbox"/> 37%	<input type="checkbox"/> 28%
Travel guidebook or other book	<input type="checkbox"/> 38%	<input type="checkbox"/> 0%	<input type="checkbox"/> 17%	<input type="checkbox"/> 21%	<input type="checkbox"/> 24%	<input type="checkbox"/> 86%
Tourist information or welcome center	<input type="checkbox"/> 9%	<input type="checkbox"/> 1%	<input type="checkbox"/> 15%	<input type="checkbox"/> 35%	<input type="checkbox"/> 39%	<input type="checkbox"/> 66%
Other source ( <i>specify</i> ) <u>See Appendix C</u>	<input type="checkbox"/> 67%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 33%	<input type="checkbox"/> 96%

### SECTION 3. Transportation and access at this refuge

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

Importance <i>Circle one for each item.</i>					Transportation-Related Features	Satisfaction <i>Circle one for each item.</i>					
Not at all Important	Slightly Important	Moderately important	Very Important	Extremely Important		Not at all Satisfied	Slightly Satisfied	Moderately Satisfied	Very Satisfied	Extremely Satisfied	Not Applicable
9%	17%	37%	27%	11%	Surface conditions of refuge roads	0%	0%	4%	43%	52%	NA
9%	19%	36%	23%	13%	Surface conditions of parking areas	0%	0%	4%	37%	59%	NA
8%	10%	22%	43%	17%	Condition of bridges on roadways	0%	1%	4%	42%	54%	NA
2%	5%	19%	44%	29%	Condition of trails and boardwalks	0%	0%	7%	36%	58%	NA
63%	9%	13%	8%	6%	Condition of boat launches	12%	4%	8%	31%	46%	NA
2%	5%	31%	43%	19%	Number of places for parking	0%	3%	12%	45%	39%	NA
33%	15%	31%	16%	5%	Number of places to pull over on refuge roads	6%	12%	18%	35%	29%	NA
7%	9%	20%	41%	23%	Safety of driving conditions on refuge roads	0%	1%	3%	42%	54%	NA
4%	8%	23%	40%	26%	Safety of refuge road entrances/exits	0%	0%	4%	37%	59%	NA
8%	4%	14%	41%	32%	Safety of roads/trails for nonmotorized users (for example, bicyclists and hikers)	0%	1%	9%	35%	56%	NA
7%	9%	28%	38%	17%	Signs on highways directing you to this refuge	0%	3%	17%	36%	44%	NA
10%	12%	26%	36%	15%	Signs directing you around refuge roads	0%	2%	10%	38%	49%	NA
3%	8%	17%	48%	23%	Signs directing you on trails	0%	4%	14%	41%	41%	NA
15%	7%	23%	34%	22%	Access for people with physical disabilities or who have difficulty walking	1%	3%	16%	42%	38%	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	94%	29%
Private/rental vehicle with a trailer (for boat, camper, or other)	4%	1%
Recreational vehicle (RV)	0%	0%
Refuge shuttle bus/tram	0%	0%
Tour bus/van	0%	0%
Public transportation	0%	0%
Motorcycle	0%	0%
Bicycle	0%	0%
Foot (for example, walking/hiking)	7%	52%
Boat	2%	2%
Other ( <i>specify</i> ): <u>See Appendix C</u>	0%	0%
Other ( <i>specify</i> ): <u>See Appendix C</u>	0%	0%

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

Transportation options	Not at all Likely	Slightly Likely	Moderately Likely	Very Likely	Extremely Likely
Bus or tram that takes passengers to different points within refuge boundaries (such as the Visitor Center)	70%	13%	11%	4%	2%
Bus or tram that provides a guided tour of the refuge with information about this refuge and its resources	68%	9%	14%	5%	5%
Refuge-sponsored shuttle with a dedicated stop in the local community for picking up people at set times	67%	15%	10%	5%	3%
Public transit system that stops at or near this refuge	61%	12%	18%	5%	5%
Bike-share program that offers bicycles for rent on or near this refuge	72%	8%	12%	6%	2%
Pedestrian paths for access to this refuge from the local community	60%	11%	16%	8%	6%

