



# National Wildlife Refuge Visitor Survey 2010/2011: Individual Refuge Results for Wheeler National Wildlife Refuge

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*I have so enjoyed living close to Wheeler Wildlife Refuge. The rangers and volunteers are friendly and knowledgeable. As a 3rd grade teacher I have had the fun of sharing this Refuge with my students. As part of our Environmental Education program, we visit Wheeler every January to see all the birds and learn about the Refuge system. The Wheeler trip is always the students' favorite trip of the year. Thanks for all you do for wildlife and for our children.—Survey comment from visitor to Wheeler National Wildlife Refuge.*



Wheeler National Wildlife Refuge. Photo credit: U.S Fish and Wildlife Service.

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## Introduction

The National Wildlife Refuge System (Refuge System), established in 1903 and managed by the U.S. Fish and Wildlife Service (Service), is the leading network of protected lands and waters in the world dedicated to the conservation of fish, wildlife and their habitats. There are 556 national wildlife refuges (NWRs) and 38 wetland management districts nationwide, including possessions and territories in the Pacific and Caribbean, encompassing more than 150 million acres. The mission of the Refuge System is to “administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” Part of achieving this mission is the goal “to foster understanding and instill appreciation of fish, wildlife, and plants, and their conservation, by providing the public with safe, high-quality, and compatible wildlife-dependent public use” (Clark, 2001). The Refuge System attracts more than 45 million visitors annually, including 25 million people per year to observe and photograph wildlife, over 9 million to hunt and fish, and more than 10 million to participate in educational and interpretation programs (Uniack, 1999; U.S. Fish and Wildlife Service, 2007). Understanding visitors and characterizing their experiences on national wildlife refuges are critical elements of managing these lands and meeting the goals of the Refuge System.

The Service contracted with the U.S. Geological Survey (USGS) to conduct a national survey of visitors regarding their experiences on national wildlife refuges. The survey was conducted to better understand visitor needs and experiences and to design programs and facilities that respond to those needs. The survey results will inform Service performance planning, budget, and communications goals. Results will also inform Comprehensive Conservation Plan (CCPs), Visitor Services, and Transportation Planning processes.

## Organization of Results

These results are for Wheeler NWR (this refuge) and are part of USGS Data Series 643 (Sexton and others, 2011). All refuges participating in the 2010/2011 surveying effort will receive individual refuge results specific to the visitors to that refuge. Each set of results is organized by the following categories:

- **Introduction:** An overview of the Refuge System and the goals of the national surveying effort.
- **Methods:** The procedures for the national surveying effort, including selecting refuges, developing the survey instrument, contacting visitors, and guidance for interpreting the results.
- **Refuge Description:** A brief description of the refuge location, acreage, purpose, recreational activities, and visitation statistics, including a map (where available) and refuge website link.
- **Sampling at This Refuge:** The sampling periods, locations, and response rate for this refuge.
- **Selected Survey Results:** Key findings for this refuge, including:
  - Visitor and Trip Characteristics
  - Visitor Spending in the Local Communities
  - Visitors Opinions about This Refuge
  - Visitor Opinions about National Wildlife Refuge System Topics
- **Conclusion**
- **References**
- **Survey Frequencies (Appendix A):** The survey instrument with the frequency results for this refuge.
- **Visitor Comments (Appendix B):** The verbatim responses to the open-ended survey questions for this refuge.

## **Methods**

### **Selecting Participating Refuges**

The national visitor survey was conducted from July 2010 – November 2011 on 53 refuges across the Refuge System (table 1). Based on the Refuge System’s 2008 Refuge Annual Performance Plan (RAPP; U.S. Fish and Wildlife Service, 2011, written comm.), 192 refuges with a minimum visitation of 25,000 were considered. This criterion was the median visitation across the Refuge System and the minimum visitation necessary to ensure that the surveying would be logistically feasible onsite. Visitors were sampled on 35 randomly selected refuges and 18 other refuges that were selected by Service Regional Offices to respond to priority refuge planning processes.

### **Developing the Survey Instrument**

USGS researchers developed the survey in consultation with the Service Headquarters Office, managers, planners, and visitor services professionals. The survey was peer-reviewed by academic and government researchers and was further pre-tested with eight Refuge System Friends Group representatives from each region to ensure readability and overall clarity. The survey and associated methodology were approved by the Office of Management and Budget (OMB control #: 1018-0145; expiration date: 6/30/2013).

### **Contacting Visitors**

Refuge staff identified two separate 15-day sampling periods and one or more locations that best reflected the diversity of use and specific visitation patterns of each participating refuge. Sampling periods and locations were identified by refuge staff and submitted to USGS via an internal website that included a customized mapping tool. A standardized sampling schedule was created for all refuges that included eight randomly selected sampling shifts during each of the two sampling periods. Sampling shifts were three- to five-hour randomly selected time bands that were stratified across AM and PM, as well as weekend and weekdays. Any necessary customizations were made, in coordination with refuge staff, to the standardized schedule to accommodate the identified sampling locations and to address specific spatial and temporal patterns of visitation.

Twenty visitors (18 years or older) per sampling shift were systematically selected, for a total of 320 willing participants per refuge—160 per sampling period—to ensure an adequate sample of completed surveys. When necessary, shifts were moved, added, or extended to alleviate logistical limitations (for example, weather or low visitation at a particular site) in an effort to reach target numbers.

**Table 1.** Participating refuges in the 2010/2011 national wildlife refuge visitor survey.

<b>Pacific Region (R1)</b>	
Kilauea Point National Wildlife Refuge (HI)	William L. Finley National Wildlife Refuge (OR)
Deer Flat National Wildlife Refuge (ID)	McNary National Wildlife Refuge (WA)
Cape Meares National Wildlife Refuge (OR)	Turnbull National Wildlife Refuge (WA)
Malheur National Wildlife Refuge (OR)	
<b>Southwest Region (R2)</b>	
Bitter Lake National Wildlife Refuge (NM)	Aransas National Wildlife Refuge (TX)
Bosque del Apache National Wildlife Refuge (NM)	San Bernard/ Brazoria National Wildlife Refuge (TX)
Wichita Mountains Wildlife Refuge (OK)	
<b>Great Lakes-Big Rivers Region (R3)</b>	
DeSoto National Wildlife Refuge (IA)	McGregor District, Upper Mississippi River National Wildlife and Fish Refuge – (IA/WI)
Neal Smith National Wildlife Refuge (IA)	
Muscatatuck National Wildlife Refuge (IN)	Big Muddy National Fish and Wildlife Refuge (MO)
Rice Lake National Wildlife Refuge (MN)	Horicon National Wildlife Refuge (WI)
Tamarac National Wildlife Refuge (MN)	Necedah National Wildlife Refuge (WI)
<b>Southeast Region (R4)</b>	
Wheeler National Wildlife Refuge (AL)	Banks Lake National Wildlife Refuge (GA)
Big Lake National Wildlife Refuge (AR)	Noxubee National Wildlife Refuge (MS)
Pond Creek National Wildlife Refuge (AR)	Cabo Rojo National Wildlife Refuge (Puerto Rico)
Merritt Island National Wildlife Refuge (FL)	Pea Island National Wildlife Refuge (NC)
St. Marks National Wildlife Refuge (FL)	Cape Romain National Wildlife Refuge (SC)
Ten Thousand Islands National Wildlife Refuge (FL)	Reelfoot National Wildlife Refuge (TN)
<b>Northeast Region (R5)</b>	
Stewart B. McKinney National Wildlife Refuge (CT)	Moosehorn National Wildlife Refuge (ME)
Bombay Hook National Wildlife Refuge (DE)	Great Swamp National Wildlife Refuge (NJ)
Monomoy National Wildlife Refuge (MA)	Montezuma National Wildlife Refuge (NY)
Parker River National Wildlife Refuge (MA)	Wertheim National Wildlife Refuge (NY)
Patuxent Research Refuge (MD)	Occoquan Bay/ Elizabeth Hartwell Mason Neck National Wildlife Refuge (VA)
<b>Mountain-Prairie Region (R6)</b>	
Monte Vista National Wildlife Refuge (CO)	Sand Lake National Wildlife Refuge (SD)
Quivira National Wildlife Refuge (KS)	National Elk Refuge (WY)
Charles M. Russell National Wildlife Refuge (MT)	
<b>Alaska Region (R7)</b>	
Alaska Maritime National Wildlife Refuge (AK)	Kenai National Wildlife Refuge (AK)
<b>California and Nevada Region (R8)</b>	
Lower Klamath/Tule Lake National Wildlife Refuge (CA)	Ruby Lake National Wildlife Refuge (NV)
Sonny Bono Salton Sea National Wildlife Refuge (CA)	

Refuge staff and/or volunteers (survey recruiters) contacted visitors on-site following a protocol provided by USGS to ensure a diverse sample. Instructions included contacting visitors across the entire sampling shift (for example, every  $n^{\text{th}}$  visitor for dense visitation, as often as possible for sparse visitation), and only one person per group. Visitors were informed of the survey effort, given a token incentive (for example, a small magnet, temporary tattoo), and asked to participate. Willing participants provided their name, mailing address, and preference for language (English or Spanish) and survey mode (mail or online). Survey recruiters also were instructed to record any refusals and then proceed with the sampling protocol.

Visitors were mailed a postcard within 10 days of the initial on-site contact thanking them for agreeing to participate in the survey and inviting them to complete the survey online. Those visitors choosing not to complete the survey online were sent a paper copy a week later. Two additional contacts were made by mail during the next seven weeks following a modified Tailored Design Method (Dillman, 2007): 1) a reminder postcard one week after the first survey, and 2) a second paper survey two weeks after the reminder postcard. Each mailing included instructions for completing the survey online and a postage paid envelope for returning the paper version of the survey. Those visitors indicating a preference for Spanish were sent Spanish versions of all correspondence (including the survey). Finally, a short survey of six questions was sent to nonrespondents four weeks after the second survey mailing to determine any differences between respondents and nonrespondents at the national level. Online survey data were exported and paper survey data were entered using a standardized survey codebook and data entry procedure. All survey data were analyzed by using SPSS v.18 statistical analysis software.

## Interpreting the Results

The extent to which these results accurately represent the total population of visitors to this refuge is dependent on 1) an adequate sample size of those visitors and 2) the representativeness of that sample. The adequacy of the sample size for this refuge is quantified as the margin of error. The composition of the sample is dependent on the ability of the standardized sampling protocol for this study to account for the spatial and temporal patterns of visitor use specific to each refuge. Spatially, the geographical layout and public use infrastructure varies widely across refuges. Some refuges only can be accessed through a single entrance, while others have multiple unmonitored access points across large expanses of land and water. As a result, the degree to which sampling locations effectively captured spatial patterns of visitor use will likely vary from refuge to refuge. Temporally, the two 15-day sampling periods may not have effectively captured all of the predominant visitor uses/activities on some refuges during the course of a year. Therefore, certain survey measures such as visitors' self-reported "primary activity during their visit" may reflect a seasonality bias.

Herein, the sample of visitors who responded to the survey are referred to simply as "visitors." However, when interpreting the results for Wheeler NWR, any potential spatial and temporal sampling limitations specific to this refuge need to be considered when generalizing the results to the total population of visitors. For example, a refuge that sampled during a special event (for example, birding festival) held during the spring may have contacted a higher percentage of visitors who traveled greater than 50 miles to get to the refuge than the actual number of these people who would have visited throughout the calendar year (that is, oversampling of nonlocals). In contrast, another refuge may not have enough nonlocal visitors in the sample to adequately represent the beliefs and opinions of that group type. If the sample for a specific group type (for example, nonlocals, hunters, those visitors who paid a fee) is too low ( $n < 30$ ), a warning is included. Additionally, the term "*this* visit" is used to reference the visit on which people were contacted to participate in the survey, which may or may not have been their most recent refuge visit.

## Refuge Description for Wheeler National Wildlife Refuge

Wheeler NWR, established in 1983, is located along the Tennessee River between Huntsville and Decatur, Alabama (fig. 1). Considered the easternmost refuge in the Mississippi flyway, this 34,500-acre refuge attracts thousands of wintering waterfowl each year and has Alabama's largest duck population. This refuge provides wintering habitat for migratory waterfowl, as well as habitats for a wide diversity of game and nongame birds, mammals, reptiles and amphibians. Wheeler NWR is also home to 10 federally listed endangered or threatened species.

This refuge consists of a variety of habitats including bottomland hardwoods, wetlands, riparian woodlands, pine uplands, agricultural fields, and backwater embayments. These habitats provide excellent feeding, loafing, and roosting sites for waterfowl, as well as nesting sites for migrating songbirds. The Refuge provides a much needed oasis in one of the fastest growing regions in the state.

Nearly 650,000 people come to Wheeler NWR each year (based on 2008 RAPP database; U.S. Fish and Wildlife Service, 2011, written comm.) to enjoy a variety of activities including use of the Visitor Center, upland game hunting, big game hunting, fishing, motorized and nonmotorized boating, visiting historical sites, horseback and mule riding, biking, hiking, wildlife observation, photography, environmental education, and interpretation. Visitors especially enjoy Wheeler NWR for its fishing and boating activities along the Tennessee River.

Springtime hikers will find lush wildflower displays and migrating songbirds. During the fall, visitors can expect to see large migrating flocks of ducks and geese, with warblers moving through in early October. Winter, though, is the time to see the largest numbers of ducks and geese. Summer visitors especially enjoy fishing and boating activities, with six boat launch areas along the Tennessee River and several of its tributaries. For more information, please visit: <http://www.fws.gov/wheeler/>

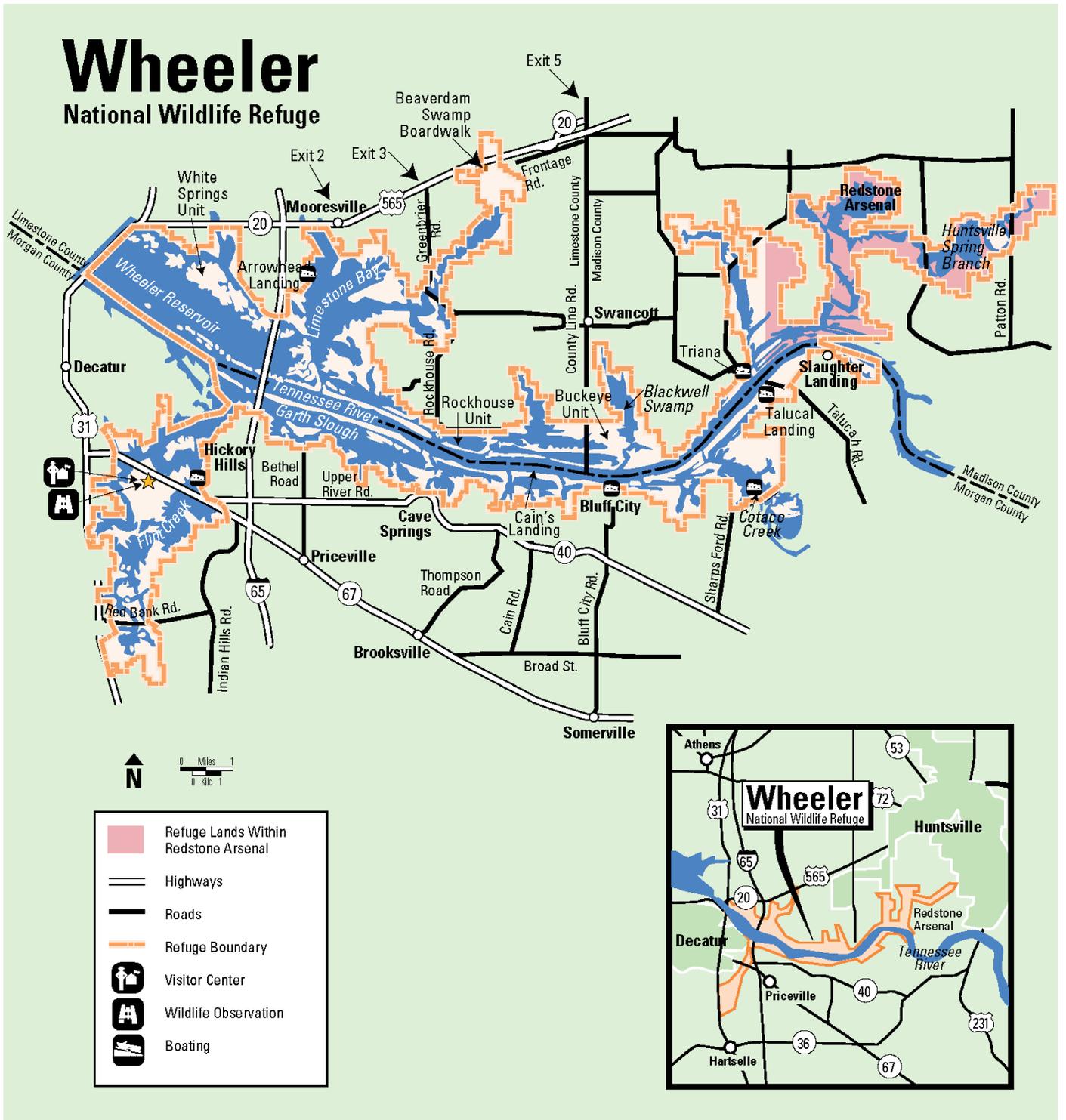


Figure 1. Map of Wheeler NWR, courtesy of U.S. Fish and Wildlife Service.

