



National Wildlife Refuge Visitor Survey 2012: Individual Refuge Results for Hagerman National Wildlife Refuge

By Alia M. Dietsch, Natalie R. Sexton, Lynne Koontz, and Shannon J. Conk

Hagerman National Wildlife Refuge is a local jewel and so important for the birds on the central migratory flyway. We have the opportunity to see many rare birds for our area during the year. I have enjoyed the refuge for over 30 years and have been quite impressed with the improvements and new Visitor Center.

— *Survey comment from a visitor to Hagerman National Wildlife Refuge*



Hagerman 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 specifically dedicated to the conservation of fish, wildlife, and their habitats. There are 560 national wildlife refuges (refuges) and 38 wetland management districts nationwide, including possessions and territories in the Pacific and Caribbean, encompassing more than 150 million acres (U.S. Fish and Wildlife Service, 2013). As stated in the National Wildlife Refuge Improvement Act of 1997, 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 the diversity and interconnectedness of fish, wildlife, and plants, and their habitats” and the goal “to provide and enhance opportunities to participate in compatible wildlife-dependent recreation” (U.S. Fish and Wildlife Service, 2006, p. 2). The Refuge System attracts nearly 45 million visitors annually, including 34.8 million people who observe and photograph wildlife, 9.6 million who hunt and fish, and nearly 675,000 teachers and students who use refuges as “outdoor classrooms” (U.S. Fish and Wildlife Service, 2012). Understanding visitor perceptions of refuges and characterizing their experiences on 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 refuges. The purpose of the survey was to better understand visitor experiences and trip characteristics, to gauge visitors’ levels of satisfaction with existing recreational opportunities, and to garner feedback to inform the design of programs and facilities. The survey results will inform performance, planning, budget, and communications goals. Results will also inform Comprehensive Conservation Plans (CCPs), visitor services, and transportation planning processes.

Organization of Results

These results are specific to visitors who were contacted at Hagerman National Wildlife Refuge (NWR) (this refuge) during the specified sampling periods and are part of USGS Data Series 754. All refuges participating in the 2012 survey 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 survey effort.
- **Methods:** The procedures for the national survey 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 Refuge System topics
- **Conclusion**
- **References Cited**
- **Survey Frequencies (Appendix A):** The survey instrument with frequency results for this refuge.
- **Visitor Comments (Appendix B):** The verbatim responses to open-ended survey questions for this refuge.

Methods

Selecting Participating Refuges

The national visitor survey was conducted from January–December 2012 on 25 refuges across the Refuge System (table 1). Each refuge was selected for participation by the Refuge Transportation Program National Coordinator in conjunction with regional office Visitor Services Chiefs. Selection was based on the need to inform transportation planning processes at the national level and to address refuge planning and transportation needs at the individual refuge level.

Developing the Survey Instrument

Researchers at the USGS 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 (one 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 at which to sample, 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 the 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 3–5 hour (hr) time bands, stratified across AM and PM as well as weekend and weekdays. In coordination with refuge staff, any necessary customizations were made to the standardized schedule to accommodate the identified sampling locations and to address specific spatial and temporal patterns of visitation.

Twenty visitors (18 years of age or older) per sampling shift were systematically selected, for a total of 320 willing participants per refuge (or 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. Refuges participating in the 2012 national wildlife refuge visitor survey.

Pacific Region (R1)
Ridgefield National Wildlife Refuge (WA)
Southwest Region (R2)
Balcones Canyonlands National Wildlife Refuge (TX)
Hagerman National Wildlife Refuge (TX)
Kofa National Wildlife Refuge (AZ)
Santa Ana National Wildlife Refuge (TX)
Tishomingo National Wildlife Refuge (OK)
Great Lakes-Big Rivers Region (R3)
La Crosse District, Upper Mississippi River National Wildlife and Fish Refuge (WI)
Minnesota Valley National Wildlife Refuge (MN)
Southeast Region (R4)
Crystal River National Wildlife Refuge (FL)
Eufaula National Wildlife Refuge (AL)
Felsenthal National Wildlife Refuge (AR)
Lacassine National Wildlife Refuge (LA)
National Key Deer Refuge (FL)
Savannah National Wildlife Refuge (GA/SC)
Northeast Region (R5)
Assabet River National Wildlife Refuge (MA)
Back Bay National Wildlife Refuge (VA)
Chincoteague National Wildlife Refuge (VA)
Edwin B. Forsythe National Wildlife Refuge (NJ)
Rachel Carson National Wildlife Refuge (ME)
Mountain-Prairie Region (R6)
Bear River Migratory Bird Refuge (UT)
Lee Metcalf National Wildlife Refuge (MT)
Rocky Mountain Arsenal National Wildlife Refuge (CO)
National Bison Range (MT)
California and Nevada Region (R8)
Don Edwards San Francisco Bay National Wildlife Refuge (CA)
San Luis National Wildlife Refuge (CA)

Refuge staff and/or volunteers (survey recruiters) contacted visitors onsite following a protocol provided by the USGS that was designed to obtain a representative sample. Instructions included contacting visitors across the entire sampling shift (for example, every nth visitor for dense visitation, as often as possible for sparse visitation) and contacting only one person per group. Visitors were informed of the survey effort, given a token incentive (for example, a small magnet or 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 were also instructed to record any refusals and then proceed with the sampling protocol.

All visitors that agreed onsite to fill out a survey received the same sequence of correspondence regardless of their preference for survey mode. This approach allowed for an assessment of visitors' likelihood of completing the survey by their preferred survey mode (see Sexton and others, 2011). Researchers at the USGS sent the following materials to all visitors agreeing to participate who had not yet completed a survey at the time of each mailing (Dillman, 2007):

- A postcard mailed within 10 days of the initial onsite contact thanking visitors for agreeing to participate in the survey and inviting them to complete the survey online.
- A packet mailed 9 days later consisting of a cover letter, survey, and postage paid envelope for returning a completed paper survey.
- A reminder postcard mailed 7 days later.
- A second packet mailed 14 days later consisting of another cover letter, survey, and postage paid envelope for returning a completed paper survey.

Each mailing included instructions for completing the survey online, so visitors had an opportunity to complete an online survey with each mailing. 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 packet to determine any differences between respondents and nonrespondents at the aggregate level. Online survey data were exported and paper survey data were entered into Microsoft Excel using a standardized survey codebook and data entry procedure. All survey data were analyzed using *Statistical Package for the Social Sciences* (SPSS, v.20) software¹.

Interpreting the Results

The extent to which these results accurately represent the total population of visitors to this refuge is dependent on the number of visitors who completed the survey (sample size) and the ability of the variation resulting from that sample to reflect the beliefs and interests of different visitor user groups (Scheaffer and others, 1996). The composition of the sample is dependent on the ability of the standardized sampling

¹ Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

protocol for this study to account for the spatial and temporal patterns of visitor use unique to each refuge. Spatially, the geographical layout and public-use infrastructure varies widely across refuges. Some refuges can be accessed only 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 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, which may result in certain survey measures such as visitors' self-reported "primary activity during their visit" reflecting a seasonality bias. Results contained within this report may not apply to visitors during all times of the year or to visitors who did not visit the survey locations.

In this report, visitors who responded to the survey are referred to simply as "visitors." However, when interpreting the results for Hagerman NWR, any potential spatial and temporal sampling limitation specific to this refuge needs 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 (mi) 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). 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) is too low ($n < 30$), a warning is included in the text. Finally, the term "this visit" is used to reference the visit during which people were contacted to participate in the survey.

Refuge Description for Hagerman National Wildlife Refuge

Hagerman NWR is located straight north of Dallas and just south of the Texas-Oklahoma border. The refuge encompasses the upper portion of the Big Mineral Arm of Lake Texoma, which is one of the largest reservoirs in the United States. The refuge was established in 1946 with the primary focus of providing a winter home for migratory waterfowl. Refuge lands were originally purchased by the U.S. Army Corps of Engineers, which is responsible for the Denison Dam Project that created Lake Texoma.

Hagerman NWR is located along the Central Flyway, and hundreds of thousands of birds either reside at the refuge or stay there during part of the year while migrating. Though the birds are the most abundant type of wildlife at the refuge, many other species thrive on the 11,320 acres of protected habitat. Reptiles, amphibians, insects, fish, and mammals, such as deer, turkeys, bobcats, coyotes, and fox squirrels, all call the refuge home. Of the refuge's total acreage, approximately 8,700 consist of uplands with the remaining 2,600 acres being comprised of wetlands. Each year approximately 135,000 visitors spend time at Hagerman NWR (2011 Refuge Annual Performance Plan measures; Rob Miller, U.S. Fish and Wildlife Service, 2012, written commun.). Visitor activities include bird watching, wildlife observation, photography, fishing, hunting, hiking, and use of the Visitor Center for environmental education, interpretation, and special events. The refuge has a very active Friends group, Friends of Hagerman, which helps to promote the refuge through a number of events and other crucial support work. Figure 1 displays a map of the refuge. For more information, please visit <http://www.fws.gov/refuge/hagerman>.