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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"/> 6% \$0	<input type="checkbox"/> 22% \$30	<input type="checkbox"/> 8% \$100	<input type="checkbox"/> 2% \$250
<input type="checkbox"/> 12% \$5	<input type="checkbox"/> 9% \$45	<input type="checkbox"/> 1% \$125	<input type="checkbox"/> 1% \$350
<input type="checkbox"/> 19% \$10	<input type="checkbox"/> 7% \$60	<input type="checkbox"/> 1% \$150	<input type="checkbox"/> 1% \$500
<input type="checkbox"/> 10% \$20	<input type="checkbox"/> 2% \$75	<input type="checkbox"/> 2% \$200	<input type="checkbox"/> 0% \$750



## SECTION 5. Your experience at this refuge

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

Importance <i>Circle one for each item.</i>					Refuge Services, Facilities, and Opportunities	Satisfaction <i>Circle one for each item.</i>					
Not at all Important	Slightly Important	Moderately important	Very Important	Extremely Important		Not at all Satisfied	Slightly Satisfied	Moderately satisfied	Very Satisfied	Extremely Satisfied	Not Applicable
1%	0%	11%	48%	40%	Convenient hours/days of operation for this refuge	0%	1%	5%	40%	54%	NA
11%	18%	37%	25%	9%	Availability of employees or volunteers	0%	3%	14%	41%	41%	NA
10%	11%	29%	32%	17%	Courteous and welcoming employees or volunteers	0%	4%	5%	38%	52%	NA
3%	7%	27%	39%	24%	Signs with rules/regulations for this refuge	1%	2%	13%	41%	44%	NA
3%	11%	27%	42%	17%	Visitor center	0%	0%	6%	38%	55%	NA
0%	1%	11%	40%	47%	Well-maintained restrooms	1%	2%	4%	37%	55%	NA
4%	7%	24%	42%	24%	Recreational structures (decks, blinds, platforms)	2%	2%	9%	41%	46%	NA
3%	6%	15%	34%	42%	Bird-watching opportunities	0%	0%	8%	31%	59%	NA
2%	5%	16%	42%	34%	Opportunities to observe wildlife other than birds	2%	3%	18%	32%	45%	NA
7%	4%	17%	36%	36%	Opportunities to photograph wildlife and scenery	0%	1%	9%	36%	55%	NA
9%	13%	33%	29%	16%	Environmental education opportunities	1%	5%	25%	33%	36%	NA
86%	5%	3%	2%	5%	Hunting opportunities	20%	10%	20%	30%	20%	NA
75%	9%	8%	4%	5%	Fishing opportunities	21%	10%	24%	21%	24%	NA
3%	4%	12%	34%	48%	Trail hiking opportunities	1%	0%	15%	31%	53%	NA
57%	13%	16%	9%	6%	Bicycling opportunities	14%	5%	24%	30%	27%	NA
42%	17%	18%	14%	10%	Water trail opportunities for canoeing or kayaking	11%	7%	24%	26%	31%	NA
33%	17%	28%	18%	6%	Volunteer opportunities	2%	5%	25%	30%	38%	NA
16%	12%	18%	32%	21%	Wilderness experience opportunities	3%	8%	24%	31%	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.	0%	0%	7%	35%	58%
I felt safe during my visit to this refuge.	0%	0%	1%	32%	67%
Crime <u>is</u> a problem at this refuge.	44%	25%	23%	6%	2%
I feel comfortable being in nature.	0%	0%	0%	22%	78%
I do <u>not</u> like being in nature by myself.	62%	26%	9%	3%	1%
People closest to me enjoy participating in nature-based recreation.	0%	0%	11%	37%	51%
Generally, people who look like me are treated differently when they participate in nature-based recreation.	55%	21%	19%	3%	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.	1%	0%	6%	48%	44%
The quality of the overall experience when visiting this refuge.	0%	1%	5%	39%	55%

## 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	33%	65%	1%
More acreage open to hunting and fishing	56%	36%	8%
More infrastructure (for example, bathrooms, observation decks)	4%	69%	28%
Recreation equipment available for rent (for example, fishing rods, binoculars, snowshoes)	12%	71%	16%
Less regulations on fishing	29%	61%	10%
Less regulations on hunting	43%	49%	8%
A greater diversity of species	0%	32%	67%
Fewer numbers of a single, preferred species	19%	77%	3%
More people participating in my primary activity	25%	68%	7%
An improvement in the quality of wetlands	0%	39%	60%
An improvement in the quality of wildlife habitat other than wetlands	1%	35%	64%

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

83% Yes      5% No      12% 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.*)

49% 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:

42% Programs that engage youth	40% Programs that focus on creative pursuits (for example, art, writing, meditation)
37% Programs that focus on family/multiple-generations	21% Programs that support people with accessibility concerns (for example, difficulty walking, in a wheelchair)
67% Programs that teach skills to visitors	4% Other ( <i>specify</i> ) <u>See Appendix C</u>
52% 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? ☐ 46% Male ☐ 54% Female

2. In what year were you born?  1962 (YYYY)

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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
(elementary)					(junior high or middle school)			(high school)				(college or technical school)				(graduate or professional school)			
					<input type="checkbox"/> 0%			<input type="checkbox"/> 4%				<input type="checkbox"/> 47%				<input type="checkbox"/> 49%			

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

<input type="checkbox"/> 90% White	<input type="checkbox"/> 2% American Indian or Alaska Native
<input type="checkbox"/> 3% Hispanic, Latino, or Spanish	<input type="checkbox"/> 0% Middle Eastern or North African
<input type="checkbox"/> 4% Black or African American	<input type="checkbox"/> 0% Native Hawaiian or Other Pacific Islander
<input type="checkbox"/> 6% Asian	<input type="checkbox"/> 1% Some other race or ethnicity

5. How many people (including yourself) live in your household?  2 persons

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

<input type="checkbox"/> 1% Less than \$10,000	<input type="checkbox"/> 7% \$35,000 - \$49,999	<input type="checkbox"/> 25% \$100,000 - \$149,999
<input type="checkbox"/> 5% \$10,000 - \$24,999	<input type="checkbox"/> 20% \$50,000 - \$74,999	<input type="checkbox"/> 9% \$150,000 - \$199,999
<input type="checkbox"/> 4% \$25,000 - \$34,999	<input type="checkbox"/> 21% \$75,000 - \$99,999	<input type="checkbox"/> 8% \$200,000 or more

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

<input type="checkbox"/> 35% Employed full-time	<input type="checkbox"/> 3% Unemployed	<input type="checkbox"/> 35% Retired
<input type="checkbox"/> 12% Employed part-time	<input type="checkbox"/> 3% Homemaker/caregiver	<input type="checkbox"/> 1% Disabled/unable to work
<input type="checkbox"/> 9% 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
8 week summer wildlife environmental community teachers talks	1
I gave an evening program re: one of my books	1
Nisqually Refuge mushroom education	1
Nisqually Watershed Festival	2
Salmon days	1
Weekly summer lecture program	2

Other Activity	Frequency
Checking it out 1st time :)	1
Horseback trail riding	1
Junior ranger	1
Sketching/painting	1
To enjoy beautiful views of Puget Sound Islands and Mt. Rainier!	1
Using restrooms	2

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

Primary Activity	Frequency
Auto tour route/driving	1
Bird watching	49
Environmental education	3
Fishing	2
Hiking	97
Hunting	5
Interpretation	1
Nature observation	1
Photography	19
Picnicking	2
Research	1
Use facilities	2
Wildlife observation	40

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
Breastfeed	1
Spoke at great depth with a park ranger-specialist	1
Turned in necklace that we found!	1

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

*Many visitors also shared other ways that they shared their refuge experiences.*

Other Social Media Outlets	Frequency
eBird	2
Google Maps	2
Project Noah	1
Shutterfly	1
WhatsApp	1
Within my university postings	1

## Survey Section 2

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

Other Websites	Frequency
AllTrails	1
Audubon	1
eBird	1
Tweetters	1
WA dashboard birding site	1
Weather Channel	1
WTA.org	1

Other Information Sources	Frequency
eBird	1
Newspaper	1
Other birder watchers	1
Refuge signs	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
All had senior passes	1
Day use fee	1
Entrance fee	2
Local casino	1
Museums, national park fees	1
National Parks Pass	1
Refuge entrance fee	2
Senior pass	1
Truck/boat payments etc.	1

#### Survey Section 6

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

Other Programs	Frequency
Bird-related programs	1
General environmental education	1
Nature-related programs	1
Photography-related programs	1
Water-based activities	1

#### Survey Section 7

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

Other Employment	Frequency
After school care	1
On sabbatical	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=39)

Better access to grasslands.

Better signs around trails is needed. Had to constantly ask where we were or where we needed to go.

Boat launches are dumb, don't bother :)

Clear map at the boat launch of where you are allowed to waterfowl hunt would be nice to have.

Do not pave trails as pavement hurts my feet and the feet of others with foot problems or people who do not even realize yet the damage that pavement and other hard surfaces causes!