## Sampling at Wheeler National Wildlife Refuge

A total of 324 visitors agreed to participate in the survey during the two sampling periods at the identified locations at Wheeler NWR (table 2). In all, 214 visitors completed the survey for a 68% response rate and  $\pm 5\%$  margin of error at the 95% confidence level.<sup>1</sup>

**Table 2.** Sampling and response rate summary for Wheeler NWR.

Sampling period	Dates	Locations	Total contacts	Undeliverable addresses	Completed surveys	Response rate
1	9/25/2010 to 9/9/2010	Visitor Center  Flint Creek Trail & Fishing Pier	162	6	103	66%
2	1/22/2010 to 2/5/2011	Visitor Center White Springs Dike Arrowhead Landing/Limestone Bay	162	2	111	69%
<b>Total</b>			<b>324</b>	<b>8</b>	<b>214</b>	<b>68%</b>

## Selected Survey Results

### Visitor and Trip Characteristics

*A solid understanding of refuge visitors and details about their trips to refuges can inform communication outreach efforts, inform visitor services and transportation planning, forecast use, and gauge demand for services and facilities.*

#### Familiarity with the Refuge System

While we did not ask visitors to identify the mission of the National Wildlife Refuge System or the U.S. Fish and Wildlife Service, visitors to Wheeler NWR reported that before participating in the survey, they were aware of the role of the U.S. Fish and Wildlife Service in managing national wildlife refuges (91%) and that the Refuge System has the mission of conserving, managing, and restoring fish, wildlife, plants and their habitat (96%). Positive responses to these questions concerning the management and mission of the Refuge System do not indicate the degree to which these visitors understand the day-to-day management practices of individual refuges, only that visitors feel they have a basic knowledge of who manages refuges and why. Compared to other public lands, many visitors feel that refuges provide a unique

<sup>1</sup> The margin of error (or confidence interval) is the error associated with the results related to the sample and population size. A margin of error of  $\pm 5\%$ , for example, means if 55% of the sample answered a survey question in a certain way, then 50–60% of the entire population would have answered that way. The margin of error is calculated with an 80/20 response distribution, assuming that for any given dichotomous choice question, approximately 80% of respondents selected one choice and 20% selected the other (Salant and Dillman, 1994).

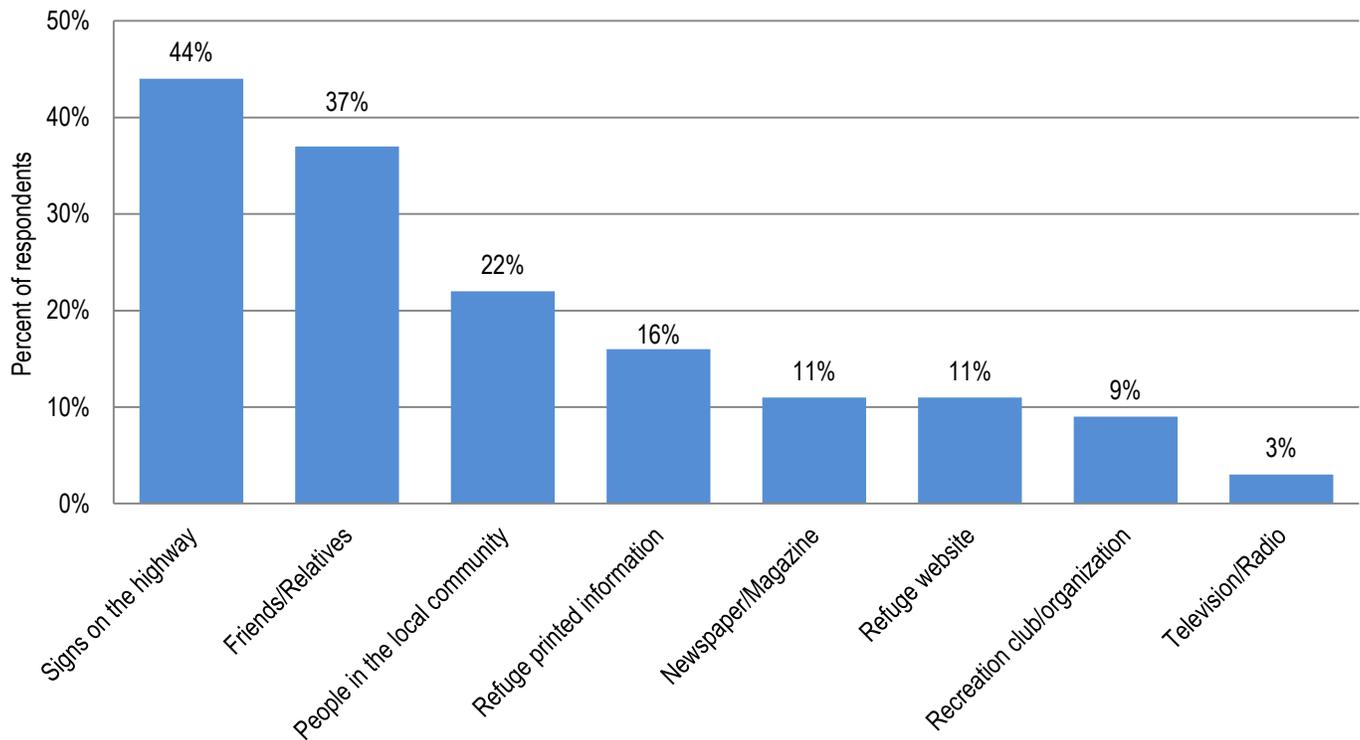
recreation experience (93%; see Appendix B for visitor comments on “What Makes National Wildlife Refuges Unique?”); however, reasons for why visitors find refuges unique are varied and may not directly correspond to their understanding of the mission of the Refuge System. Nearly two thirds of visitors to Wheeler NWR had been to at least one other National Wildlife Refuge in the past year (63%), with an average of 4 visits to other refuges during the past 12 months.

### Visiting This Refuge

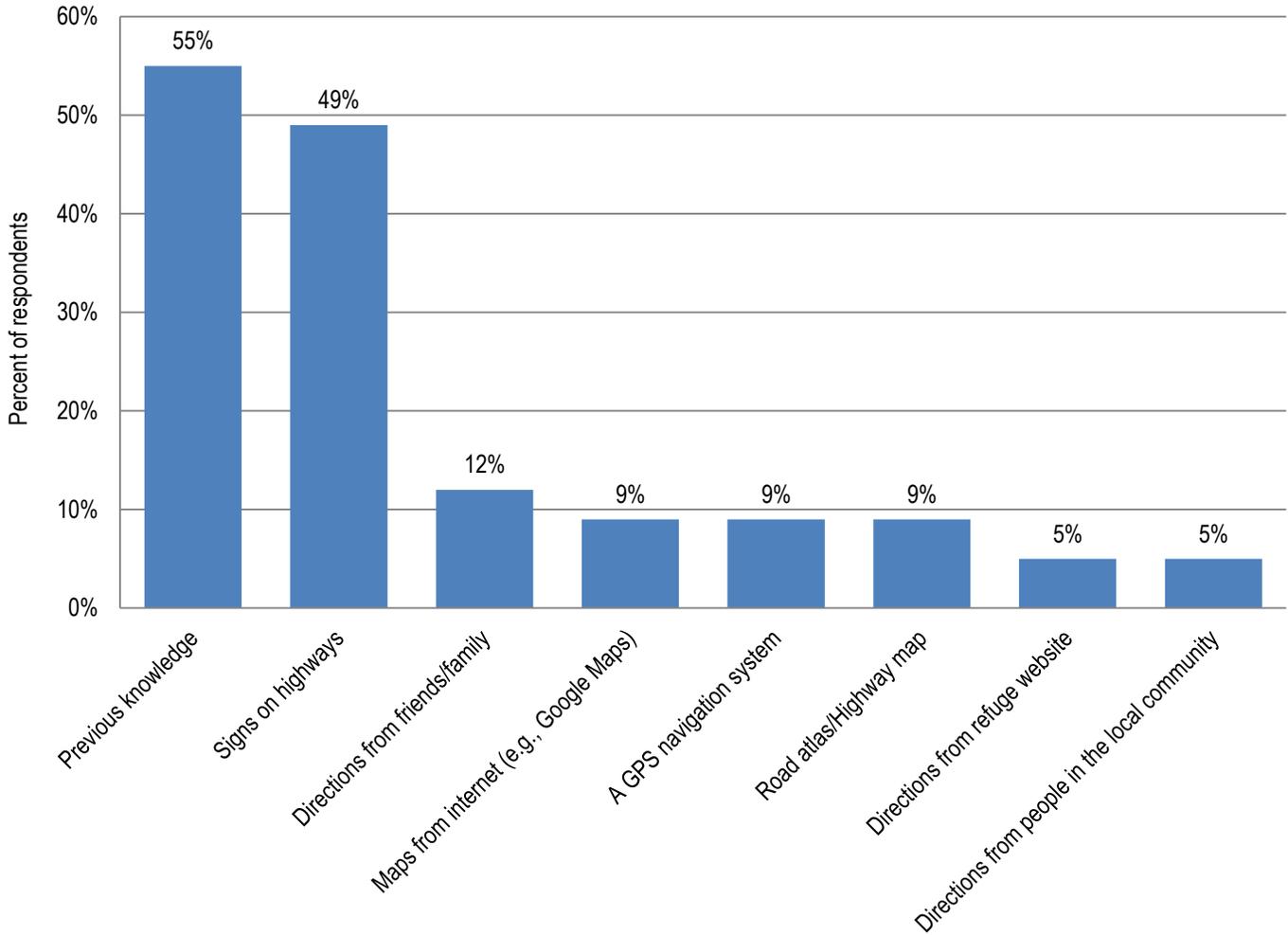
Some surveyed visitors (30%) had only been to Wheeler NWR once in the past 12 months, while most had been multiple times (70%). These repeat visitors went to the refuge an average of 14 times during that same 12-month period. Visitors used the refuge during only one season (43%), during multiple seasons (28%), and year-round (29%).

Most visitors first learned about the refuge from signs on the highway (44%), friends/relatives (37%), or people in the local community (22%; fig. 2). Key information sources used by visitors to find their way to this refuge include previous knowledge (55%), or signs on highways (49%; fig. 3).

Most visitors (71%) lived in the local area (within 50 miles of the refuge), whereas 29% were nonlocal visitors. For most local visitors, Wheeler NWR was the primary purpose or sole destination of their trip (84%; table 3). For most nonlocal visitors, the refuge was also the primary purpose or sole destination of their trip (56%). Local visitors reported that they traveled an average of 21 miles to get to the refuge, while nonlocal visitors traveled an average of 238 miles. Figure 4 shows the residence of visitors travelling to the refuge. Around 80% of visitors to Wheeler NWR were from Alabama.



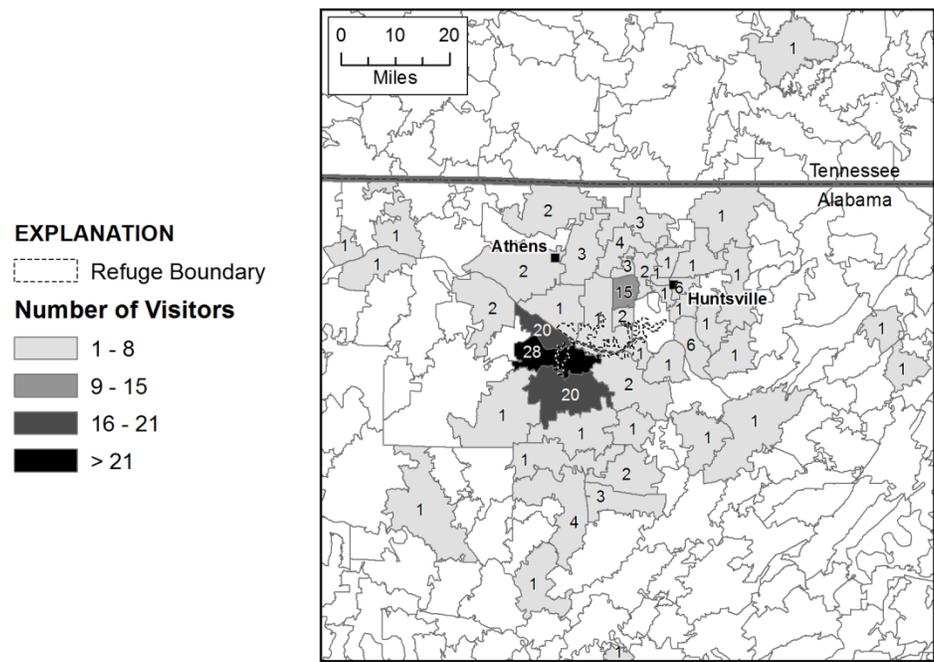
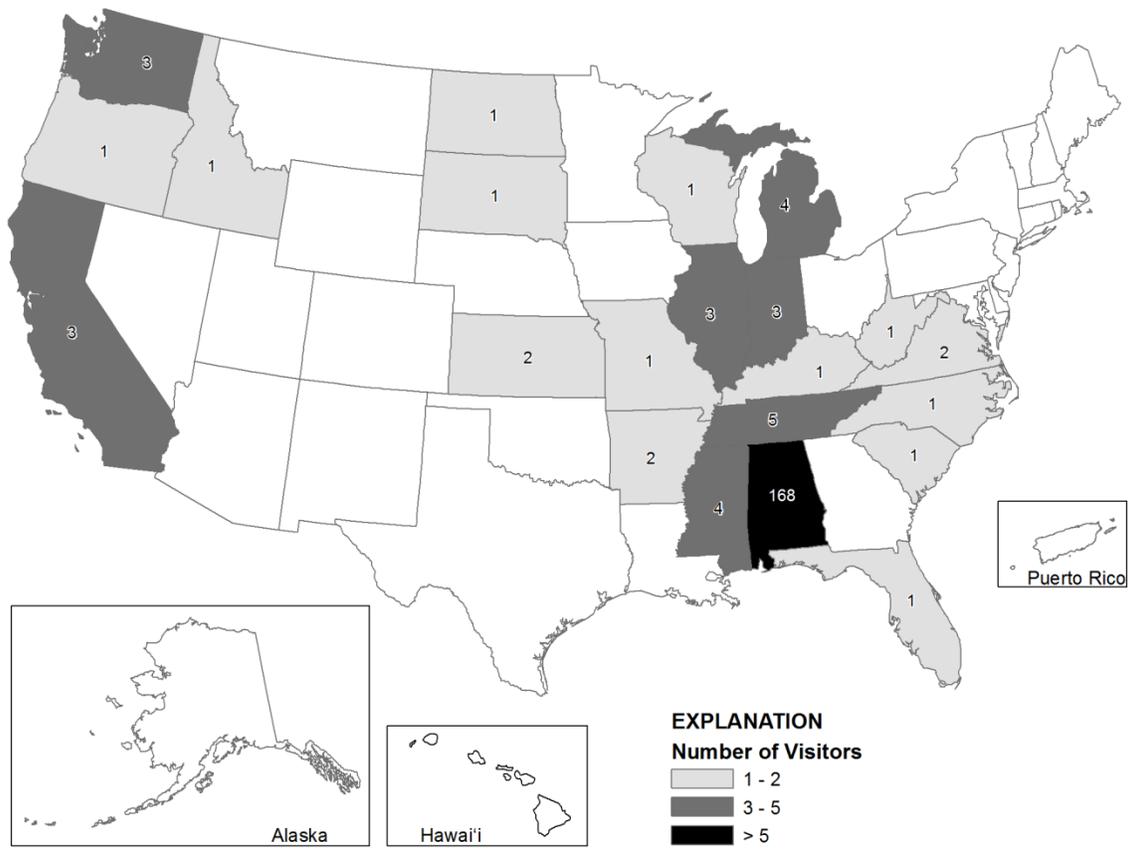
**Figure 2.** How visitors first learned or heard about Wheeler NWR (n = 207).



**Figure 3.** Resources used by visitors to find their way to Wheeler NWR during *this* visit (n = 207).

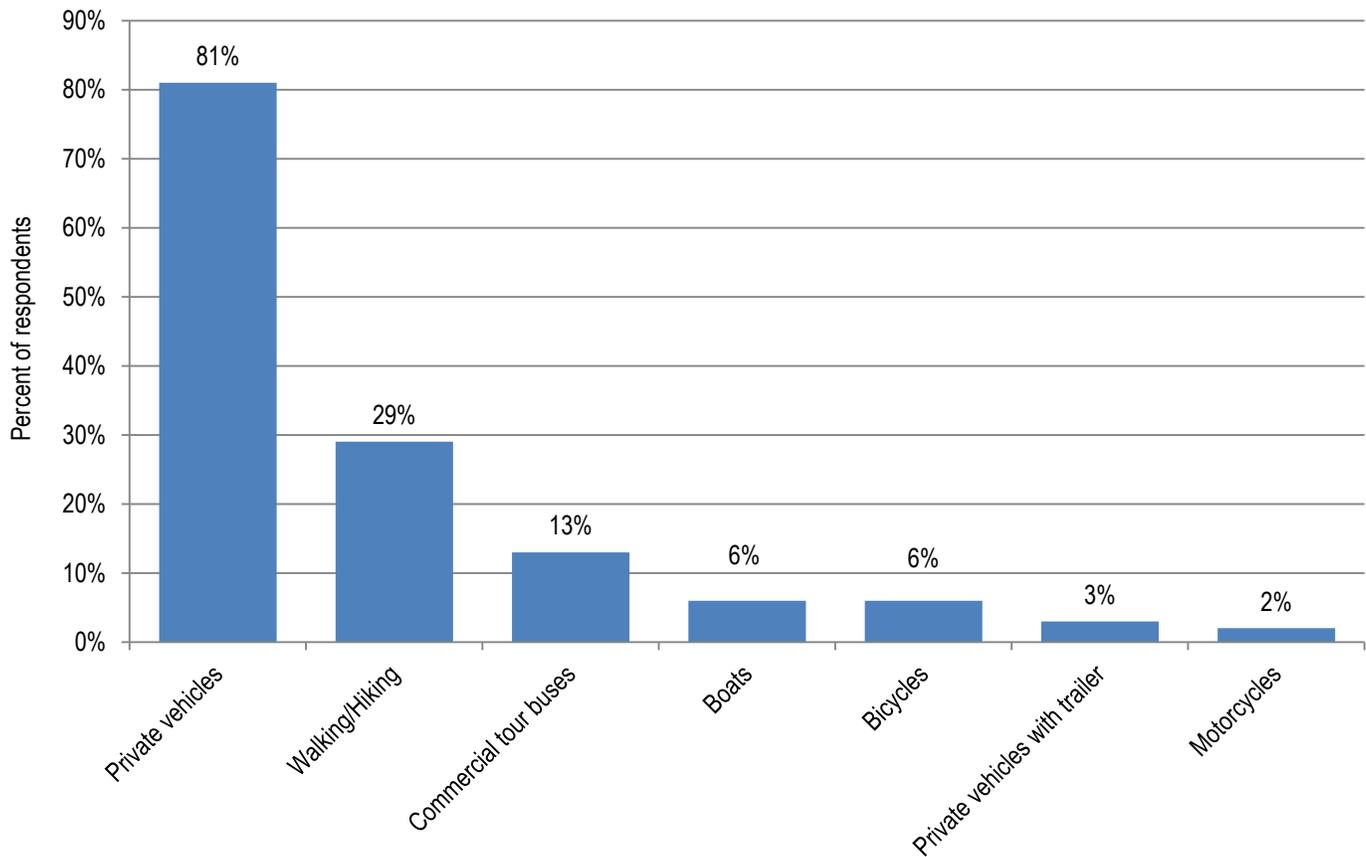
**Table 3.** Influence of Wheeler NWR on visitors' decision to take *this* trip.