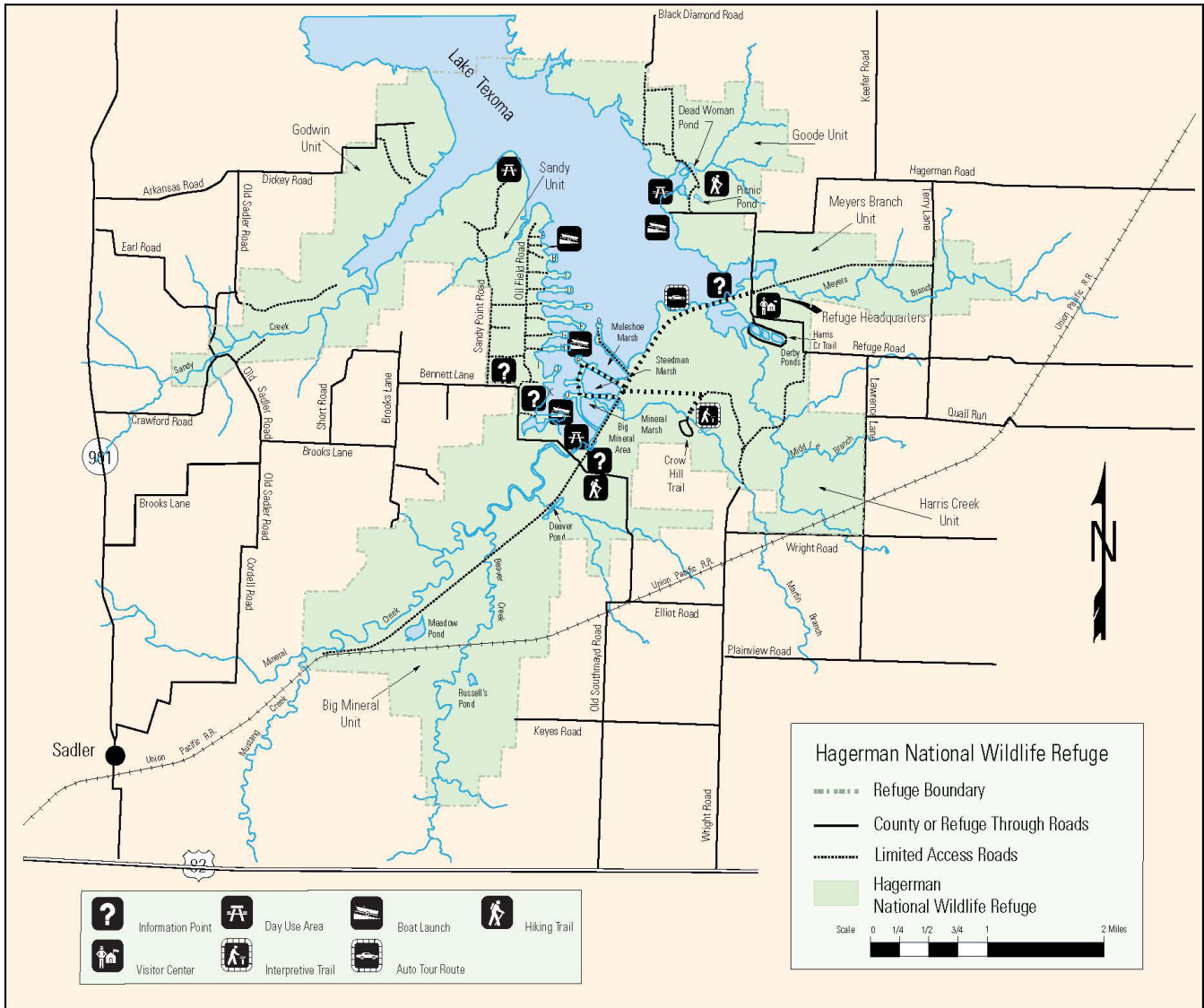


Figure 1. Map of Hagerman NWR, courtesy of U.S. Fish and Wildlife Service.

Sampling at Hagerman National Wildlife Refuge

A total of 269 visitors agreed to participate in the survey during the two sampling periods at the identified locations at Hagerman NWR (table 2). In all, 211 visitors completed the survey for an 81% response rate, and $\pm 5.4\%$ margin of error at the 95% confidence level.²

Table 2. Sampling and response rate summary for Hagerman NWR.

Sampling period	Dates	Locations	Total contacts	Undeliverable addresses	Completed surveys	Response rate
1	2/4/2012 to 2/18/2012	Visitor Center Bank Fishing/Hunter Check Wildlife Drive				
SP1 Totals			156	4	118	78%
2	11/17/2012 to 12/1/2013	Wildlife Drive Lake Texoma Hunter Check Visitor Center Meadow Pond Trail				
SP2 Totals			113	2	93	84%
Combined Totals			269	6	211	81%

² A margin of error of $\pm 5\%$ at a 95% confidence level, for example, means that, if a reported percentage is 55%, then 95 out of 100 times, that sample estimate would fall between 50% and 60% if the same question was asked in the same way. The margin of error is calculated with an 80/20 response distribution, assuming that for a given dichotomous choice question, approximately 80% of respondents would select one choice and 20% would select the other choice (Salant and Dillman, 1994).

Selected Survey Results

Visitor and Trip Characteristics

A solid understanding of visitor characteristics and details about their trips to refuges can inform communication and outreach efforts, inform managers about desired types of visitor services and modes of transportation used on refuges, and help forecast use and gauge demand for services and facilities.

Familiarity with the Refuge System

Most visitors to Hagerman NWR reported that before participating in the survey, they were aware of the role of the Service in managing refuges (93%) and that the Refuge System has the mission of conserving, managing, and restoring fish, wildlife, plants, and their habitats (94%). It is important to note that we did not ask visitors to identify the mission of the Refuge System or the Service, and positive responses to these questions concerning the management and mission of the Refuge System do not necessarily indicate that these visitors fully 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.

Most visitors (92%) feel that refuges, compared to other public lands, provide a unique recreation experience (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.

Almost half of visitors to Hagerman NWR had been to at least one *other* national wildlife refuge in the past year (48%), with an average of 4 visits to *other* refuges during the past 12 months.

Visiting This Refuge

Some surveyed visitors (27%) had only been to Hagerman NWR once in the past 12 months, while many had been multiple times (73%). These repeat visitors went to the refuge an average of 17 times during that same 12-month period. Visitors used the refuge during only one season (40%), during multiple seasons (27%), and year-round (33%).

Visitors first learned about the refuge from friends/relatives (60%), people in the local community (23%), or signs on the highway (21%; fig. 2). Key information sources used by visitors to find their way to this refuge include their own previous knowledge (76%), and to a lesser degree, signs on the highways (23%; fig. 3).

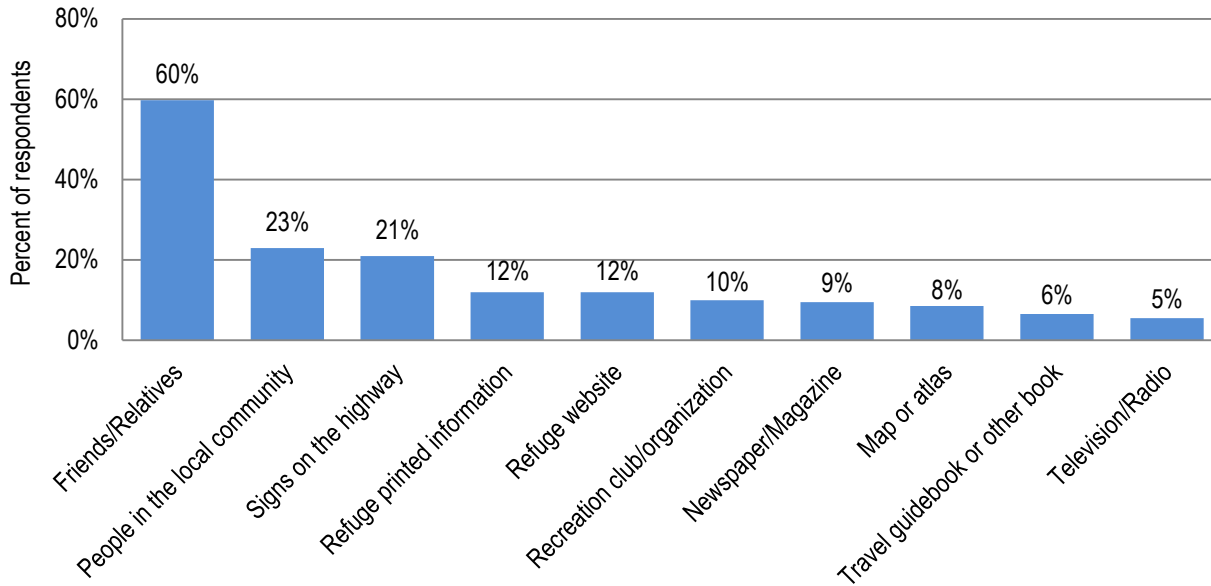


Figure 2. How visitors first learned or heard about Hagerman NWR (n = 201).