Ease of access.

Everything is great.

Great place to visit!

I don't think too much about the trails at Nisqually, but the boardwalk itself is excellent and an amazing way to see wildlife. Great investment.

I like the number and conditions of benches to sit on. It doesn't seem like much, but is very important to me.

I love that the trail is mostly walker friendly for those who need extra assistance however, there is a rather rough unpaved part to get out towards the tidal part of the boardwalk.

I miss the original dyke paths - provided wider expanse of view.

I was amazed at how many people were here on the day I visited, parking lot nearly 1/3-1/2 full and it was cold, foggy and raining, nearly time to close, yet fairly full. With it nearing sundown and time of closure, I was unsure the amount of minutes of a standard walk to return to the parking lot. One visitor out there was nearly running, saying it would close and getting dark, but I was going the other way around the loop, unsure how long rest of loop was.

I wasn't paying close attention to this, but my general impression was very favorable -- well marked from the highway, easy to find, easy to park (although we were there on a not-crowded day), easy to find and walk the excellent trail.

I've visited this refuge many times over the past 10 years. I've always found the roads and trails well marked and in good condition.

If the public transportation goes there, it will be better.

Keep up the good work!

More trail signs at crossroads.

My family loves going to the refuge.

Nisqually transportation facilities meet the needs of the users very well.

Not enough parking spaces for amount of visitors. I get there early and it's fine, but when I leave there are cars parked all over - along the road and in the grass around the parking spots.

Parking spaces are scarce during peak times.

Portion of the pebble path towards the estuary boardwalk trail needs to be paved for it to be wheelchair accessible.

Roads and parking lots seem well-maintained. Just need more parking (but don't pave the meadows!). Catch 22.

Satisfactory signs and guard rails on wide paths to make it easy to observe and enjoy views.

So far, the parking space & boat launch have been maintained properly over the past few years. What truly needs modernizing - even replaced - is the bathroom/toilet facility at the boat launch.

The 'forest trail' boardwalk was slippery (wood surface, damp). Adding some type of tread material for better traction would help.

The boardwalks are terribly slippery in the wet season!

The Nisqually wildlife refuge is a wonderful place. However, I am in a wheelchair and must comment on the poor condition of the wooden, warped walkways. These make for a very bumpy ride, indeed. Disabled parking is greatly appreciated, though.

There are no roads inside the refuge, only trails.

This is a wonderful location that rates excellent in all areas in my opinion.

This refuge is fairly small but has a lot of visitors. On busy weekends, there are not enough parking spaces. Everyone seems pretty safe when they are driving on the short road even when it is crowded though.

Three generations love visiting this refuge.

Too much risk of car break-ins in parking lot - better monitoring required.

Trail markings need to be kept in good condition and be written in clear language. At this refuge you can take a "wrong" turn and end up very much far away from where you intended to go.

We loved the boardwalk but our two-year-old kept tripping cause the walkway wasn't flat. Some boards were sticking up about 1/2 an inch.

We need the "no parking" area enforced, as every weekend it is blocked by vehicles without boat trailers blocking the truck/trailer turn around - has forced us to turn around at the top of the hill at the intersection and back completely down to the launch in the dark many times between numerous boat trailers, etc. Not good.

We took an Uber.

Wish they had an auto route with pull outs.

## Survey Section 5

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

### Comments on Services, Facilities, and Opportunities at This Refuge (n=62)

A small restaurant would be nice here.

Again, my only comment is to add minutes to return to lot, knowing everyone walks differently, but even putting a percentage that you are around the loop wouldn't make sense as I lost track of when I was on the path vs. on extension trails. Overall, extremely impressed with this facility and very impressed that this survey was being collected while I, myself, was conducting a form of research at the college level!! Good luck to all!

Almost everything we encountered at the refuge appeared to be well maintained and in good condition. As mentioned in a previous comment, one of the wood boardwalk areas was slippery due to shade and dampness.

Bathroom not fixed.

Blinds on boardwalk might be nice.

Boaters badly need a sea wall to break the wave action when winds are from the north or east especially when the tide is high. Sometimes it's almost impossible to load my boat on the trailer because of heavy seas. We also need the 'no parking' area painted in yellow on the blacktop so the idiots that cannot read either sign that is posted will be able to see the yellow diagonal no parking stripes in the area needed to turn a full size truck/dual axle trailer around in order to launch.

Clean bathrooms and facilities.