Visitors	Visiting this refuge was...		
	the primary reason for trip	one of many equally important reasons for trip	an incidental stop
Nonlocal	56%	29%	15%
Local	84%	10%	6%
Total	76%	16%	8%



**Figure 4.** Number of visitors travelling to Wheeler NWR by residence. Top map shows residence by state and bottom map shows residence by zip codes near the refuge (n = 210).

Surveyed visitors reported that they spent an average of 4 hours at Wheeler NWR during one day there (a day visit is assumed to be 8 hours). However, the most frequently reported length of visit during one day was actually 2 hours (23%). The key modes of transportation used by visitors to travel around the refuge were private vehicle (81%), walking/hiking (29%), and commercial tour bus (13%; fig. 5). Most visitors indicated they were part of a group on their visit to this refuge (65%), travelling primarily with family and friends (table 4).

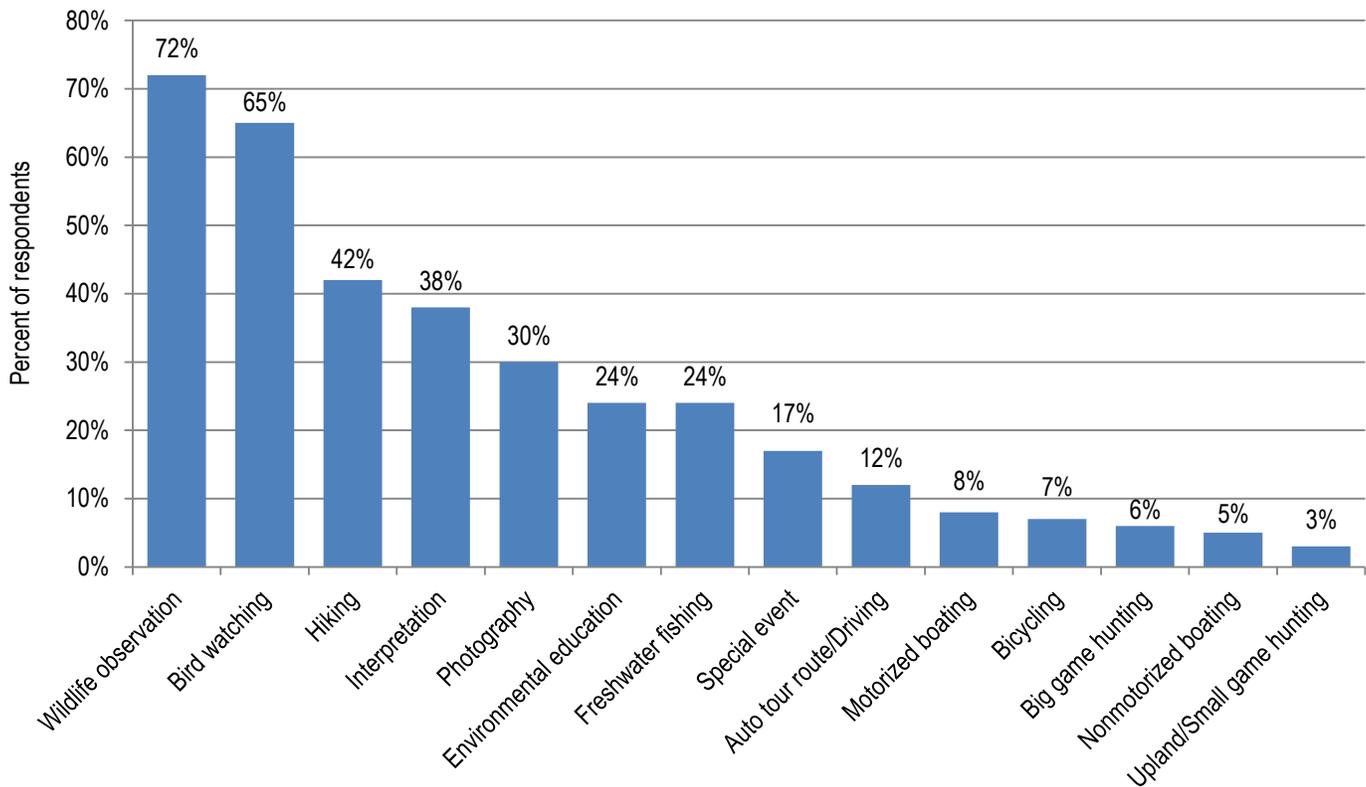


**Figure 5.** Modes of transportation used by visitors to Wheeler NWR during *this* visit (n = 207).

**Table 4.** Type and size of groups visiting Wheeler NWR (for those who indicated they were part of a group, n = 133).

Group type	Percent (of those traveling in a group)	Average group size		
		Number of adults	Number of children	Total group size
Family/Friends	50%	2	1	3
Commercial tour group	1%	35	0	35
Organized club/School group	30%	11	16	27
Other group type	19%	21	0	21

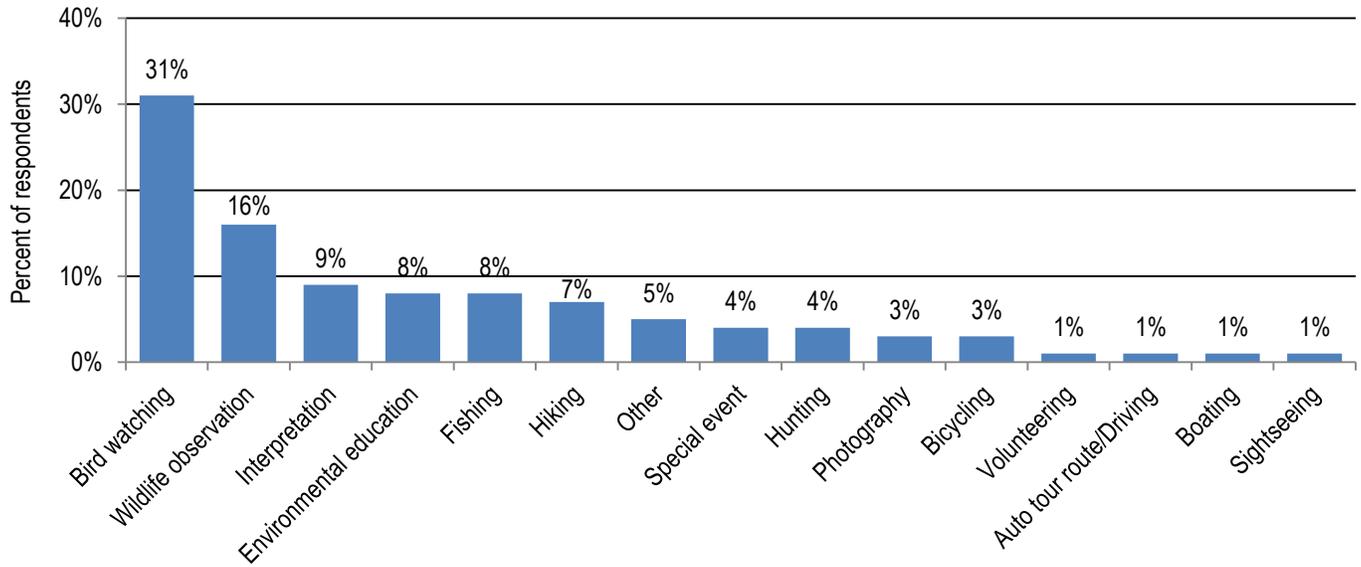
Surveyed visitors participated in a variety of refuge activities during the past 12 months (fig. 6); the top three activities reported were wildlife observation (72%), bird watching (65%), and hiking (42%). The primary reasons for their most recent visit included bird watching (31%) and wildlife observation (16%; fig. 7). The visitor center was used by 91% of visitors, mostly to view the exhibits (89%), ask information of staff/volunteers (71%), and stop to use the facilities (66%; fig. 8).



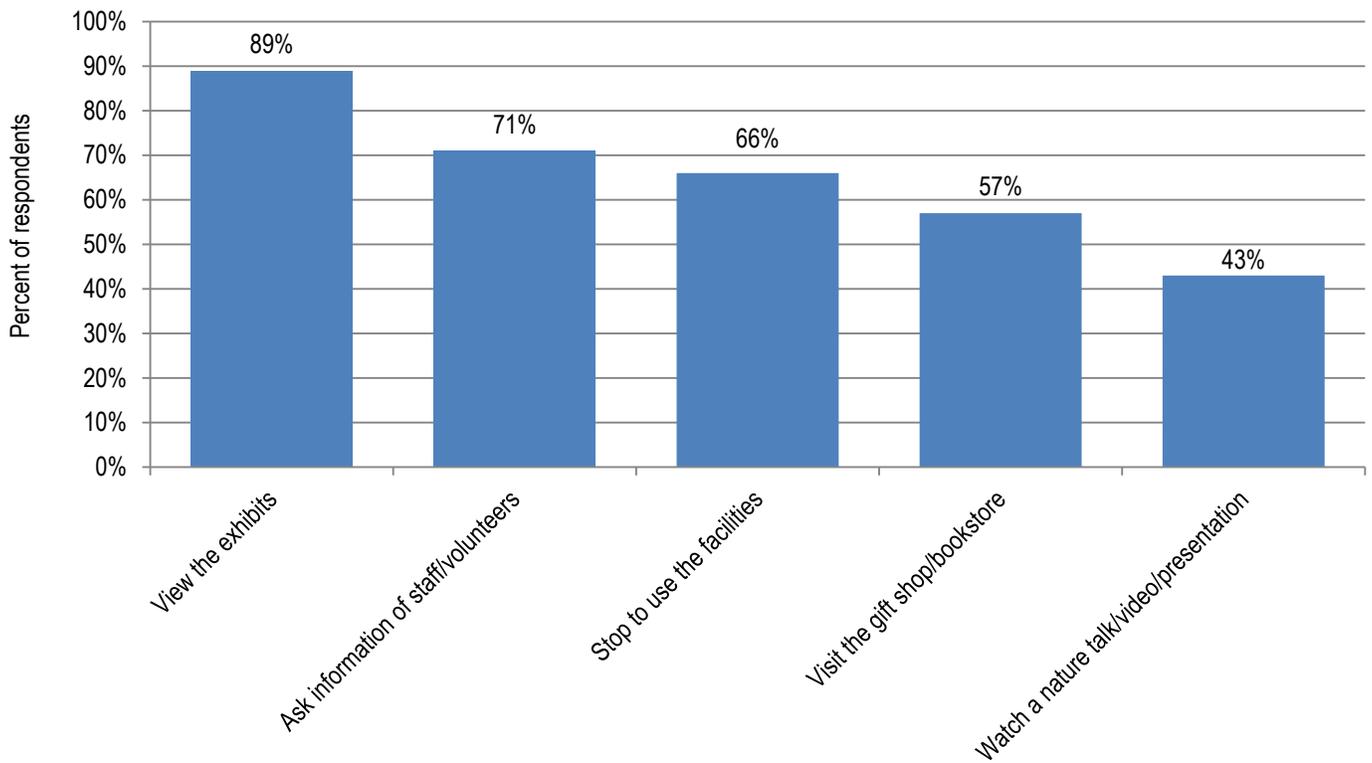
**Figure 6.** Activities in which visitors participated during the past 12 months at Wheeler NWR (n = 208). See Appendix B for a listing of “other” activities.

### Visitor Characteristics

All surveyed visitors to Wheeler NWR indicated that they were citizens or permanent residents of the United States. Only those visitors 18 years or older were sampled. Visitors were a mix of 63% male with an average age of 53 years and 37% female with an average age of 48 years. Visitors, on average, reported they had 15 years of formal education (college or technical school). The median level of income was \$50,000–\$74,999. See Appendix A for more demographic information. In comparison, the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation found that participants in wildlife watching and hunting on public land were 55% male and 45% female with an average age of 46 years, an average level of education of 14 years (associate degree or two years of college), and a median income of \$50,000–\$74,999 (Harris, 2011, personal communication). Compared to the U.S. population, these 2006 survey participants are more likely to be male, older, and have higher education and income levels (U.S. Department of the Interior and U.S. Department of Commerce, 2007).



**Figure 7.** The primary activity in which visitors participated during *this* visit to Wheeler NWR (n = 186). See Appendix B for a listing of “other” activities.



**Figure 8.** Use of the visitor center at Wheeler NWR (for those visitors who indicated they used the visitor center, n = 189).

## Visitor Spending in Local Communities

*Tourists usually buy a wide range of goods and services while visiting an area. Major expenditure categories include lodging, food, supplies, and gasoline. Spending associated with refuge visitation can generate considerable economic benefits for the local communities near a refuge. For example, more than 34.8 million visits were made to national wildlife refuges in fiscal year 2006; these visits generated \$1.7 billion in sales, almost 27,000 jobs, and \$542.8 million in employment income in regional economies (Carver and Caudill, 2007). Information on the amount and types of visitor expenditures can illustrate the economic importance of refuge visitor activities to local communities. Visitor expenditure information also can be used to analyze the economic impact of proposed refuge management alternatives.*

A region (and its economy) is typically defined as all counties within 50 miles of a travel destination (Stynes, 2008). Visitors that live within the local 50-mile area of a refuge typically have different spending patterns than those that travel from longer distances. During the two sampling periods, 71% of surveyed visitors to Wheeler NWR indicated that they live within the local area. Nonlocal visitors (29%) stayed in the local area, on average, for 3 days. Table 5 shows summary statistics for local and nonlocal visitor expenditures in the local communities and at the refuge, with expenditures reported on a per person per day basis. During the two sampling periods, nonlocal visitors spent an average of \$80 per person per day and local visitors spent an average of \$25 per person per day in the local area. Several factors should be considered when estimating the economic importance of refuge visitor spending in the local communities. These include the amount of time spent at the refuge, influence of refuge on decision to take this trip, and the representativeness of primary activities of the sample of surveyed visitors compared to the general population. Controlling for these factors is beyond the scope of the summary statistics presented in this report. Detailed refuge-level visitor spending profiles which do consider these factors will be developed during the next phase of analysis.

**Table 5.** Total visitor expenditures in local communities and at Wheeler NWR expressed in dollars per person per day.

Visitors	n <sup>1</sup>	Median	Mean	Standard deviation	Minimum	Maximum
Nonlocal	51	\$50	\$82	\$102	\$0	\$445
Local	103	\$14	\$25	\$35	\$0	\$167

<sup>1</sup>n = number of visitors who answered both locality *and* expenditure questions.

Note: For each respondent, reported expenditures were divided by the number of persons in their group that shared expenses in order to determine the spending per person per trip. This was then divided by the number of days spent in the local area to determine the spending per person per day for each respondent. For respondents who reported spending less than one full day, trip length was set equal to one day. These visitor spending estimates are appropriate for the sampling periods selected by refuge staff (see table 2 for sampling period dates and figure 7 for the primary visitor activities). They may not be representative of the total population of visitors to this refuge.

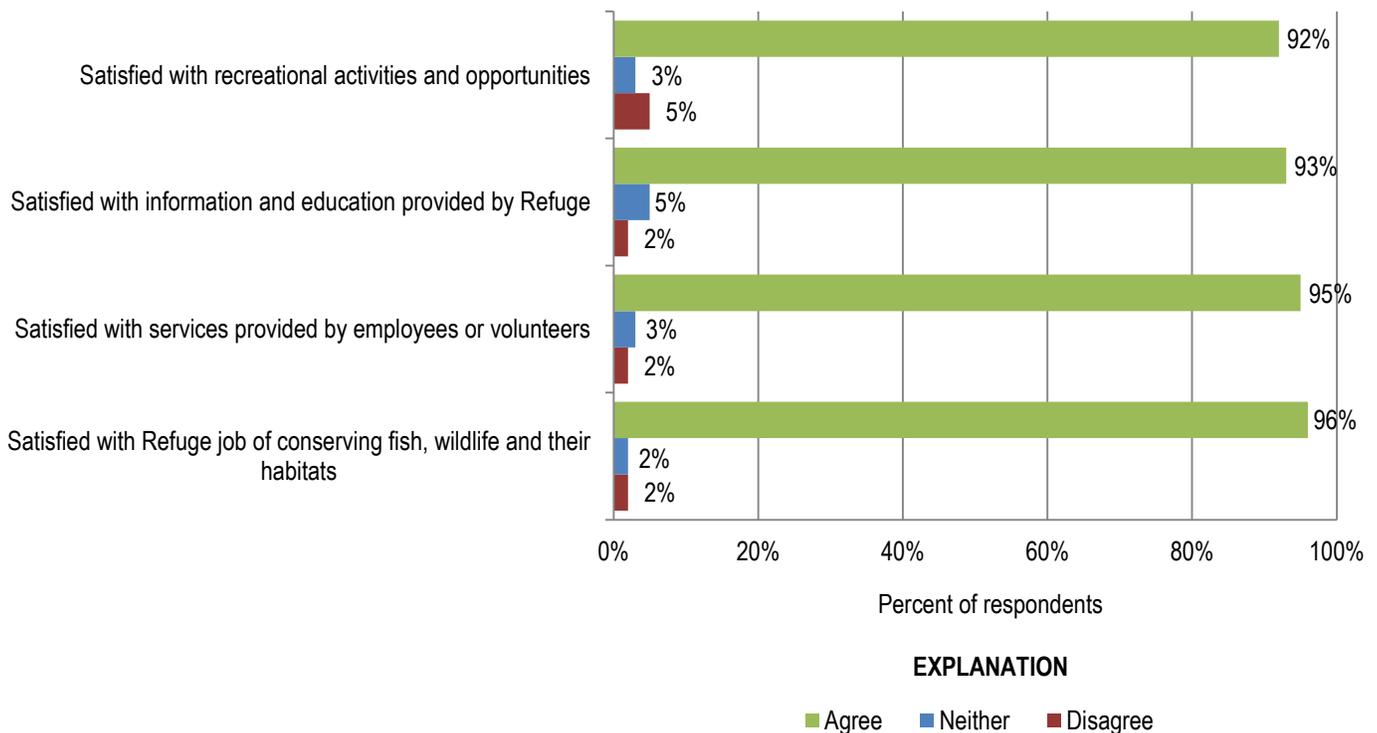
## Visitor Opinions about This Refuge

National wildlife refuges provide visitors with a variety of services, facilities, and wildlife-dependent recreational opportunities. Understanding visitors' perceptions of their refuge experience is a key component of the Refuge System mission as it pertains to providing high-quality wildlife-dependent recreational opportunities. Having a baseline understanding of visitor experience can inform management decisions to better balance visitors' expectations with the Refuge System mission. Recent studies in outdoor recreation have included an emphasis on declining participation in traditional activities such as hunting and an increasing need to connect the next generation to nature and wildlife. These factors highlight the importance of current refuge visitors as a key constituency in wildlife conservation. A better understanding is increasingly needed to better manage the visitor experience and to address the challenges of the future.