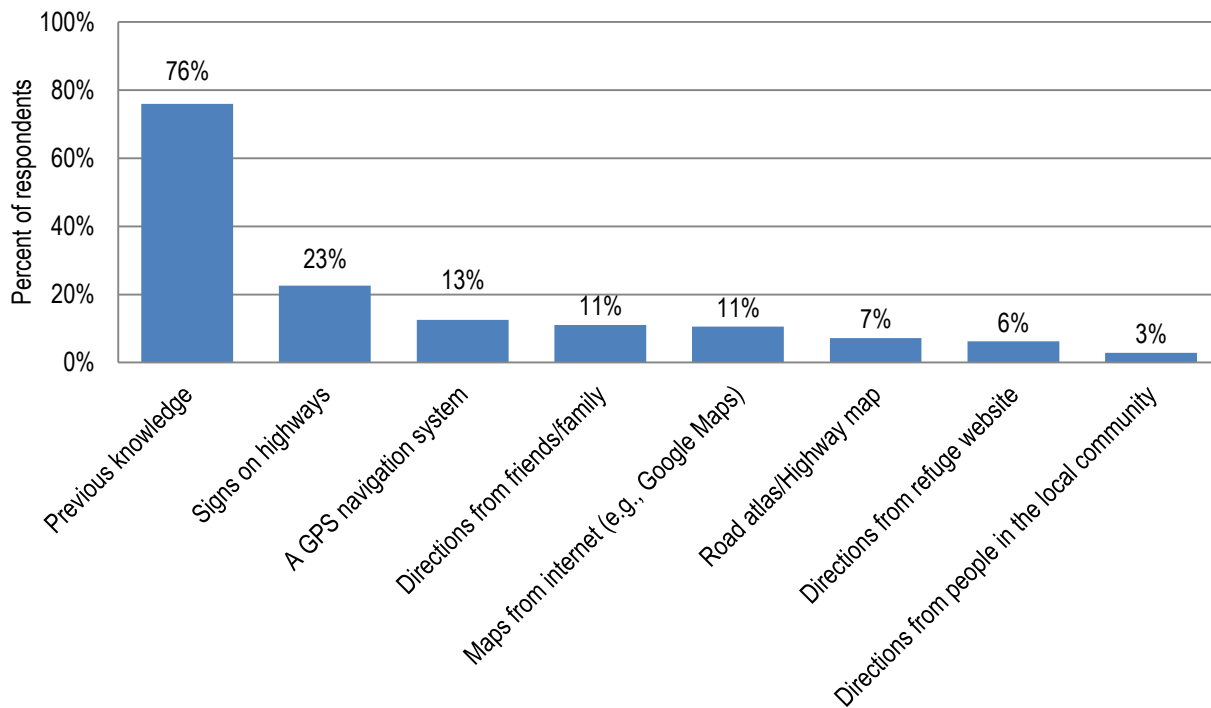


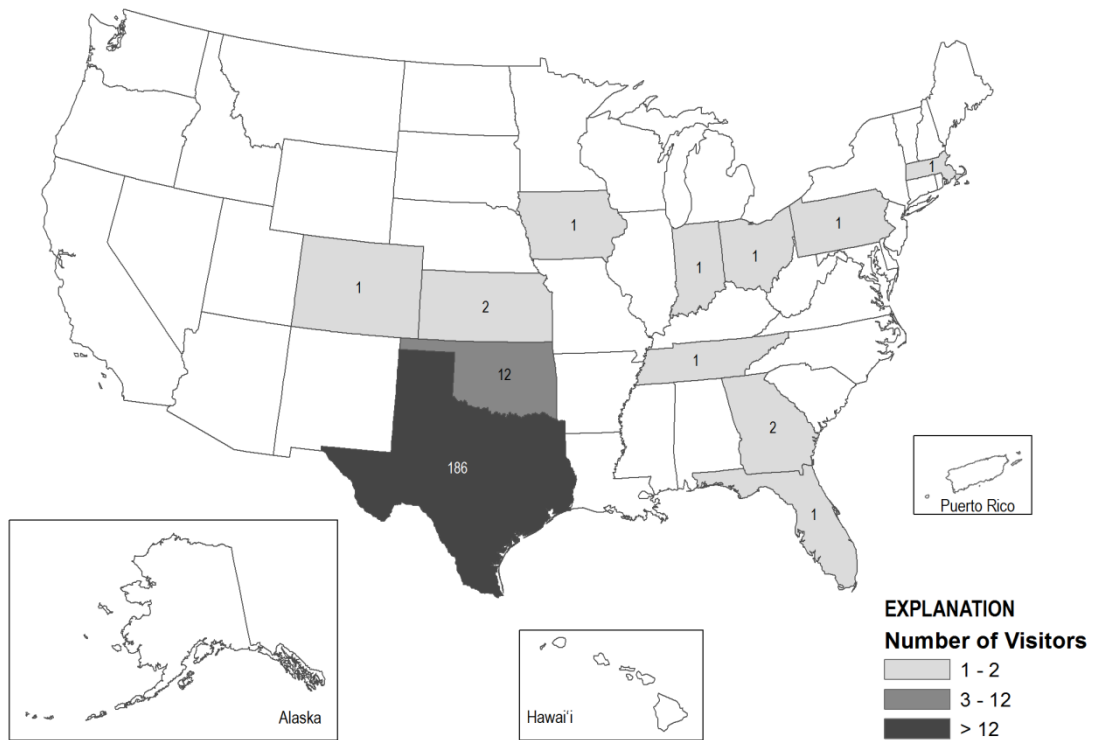
Figure 3. Resources used by visitors to find their way to Hagerman NWR during this visit (n = 208).

Many visitors (63%) lived in the local area (within 50 mi of the refuge), whereas 37% were nonlocal visitors. For most local visitors, Hagerman NWR was the primary purpose or sole destination of their trips (92%; table 3). For most nonlocal visitors, the refuge was also the primary purpose or sole destination of their trips (72%).

Local visitors reported that they traveled an average of 21 mi to get to the refuge, while nonlocal visitors traveled an average of 179 mi. The average distance traveled for all visitors to this refuge was 75 mi, while the median was 30 mi. Figure 4 shows the residences of visitors traveling to this refuge. About 89% of visitors traveling to Hagerman NWR were from Texas.

Table 3. Influence of Hagerman NWR on visitors' decisions to take their trips.

Visitors	Visiting this refuge was...		
	the primary reason for trip	one of many equally important reasons for trip	an incidental stop
Nonlocal	72%	15%	13%
Local	92%	2%	5%
All visitors	85%	7%	8%



Explanation

--- Refuge Boundary

▭ States

Number of Visitors

1

2 - 4

5 - 14

> 14

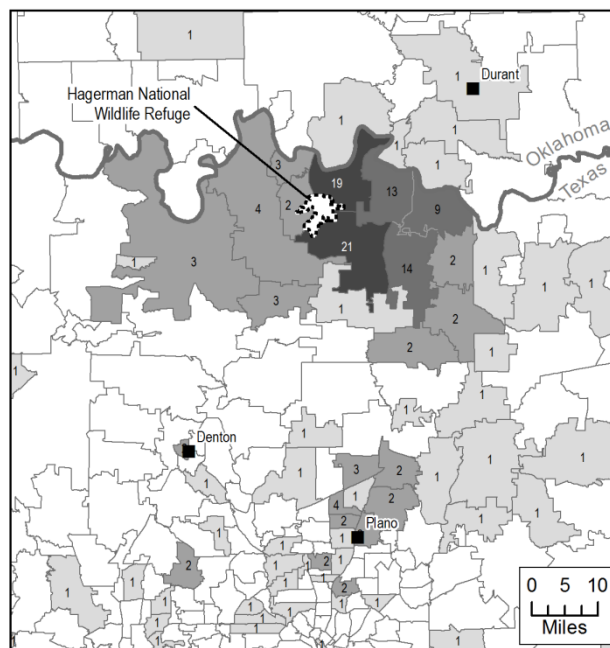


Figure 4. Number of visitors travelling to Hagerman NWR by place of residence. The top map shows visitors residence by state and the bottom map shows residence by zip codes near the refuge (n = 210).

Surveyed visitors reported that they spent an average of 5 hr at the refuge during one day there, while the most frequently reported length of a day visit (the modal response) was 8 hr (30%). Most visitors indicated they were part of a group on their visit to this refuge (78%). Of those people who indicated they traveled with a group, visitors primarily traveled with family/friends (table 4).

Table 4. Type and size of groups visiting Hagerman NWR (for those who indicated they were part of a group, n = 162).

Group type	Percent (of those traveling in a group)	Average group size		
		Number of adults	Number of children	Total group size
Family/Friends	94%	3	0	3
Commercial tour group	0%	0	0	0
Organized club/School group	3%	5	1	6
Other group type	3%	2	0	2

The key modes of transportation used by visitors to travel around the refuge were private vehicles (96%) and, to a lesser degree, walking/hiking (25%; fig. 5).

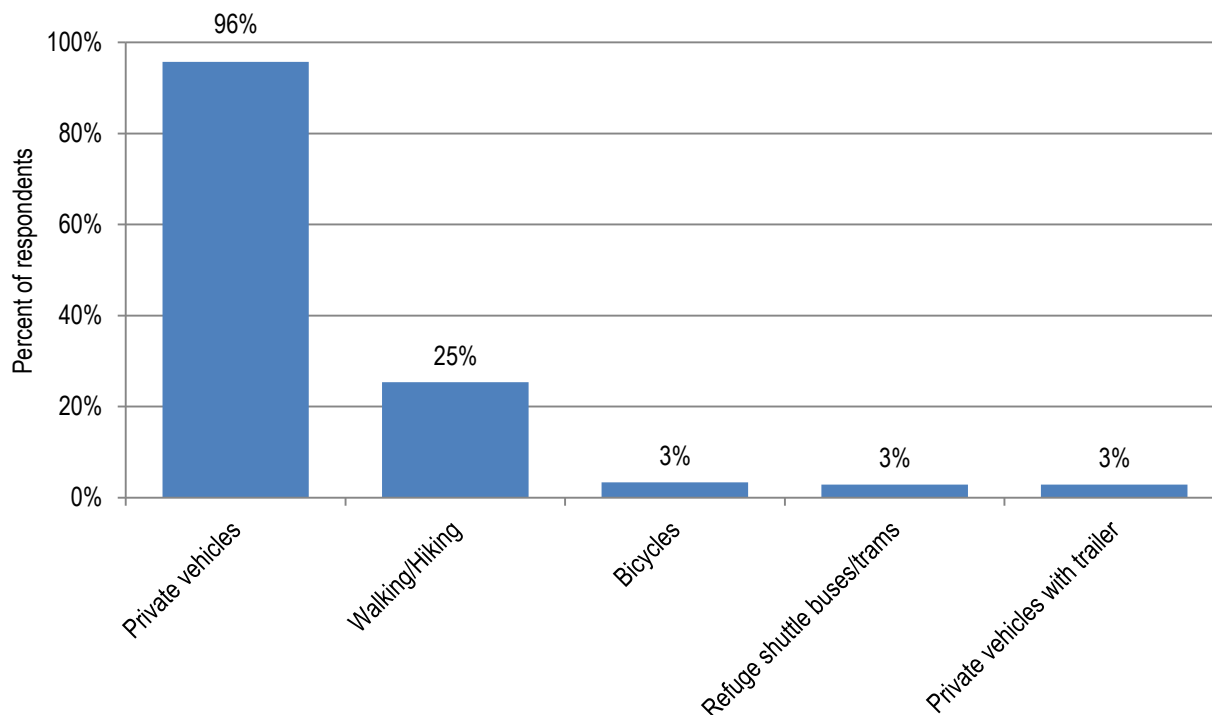


Figure 5. Modes of transportation used by visitors to Hagerman NWR during this visit (n = 209).