Clean restrooms, knowledgeable staff volunteers, interpretative programs offered. I come often and even before staff or volunteers are there I'm used to being there - so I call that "feeling welcome".

Concerned about noise from nearby highway. It takes some of the wilderness character away. Would be great to have a paddle craft boat launch somewhere convenient within the refuge.

Could use additional outhouses at the start of the estuary boardwalk.

Could use improved restroom mid-way on trek - but generally a wonderful place I love to go often. Very clean and safe.

Excellent education facility! My son has been coming here for school field trips for the past 3 years and it's been a great experience for us.

Excellent.

For a few of the questions I marked not at all satisfied because I wish this refuge did not allow hunting. I go to watch the very birds the hunters are killing and it's very upsetting, especially when the birds are having such a tough time as it is with climate change. The gun shots are quite disturbing when trying to have a peaceful, enjoyable, wildlife viewing experience.

Great volunteers; helpful and courteous. The displays were informative and impressive!

Homelessness is bad in the area. Keeping this problem contained outside the refuge is very important.

I have to say, the staff and volunteers that I interact with here are always the greatest. I usually stop on my way to somewhere, so this is a critical rest stop and having a nice time here is refreshing.

I live locally (within 20-25 miles) and visited the Nisqually refuge with a visitor from out-of-state. (thus, my answers for spending no money on this visit.) We were both very favorably impressed with the refuge and its visitor center. I expect to return with other visitors in the future.

I love Nisqually Refuge. I think FWS is doing an excellent job managing it. I hope there will continue to be additional habitat restoration and expansion of the refuge.

I love this refuge and appreciate the work of the staff and volunteers. I don't know if it would be possible, but additional trails would be nice.

I love this refuge. It is one of my happy places. I think it is well-run and provides enough opportunities as it is. I would love to be able to walk to different areas but also understand that the increase in people moving through areas would disturb wildlife. It would be awesome if we could have "quiet trails" where people are only allowed to whisper or walk quietly. The existing areas for people get pretty noisy.

I really enjoyed my first visit to the Nisqually National Wildlife Refuge. There were so many eagles (6) and an owl who kept gliding all over us and a kestrel. So memorable a trip. Great info center employees or volunteers.

I wish the highway wasn't as close.

I wish the hours extended 1-2 hours after sunset. Then I could photograph sunset and get back to my car in time to get out of the gate.

I wish the refuge was open past sunset.

I wish there was a shuttle service to sail water boardwalk. It is too far for mom to walk.

I would be more satisfied if this refuge offered hunting opportunities, or at least access through it to the adjacent hunting areas.

I'd like to see a few short trail segments added in places to enhance birding opportunities in the open tidal flats. Right now, most birds are located at long distances away from the main hiking trail.

It would be great if they would open up more trails for bird watching. Many trails are there but closed to the public. It would also be nice to get a better (and warmer) hand dryer in the bathroom, such as an xlerator. In the winter, the sink water is icy cold, and the current hand dryer is pitiful and does not dry. It's hard to go back out into the elements with frozen, wet hands (especially when handling a camera).

It would be nice if there were various hours of gate closing times that varied and were posted according to month. Just saying "sunset" can mean different things to different people and you can get locked in.

Keep up the good work!

Love the play area.

Love the refuge. It's my favorite place to walk and meditate.

Loved visiting and learning about the refuge.

More visitor center hours. Employees of all types should occasionally speak with visitors so they know what is going on at the refuge. Few do.

My second trip this time (July 2018) was on a Tuesday or Wednesday. I was sad the visitor center was closed. Earlier in July I went on the weekend and enjoyed the visitor center.

Nisqually has very impressive facilities -- clean, well-constructed, attractive visitor center; nice, clean bathrooms; really nice displays and signage describing the refuge and aspects of it; strong/good signage outside; really nicely maintained walking trail, especially the impressive boardwalk that keeps you from disturbing wildlife and keeps you dry; peaceful and nice picnicking area by the old barn. A++ on all facilities - very impressive.

Nisqually is easy to use, well maintained, and as a woman who often goes alone, it feels very safe.

No one ever greets you - except these survey takers. If you want to talk to someone, you have to go in gift shop.

Observed family operating a drone on the boardwalk in the wetland area. Signs prohibiting this should be posted.

Our family really enjoys the serenity of the Nisqually.

Public restrooms are always a challenge - overflows, no toilet paper, water not warm for cold hands, blow dryers don't dry.

Signs along the boardwalk were informative and well maintained - added to the experience.