Surveyed visitors' overall satisfaction with the services, facilities, and recreational opportunities provided at Wheeler NWR were as follows (fig. 9):

- 92% were satisfied with the recreational activities and opportunities,
- 93% were satisfied with the information and education about the refuge and its resources,
- 95% were satisfied with the services provided by employees or volunteers, and
- 96% were satisfied with the refuge's job of conserving fish, wildlife and their habitats.

Although 7% of visitors (n = 15) indicated they paid a fee to enter Wheeler NWR, the refuge does not have an entrance fee. It is not known why a small number of visitors thought they paid a fee.



**Figure 9.** Overall satisfaction with Wheeler NWR during this visit (n ≥ 202).

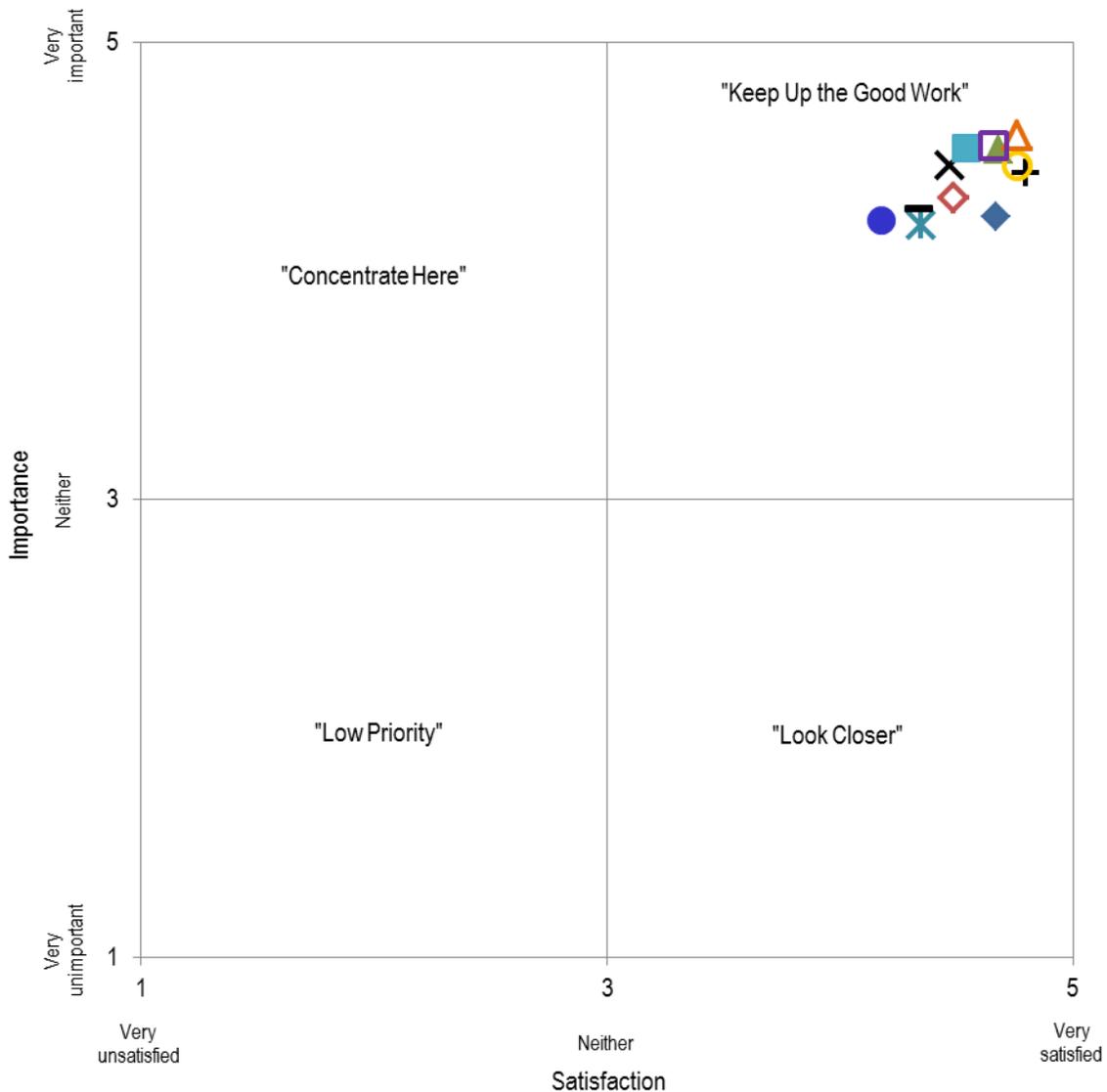
## Importance/Satisfaction Ratings

*Comparing the importance and satisfaction ratings for visitor services provided by refuges can help to identify how well the services are meeting visitor expectations. The importance-performance framework presented in this section is a tool that includes the importance of an attribute to visitors in relation to their satisfaction with that attribute. Drawn from marketing research, this tool has been applied to outdoor recreation and visitation settings (Martilla and James, 1977; Tarrant and Smith, 2002). Results for the attributes of interest are segmented into one of four quadrants (modified for this national study):*

- Keep Up the Good Work = high importance/high satisfaction;
- Concentrate Here = high importance/low satisfaction;
- Low Priority = low importance/low satisfaction; and
- Look Closer = low importance/high satisfaction.

*Graphically plotting visitors' importance and satisfaction ratings for different services, facilities, and recreational opportunities provides a simple and intuitive visualization of these survey measures. However, this tool is not without its drawbacks. One is the potential for variation among visitors regarding their expectations and levels of importance (Vaske et al., 1996; Bruyere et al., 2002; Wade and Eagles, 2003), and certain services or recreational opportunities may be more or less important for different segments of the visitor population. For example, hunters may place more importance on hunting opportunities and amenities such as blinds, while school group leaders may place more importance on educational/informational displays than would other visitors. This potential for highly varied importance ratings needs to be considered when viewing the average results of this analysis of visitors to Wheeler NWR. This consideration is especially important when reviewing the attributes that fall into the "Look Closer" quadrant. In some cases, these attributes may represent specialized recreational activities in which a small subset of visitors participate (for example, hunting, kayaking) or facilities and services that only some visitors experience (for example, exhibits about the refuge). For these visitors, the average importance of (and potentially the satisfaction with) the attribute may be much higher than it would be for the overall population of visitors.*

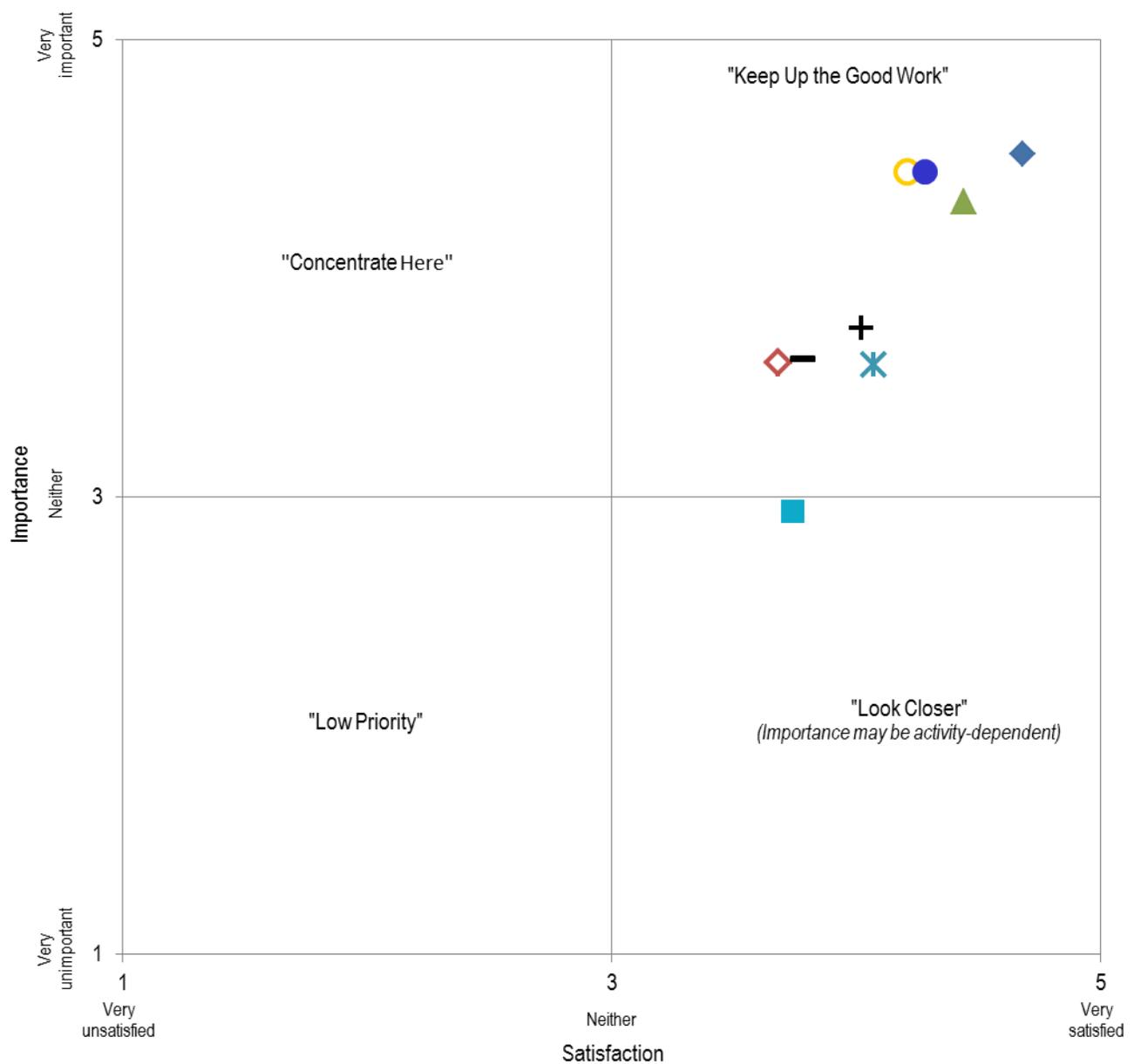
Figures 10-12 depict surveyed visitors' importance-satisfaction results for refuge services and facilities, recreational opportunities, and transportation-related features at Wheeler NWR, respectively. All refuge services and facilities fell in the "Keep Up the Good Work" quadrant (fig. 10). Nearly all refuge recreational opportunities fell in the "Keep Up the Good Work" quadrant except hunting opportunities, which fell into the "Look Closer" quadrant (fig. 11). The average importance of hunting activities in the "Look Closer" quadrant may be higher among visitors who have participated in these activities during the past 12 months; however, there were not enough individuals in the sample to evaluate the responses of such participants. All transportation-related features fell in the "Keep Up the Good Work" quadrant (fig. 12).



**EXPLANATION**

- ◆ Availability of employees/volunteers
- ▲ Knowledgeable employees/volunteers
- ⊗ Informational kiosks/displays about this Refuge
- ◇ Exhibits about this Refuge
- Visitor Center
- △ Well-maintained restrooms
- ⊕ Courteous/welcoming employees/volunteers
- ⊗ Printed information about this Refuge
- Signs with rules/regulations
- Environmental education programs/activities
- Convenient hours/days of operation
- Wildlife observation structures

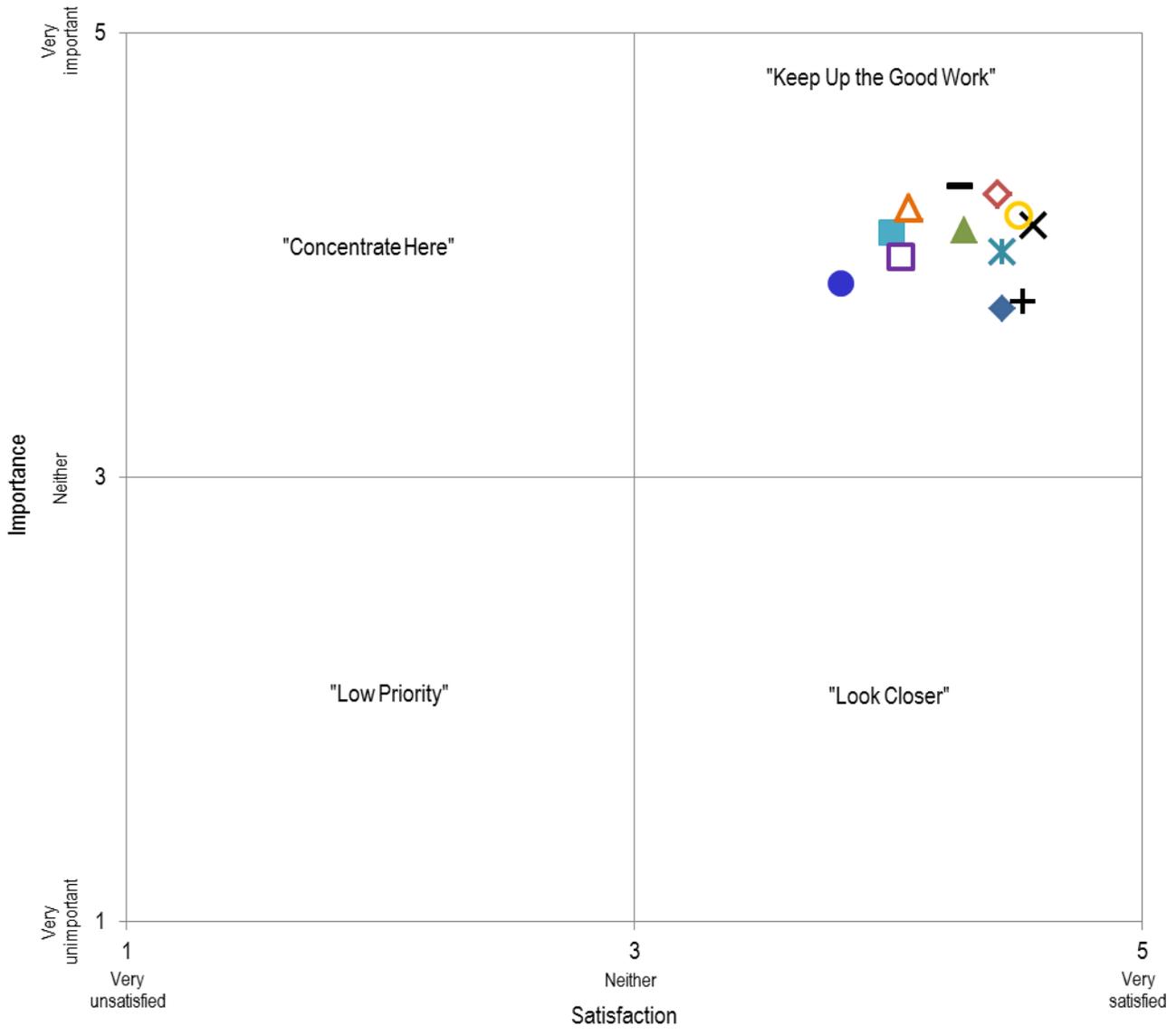
**Figure 10.** Importance-satisfaction ratings of services and facilities provided at Wheeler NWR.