Surveyed visitors participated in a variety of refuge activities during the 12 months prior to completing the survey (fig. 6); the top three activities in which people reported participating were bird watching (71%), wildlife observation (71%), and auto tour route/driving (53%). The primary reasons for visitors' most recent visits included bird watching (32%), hunting (13%), and wildlife observation (10%; fig. 7). Many visitors also used the Visitor Center during their trips (87%), mostly to view the exhibits (80%), ask information of staff or volunteers (71%), and visit the gift shop/bookstore (66%; fig. 8).

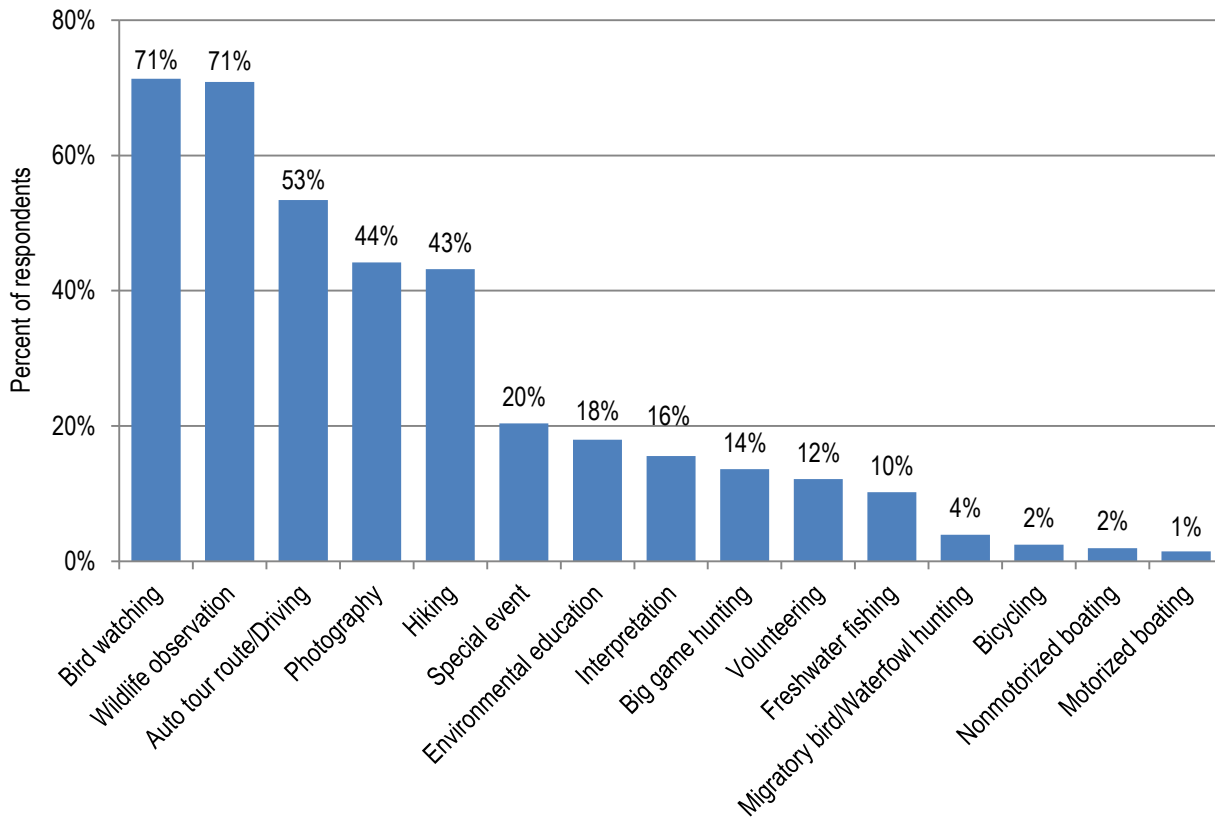


Figure 6. Activities in which visitors participated during the past 12 months at Hagerman NWR (n = 206). See Appendix B for a listing of “other” activities.

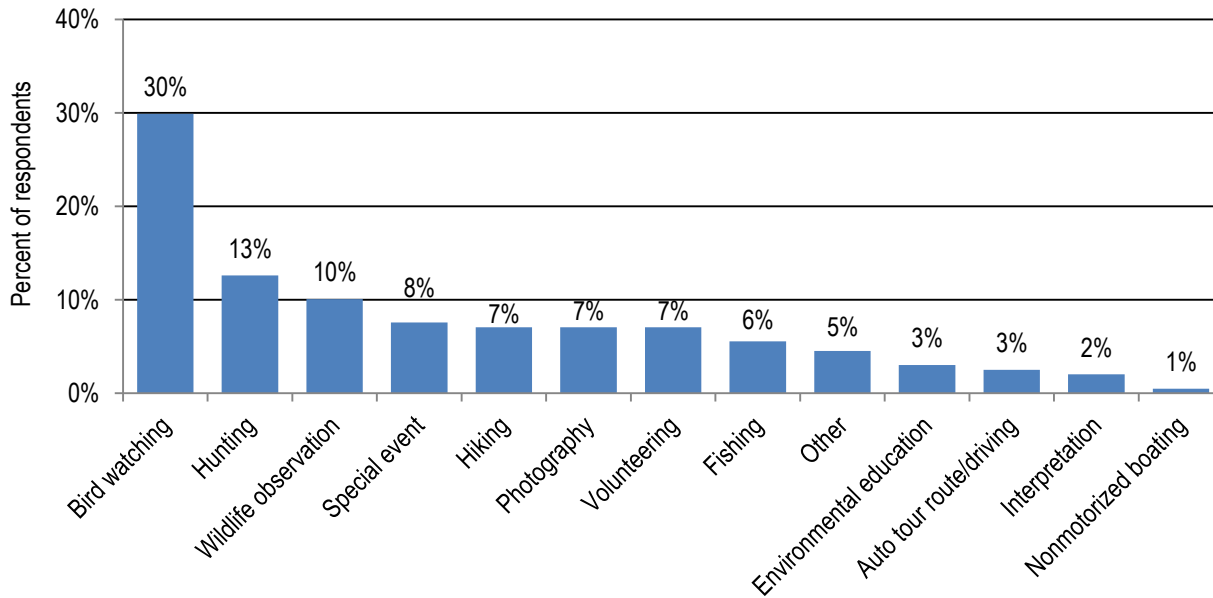


Figure 7. The **primary** activity in which visitors participated during this visit to Hagerman NWR (n = 198). See Appendix B for a listing of “other” activities.

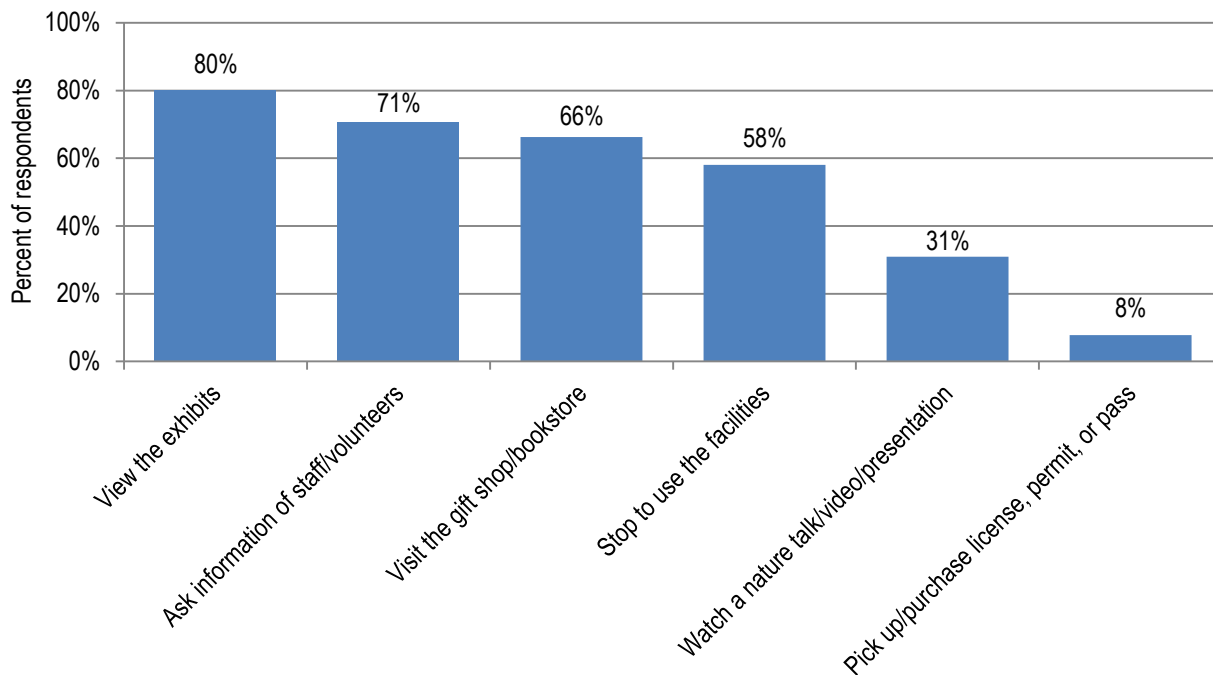


Figure 8. Visitor Center activities in which visitors participated at Hagerman NWR (n = 181).

Visitor Characteristics

All visitors who participated in the survey at Hagerman NWR indicated that they were citizens or permanent residents of the United States. These visitors were a mix of 50% male (with an average age of 55 years) and 50% female (with an average age of 57 years). Visitors, on average, reported they had 15 years of formal education (equivalent to three years of college or technical school). The median level of income was \$50,000-\$74,999. See Appendix A for more demographic information.

In comparison to these results, the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation (U.S. Fish and Wildlife Service, 2007) found that participants in wildlife watching and hunting on public lands were 55% male and 45% female with an average age of 46 years, an average level of education of 14 years (equivalent to an associate degree or two years of college), and a median income of \$50,000–74,999 (Anna Harris, U.S. Fish and Wildlife Service, 2011, written commun.). Compared to the U.S. population, participants in wildlife-related recreation are more likely to be male, and tend to be older with higher education and income levels (U.S. Fish and Wildlife Service and U.S. Census Bureau, 2007).