Surprised at the high quality of the visitor's center.

The facilities are always clean.

The facilities at the Nisqually Refuge headquarters are excellent, including toilets. The toilet at the boat launch site is kept stocked with toilet paper, but the facility has not been improved in years.

The new boardwalk is fabulous! Love the viewing platforms and signs.

The only sour note of our experience at the Nisqually Wildlife Refuge is knowing that hunting and fishing are allowed.

The refuge was much better for bird watching, other wildlife observation, and hiking/trails, our main interest before it was "restored"/changed drastically nearly a decade ago for salmon protection. The trails and access were reduced. The dike trail has no benches and no shade or place to sit and offers little opportunity. We still grieve for the refuge as it was, with bountiful cottonwoods since chopped down, and with beautiful long trail that followed along the Nisqually River allowing more birdwatching and other wildlife observation such as seals, minks, weasels and more. The ring dike trail, now gone, was wonderful marsh trail with singing marsh wrens and more. The birds have greatly reduced. The distance to the dike trail over the water is too far and too sunny and the one-way traffic is too crowded to allow good bird-watching as too many local families use it as city park now, running and even using beach balls. The addition of a playground is an absurd use of wildlife refuge property and inconsistent with its purposes; it should be removed! The McAllister Creek trail still exists and should be reopened for public access. Let people spread out more with more open trails. The refuge should stay open later at night to allow viewing the sunset and watching/listening for owls.

The restrooms at the visitor's center are always very clean and equipped. The two porta-potties near the twin barn are sometime clean and sometimes not. Sometimes the hand sanitizer is empty. What I would really like is to have another porta-potty before starting the boardwalk. This makes it difficult for me to continue to the end of the boardwalk and finish the bird walk with the other birders.

The volunteer was very helpful and informative and educated about the site.



The wooden platforms for trails are severely deteriorating and needs attention. Have been coming to this area for many years and wooden platform trails are on steep decline.

This is a very good refuge for those with limited mobility. Transportation to the refuge, via city bus, would be a nice addition for those that are not able to drive.

Very nice.

Very pleasant and most enjoyable.

We couldn't walk the last 70 feet of the pier to the gazebo which ruined our entire visit. That and the spider webs blowing in the wind all over the pier.

We love Nisqually and have been very satisfied by how it's run.

We love this refuge! It is well maintained (other than the boardwalk for wheelchair users) and clean. Thank you.

When refuge was redone, duck blinds and some trails were unmoved. Would like for trails inside how new levy reopened and duck blinds added. Would like trail added down river for 1/2 mile or so.

Wonderful staff and volunteers. We also enjoying sharing information with other visitors.

Would be nice to have a porta potty at the start of the boardwalk.

Would love to be notified earlier about the free rental for binoculars from the visitor center.

## End of Survey

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### General Comments (n=55)

A breakwater wall or similar is badly needed to safely use this launch during windy periods (often) and it could include a transient dock for temporary mooring which would facilitate safe boat launching since high tides, wind and waves and no beach contribute to damaged watercraft.

A valuable resource that could use funds to remain effective in use as well as preservation for future use.

Billy Frank Jr. Nisqually National Wildlife Refuge has amazing trails, trees so old you can hardly see the tops, and the history of Native American habitation. I found it to be a fascinating place and offers beauty and history in a huge open acreage. I loved it and will visit it again. It was clean and easy to navigate and people in the information center were informative and friendly.

Billy Frank Jr. was an amazing individual and the refuge does a good job of living up to his name... I hope to see more collaboration between the refuge and the American Indian population in the future.

Ensure full funding for the refuge system please.

Good luck with using the results.

Having easy access to a refuge within minutes from home encourages us to visit often and seek out other refuges and parks. Having a discount membership fee makes this an affordable outing for family members.

Hearing hunters shooting ducks during my visits is kind of challenging.

I am so glad to have the wildlife refuge so close and can share the experience with our grandchildren.

I am very unhappy with the current federal administrations attack on our natural treasures. I have brought my children and grandchildren to enjoy the Nisqually for over 30 years. I hope that people will speak up to preserve and restore our beautiful refuges, forests and parks for future generations.

I believe this survey is very valuable. Thank you for conducting it. It is more important than ever that us citizens have the opportunity to visit, use and enjoy wildlife, mother nature and places that are "void" of commercial enterprises, noise and unsupervised. Also, geography, land/water environments such as this Nisqually Refuge need to be guarded, even expanded so that we do not lose the animal and plant life that such a refuge supports. It easily could be lost/overwhelmed by commercial and growing population infringement. Mainly- thanks for listening!!!