**EXPLANATION**

- ◆ Bird watching opportunities
- Wildlife viewing opportunities
- ▲ Photography opportunities
- Hunting opportunities
- ✕ Fishing opportunities
- Hiking opportunities
- ◇ Kayak/Canoe opportunities
- Bicycling opportunities
- ✚ Volunteer opportunities

**Figure 11.** Importance-satisfaction ratings of recreational opportunities provided at Wheeler NWR.



**EXPLANATION**

- ◆ Condition of roads
- ⊕ Condition of parking areas
- ▲ Condition of bridges
- ✕ Condition of trails/boardwalks
- ⊗ Number of parking places
- Number of pullovers
- ◇ Safety of driving conditions
- Safety of Refuge entrances
- Directional signs on highways
- Directional signs on Refuge
- △ Directional signs on trails
- Disabled access

**Figure 12.** Importance-satisfaction ratings of transportation-related features at Wheeler NWR.

## Visitor Opinions about National Wildlife Refuge System Topics

*One goal of this national visitor survey was to identify visitor trends across the Refuge System to more effectively manage refuges and provide visitor services. Two important issues to the Refuge System are transportation on refuges and communicating with visitors about climate change. The results to these questions will be most meaningful when they are evaluated in aggregate (data from all participating refuges together). However, basic results for Wheeler NWR are reported here.*

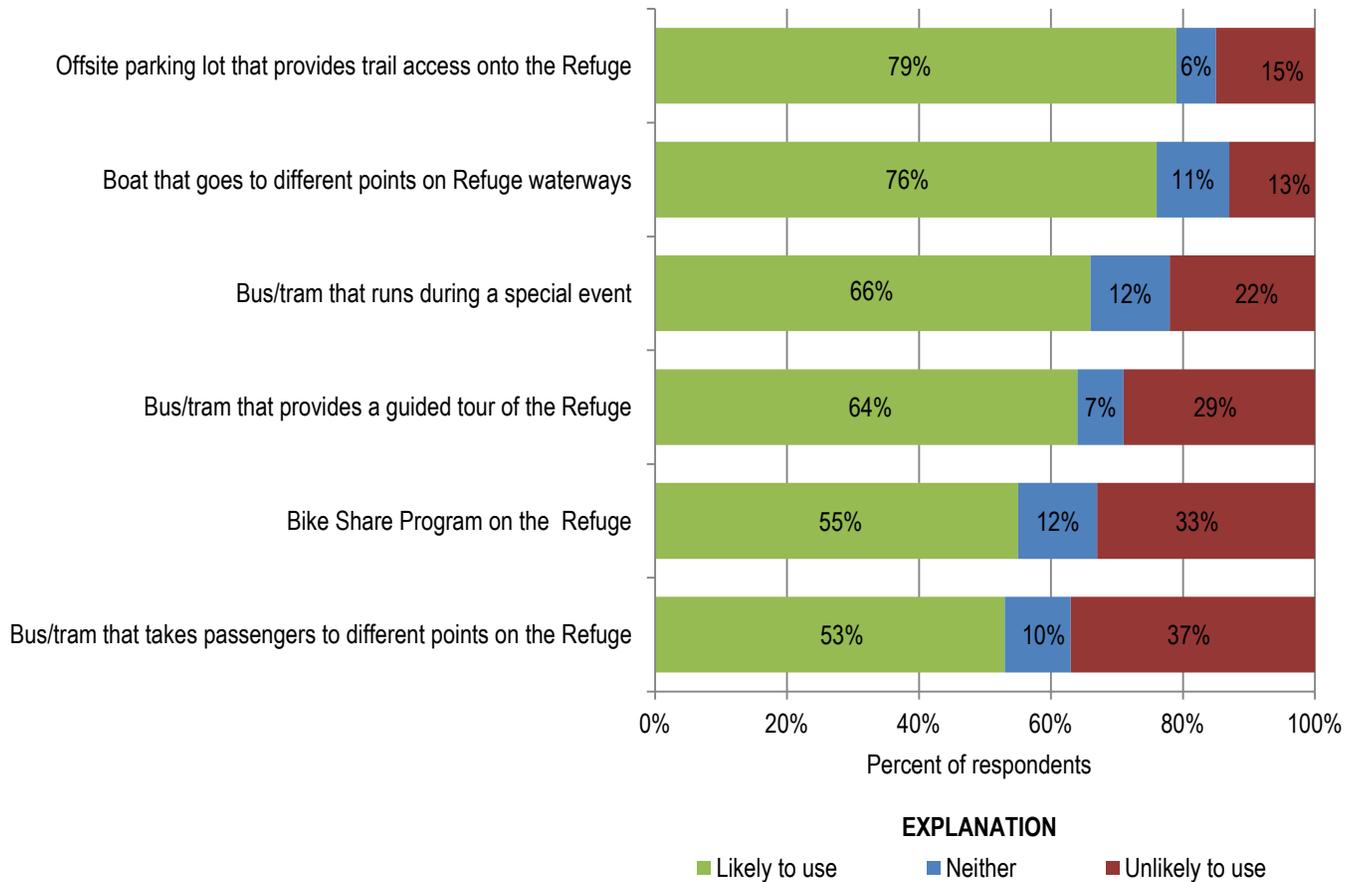
### Alternative Transportation and the National Wildlife Refuge System

*Visitors use a variety of transportation means to access and enjoy national wildlife refuges. While many visitors arrive at the refuge in a private vehicle, alternatives such as buses, trams, watercraft, and bicycles are increasingly becoming a part of the visitor experience. Previous research has identified a growing need for transportation alternatives within the Refuge System (Krechmer et al., 2001); however, less is known about how visitors perceive and use these new transportation options. An understanding of visitors' likelihood of using certain alternative transportation options can help in future planning efforts. Visitors were asked their likelihood of using alternative transportation options at national wildlife refuges in the future.*

Of the six Refuge System-wide alternative transportation options listed on the survey, the majority of Wheeler NWR visitors who were surveyed were likely to use the following options at national wildlife refuges in the future (fig. 13):

- an offsite parking lot that provides trail access;
- a boat that goes to different points on Refuge waterways;
- a bus/tram that runs during a special event;
- a bus/tram that provides a guided tour;
- a bike share program; and
- a bus/tram that takes passengers to different points on the Refuge.

When asked about using alternative transportation at Wheeler NWR specifically, 39% of visitors indicated they were unsure whether it would enhance their experience; however, some visitors thought alternative transportation would enhance their experience (39%) and others thought it would not (23%).



**Figure 13.** Visitors’ likelihood of using alternative transportation options at national wildlife refuges in the future (n ≥ 199).

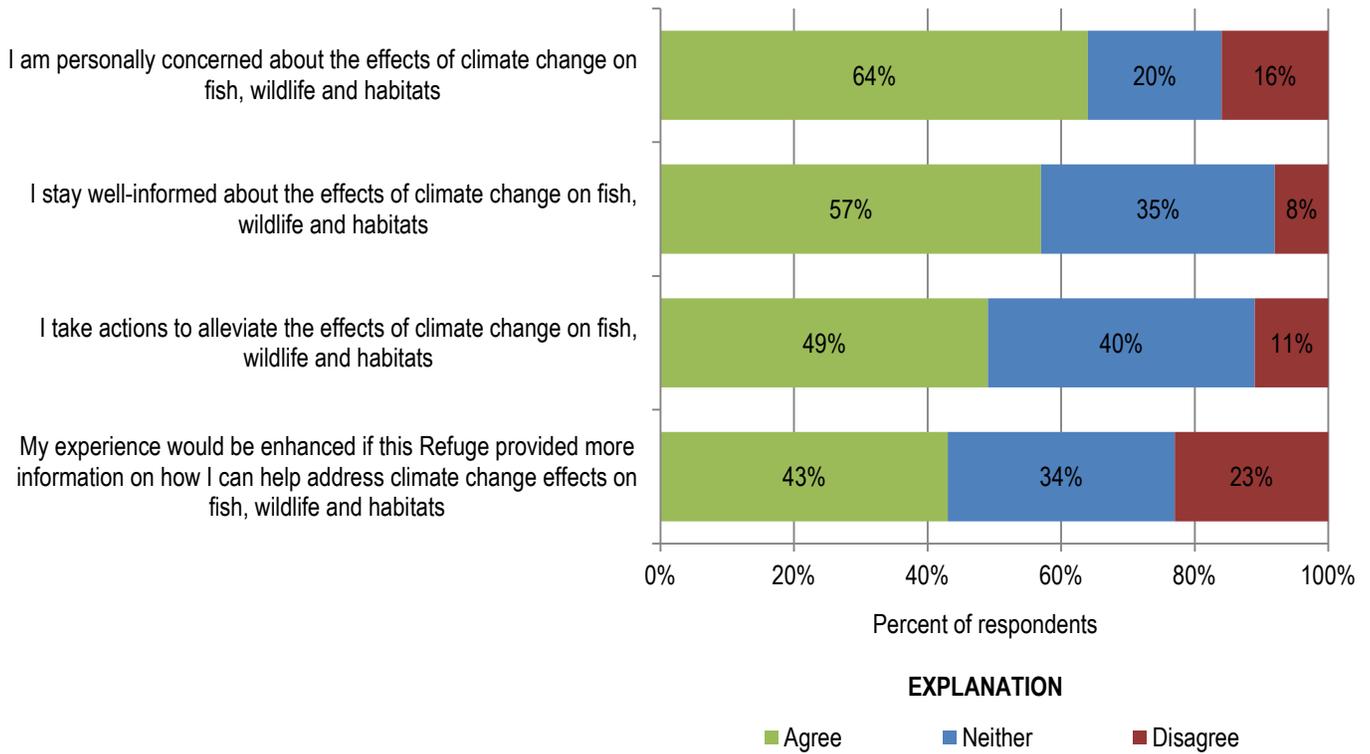
### Climate Change and the National Wildlife Refuge System

*Climate change represents a growing concern for the management of national wildlife refuges. The Service’s climate change strategy, titled “Rising to the Urgent Challenge,” establishes a basic framework for the agency to work within a larger conservation community to help ensure wildlife, plant, and habitat sustainability (U.S. Fish and Wildlife Service, 2010). To support the guiding principles of the strategy, refuges will be exploring options for more effective engagement with visitors on this topic. The national visitor survey collected information about visitors’ level of personal involvement in climate change related to fish, wildlife and their habitats and visitors’ beliefs regarding this topic. Items draw from the “Six Americas” framework for understanding public sentiment toward climate change (Leiserowitz, Maibach, and Roser-Renouf, 2008) and from literature on climate change message frames (for example, Nisbet, 2009). Such information provides a baseline for understanding visitor perceptions of climate change in the context of fish and wildlife conservation that can further inform related communication and outreach strategies.*

Factors that influence how individuals think about climate change include their basic beliefs, levels of involvement, policy preferences, and behaviors related to this topic. Results presented below provide baseline information on visitors’ levels of involvement with the topic of climate change related to fish,

wildlife and their habitats. The majority of surveyed visitors to Wheeler NWR agreed with the following statements (fig. 14):

- “I am personally concerned about the effects of climate change on fish, wildlife and habitats;” and
- “I stay well-informed about the effects of climate change.”



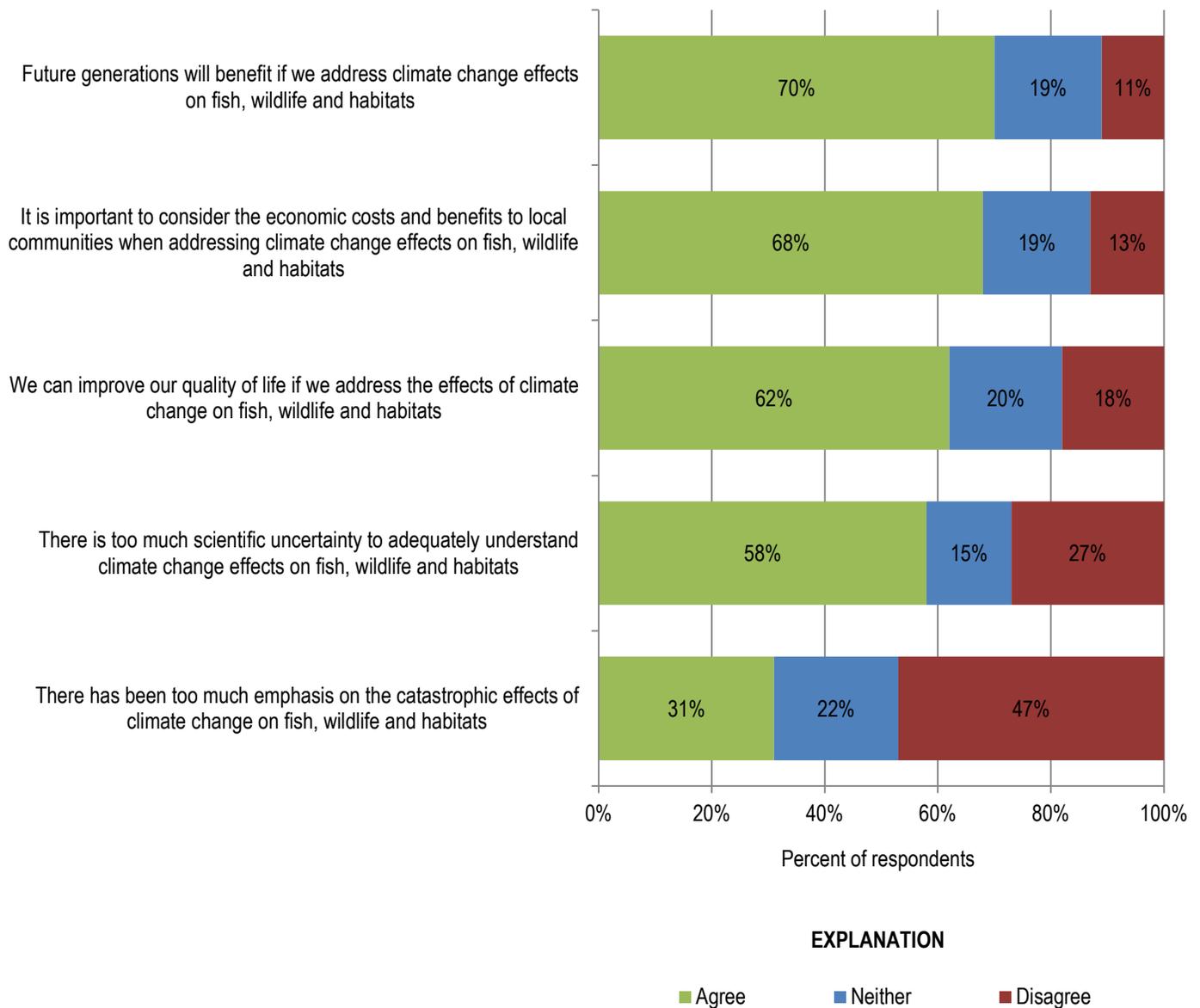
**Figure 14.** Visitors’ personal involvement with climate change related to fish, wildlife and their habitats (n ≥ 199).

These results are most useful when coupled with responses to belief statements about the effects of climate change on fish, wildlife and their habitats, because such beliefs may be used to develop message frames (or ways to communicate) about climate change with a broad coalition of visitors. Framing science-based findings will not alter the overall message, but rather place the issue in a context in which different audience groupings can relate. The need to mitigate impacts of climate change on Refuges could be framed as a quality-of-life issue (for example, preserving the ability to enjoy fish, wildlife, plants, and their habitat) or an economic issue (for example, maintaining tourist revenues, supporting economic growth through new jobs/technology).

For Wheeler NWR, the majority of visitors believed the following regarding climate change related to fish, wildlife and their habitats (fig. 15)

- “Future generations will benefit if we address climate change effects;”
- “It is important to consider the economic costs and benefits to local communities when addressing climate change effects;”
- “We can improve our quality of life if we address the effects of climate change;” and
- “There is too much scientific uncertainty to adequately understand climate change effects.”

Such information suggests that certain beliefs resonate with a greater number of visitors than other beliefs do. This information is important to note because some visitors (43%) indicated that their experience would be enhanced if Wheeler NWR provided information about how they could help address the effects of climate change on fish, wildlife, and their habitats (fig. 14), and framing the information in a way that resonates most with visitors may result in a more engaged public who support strategies aimed at alleviating climate change pressures. Data will be analyzed further at the aggregate, or national level, to inform the development of a comprehensive communication strategy about climate change.



**Figure 15.** Visitors' beliefs about the effects of climate change on fish, wildlife and their habitats (n ≥ 198).

## Conclusion

These individual refuge results provide a summary of trip characteristics and experiences of a sample of visitors to Wheeler NWR during 2010–2011. These data can be used to inform decision-making efforts related to the refuge, such as Comprehensive Conservation Plan implementation, visitor services management, and transportation planning and management. For example, when modifying (either minimizing or enhancing) visitor facilities, services, or recreational opportunities, a solid understanding of visitors' trip and activity characteristics, their satisfaction with existing offerings, and opinions regarding refuge fees is helpful. This information can help to gauge demand for refuge opportunities and inform both implementation and communication strategies. Similarly, an awareness of visitors' satisfaction ratings with refuge offerings can help determine if any potential areas of concern need to be investigated further. As another example of the utility of these results, community relations may be improved or bolstered through an understanding of the value of the refuge to visitors, whether that value is attributed to an appreciation of the refuge's uniqueness, enjoyment of its recreational opportunities, or spending contributions of nonlocal visitors to the local economy. Such data about visitors and their experiences, in conjunction with an understanding of biophysical data on the refuge, can ensure that management decisions are consistent with the Refuge System mission while fostering a continued public interest in these special places.

Individual refuge results are available for downloading at <http://pubs.usgs.gov/ds/643/> as part of USGS Data Series 643 (Sexton and others, 2011). For additional information about this project, contact the USGS researchers at [national\\_visitor\\_survey@usgs.gov](mailto:national_visitor_survey@usgs.gov) or 970.226.9205.

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# National Wildlife Refuge Visitor Survey



**PLEASE READ THIS FIRST:**

Thank you for visiting a National Wildlife Refuge and for agreeing to participate in this study! We hope that you had an enjoyable experience. The U.S. Fish and Wildlife Service and the U.S. Geological Survey would like to learn more about National Wildlife Refuge visitors in order to improve the management of the area and enhance visitor opportunities.