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 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 to local communities of visitor activities on refuges. Visitor expenditure information also can be used to analyze the economic impact of proposed refuge management alternatives.

Visitors that live within the local 50-mi area of a refuge typically have different spending patterns than those that travel from longer distances. During the two sampling periods, 63% of surveyed visitors to Hagerman NWR indicated that they live within the local 50-mi area while nonlocal visitors (37%) stayed in the local area, on average, for 2 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 \$52 per person per day and local visitors spent an average of \$28 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 factors include the amount of time spent at the refuge, influence of the refuge on the visitors' 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.

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

Visitors	n ¹	Median	Mean	Standard deviation	Minimum	Maximum
Nonlocal	66	\$34	\$52	\$58	\$0	\$300
Local	99	\$15	\$28	\$33	\$0	\$165

¹n = 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 number 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 in the local community, 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 in which people participated), and may not be representative of the total population of visitors to this refuge.

Visitor Opinions about this Refuge

Refuges provide visitors with a variety of services, facilities, and wildlife-dependent recreational opportunities. Understanding visitors' perceptions of refuge offerings is a key component of the Refuge System's mission. In particular, a baseline understanding of visitor experiences provides a framework from which the Refuge System can monitor trends in visitor experiences overtime, which is increasingly useful in the face of changing demographics and wildlife-related interests. Some studies on wildlife-related recreation trends have indicated declines in participation over the latter part of the 20th century in traditional activities such as hunting (for example, U.S. Department of the Interior and others, 2007), while others highlight a need to connect the next generation of people to nature and wildlife (for example, Charles and Louv, 2009). These types of factors highlight a need to better understand visitors' opinions of their refuge experiences and to monitor trends in these opinions over time.

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

- 95% of visitors were satisfied with the recreational activities and opportunities,
- 96% of visitors were satisfied with the information and education about the refuge and its resources,
- 97% of visitors were satisfied with the services provided by employees or volunteers, and
- 94% of visitors were satisfied with the refuge's job of conserving fish, wildlife and their habitats.

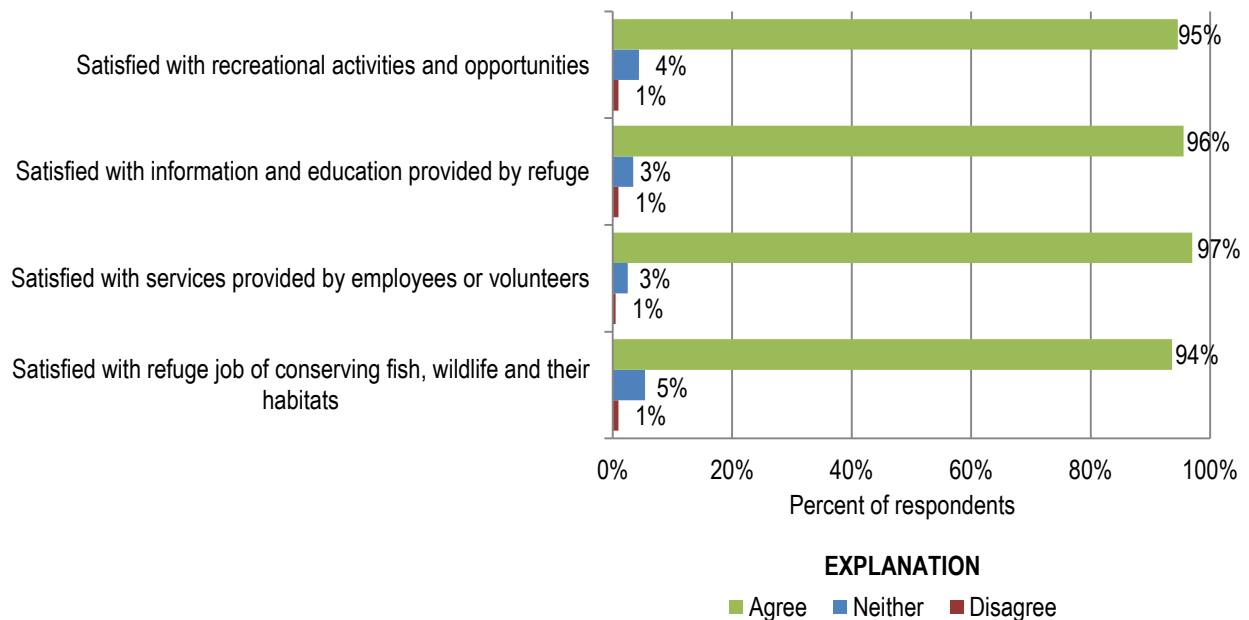


Figure 9. Overall satisfaction with Hagerman NWR during this visit (n ≥ 200).

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 examines the importance of an attribute to visitors in relation to their satisfaction with that attribute (Martilla and James, 1977). Drawn from marketing research, this tool has been applied to outdoor recreation and visitation settings (for example, Tarrant and Smith, 2002). Results for the attributes of interest are segmented into one of four quadrants (modified slightly for this 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 different visitor groups regarding their expectations and levels of importance (Vaske and others, 1996; Bruyere and others, 2002; Wade and Eagles, 2003); 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. This consideration is especially important when reviewing any attribute that falls 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 or 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 their satisfaction with) the attribute may be much higher than the overall importance (and satisfaction) would be for the sample of visitors summarized in this report.

Figures 10–12 depict surveyed visitors' importance-satisfaction ratings for refuge services and facilities, recreational opportunities, and transportation-related features at Hagerman NWR. Results are summarized as follows:

- All refuge *services and facilities* fell in the "Keep Up the Good Work" quadrant (fig. 10).
- All refuge *recreational opportunities* fell in the "Keep Up the Good Work" quadrant except hunting, which fell into the "Look Closer" quadrant (fig. 11). The average importance of this activity is likely higher among visitors to Hagerman NWR who actually participated in the activity during the 12 months prior to taking the survey than the score reported here. For example, hunters, as part of the

2010–2011 national visitor survey, had an average importance score of 4.6 for this recreational opportunity, while the average importance score of hunting activities across all visitors was lower.

- All *transportation-related features* fell in the “Keep Up the Good Work” quadrant (fig. 12).