I consider myself lucky to live so close to Nisqually.

I do love boardwalks at my national wildlife refuge!

I enjoy visiting and walking at Nisqually Wildlife Refuge. Recently had surgery and consider myself very lucky to be able to walk in the trails at this site.

I enjoyed the refuge. I really loved the boardwalks. The tree frogs were really fun to photograph. I wish there had been a naturalist on hand. I live on the other side of the county and had questions about species I had seen and nobody could answer my questions. The field guides were not very helpful as many of them were not all inclusive with species shown. I love wildlife refuges and parks. Sincerely [name].

I have visited this refuge frequently since 1980. It is a most valuable gift to the people. Thank you.

I live in Portland, Oregon. I drive up to Seattle to visit family and for recreation a few times a year. I usually stop at Nisqually Refuge and walk and bird for an hour to break up the drive. If I lived closer, I would go there more frequently and spend more time walking and birding, and would canoe as well, and maybe go to some of the refuge programs. It's one of my favorite refuges in the northwest.

I love Nisqually NWR! I go as many times a week as I can. I feel safe to walk by myself, and everyone is very friendly. I go both for the opportunity to exercise (you can walk many miles), and also to observe and photograph wildlife, while feeling completely at ease. It's an incredibly beautiful place, and I see something different every time I go!! Please do not allow hunters and fisherman to come in. That would absolutely destroy the purpose and peacefulness of the refuge. The closure at the end of the boardwalk during hunting season already affects those of us who like to walk the entire trail system, and I would be very sad if we had to endure more closures in order to satisfy hunters.

I love Nisqually! The only thing I wish were different about it is that I would like it to be more quiet (people are loud :) ) and that it were bigger! :)

I love our local refuge and visit quite regularly! I love that there is such a place close by to town where one can walk in nature and enjoy seeing wildlife. This is very important to my well-being.

I love the Billy Frank Jr. Refuge. It's an amazing community asset and I am so grateful to the hard work that goes in to maintaining it.

I love the Billy Frank Jr. Nisqually National Wildlife Refuge. It is a treasure to have this special place close to my home. It is one of the few places to bring friends and family to experience nature on many levels.

I love the Nisqually NWR. It will be even better when there are exhibits and trails that tie in with the historical connection to the Medicine Creek Treaty. When I commuted to work between Tacoma and Olympia, I probably stopped there once in 30 years, although I would occasionally drive just to the refuge. Now that I'm retired, I

frequently stop there when traveling between Tacoma and Olympia. There is a different mindset when commuting.

I love this refuge and have been visiting and enjoying it for over 30 years. It's a meeting place for friends that come from various locations including the coast and locally in Olympia. I hope it isn't over developed with man-made features, but kept in as much of a natural wildlife state as possible. I hope one day the hunting on the refuge is eliminated. It's very upsetting to go to watch wildlife, already stressed due to human impact, only to hear it being slaughtered during hunting season.

I love this refuge and usually visit at least two times each month, sometimes more. It is so wonderful to see such a variety of people enjoying this wonderful refuge. The only things that I would change about the refuge is to add a porta-potty at the beginning of the boardwalk over the estuary and to allow guided walks into some of the closed spaces of the refuge a few times a year. This refuge is well maintained and loved by many.

I love this refuge because it's not too crowded and it's well taken care of.

I love this refuge.

I love visiting wildlife refuges. I appreciate that we have so many and most are amazing places to visit!

I really enjoy visiting the refuge park. It is very relaxing and tranquil. Thank you.

Just to clarify a couple questions in this survey: I was visiting family in the area. We visited the refuge for about 3 hours - liked it so much we returned the next day for 4 hours.

Just to say that I greatly appreciate this refuge. It has been an emotional lifeline for me in the past year or so. A tremendous gift!!!

Keep up the good work!

Keep up the wonderful work! Thank you for being there....

Limit the number of visitors in the refuge during a given time. When they start parking by the maintenance building, then there are too many.

Love love love the educational facility that Nisqually offers to our schools. I've had so much fun learning and watching the kids when I accompany them on their field trips.

Love that you are working in this space - happy to participate in a small way if it helps better manage our parklands and refuges. Good luck with everything! It's a big country, and lots of different uses for the land/competing interests!