**If you have recently visited more than one National Wildlife Refuge or made more than one visit to the same Refuge, please respond regarding only the Refuge and the visit when you were asked to participate in this survey. Any question that uses the phrase “this Refuge” refers to the Refuge and visit when you were contacted.**

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

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1. Including your most recent visit, which activities have you participated in during the past 12 months at this Refuge?  
(Please mark **all that apply.**)

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> 6% Big game hunting                 | <input type="checkbox"/> 42% Hiking   | <input type="checkbox"/> 24% Environmental education (for example, classrooms or labs, tours) |
| <input type="checkbox"/> 3% Upland/Small-game hunting        | <input type="checkbox"/> 7% Bicycling   |   |
| <input type="checkbox"/> 0% Migratory bird/Waterfowl hunting | <input type="checkbox"/> 12% Auto tour route/Driving                                | <input type="checkbox"/> 17% Special event ( <i>please specify</i> )<br><u>See Appendix B</u> |
| <input type="checkbox"/> 72% Wildlife observation            | <input type="checkbox"/> 8% Motorized boating                                       |   |
| <input type="checkbox"/> 65% Bird watching                   | <input type="checkbox"/> 5% Nonmotorized boating (including canoes/kayaks)          | <input type="checkbox"/> 11% Other ( <i>please specify</i> )<br><u>See Appendix B</u>         |
| <input type="checkbox"/> 24% Freshwater fishing              |   |   |
| <input type="checkbox"/> 0% Saltwater fishing                | <input type="checkbox"/> 38% Interpretation (for example, exhibits, kiosks, videos) | <input type="checkbox"/> 2% Other ( <i>please specify</i> )<br><u>See Appendix B</u>          |
| <input type="checkbox"/> 30% Photography                     |   |   |

2. Which of the activities above was the ***primary*** purpose of your visit to this Refuge?  
(Please write **only one activity** on the line.) See report for categorized results; see Appendix B for miscellaneous responses

3. Did you go to a Visitor Center at this Refuge?

- 9% No
- 91% Yes → If yes, what did you do there? (Please mark **all that apply.**)
- |  |   |
|--|---|
| <input type="checkbox"/> 57% Visit the gift shop or bookstore    | <input type="checkbox"/> 43% Watch a nature talk/video/presentation                               |
| <input type="checkbox"/> 89% View the exhibits                   | <input type="checkbox"/> 66% Stopped to use the facilities (for example, get water, use restroom) |
| <input type="checkbox"/> 71% Ask information of staff/volunteers | <input type="checkbox"/> 15% Other ( <i>please specify</i> ) <u>See Appendix B</u>                |

4. Which of the following best describes your visit to this Refuge? (*Please mark **only one.***)

Nonlocal	Local	Total	
56%	84%	76%	It was the primary purpose or sole destination of my trip.
30%	10%	16%	It was one of many equally important reasons or destinations for my trip.
15%	6%	8%	It was just an incidental or spur-of-the-moment stop on a trip taken for other purposes or to other destinations.

5. Approximately how many **miles** did you travel to get to this Refuge?

**Nonlocal** 238 number of miles

**Local** 21 number of miles

6. How much time did you spend at this Refuge on your visit?

See Report for Results

7. Were you part of a group on your visit to this Refuge?

35% No (*skip to question #9*)

65% Yes → What **type of group** were you with on your visit? (*Please mark **only one.***)

50% Family and/or friends

30% Organized club or school group

1% Commercial tour group

19% Other (*please specify*) See Appendix B

8. How many people were in your group, including yourself? (*Please answer each category.*)

8 number 18 years and over

5 number 17 years and under

9. How did you **first learn or hear about** this Refuge? (*Please mark **all that apply.***)

37% Friends or relatives

11% Refuge website

44% Signs on highway

0% Other website (*please specify*) See Appendix B

9% Recreation club or organization

3% Television or radio

22% People in the local community

11% Newspaper or magazine

16% Refuge printed information (brochure, map)

20% Other (*please specify*) See Appendix B

10. During which seasons have you visited this Refuge in the last 12 months? (*Please mark **all that apply.***)

48% Spring  
(March-May)

46% Summer  
(June-August)

61% Fall  
(September-November)

72% Winter  
(December-February)

11. How many times have you visited...

...this Refuge (including this visit) in the last 12 months? 10 number of visits

...other National Wildlife Refuges in the last 12 months? 3 number of visits

**SECTION 2. Transportation and access at this Refuge**

1. What **forms of transportation** did you use on your visit to this Refuge? (*Please mark **all that apply.***)

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> 81% Private vehicle without a trailer                            | <input type="checkbox"/> 0% Refuge shuttle bus or tram       | <input type="checkbox"/> 6% Bicycle                               |
| <input type="checkbox"/> 3% Private vehicle with a trailer<br>(for boat, camper or other) | <input type="checkbox"/> 2% Motorcycle                       | <input type="checkbox"/> 29% Walk/Hike                            |
| <input type="checkbox"/> 13% Commercial tour bus  | <input type="checkbox"/> 0% ATV or off-road vehicle          | <input type="checkbox"/> 5% Other ( <i>please specify below</i> ) |
| <input type="checkbox"/> 0% Recreational vehicle (RV)                                     | <input type="checkbox"/> 6% Boat                             | <u>See Appendix B</u>   |
|   | <input type="checkbox"/> 0% Wheelchair or other mobility aid |   |

2. Which of the following did you use to find your way to this Refuge? (*Please mark **all that apply.***)

- |  |   |
|--|---|
| <input type="checkbox"/> 49% Signs on highways   | <input type="checkbox"/> 5% Directions from Refuge website                        |
| <input type="checkbox"/> 9% A GPS navigation system  | <input type="checkbox"/> 5% Directions from people in community near this Refuge  |
| <input type="checkbox"/> 9% A road atlas or highway map                                      | <input type="checkbox"/> 12% Directions from friends or family                    |
| <input type="checkbox"/> 9% Maps from the Internet (for example,<br>MapQuest or Google Maps) | <input type="checkbox"/> 55% Previous knowledge/I have been to this Refuge before |
|  | <input type="checkbox"/> 7% Other ( <i>please specify</i> ) <u>See Appendix B</u> |

3. Below are different alternative transportation options that could be offered at some National Wildlife Refuges in the future. Considering the different Refuges you may have visited, please tell us **how likely you would be to use each transportation option.** (*Please circle one number for each statement.*)

How likely would you be to use...	Very Unlikely	Somewhat Unlikely	Neither	Somewhat Likely	Very Likely
...a bus or tram that takes passengers to different points on the Refuge (such as the Visitor Center)?	<input type="checkbox"/> 24%	<input type="checkbox"/> 14%	<input type="checkbox"/> 10%	<input type="checkbox"/> 35%	<input type="checkbox"/> 18%
...a bike that was offered through a Bike Share Program for use while on the Refuge?	<input type="checkbox"/> 21%	<input type="checkbox"/> 12%	<input type="checkbox"/> 12%	<input type="checkbox"/> 35%	<input type="checkbox"/> 20%
...a bus or tram that provides a guided tour of the Refuge with information about the Refuge and its resources?	<input type="checkbox"/> 16%	<input type="checkbox"/> 12%	<input type="checkbox"/> 7%	<input type="checkbox"/> 37%	<input type="checkbox"/> 27%
...a boat that goes to different points on Refuge waterways?	<input type="checkbox"/> 7%	<input type="checkbox"/> 6%	<input type="checkbox"/> 10%	<input type="checkbox"/> 37%	<input type="checkbox"/> 39%
...a bus or tram that runs during a special event (such as an evening tour of wildlife or weekend festival)?	<input type="checkbox"/> 14%	<input type="checkbox"/> 8%	<input type="checkbox"/> 13%	<input type="checkbox"/> 37%	<input type="checkbox"/> 29%
...an offsite parking lot that provides trail access for walking/hiking onto the Refuge?	<input type="checkbox"/> 8%	<input type="checkbox"/> 6%	<input type="checkbox"/> 6%	<input type="checkbox"/> 37%	<input type="checkbox"/> 42%
...some other alternative transportation option? ( <i>please specify</i> ) <u>See Appendix B</u>	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 12%	<input type="checkbox"/> 88%

4. If alternative transportation were offered at *this* Refuge, would it enhance your experience?

- 39% Yes       23% No       39% Not Sure

5. For each of the following transportation-related features, first, **rate how important** each feature 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 offer a specific transportation-related feature, please rate how important it is to you and then circle NA "Not Applicable" under the Satisfaction column.*

Importance						Satisfaction					
Circle one for each item.						Circle one for each item.					
Very Unimportant	Somewhat Unimportant	Neither	Somewhat Important	Very Important		Very Unsatisfied	Somewhat Unsatisfied	Neither	Somewhat Satisfied	Very Satisfied	Not Applicable
6%	12%	11%	43%	28%	Surface conditions of roads	5%	3%	3%	22%	67%	NA
4%	12%	12%	46%	27%	Surface conditions of parking areas	6%	1%	2%	17%	74%	NA
6%	6%	11%	27%	51%	Condition of bridges	4%	4%	7%	24%	60%	NA
6%	5%	6%	37%	47%	Condition of trails and boardwalks	2%	3%	3%	20%	72%	NA
6%	6%	8%	45%	36%	Number of places for parking	3%	4%	2%	27%	64%	NA
5%	8%	13%	45%	29%	Number of places to pull over along Refuge roads	5%	12%	16%	33%	35%	NA
6%	3%	7%	27%	57%	Safety of driving conditions on Refuge roads	3%	2%	4%	30%	61%	NA
5%	3%	6%	30%	57%	Safety of Refuge road entrances/exits	3%	6%	7%	28%	56%	NA
4%	7%	7%	33%	49%	Signs on highways directing you to the Refuge	2%	2%	6%	27%	64%	NA
4%	6%	11%	35%	45%	Signs directing you around the Refuge roads	2%	9%	14%	33%	41%	NA
5%	6%	7%	29%	54%	Signs directing you on trails	3%	9%	10%	33%	45%	NA
3%	7%	18%	35%	38%	Access for people with physical disabilities or who have difficulty walking	2%	7%	17%	35%	40%	NA

6. If you have any comments about transportation-related items at this Refuge, please write them on the lines below.

See Appendix B

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**SECTION 3. Your expenses related to your Refuge visit**

1. Do you live in the local area (within approximately 50 miles of this Refuge)?

71% Yes

29% No → How much time did you spend **in local communities** on this trip?  
                     3   number of hours      OR        4   number of days

2. Please record the amount that **you and other members of your group** with whom you shared expenses (for example, other family members, traveling companions) spent in the local 50-mile area during **your most recent visit** to this Refuge. *(Please enter the amount spent to the nearest dollar in each category below. Enter 0 (zero) if you did not spend any money in a particular category.)*

Categories	<u>Amount Spent in Local Communities &amp; at this Refuge</u> <i>(within 50 miles of this Refuge)</i>
Motel, bed & breakfast, cabin, etc.	
Camping	
Restaurants & bars	
Groceries	
Gasoline and oil	
Local transportation (bus, shuttle, rental car, etc.)	
Refuge entrance fee	
Recreation guide fees (hunting, fishing, wildlife viewing, etc.)	
Equipment rental (canoe, bicycle, kayak, etc.)	
Sporting good purchases	
Souvenirs/clothing and other retail	
Other <i>(please specify)</i> _____	

See Report for Results

3. Including yourself, how many people in your group shared these trip expenses?

  3   number of people sharing expenses

4. As you know, some of the costs of travel such as gasoline, hotels, and airline tickets often increase. If your total trip costs were to increase, what is the maximum extra amount you would pay and still visit this Refuge? *(Please circle the highest dollar amount.)*

\$0	\$10	\$20	\$35	\$50	\$75	\$100	\$125	\$150	\$200	\$250
10%	20%	24%	10%	16%	1%	9%	1%	1%	3%	6%

5. If you or a member of your group paid a fee or used a pass to enter this Refuge, how appropriate was the fee? *(Please mark **only one**.)*

7%	Far too low	7%	Too low	87%	About right	0%	Too high	0%	Far too high	93%	Did not pay a fee <i>(skip to Section 4)</i>
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6. Please indicate whether you disagree or agree with the following statement. *(Please mark **only one**.)*

**The value of the recreation opportunities and services I experienced at this Refuge was at least equal to the fee I paid.**

0%	Strongly disagree	0%	Disagree	7%	Neither agree or disagree	40%	Agree	53%	Strongly agree
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#### SECTION 4. Your experience at this Refuge

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1. Considering your visit to this Refuge, please indicate the extent to which you disagree or agree with each statement. *(Please circle one number for each statement.)*

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Not Applicable
Overall, I am satisfied with the recreational activities and opportunities provided by this Refuge.	0%	5%	2%	37%	56%	NA
Overall, I am satisfied with the information and education provided by this Refuge about its resources.	1%	1%	4%	35%	58%	NA
Overall, I am satisfied with the services provided by employees or volunteers at this Refuge.	1%	1%	3%	23%	71%	NA
This Refuge does a good job of conserving fish, wildlife and their habitats.	1%	1%	1%	19%	78%	NA

2. For each of the following services, facilities, and activities, first, **rate how important** each item 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 service, facility, or activity, please rate how important it is to you and then circle NA “Not Applicable” under the Satisfaction column.*

Importance					Refuge Services, Facilities, and Activities	Satisfaction					
Circle one for each item.						Circle one for each item.					
Very Unimportant	Somewhat Unimportant	Neither	Somewhat Important	Very Important		Very Unsatisfied	Somewhat Unsatisfied	Neither	Somewhat Satisfied	Very Satisfied	Not Applicable
4%	3%	7%	39%	48%	Availability of employees or volunteers	1%	2%	3%	18%	76%	NA
3%	2%	5%	30%	60%	Courteous and welcoming employees or volunteers	1%	1%	2%	10%	86%	NA
2%	3%	2%	28%	65%	Knowledgeable employees or volunteers	2%	2%	2%	15%	79%	NA
2%	3%	4%	31%	61%	Printed information about this Refuge and its resources (for example, maps and brochures)	2%	4%	5%	23%	66%	NA
1%	5%	10%	42%	42%	Informational kiosks/displays about this Refuge and its resources	1%	4%	11%	30%	55%	NA
2%	5%	9%	38%	47%	Signs with rules/regulations for this Refuge	2%	4%	13%	34%	46%	NA
3%	2%	6%	39%	50%	Exhibits about this Refuge and its resources	1%	3%	9%	24%	64%	NA
1%	5%	9%	35%	50%	Environmental education programs or activities	1%	1%	16%	28%	54%	NA
3%	3%	4%	28%	63%	Visitor Center	1%	0%	4%	14%	81%	NA
3%	1%	4%	25%	68%	Convenient hours and days of operation	0%	3%	6%	25%	66%	NA
2%	2%	5%	20%	72%	Well-maintained restrooms	2%	0%	3%	9%	86%	NA
2%	2%	5%	22%	70%	Wildlife observation structures (decks, blinds)	1%	2%	3%	19%	75%	NA
2%	2%	6%	26%	65%	Bird-watching opportunities	1%	1%	3%	19%	76%	NA
2%	3%	5%	34%	57%	Opportunities to observe wildlife other than birds	2%	4%	11%	37%	46%	NA
2%	4%	9%	32%	53%	Opportunities to photograph wildlife and scenery	1%	1%	12%	25%	61%	NA
30%	8%	24%	12%	26%	Hunting opportunities	3%	4%	43%	15%	35%	NA
13%	8%	19%	25%	34%	Fishing opportunities	1%	3%	29%	20%	46%	NA
3%	3%	7%	24%	63%	Trail hiking opportunities	0%	5%	12%	32%	51%	NA
9%	7%	26%	34%	24%	Water trail opportunities for canoeing or kayaking	2%	9%	38%	21%	30%	NA
10%	8%	22%	32%	28%	Bicycling opportunities	0%	9%	39%	19%	34%	NA
7%	4%	30%	27%	32%	Volunteer opportunities	1%	3%	33%	20%	43%	NA

3. If you have any comments about the services, facilities, and activities at this Refuge, please write them on the lines below.

See Appendix B

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**SECTION 5. Your opinions regarding National Wildlife Refuges and the resources they conserve**

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1. Before you were contacted to participate in this survey, were you aware that National Wildlife Refuges...

...are managed by the U. S. Fish and Wildlife Service?

91%

Yes

9%

No

...have the primary mission of conserving, managing, and restoring fish, wildlife, plants and their habitat?

96%

Yes

4%

No

2. Compared to other public lands you have visited, do you think Refuges provide a unique recreation experience?

93%

Yes

7%

No

3. If you answered "Yes" to Question 2, please briefly describe what makes Refuges unique. \_\_\_\_\_

See Appendix B

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4. There has been a lot of talk about climate change recently. We would like to know what you think about climate change as it relates to fish, wildlife and their habitats. To what extent do you disagree or agree with each statement below? (Please circle one number for each statement.)

Statements about climate change	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I am personally concerned about the effects of climate change on fish, wildlife and their habitats.	8%	8%	19%	34%	30%
We can improve our quality of life if we address the effects of climate change on fish, wildlife and their habitats.	9%	9%	20%	33%	30%
There is too much scientific uncertainty to adequately understand how climate change will impact fish, wildlife and their habitats.	11%	16%	15%	38%	21%
I stay well-informed about the effects of climate change on fish, wildlife and their habitats.	2%	7%	36%	44%	13%
It is important to consider the economic costs and benefits to local communities when addressing the effects of climate change on fish, wildlife and their habitats.	5%	8%	20%	53%	15%
I take actions to alleviate the effects of climate change on fish, wildlife and their habitats.	5%	6%	40%	37%	12%
There has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and their habitats.	20%	27%	22%	17%	14%
Future generations will benefit if we address the effects of climate change on fish, wildlife and their habitats.	5%	6%	19%	34%	35%
My experience at this Refuge would be enhanced if this Refuge provided more information about how I can help address the effects of climate change on fish, wildlife and their habitats.	11%	12%	34%	33%	11%

## SECTION 6. A Little about You

**\*\* Please tell us a little bit about yourself. Your answers to these questions will help further characterize visitors to National Wildlife Refuges. Answers are not linked to any individual taking this survey. \*\***

1. Are you a citizen or permanent resident of the United States?

100% Yes  0% No → If not, what is your home country? See Figure 4 in Report

2. Are you?  63% Male  37% Female

3. In what year were you born? 1960 (YYYY)

4. What is your highest year of formal schooling? *(Please 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)			
					0%			15%				52%				32%			

5. What ethnicity do you consider yourself?  2% Hispanic or Latino  98% Not Hispanic or Latino

6. From what racial origin(s) do you consider yourself? *(Please mark **all that apply.**)*

- 6% American Indian or Alaska Native  2% Black or African American  95% White  
 1% Asian  0% Native Hawaiian or Pacific Islander

7. How many members of your household contribute to paying the household expenses? 2 persons

8. Including these members, what was your approximate household income from all sources (before taxes) last year?

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> 1% Less than \$10,000   | <input type="checkbox"/> 14% \$35,000 - \$49,999 | <input type="checkbox"/> 20% \$100,000 - \$149,999 |
| <input type="checkbox"/> 6% \$10,000 - \$24,999  | <input type="checkbox"/> 22% \$50,000 - \$74,999 | <input type="checkbox"/> 9% \$150,000 - \$199,999  |
| <input type="checkbox"/> 10% \$25,000 - \$34,999 | <input type="checkbox"/> 13% \$75,000 - \$99,999 | <input type="checkbox"/> 5% \$200,000 or more      |

9. How many outdoor recreation trips did you take in the last 12 months (for activities such as hunting, fishing, wildlife viewing, etc.)?