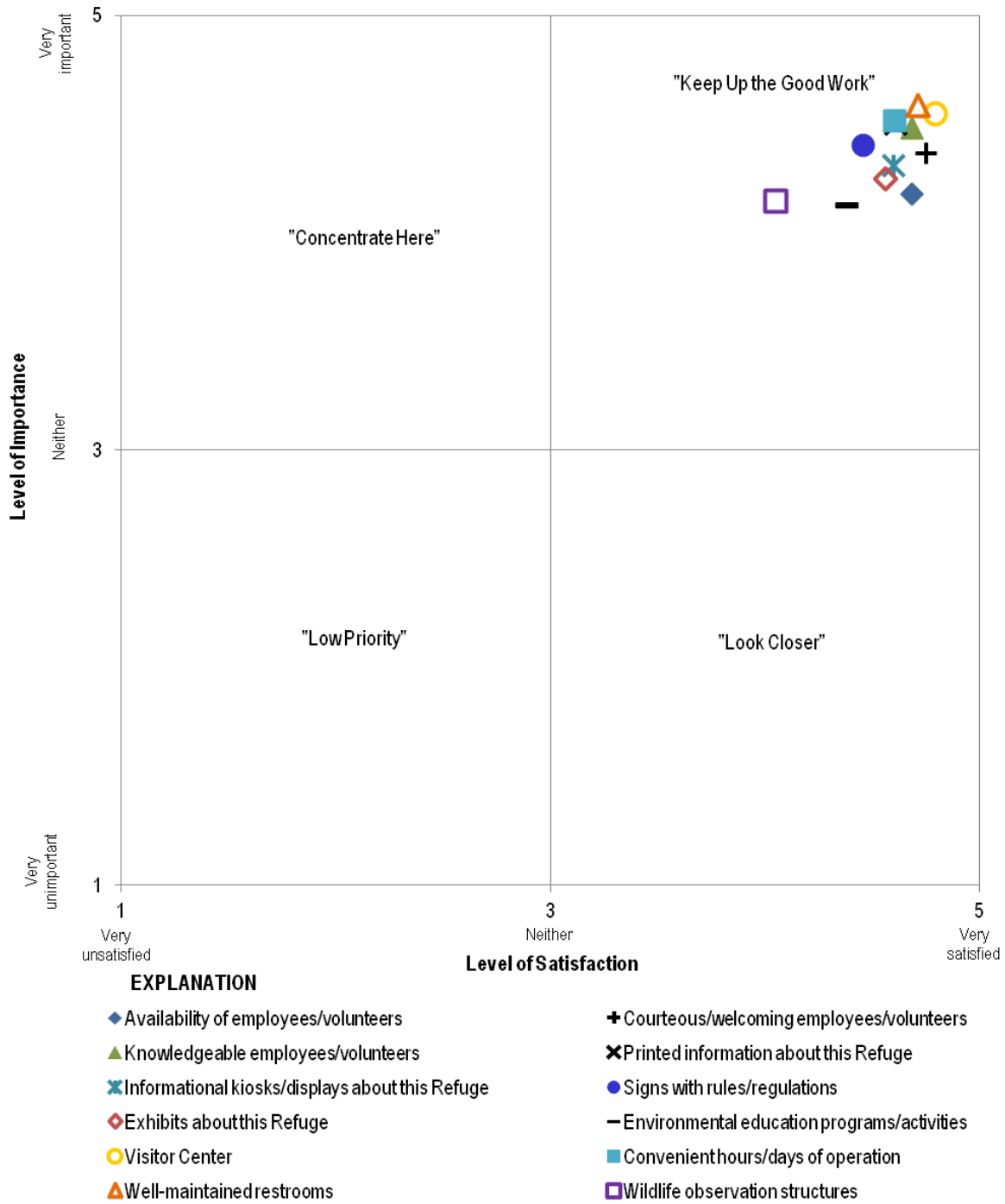
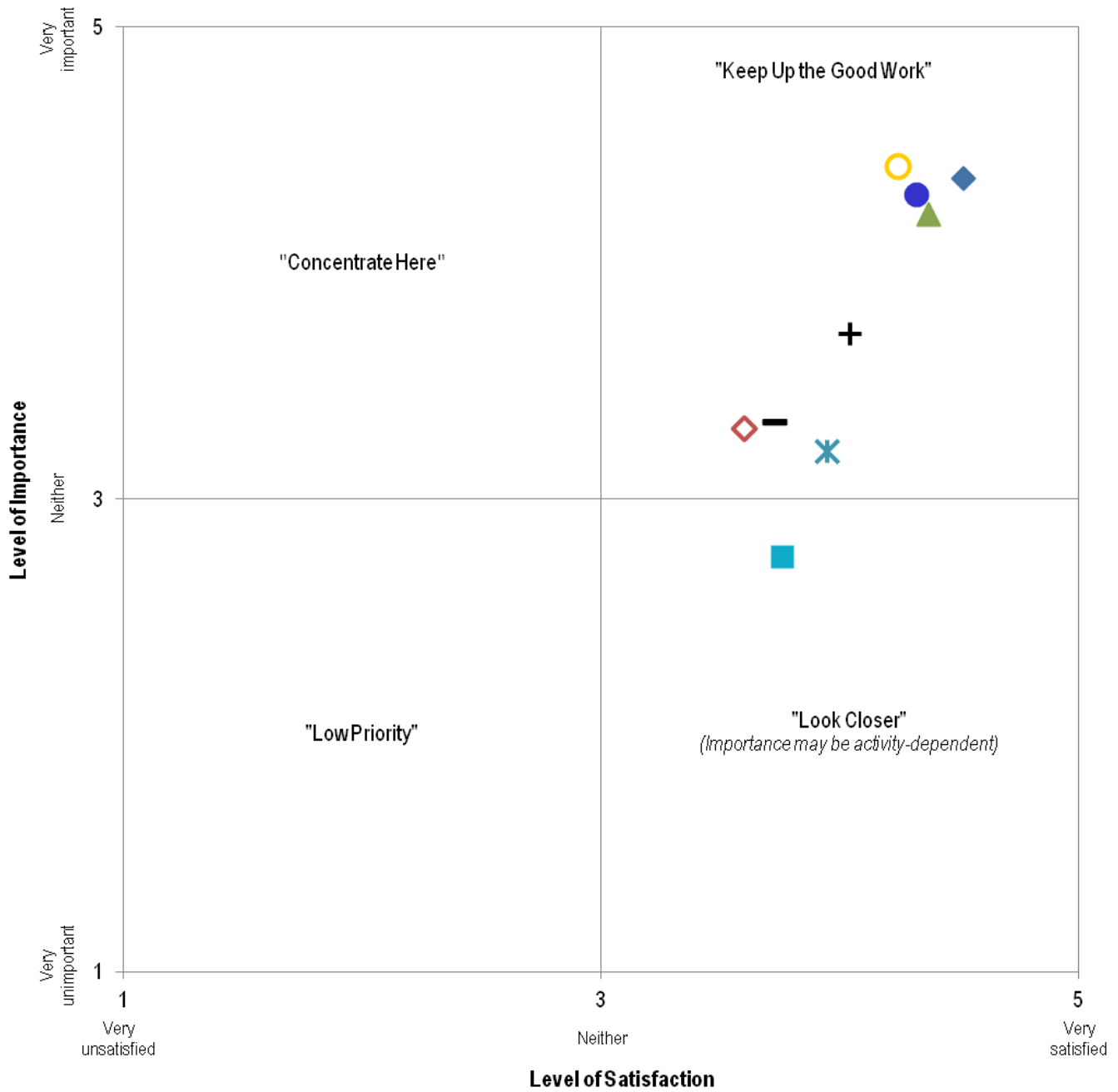


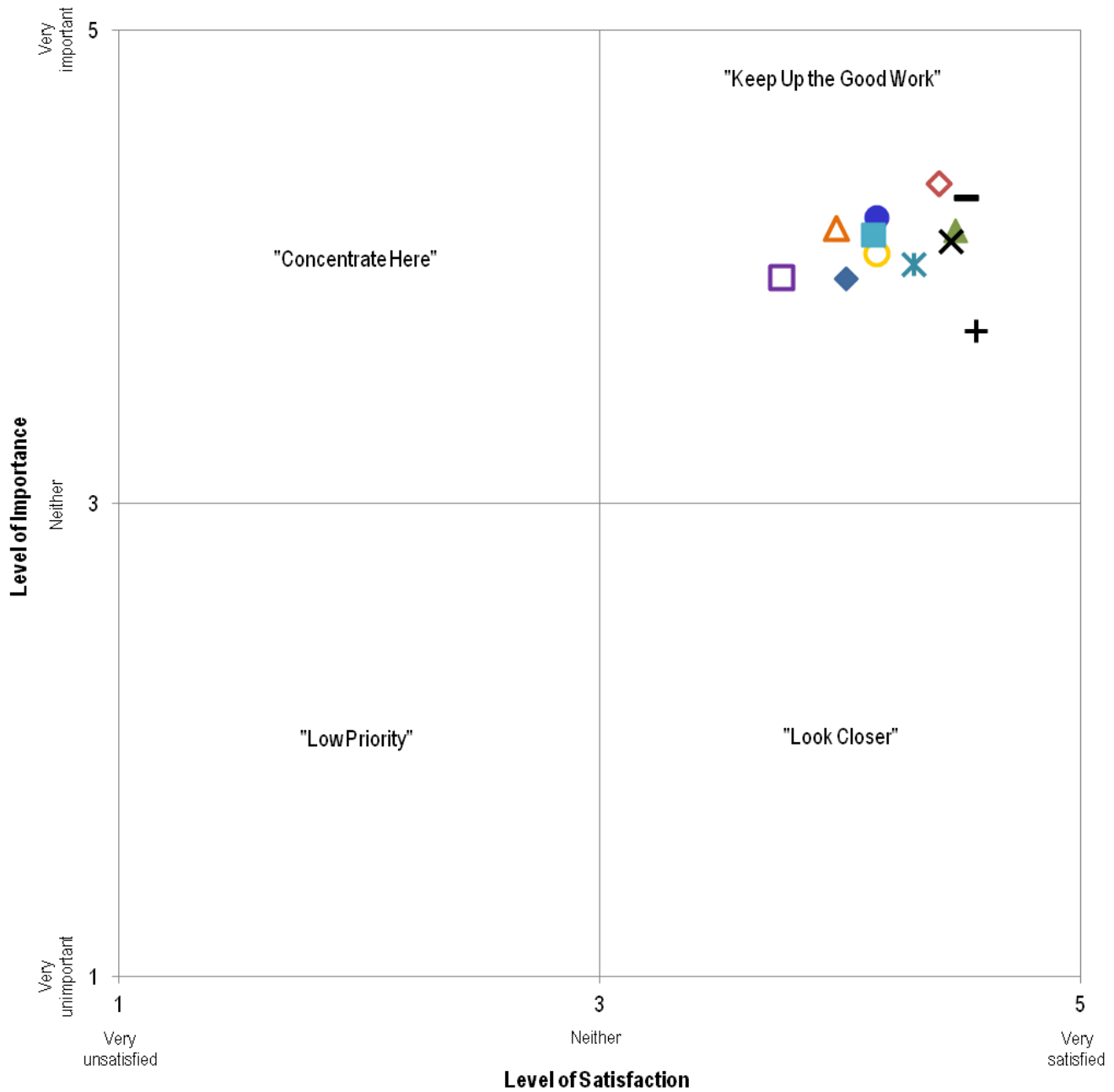
Figure 10. Importance-satisfaction ratings of services and facilities provided at Hagerman NWR.



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 Hagerman 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 Hagerman 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 of these questions will be evaluated in aggregate form (data from all participating refuges together) to better address national-level goals. Basic results for Hagerman NWR are reported here.

Alternative Transportation and the Refuge System

Visitors use various types of transportation to access and enjoy refuges. While many visitors arrive at the refuge in private vehicles, 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 and others, 2001), and recent efforts are beginning to characterize the use of transit and non-motorized transportation modes for visitor access to refuges (Volpe Center, 2010). However, less is known about how visitors perceive 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 refuges in the future.

Of six alternative transportation options listed on the survey, a majority of Hagerman NWR visitors were likely to use the following at 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 provides a guided tour; and
- a bus/tram that runs during a special event.

A majority of visitors indicated they were *not* likely to use a bike share program.

When asked specifically about using alternative transportation at Hagerman NWR, some visitors thought alternative transportation would enhance their experience (27%) while others thought it would not (29%). An additional 44% of surveyed visitors indicated they were unsure whether alternative transportation would enhance their experiences.