Love visiting Nisqually NWR!!! It's my happy place.

My guest and I both enjoyed our visit to the Billy Frank Jr Nisqually National Wildlife Refuge!

Nisqually delta, my brother lives in Lacey, Washington and each time I come up, I like to visit the wildlife refuge. Over several trips I have seen a mink, bald eagle, native frog, and lizards, sea gulls, squirrels, ducks, etc. I come from Los Angeles union station by Amtrak to Lacey. I saw the shadow of the bald eagle pass over me. It was 6-7 feet wide. I looked up and had never been that close to one before. The black berries were coming into season and I ate a few on the trail. Thousands of berries were not ripe yet. I hope the animals get most of them. The caterpillars with big webs on the trees were a concern of mine. Are there any natural predators? Would it help to just rip the webbing and caterpillars off instead of using pesticides? My brother is 80 and I am 72, so we did not make it all the way to Puget Sound. We could hear the invasive bull frogs croaking.

Nisqually is a great amenity for the community and environment.

Nisqually is an absolute treasure, an ecological asset to our Puget Sound community and a model of how various governmental agencies can cooperate to create a miracle. Nisqually would not exist if our Native American tribes, local county, state agencies and the US Government had not sat down together - each giving a bit - so that the last remaining estuary delta could be preserved and expanded. The result is a unique venue - wild, open and full of life - completely assessible to millions of people. The challenge, as always, will be balancing the community's love with the preservation of the resource. P.S. Kudos to the artist who created the "wildlife loving the refuge"!

Reopen old trails that are closed and/or build new ones, do not pave any trails as hard surfaces hurt feet. Keep refuge open later at night to allow some night use such as owl watching/listening. Stop allowing noisy weed whackers during refuge hours. Emphasize birdwatching and other wildlife observation and hiking/trails. Do not allow hunting or bicycling. Take out playground. Install more benches. Emphasize wildlife/birds/wetlands/nature over education and field trips. Later has been allowed to take over refuge too much, interfering with nature and more passive uses of the refuge such as walking to see birds. This refuge was a gem a decade ago, but efforts to restore it for salmon have ruined it and we doubt those efforts have worked. It has less land accessible to the public now. We see far fewer birds than before and the experience is much more crowded and less aesthetic and enjoyable now.

Thank you for the work. Existence of this refuge improves all our lives.

Thank you.

Thanks for doing this survey and attempting to improve the experience.

Thanks for providing a great space for nature to stay wild!

The Thurston City hydrogeologist spoke about ground water supplies. With the change of climate our once wet rain forests are now dry 4 mos/yr. and water is an issue of concern. It was great that the Nisqually NWR allowed this talk. Now talk about global warming, declining Chinook populations and orca populations could help people realize the severity of our situation. This administration is gaging scientist and trying to keep the public uninformed. Science needs to prevail.

This is a beautiful, well-maintained safe refuge. I appreciate the new environmental education facility and enjoy seeing young people touring the refuge with the volunteers. The people who use the refuge to walk or bird are a friendly group who share what they see. The new boardwalk out to Puget Sound is a welcome addition. The weekly bird walk, led by Audubon volunteers, taught me a great deal as a beginning birder. I rely on their weekly reports on Twitter to direct my visits.

This was one of the highlights of my trip to Olympia. I went to Olympia twice this summer because I am considering relocating to Washington from Arizona, and Olympia is one of the possibilities. The first time I visited Nisqually, I was directed there by the man at the visitors center next to the capitol building in downtown Olympia. I asked him where I could see some good birds, and he said, "do I have the place for you!" He was right. The next time I visited Olympia less than a month later was for a job interview, and I made sure I took the time to visit the refuge again.

Thoroughly enjoyed visiting and learning at the refuge.

We had a wonderful visit. Diane that volunteers at the refuge told us about it. We met her camping the area with the largest Sitka spruce tree. We were visiting from VA, so we wanted to see all that we could. We were so lucky to run across her and for her tell us to visit. Thanks [name] and family.

We love the Billy Frank Jr. Wildlife Refuge and reserve!!!!

We love this wildlife refuge. Many, many birds are dependent on it.

We were in town visiting family and our family recommended we visit the refuge. We really enjoyed the visit and wildlife we saw. Wildlife refuges like this are important to maintain and expand when possible so others can experience wildlife in their natural habitat. If we return to Seattle, we would likely return to the refuge. Thank you and god bless!

Would love to bring dogs.