23 number of trips

**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.**

See Appendix B for Comments

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## Appendix B: Visitor Comments to Open-Ended Survey Questions for Wheeler National Wildlife Refuge

### Survey Section 1

Question 1: "Including your most recent visit, which activities have you participated in during the past 12 months at this Refuge?"

Special Event	Frequency
"Dawn at the Refuge" event	1
Boy scout - wolf	1
Children's fishing contest	1
Clean up day	1
Early morning opening	1
Field trip	2
Friend's group	1
Interpretation Training at the Tom Bevill Center	1
Interpretive class	1
Interpretive info training	1
Nat'l Public Lands Open House	1
National clean up day	1
National Park Day	1
National Parks Day clean up	1
Open house	6
Open house and kids day	1
Open house during national wildlife refuge month	1
Open House, trash pickup	1
Raptor exhibit	1

Raptor show	1
Refuge birthday	1
Refuge Monthly Programs	1
Sand hill crane tour	1
Taught an environmental education program	1
Wet and wild	2
Wet-n-Wild	1
White tail hawk exhibit	1
Total	34

Other Activity	Frequency
Buying a camping pass	1
Community service project	1
Ducks Unlimited party	1
Family bonding	1
Fawn	1
Friends of Wheeler Board Meetings	1
Horseback riding	1
I have presented material for 5th and 6th grade school groups.	1
Invasive Species Removal (plants)	1
Observed wonderful movies	1
Picnic	2
Picnics	1
Pleasure	1

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Purchase Golden Passport	1
Raptor show	2
Target shooting	1
Tour of museum	1
Visiting refuge center	1
Volunteer	1
Volunteer work	1
Wildlife Research for Artistic purposes	1
Total	23

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2 <sup>nd</sup> Other Activity	Frequency
70th Anniversary Celebration	1
Being with God	1
Friends of the Refuge meetings	1
Friends of Wheeler Info Booth	1
Kids fishing pond	1
Total	5

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Question 2: "Which of the activities above was the primary purpose of your visit to this Refuge?"

*Primary activities are categorized in the main report; the table below lists the "other" miscellaneous primary activities listed by survey respondents.*

Other Miscellaneous Primary Activities	Frequency
All the above	1
Community service project	1
Field trip	1
Field trip - 3rd grade	1
Field trip with US Army Corps of Engineers	1
Friends of the Refuge Meetings	1
Friends of Wheeler meetings	1
Observing nature	1
Purchase Golden Passport	1
Stop for lunch	1
Volunteer work	1
Volunteering	1
Total	12

Question 3: "Did you go to a Visitor Center at this Refuge?"; If Yes, "What did you do there?"

Other Visitor Center Activity	Frequency
Ate lunch	1
Attend board meeting for friend's group	1
Attend interpretive class	1
Bird watching	1
Check bird observation log	1

Compilation fall migratory bird count	1
Conducted an environmental program	1
Discuss bicycling conditions	1
Eat lunch	1
Help with open house program	1
Interpretive info	1
Observe waterfowl	1
Participated in the open house activities	1
Presented to groups	1
Purchase America the Beautiful Pass	1
Sat and watched the bird feeders	1
Talk with other visitors.	1
Talked to ranger	1
Talked to staff volunteer	1
teach	1
Teach a wetland ecology class	1
To get permits	1
Used community room to eat lunch with volunteers	1
Used the scope in the visitors center to look at the birds	1
Used the wildlife viewing facility	1
Visit observation building	1
Visit volunteers and staff	1
Visited the Observation House	1
Total	28

Question 7: "Were you part of a group on your visit to this Refuge?; If Yes, "What type of group were you with on your visit?"

Other Group Type	Frequency
Alabama Cooperative Extension System	1
Army Corps of Engineers	1
Bird count group	1
COE Interpretation Course	1
Corps of Engineers	1
Federal agency group	1
Government Agency Tour	1
Government organization training group	1
I come as board member/by myself/with family.	1
Interpretation class	1
Interpretive class	1
Interpretive services class from Huntsville, AL	1
Interpretive training class	1
Presenter for school groups	1
Training class	1
Training Class USACE	1
Training Course for Interpretation	1
US Army Corps of Engineers	1
US Army Corps of Engineers - Interpretive class	1
US Army Corps of Engineers Interpretive training group	1
USACE Field Trip	1
USACE interpretive services class	1

Wet and wild	1
Work	1
Total	24

Question 9: "How did you first learn or hear about this Refuge?"

Other Ways Heard about This Refuge	Frequency
Army Corps of Engineers Interp. Training	1
Bevill Center staff	1
Books on NWR touring	1
Class teacher	1
Classroom event	1
Colleague-fellow teacher	1
College	1
Course Instructor	1
Decatur Daily Newspaper	1
Event announced at local school.	1
Federal agency group leader who was with us.	1
FM Government Broadcast at entrance to Refuge Property on the Interstate	1
From Course Instructors	1
From the training class	1
Golden Passport	1
Home grown	1
I teach a program.	1
Information from other National Wildlife Refuges	1

Instructors	1
Instructors for my training class	1
Interpretation class	1
Interpretive class	2
Interpretive Training instructor	1
North Alabama Birding Trail	1
North Alabama Birding Trail brochure	1
NRCS	1
On our GPS	1
Part of our city since 1940	1
Part of training	1
Previous visit during a college field trip.	1
Road atlas	1
School	2
School field trip	1
State highway map, guide to NWRs	1
Teacher	1
Through the school (Mountain Gap Elementary)	1
Training class	1
We have a book that describes all the NWRs.	1
Went on a field trip as a child	1
Total	41

## Survey Section 2

Question 1: "What forms of transportation did you use on your visit to this Refuge?"

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Other Forms of Transportation	Frequency
Baby stroller	1
Golf car	1
Horse	1
HSV City school bus	1
School bus	5
Truck	1
University van	1
Total	11

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Question 2: "Which of the following did you use to find your way to this Refuge?"

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Other Ways Found This Refuge	Frequency
Bus driver	4
Bus driver/course instructors	1
Charter bus	1
Commercial bus driver took us there.	1
Directors in birding trail guide	1
Driver dropped us off there.	1
Map from visitor center	1
Member of interpretive class	1
Newspaper article	1
Refuge brochure, guide	1

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Rode on tour bus with training class	1
Total	14

Question 5: "Below are different alternative transportation options that could be offered at some National Wildlife Refuges in the future...please tell us how likely you would be to use each transportation option."

Other Transportation Option Likely to Use	Frequency
6-wheel amphibious (would be able to see all wildlife)	1
AT	1
ATV trail or access	1
Canoe, Small Watercraft	1
Car	2
Easier trails for handicapped and benches	1
Four-wheelers	1
Golf cart	1
Golf Cart	1
Helicopter where provided/needed.	1
Hiking	1
Horseback riding	1
Hovercraft	1
My own bike if there were bike paths.	1
Open to any type of transportation	1
Our own bicycles / canoe and snow shoes	1
Segway	1
Solar or hydrogen powered options	1
Total	19

Question 6: "If you have any comments about transportation-related items at this Refuge, please write them on the lines below."

---

Comments on Transportation-related Items at This Refuge (n = 28)

Actually, the real issue is security within the Refuge area. As I understand the situation at Wheeler, there are only two Law Enforcement Officers for the 24-7-365 time periods. This extremely low number does not help control the illegal drug operations, vandals, illegal aliens, poaches, or the solicitation by homosexuals at the parking areas, trails, and service roads. There needs to be more full time enforcement officers or a supplanted force of trained volunteer Reserve Rangers for daytime and night time periods.

Better water access points at bridges for non-motorized boating would be preferred.

Boardwalks were slick when I was there. These are used a great deal. You may consider some non-slip material on wooden surfaces.

Gates on Wheeler Wildlife Refuge should be where anyone handicapped with bad feet should be able to ride on 4 wheelers. I can barely walk to hunt much less drag a deer.

Highway entrance to Crabtree boat launch needs improvement for safety reasons to enter and leave launch area from Priceville. Beaver Dam Boardwalk is a National Monument and in dire need of total replacement and restoration to the original design of it across the wetlands. A true shame to be neglected and the entrance placed in a hidden spot for the gathering of gays to find other gays. Restore and move the entrance to the other end of the walk with controlled exit (if desired) so it will be harder for these criminals to operate.

I believe this refuge has a great transportation system going. I don't see the need to expand any road system and doing so would only take away from the serene environment. I would have found it useful for more signs (I traveled down County Road 40 and did not see any signs, in fact I never saw signs that it was actually CO RD. 40 and that is what MapQuest says to take).

I did not see any signs for other areas of the refuge except the visitors' center.

I did not see any trails for people with disabilities to walk or get about in their wheelchairs, and those people enjoy the outside air and nature as much as we do. But these trails aren't suitable for them.

I have been visiting the refuge several times a year since 1988. The staff and volunteers are very knowledgeable and affable. They make your visit enjoyable.

I would suggest a free use of a wheelchair, as I feel it would provide a further service, kind of like Wally World.

It is dangerous to leave the refuge to cross a busy highway; there is no stop light.

It is difficult to turn left when leaving the visitor center to return to Hwy 67. I would very much enjoy boat and bus/train tours of refuge areas.

My only concern is turning left out of the refuge on a very busy road with fast moving traffic, but there is a center turn lane.

Not enough trails.

On a previous visit we drove to some remote parts of the refuge. This visit we were warned that some of those roads were impassible.

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On our last trip it was raining so badly that we were unable to go onto the trails. This is the reason for so many of my "3" responses. We did not have the opportunity to explore very much of the refuge.

Several of the roads to other areas were impassable due to rain and mud, and gates were closed to prevent travel - this was very disappointing.

Signs need to be re-painted or painted. Just a re-freshener.

Some gravel/stone/crushed stone is impossible to ride bicycles on. Several bike trips on Wheeler have been cancelled or moved elsewhere after resurfacing the refuge. Consider what you use and how much, in relationship to bikes, when resurfacing. There may be no win-win but it does at least effect how long before it can again be ridden on.

Some of the refuge is within a city, which makes pull-off access along roads difficult.

Some of the trails and boardwalks are poorly maintained.

The parking lot at the visitor center at Wheeler Refuge was too small for tour buses to drive in and out of -- it had to back up a couple times to get out.

The road is in good condition, trails had adequate signs.

There seem to be many access points to parts of the refuge that are not labeled. I'm not sure what parts I can visit or not visit.

They could use a few wheelchairs and the road out to the bird watching house could be paved for the handicapped and elderly. Besides that, it's a beautiful park. Maybe a longer walking trail and picnic tables.

Trains and boats should be quiet and not frighten the wildlife from view.

Wheeler NWR is very universally accessible for 50% of its trails and all of the buildings and exhibits. If I was in a wheelchair I would be able to get the same enjoyment from my visit.

Wheeler Wildlife Refuge could use a "driving road" for people with physical handicaps that would feature pull off spaces and overlooks.

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## Survey Section 4

Question 6: "If you have any comments about services, facilities, and activities at this Refuge, please write them on the lines below."

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Comments on Services, Facilities, and Activities at This Refuge (n = 63)

A very good experience. Very helpful and friendly staff.

A+ -- Very nice, enjoyed every visit.

Add camping opportunities.

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Bird observation building is excellent. Our time was limited (as on 2 previous visits). There is much more we'd love to do there. Different times of year (we have visited only in winter) have different opportunities.

Displays need cleaning and updating.

Do not charge fees. Resist the Republican fee agenda!

Excellent.

Facilities and staff at Wheeler are second to none.

I always enjoy visiting the refuge. My husband enjoys the live sounds on the bird books. I enjoy photographing wildlife.

I am at the observation building every afternoon so I think that this is probably the best place that you can visit there. I have met people from all over the US and the world and they agree that this really is special.

I am proud and pleased to have a place as nice as this one to come to and enjoy nature.

I do not understand the rules and regulations for hunting. I want my 11 year old son to be able to squirrel hunt for example. Where can we? What are the rules? Where are the maps?

I love the outside and you help me enjoy it.

I love the place. Employees were friendly. I will be coming back soon.

I thought the people (volunteers and professional staff) were very nice and very informative.

I visit this refuge often. The facilities and the people there are "top notch."

I was there for open house/Kids' day with my two grandchildren and drinks and food were "supposed" to be available for lunch and they ran out before 11AM. Better planning should have been made for the kids. Food and drink was needed and expected for this event. The kids were disappointed.

I was very pleased with the staff and the great information that was received. They informed us of things I never knew. I would highly recommend!

I will start volunteering as I get older; I am raising a family right now. Thanks!!

I wish there were more trails of all kinds.

I would like to see more hiking trails especially along the river.

I would like to see some green fields at hunting areas.

I would like to see the mounts of waterfowl taken better care of. They need some dusting and repainting on the ducks and water birds.

I would love to see more hiking opportunities at this refuge. It is huge and could support it.

If I lived in the area, I would count it a privilege to be a volunteer at this Refuge.

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Like many refuges across this country, Wheeler could use additional monies for infrastructure, observation areas, and environments for the wildlife. Sandhill cranes have almost replaced the Canadian goose as the bird to come see at Wheeler.

My visit was very enjoyable.

Need size limits on deer and harvest limits. This would increase quality of game.

Need to fix the lights at the handicap dock. Restrooms?

Need to put porta-potties at handicap pier.

Needs more lighting inside. Needs more picnic benches, better equipment to clean off trails, more parking, painted lines in the entrance roads, and new uniforms for employees.

New binoculars that adjust would be beneficial. Need bathrooms in the observation building.

Nice facility. Thank you.

Nicest refuge I have ever visited.

Perhaps being able to get out on the water would be nice: maybe a dock, canoes, pontoon boat with a guide.

Refuge had great facilities including visitors' center and wildlife viewing areas.

Road access to the visitor center and observation building is blocked until 9:00 a.m. This is far too late for the best early morning bird photography, and bird watching is the primary activity at this facility. I don't think the visitor center necessarily should open any earlier, but access to the grounds and bird observation area should be allowed earlier in the morning.

Secluding off road openings and closings.

See previous notes: 1) road resurfacing, 2) winter access on south side of TN river.

Services and facilities are excellent.

Several years ago I volunteered at the visitor center at this refuge. Although many of the things offered are not for me, they have a wide variety of programs and activities that the community can participate in.

The auditorium and national refuge movie, displays, observation building, trails, classroom, and total facilities are perfect. Ranger Daphne Moland presents a fabulous program on red tail hawks to our Huntsville City School's Environmental Education program that uses Wheeler Wildlife Refuge. At least 2000 people (children, teachers, chaperones) come with us each school year for our presentation, hike, duck etc observations and Ranger Moland's presentation.

The dark smoke colored glass changes photo colors. This is okay in the viewing center, but a second blind without glass would be a better place to photograph birds.

The people at Wheeler are amazing!

The staff and volunteers are very energetic, helpful, and friendly.

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The staff is always very friendly and knowledgeable. We travel a lot and have visited many NWR sites. This is by far our favorite and the volunteers and staff make the difference.

The theater and associated programs in it were GREAT!

The volunteers are great.

There was a very strong odor of cleaning supplies, perhaps Simple Green that was coming from the bathrooms/hallway and it was so overpowering I felt it was making me a little sick. The bathrooms were well maintained, but the smell of the cleaning products was much too strong.

There were not enough picnic tables; we just stopped to have a picnic lunch.

This refuge lacks informative brochures and information about the programs and activities they offer. They have some wonderful opportunities, but no one knows about them!

Visitor center needs some work. Some exhibits look worn out. I didn't think there was a good flow to the exhibits.

Volunteers and staff here are always very knowledgeable, friendly, and helpful.

We always enjoyed ourselves. We have stopped several times over the past several years.

We came in for a camping pass. The employees we talked with were very helpful and friendly. We didn't have time to really visit the refuge. We hope to come back soon.

We were very disappointed in the fact we did not get to see any waterfowl, wildlife, or birds of any kind during our visit.

Well designed. The opportunity to view wildlife is excellent.

Wheeler does an excellent job with the limited staff.

Wheeler is a great place and is well maintained.

Wheeler National Wildlife Refuge has a very nice observation building but you have to stay inside and look through glass. It would be nice if they had an outdoor observation area outside of the building. That would remove the glare of the glass and also let you get fresh air while viewing the birds.

Wheeler Refuge is a wonderful place for families. It is the winter home for so many species of waterfowl, eagles, and sandhill cranes. Several whooping cranes are here, too!

Wheeler Wildlife Refuge's staff and volunteers do an excellent job managing the resources and informing visitors. Opportunities they provide enhance the natural environment on the refuge.

Would like to see more wildlife: deer, turkey.

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## Survey Section 5

Question 3: "If you answered "Yes" to Question 2, please briefly describe what makes Refuges unique."

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### Comments on What Makes Refuges Unique? (n = 156)

(Most of the time) endless access to bicycling and kayaking.

A great learning opportunity for children. It is one thing to read about nature, but it is a great advantage to see it.

A Refuge, unlike other public lands (like parks) has the task of controlling peoples' access for the protection of the wildlife and plants within the refuge land mass, whereas public lands do not really restrict people, but rather control the wildlife to accommodate the people. In a refuge the wildlife are allowed privacy and sanctuary from general harassment by people who have no knowledge of the habits, life styles, and the need for wildlife to reproduce. In short, City Folks need to stay on public lands and wildlife needs to be kept in refuges.

All the large birds.

All volunteers are good!

At this refuge there is a catfish pond accessible to the handicap children.

Beautiful grounds and unique info about birds in the area.

Being able to view bird species not found in our back yard, migration patterns, and general bird observing.

Being close to a populated area, no charge, and easy access to nearby population. Great for local population and visitors.

Better maintained.

Bird watching opportunities are wonderful.

Clean.

Conservation of our wildlife resources, and the education of the public in conservation measures and techniques.

Conserves habitat for wildlife and birds in a very special way; it puts wildlife first.

Conserving and caring for the plant and animal welfares are very important to me. These lands are important. No hunting would be better for me

Controlled environment.