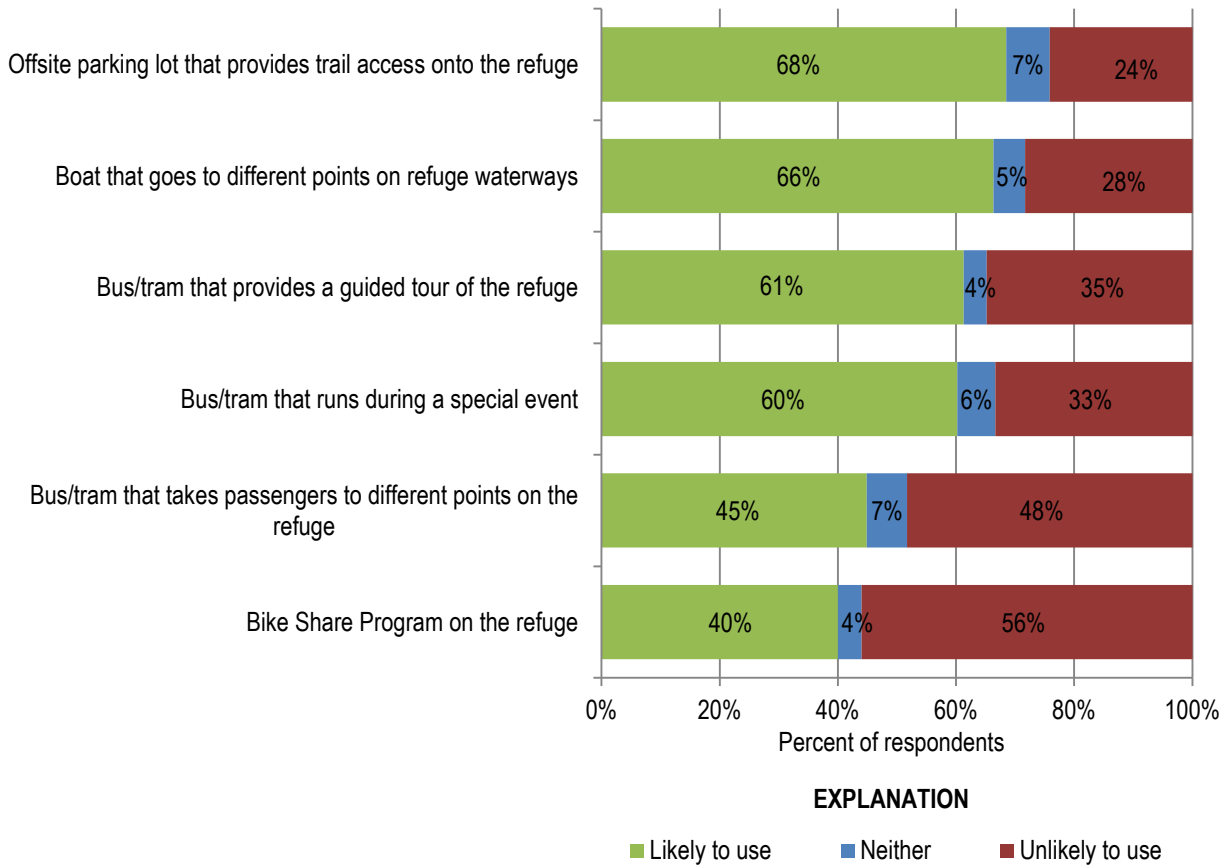


Figure 13. Visitors' likelihood of using alternative transportation options at refuges in the future (n ≥ 200).

Climate Change and the National Wildlife Refuge System

Climate change represents a growing concern for refuge management. The Service's climate-change strategy, titled "Rising to the Urgent Challenge," establishes a basic context for the agency to work within a larger conservation community to 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 the topic of climate change. Previous research suggests that human thought about climate change is influenced by individuals' levels of concern, levels of involvement, preferences for policies, and associated behaviors (Maibach and others, 2009). The results presented below provide baseline information on these factors in relation to the effects of climate change on fish, wildlife, and their habitats.

These results are most useful when coupled with responses to belief statements, 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 does not alter the overall message, but rather places the issue in a context in which different audience groupings can relate (Nisbet, 2009). 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 or supporting economic growth through new jobs/technology). Framing information in ways that resonate with visitors' beliefs may result in more engaged audiences who support strategies aimed at alleviating climate-change pressures. Data will be analyzed further at the national level to inform the development of a comprehensive climate change communication and engagement strategy.

The majority of visitors to Hagerman NWR agreed with the following statements related to their own *personal involvement* with the topic of climate change as it relates to fish, wildlife, and habitats (fig. 14):

- I am personally concerned about the effects of climate change on fish, wildlife and habitats;
- I take actions to alleviate the effects of climate change; and
- I stay well-informed about the effects of climate change.

The majority of visitors also agreed with the following *belief statements* regarding climate change effects on fish, wildlife and their habitats (fig. 15):

- Future generations will benefit if we address climate change effects;
- We can improve our quality of life if we address the effects of climate change; and
- It is important to consider the economic costs and benefits to local communities when addressing climate change effects.

A majority of visitors disagreed that there has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and habitats (fig. 15).

Results regarding such beliefs are important to consider when communicating with visitors about this topic, since almost half of visitors (44%) indicated their experiences would be enhanced if Hagerman NWR provided information about how visitors can help to address climate change impacts on fish, wildlife, and their habitats (fig. 14).

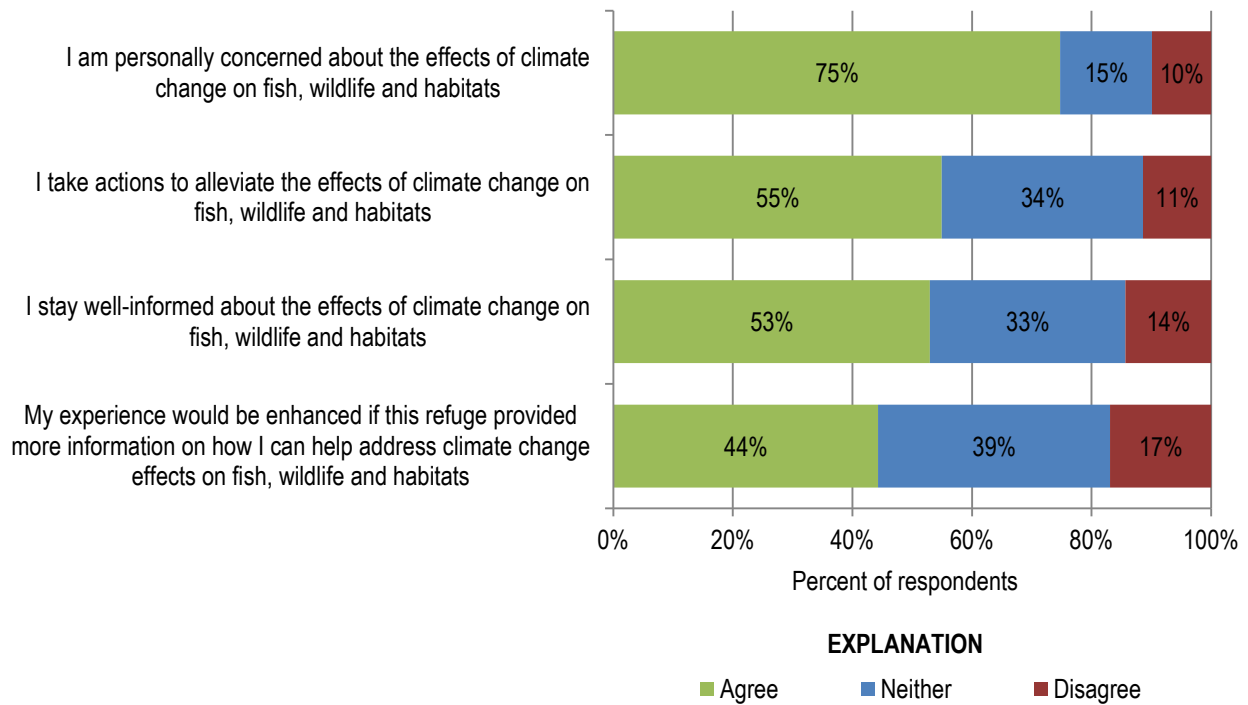


Figure 14. Visitors’ personal involvement with climate change related to fish, wildlife and their habitats (n ≥ 201).

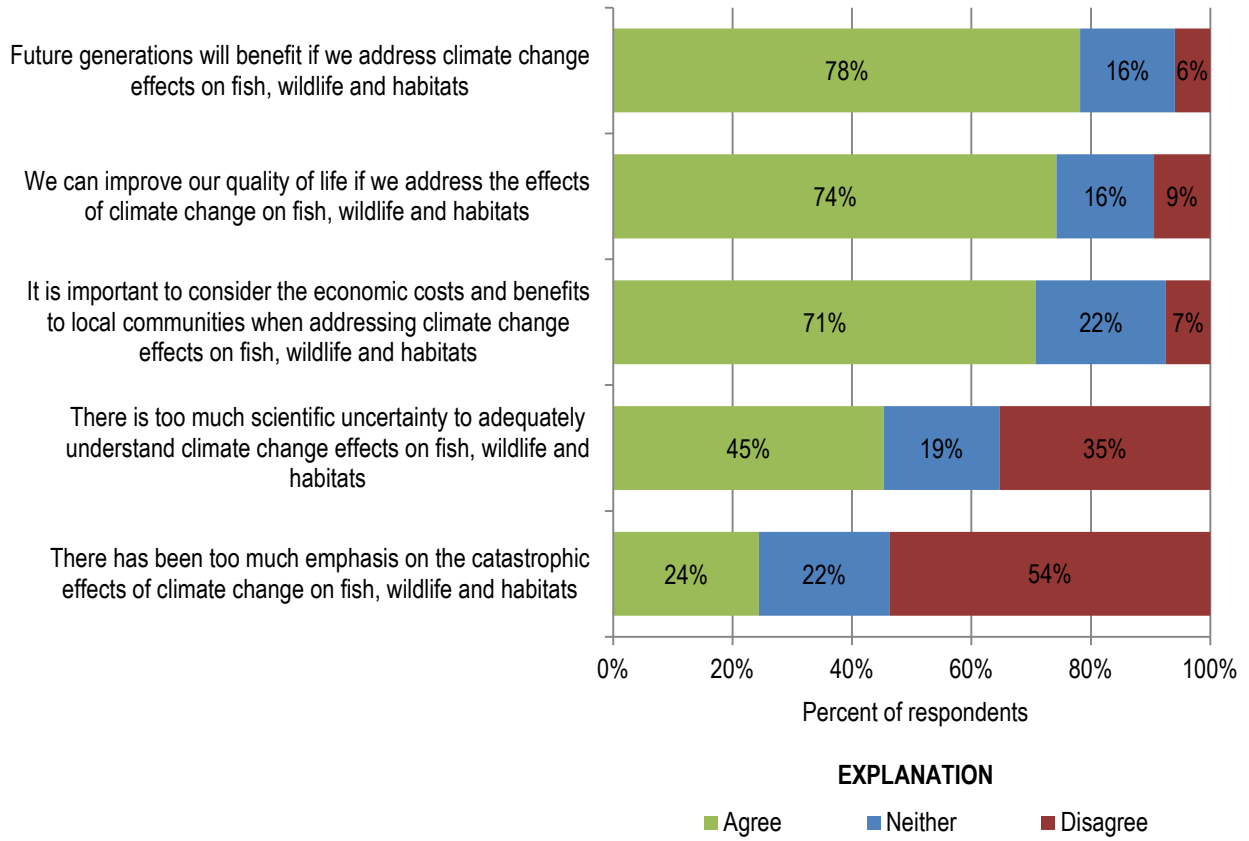


Figure 15. Visitors' beliefs about the effects of climate change on fish, wildlife and their habitats (n ≥ 201).