Educational opportunities for children.

Educational presentations, supportive of bird watching, display of appropriate habitat for different species, informative refuge employees.

Except during hunting season, the birds and animals have a quiet, safe place to rest and find food, and for some, to raise their young. Wildlife preservation is the main mission of NWRs. Beautiful scenery is the purpose of the National

Parks.

Fishing opportunities.

Focus is on conservation of wildlife, natural habitats and not commercial in any way.

Focuses on bird/wildlife observation. They are not trying to be "all things for all people."

Geese, ducks, educational resources, conservation.

Get to see more wildlife. Refuges are not overhunted like management areas.

Good place to fish for me and my sons: 4 boys ages 25, 19, 18, and 6.

Grounds are scenic, the aquatic wildlife especially. The birds are beautiful, very peaceful. Walking through the woods is fun.

Guaranteed the ability to observe wildlife.

Hands on opportunities to see the wildlife and habitat!

Having volunteers there to assist and give information.

Hunting and fishing.

I feel that, without these refuges, our wildlife would not survive. With all the fast communities being built, all the forest and water land are being destroyed leaving nowhere for our wildlife to go; animals are being forced into neighborhoods.

I love to look at the wonderful nature that God put here on this earth for me to enjoy. It gives me peace and relaxation that I cannot get any other place.

I loved the bird watching tower. I've never seen that before.

I really enjoyed the wildlife viewing building. It gave you a place to get out of the cold but they had microphones so you could still hear the birds outside. I thought that was an awesome idea.

I think it's the fact that you can see the birds and other wildlife that you might not otherwise see in your daily life. These animals are free - seeing them in a zoo doesn't count.

I think the visitor centers, staff, and volunteers available make your visit a good experience. In the case of this refuge, it is a way for the area to enjoy the outdoors and related activities right at home.

I think they are the "best kept secret." We enjoy visiting these unique and varied places that are not highly impacted by tourists as opposed to some national parks.

I visit the refuge most times to fish and find good areas to fish. My only complaint is the water level is not raised early enough in the spring.

I was provided with excellent opportunities to view various birds and really enjoyed the sounds that were brought in from outside to hear their calls.

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In addition to providing a home for wildlife, refuges also provide educational opportunities for current and future generations to study and enjoy wildlife in its natural habitat.

Isolation for peace of mind.

It allows a more realistic experience without as much "commercialization" as national parks.

It allows visitors to see plants and wildlife in a natural (indigenous) state, which is becoming increasingly harder with urban sprawl, as opposed to "exhibits" at zoos, museums, etc.

It focuses more on bird watching and provides a comfortable area to do it.

It gives a sense of balance for humans and nature. Maybe we can save some of the earth.

It gives children a chance to experience the outdoors firsthand.

It is a safe place for wildlife. Wheeler also works with local farmers to grow crops and provide food for the birds. They also provide amazing educational experiences.

It is available for school groups, scouts, other groups that support wildlife and birds. It is a wonderful place to visit, spend time, and have a picnic lunch under tree shade.

It is close to my home.

It is more pristine. I feel like these lands are more mine and I find time there relaxing.

It is natural--not artificially structured, landscaped, or cleared.

It is wonderful to see the migrating fowl come back year after year and know they are safe, and that they will continue to stop off for years to come.

It provides excellent opportunity for observing wildlife.

It's a chance to experience nature without too much "human interference." Life is lived as was intended; they don't have to adapt to our "progress."

It's a place where my children can observe wildlife in a safe environment. It also gives them a chance to understand why protecting our animal life is so important.

It's close to my home and I can visit anytime.

It's in my backyard.

It's an opportunity to get near nature without having the huge expense.

Its dedication to saving the wild animals and fish in our area and educating us to the value of hand management.

Land that's been set aside for that particular purpose.

Lots of opportunities for outdoor activities.

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Lots of places and different areas to hunt in.

Management leads to concentrations of wildlife for easy observation.

Many refuges offer little to no camping especially backcountry primitive camping. But as a useful resource they do offer more opportunities for hunting and fishing compared to state and national parks or monuments.

Migration of geese. Duck/bird observatory.

More developed and up-kept.

Most recreation areas are overcrowded. This refuge limited the access but still left plenty to do.

Natural habitats, an abundance of wildlife and people to educate you about the land and animals.

Natural, untouched environment, native fish, wildlife, and habitat, gives visitors the opportunity to interact with nature, protects and conserves land, resources, and wildlife/environment - the nation's heritage, encourages and educates school children on the importance of refuges. Therefore children are more likely to be outdoors and pursue activities to enhance refuge legacy.

Nature is displayed at its best.

No one will shoot you for being on the land. We feel like the employees are primarily there to penalize and fine us.

Not all public lands protect wild life.

Not being a native to Alabama, information was great.

Not for profit.

NWRs provide recreational opportunities for birdwatchers, fishermen, and hunters. Such opportunities for all those that use and enjoy the outdoors is one of the unique features of NWRs.

Observing birds and other wildlife.

On Wheeler there are many options to enjoy.

Open land, crop land, water, and woods all in one.

Provides an opportunity to enjoy natural resources in a safe, structured environment.

Provides opportunities to explore nature in a controlled environment.

Proximity of wild lands and wildlife to people.

Reasonable rates, not available commercially.

Refuges are usually located on places of high need for conservation, whereas certain public lands are more concerned with preserving green space. I think refuges are so special to me is that they are places where you can go and enjoy the scenery and the wildlife, yet there is more of a conservation mindset. Also, there is a stricter of conduct

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in refuges (which there should be).

Refuges protect wildlife and give people a chance to see wildlife that they may never get to see if they were not in a protected environment.

Refuges provide areas of habitat that provide cover and refuge for all animals, birds, insects etc., but allow humans an access into their world. Students in particular are very interested in all things wild and only wild places will keep the animals in their natural state.

Refuges provide educational opportunities that you rarely see in other public lands. Refuges maintain a \*natural\* habitat over a contrived experience (i.e. this is not Disney's Animal Kingdom and should not be!).

Refuges provide important habitats and keep it off limits to developers and Republicans!

Refuges seem to be more natural and less impacted by humans.

Resource management interpretation, wildlife viewing interpretation, using interpretation as a management tool.

That the primary mission is wildlife conservation.

The ability to view waterfowl and cranes close up. The one-way windows in the viewing building and grain in the adjacent field make this possible.

The abundance of migrating birds.

The animals that are found there are in "their natural habitat." The ducks were the reason for our visit; we wanted our 2 year old grandchild to see animals in the wild.

The awesome staff, the bird observation house, location.

The beautiful building the overlooks the wetlands.

The chance to view wildlife firsthand.

The chance to view wildlife that is undisturbed.

The combination of conservation and recreation that cannot be duplicated by private concerns.

The diversity of bird species to observe.

The emphasis on education.

The employees and facilities are the best and maintained well.

The excellent information center, the volunteers, and the observation deck.

The fact that it is so large and has such a broad area to observe.

The fact that the birds obviously realize they are safe there, free of harassment, and thus easier to observe.

The focus is on the wildlife rather than people.

The idea that the wildlife is protected and monitored renders an experience of reverence, appreciation, and honor to our Creator and His awesome creations.

The land is beautiful. Our ranger was very friendly and knowledgeable, and provided a wonderful experience for us.

The land is maintained in a natural environment and strives to coexist with urban development.

The land, employees, animals, and the surrounding water. Protect it! Great refuge, keep up the good work!

The management and its employees.

The many functions available with support from the refuge.

The National Wildlife Refuge system does an excellent job managing the particular ecosystems they are located in to provide premium habitat for indigenous wildlife, as well as providing great educational and recreational opportunities for the public. These services provide awareness and appreciation for the refuge systems.

The observation house.

The observation tower for watching wildlife. Being enclosed from the elements is a nice feature.

The opportunity to observe wildlife in their natural habitat.

The opportunity to see wildlife that you might not otherwise see.

The primary emphasis is on habitat preservation and wildlife management.

The primary focus is environmental conservation.

The protection of the wildlife that takes place at the refuge.

The purpose/mission of the refuges seems to be specifically to protect wildlife habitat. NPS sites are there to protect a specific geologic wonder, or historic building/event. USFS sites are there to manage resources, and use those resources to benefit humans. Both of these agencies/places also end up protecting wildlife habitat, however with the FWS, the main reason a place is set aside is BECAUSE it is good wildlife habitat, and that is very apparent when I have visited FWS sites and seen such an abundance of bird species, and sometimes other animals as well.

The refuges are generally managed more for wildlife conservation and viewing than some other public lands, which cater more to those interested in activities not primarily associated with wildlife - camping, skiing, etc.

The room available for the sandhill cranes.

The variety of wildlife that can be observed. The proximity you can get to the wildlife. The importance of preserving habitat.

The visitors' center, to watch birds and other wildlife; employees and volunteers are very courteous, knowledgeable, and are ready to answer my questions.

The volunteers are available when you need them but they do not crowd you when you want to enjoy the refuge at a

leisurely pace.

The wildlife definitely comes first, and education of the visitors is very important as well. I think refuges do a great job of letting visitors get close to the animals without putting either one in danger.

The wildlife is largely undisturbed.

There is no better place to view waterfowl.

They are better than the state lands.

They are essential for the preservation of wildlife and habitats.

They are free, at least ours is. It is very clean. A great place for picnics/walks.

They are generally in tune with the local community and make special efforts to provide services to the host area as well as to visitors.

They are usually large with a wild type environment. Not the city, well kept up areas of parks. They are much more "natural" in their appearance.

They enable one to experience nature in its natural state.

They offer less invasive ways to observe wildlife.

They provide both a recreational and a learning experience.

This refuge does a good job with such a difference in population and interest; it pleases everyone from hunting to hiking etc. Sitting in between high tech Huntsville and the largest industrial city in Alabama, Decatur. I'm thankful for Wheeler Wildlife Refuge.

To get in touch with nature.

Usually they are very scenic and full of wildlife.

Very important - this facility is free - which means everyone can enjoy this refuge all the time-all year. This refuge has everything we love and need for a long visit. The volunteers are wonderful as is Ranger Moland's presentation of red tail hawks. It's perfect. When you see nature in its purest form, everyone can realize how beautiful, quiet, and necessary it is. Once it's gone, it's usually gone. Great education facility. Please keep it FREE!

Very unique viewing areas. Nice to be able to use "binoculars" in the observatory. The speaker adds to the experience in the observatory.

Waterfowl observation (building) is very good for bird watching - very accommodating.

Waterfowl, trails, and fishing.

We have fish and birds scheduled.

We need them more and more. Our land is being devastated and we need to secure more for our future generations! I could go on and on!

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Well run, clean, safe, educational.

Wheeler NWR was unique in the number of sandhill cranes and miscellaneous ducks wintering.

While our convenience and education is a focus, they are woven into the mission of conserving, managing, etc., so I feel like I am truly observing instead of intruding. While I am not against human development and consumption, I appreciate protected areas where humans are not the focus.

Wildlife are protected, food plots provided, and many opportunities to view, photograph, and observe are provided.

Wildlife refuges have land/water resources that are set aside to protect valuable fish, wildlife, and plant habitat

Wildlife viewing.

Wildlife, plants, and very good managing of the refuge makes it a very nice place to go. I really enjoy all the wildlife at the refuge.

Yes. No other place can you go and see an abundance of wildlife and learn about their behaviors. Wildlife refuges are good for the human spirit.

You can observe wildlife, especially waterfowl, in their natural habitat. There's a lot of information about all types of wildlife in the visitor center.

You can't find another refuge with an observation building like the one here.

You have the opportunity to share the wild outdoors with your family and kids.

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#### Additional Comments (n = 37)

1st visit - checking it out. One time previously camped at (place) 2000-2001. One time RV trailer - came to do more camping standing second half of 2011. I wanted more info on where trailers at this (Wheeler, AL) Refuge are and entrance points.

All refuge employees I have had contact with were courteous and helpful. I would like to see some of the more remote areas have road and access for fishing from the banks. I don't use a boat and do all the fishing from the bank and have a lot of friends that fish from the bank. TVA needs to raise the water level by the end of February. This not only improves fishing, it would also give the fish that spawn early access to better areas to spawn. There is a little problem, but it is caused by the visitors. More trash cans in more areas would help if we can convince people to use them.

Beautiful refuge. Add some picnic tables, needs more trails and wheelchairs! That's all. Very nice lady rangers.

Climate change is a hoax used by political groups to try and regulate behavior and raise taxes. Please STOP making political decisions based on the climate change hoax. There is no such thing as climate change. The only thing that changes is the seasons: Winter, Spring, Summer and Fall. In case you haven't noticed, the climate/weather is a NATURAL phenomenon that changes from year to year just like the seasons. Some years it is hotter than others and some years it is colder than others, and man has NOTHING to do with it. Man CANNOT change the climate/weather one way or the other. STOP spending (wasting) my tax dollars on this "man made" hoax called climate change.

Great refuge that is maintained and run efficiently. Staff is very cooperative in arranging for class trips.

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Having nice campgrounds is very important to us. We like full hoop ups including on-site surge.

I am a past scout master. Proud to see a scout troop doing trail maintenance.

I am an avid birder and visit the refuge at every opportunity. The refuge allows me to get up close to waterfowl and other avian species without disturbing them or interfering with their activities.

I am sorry for the delay of this survey. Please include me in future activities.

I have so enjoyed living close to Wheeler Wildlife Refuge. The rangers and volunteers are friendly and knowledgeable. As a 3rd grade teacher I have had the fun of sharing this Refuge with my students. As part of our Environmental Education program, we visit Wheeler every January to see all the birds and learn about the Refuge system. The Wheeler trip is always the students' favorite trip of the year. Thanks for all you do for wildlife and for our children.

I really enjoy our local refuge. I wish I knew what places were off limits to people. I see people on the sides of roads all over the refuge and I'm not sure if that's okay or not. Can we go anywhere we want? Hike off trail? I want to respect the land and animals and leave it like I found it, so I'm hesitant to go hog wild on a wildlife refuge. A state or federal park is different. I wish there were longer trails. There's only the half mile loop. There's nothing that will get your blood pumping. The volunteers keep the Visitors' Center too hot in winter time. You are dressed to be outside and you come in and it's a sauna in there! I can't stand it! You don't stay too long because it's way too hot! It should be around 68 degrees F, not 80. We bundled our baby up to walk and I had to take a lot of his clothes off when we got inside. And then he still got hot and flushed. If it's 80 degrees outside you'd have air conditioning inside, so turn the heat down please!

I really enjoy this refuge. I'm about to graduate with a master's degree in which I do wildlife research. This is a place where I could see myself working and being happy. Please keep up the good work.

I really liked the big, two-story bird viewing station. I have never seen anything as large or as nice as it so it was a pleasant surprise. I could have stayed there for half a day watching the birds through the spotting scopes provided. Thank you!

I think a lot of the hype of global warming is untrue so some of my answers will reflect this. On the other hand, the Earth is definitely getting hotter, but I think it may just be cycling and getting rid of its own pollutants. God knew what he was doing when He made this earth! But we have to make our responsibilities higher and stop polluting. We can make it unhealthy for us and all other living things!

I think refuges and other wildlife places are very important to our generation and all generations to come. Animals, fish, birds, and all other creatures are very important to us. Conservation is important. We can learn a lot from all of God's creatures. It is important that we learn about all of God's creatures and protect them and their habitats. I love nature and I love photographing nature. My husband loves bird watching.

I think this survey is a great idea. I can only hope it helps to improve the quality of life for our four-legged counterparts as well as ours.

I was under a lot of stress and it relieved it very much. Thank you (signature)

I was very impressed with the refuge and its personnel. My uncle worked for this agency and I believe it's tax money very well spent. Good job!

It is a great place to visit and help keep clean so our kids can have the same pleasures that we have in the future.

It really needs restrooms at the dock and recreation trail. I think there are some people who go there to see if they can

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watch you pee!!

Keep having public activities on the refuge for the younger generations.

More trails to hike, especially by the water.

Park rangers at Wheeler are excellent and provide exceptional customer service. They are well informed, dedicated, and friendly. I am happy to see my taxes spent here! Keep up the good work and don't let the Republicans ruin this place.

The Wheeler Refuge appears to need more funding for security purposes, for walkway repairs, and more publicity during the migratory season of the ducks and sand hill cranes. During the summer period the Visitor Center is closed on Sunday and could be a local asset for vacationers and the local communities after church services. In short I am pleased with it, but think that more needs to be done to stop the vandalism of crop lands and poaching during that time when the two enforcement offices are called to other refuges or are off duty. Even a night watch patrol of volunteers could deter many illegal activities such as illegal aliens camping in the areas at night.

This refuge has a wonderful staff--always smiling, helping, and dispensing information; they are an asset to your service.

Very interesting! I love seeing wildlife in their natural habitat. I love the opportunity to see birds and wildlife and hear their natural sounds. Please keep these observation opportunities open. Thank you! (signature, address, and phone number)

We had a wonderful visit. We did not fully realize until this visit all of the opportunities. Wheeler gives us to learn and explore. We plan to do much more at the refuge in the coming months than we have previously.

Wheeler is a wonderful place to visit, although most of its area seems a bit inaccessible to the public. That's probably best for the refuge; don't want to see increased "transportation" and parking or paving etc. at this or any national park/refuge.

Wheeler National Wildlife Refuge is well managed and provides excellent opportunities for recreation and understanding/appreciation of the refuge system as a whole.

Wheeler Refuge (and others) are the last vestiges of wild country in the United States of America. We must keep them wild, but to keep them in the forefront of people's minds (and pocketbooks) we must have at least limited access to their wild beauty and natural shelter to all creatures native to the area.

Wheeler Wildlife Refuge is a major resource for the people of AL. It is exceptionally well-managed and has attracted huge numbers of migratory bird species year after year. Variations of numbers and species over time are amazing.

Wheeler Wildlife Refuge is wonderful - I hope it will remain free and open forever so everyone I know will be able to go there.

While I don't believe to trust the new political view of "climate" change, I am concerned about pollution and the loss of habitat. Wildlife refuges are an important part of preservation.

You need more picnic tables but otherwise wonderful.

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