Conclusion

These individual refuge results provide a summary of trip characteristics and experiences of a sample of visitors to Hagerman NWR during 2012 and are intended to inform decision-making efforts related to visitor services and transportation at the refuge. Additionally, the results from this survey can be used to inform planning efforts, such as a refuge's Comprehensive Conservation Plan. With an understanding of visitors' trip and activity characteristics and visitor-satisfaction ratings with existing offerings, refuge managers are able to make informed decisions about possible modifications (whether reducing or enhancing) to visitor facilities, services, or recreational opportunities. This information can help managers 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 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 and its resources, 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/754/>. For additional information about this project, contact the USGS researchers at 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.

Even 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 for any question that uses the phrase “this Refuge.” Please reference the cover letter included with this survey if you are unsure of which refuge you visited.

SECTION 1. Your visit to this Refuge

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"/> 14% | Big game hunting | <input type="checkbox"/> 43% | Hiking | <input type="checkbox"/> 18% | Environmental education (for example, classrooms or labs) |
| <input type="checkbox"/> 0% | Upland/Small game hunting | <input type="checkbox"/> 2% | Bicycling | <input type="checkbox"/> 16% | Interpretation (for example, exhibits, kiosks, videos) |
| <input type="checkbox"/> 4% | Migratory bird/Waterfowl hunting | <input type="checkbox"/> 53% | Auto tour route/Driving | <input type="checkbox"/> 20% | Refuge special event (<i>please specify</i>)
See Appendix B |
| <input type="checkbox"/> 71% | Wildlife observation | <input type="checkbox"/> 1% | Motorized boating | <input type="checkbox"/> 6% | Other (<i>please specify</i>)
See Appendix B |
| <input type="checkbox"/> 71% | Bird watching | <input type="checkbox"/> 2% | Nonmotorized boating (including canoes/kayaks) | | |
| <input type="checkbox"/> 12% | Freshwater fishing | <input type="checkbox"/> 12% | Volunteering | | |
| <input type="checkbox"/> 0% | Saltwater fishing | | | | |
| <input type="checkbox"/> 44% | 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?

- 13% No
- 87% Yes → If yes, what did you do there? (Please mark **all that apply.**)
- | | | | |
|------------------------------|--|------------------------------|---|
| <input type="checkbox"/> 66% | Visit the gift shop or bookstore | <input type="checkbox"/> 8% | Pick up/purchase a license, permit, or pass |
| <input type="checkbox"/> 80% | View the exhibits | <input type="checkbox"/> 58% | Stop to use the facilities (for example, get water, use restroom) |
| <input type="checkbox"/> 71% | Ask information of staff/volunteers | <input type="checkbox"/> 12% | Other (<i>please specify</i>) See Appendix B |
| <input type="checkbox"/> 31% | Watch a nature talk/video/presentation | | |

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

Nonlocal	Local	All visitors	
<input type="checkbox"/> 72%	<input type="checkbox"/> 92%	<input type="checkbox"/> 85%	It was the primary purpose or sole destination of my trip.
<input type="checkbox"/> 15%	<input type="checkbox"/> 2%	<input type="checkbox"/> 7%	It was one of many equally important reasons or destinations for my trip.
<input type="checkbox"/> 13%	<input type="checkbox"/> 5%	<input type="checkbox"/> 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 **hours/minutes and miles** (one-way) did you travel from your home to this Refuge?

Nonlocal	<u> 3 </u> Hours	<u> 10 </u> Minutes	<i>and</i>	<u> 179 </u> Miles
Local	<u> 0 </u> Hours	<u> 30 </u> Minutes	<i>and</i>	<u> 21 </u> Miles
All visitors	<u> 1 </u> Hours	<u> 24 </u> Minutes	<i>and</i>	<u> 75 </u> Miles

6. What type of group were you with on your visit to this Refuge?

22% None, I visited this Refuge alone

(of those visiting with a group)

94% Family and/or friends

3% Organized club or school group (for example, Boy/Girl Scouts, hiking club, bird watching group)

0% Commerical tour group

3% Other (*please specify*) See Appendix B

7. Including yourself, how many people were in your group? (*Please answer each category.*)

 3 number 18 years and over

 0 number 17 years and under

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

60% Family and/or friends

12% Refuge website

21% Signs on highway

6% Other website (*please specify*) See Appendix B

10% Recreation club or organization

5% Television or radio

23% People in the local community

9% Newspaper or magazine

12% Refuge printed information (brochure, map)

6% Travel guidebook or other book

8% Map or atlas

6% Other (*please specify*) See Appendix B

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

49% Spring
(March-May)

44% Summer
(June-August)

74% Fall
(September-November)

70% Winter
(December-February)

10. How many times have you visited...

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

...other National Wildlife Refuges in the last 12 months? 2 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"/> 96% | Private vehicle without a trailer | <input type="checkbox"/> 3% | Refuge shuttle bus or tram | <input type="checkbox"/> 3% | Bicycle |
| <input type="checkbox"/> 3% | Private vehicle with a trailer
(for boat, camper or other) | <input type="checkbox"/> 0% | Motorcycle | <input type="checkbox"/> 25% | Walk/Hike |
| <input type="checkbox"/> 0% | Commercial tour bus | <input type="checkbox"/> 0% | ATV or off-road vehicle | <input type="checkbox"/> 1% | Other (<i>please specify below</i>) |
| <input type="checkbox"/> 0% | Recreational vehicle (RV) | <input type="checkbox"/> 0% | Boat | <u>See Appendix B</u> | |
| | | <input type="checkbox"/> 0% | Wheelchair or other mobility aid | | |

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

- | | | | |
|------------------------------|--|------------------------------|---|
| <input type="checkbox"/> 76% | Previous knowledge/I have been to this Refuge before | <input type="checkbox"/> 11% | Maps from the Internet (for example, MapQuest or Google Maps) |
| <input type="checkbox"/> 23% | Signs on highways | <input type="checkbox"/> 6% | Directions from Refuge website |
| <input type="checkbox"/> 13% | A GPS navigation system | <input type="checkbox"/> 3% | Directions from people in community near this Refuge |
| <input type="checkbox"/> 7% | A road atlas or highway map | <input type="checkbox"/> 11% | Directions from friends or family |
| | | <input type="checkbox"/> 1% | Other (<i>please specify</i>) <u>See Appendix B</u> |

2. 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"/> 35%	<input type="checkbox"/> 14%	<input type="checkbox"/> 7%	<input type="checkbox"/> 27%	<input type="checkbox"/> 18%
...a bike that was offered through a Bike Share Program for use while on the Refuge?	<input type="checkbox"/> 40%	<input type="checkbox"/> 16%	<input type="checkbox"/> 4%	<input type="checkbox"/> 25%	<input type="checkbox"/> 16%
...a bus or tram that provides a guided tour of the Refuge with information about the Refuge and its resources?	<input type="checkbox"/> 26%	<input type="checkbox"/> 8%	<input type="checkbox"/> 4%	<input type="checkbox"/> 34%	<input type="checkbox"/> 27%
...a boat that goes to different points on Refuge waterways?	<input type="checkbox"/> 19%	<input type="checkbox"/> 10%	<input type="checkbox"/> 5%	<input type="checkbox"/> 38%	<input type="checkbox"/> 28%
...a bus or tram that runs during a special event (such as an evening tour of wildlife or weekend festival)?	<input type="checkbox"/> 26%	<input type="checkbox"/> 7%	<input type="checkbox"/> 6%	<input type="checkbox"/> 34%	<input type="checkbox"/> 26%
...an offsite parking lot that provides trail access for walking/hiking onto the Refuge?	<input type="checkbox"/> 16%	<input type="checkbox"/> 8%	<input type="checkbox"/> 7%	<input type="checkbox"/> 35%	<input type="checkbox"/> 33%
...some other alternative transportation option? (<i>please specify</i>) <u>See Appendix B</u>	<input type="checkbox"/> 7%	<input type="checkbox"/> 7%	<input type="checkbox"/> 13%	<input type="checkbox"/> 20%	<input type="checkbox"/> 53%

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

- 27% Yes 29% No 44% Not Sure

4. 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%	9%	5%	48%	33%	Surface conditions of roads	5%	14%	3%	30%	48%	NA
6%	12%	10%	47%	24%	Surface conditions of parking areas	3%	2%	7%	16%	73%	NA
7%	2%	10%	33%	48%	Condition of bridges	3%	1%	10%	16%	69%	NA
6%	3%	8%	43%	41%	Condition of trails and boardwalks	1%	1%	11%	24%	63%	NA
4%	6%	9%	47%	34%	Number of places for parking	1%	6%	9%	33%	53%	NA
3%	4%	7%	43%	44%	Number of places to pull over along Refuge roads	1%	7%	9%	40%	42%	NA
5%	1%	5%	33%	57%	Safety of driving conditions on Refuge roads	1%	5%	5%	28%	60%	NA
4%	2%	8%	36%	51%	Safety of Refuge road entrances/exits	2%	2%	6%	23%	68%	NA
6%	6%	11%	32%	46%	Signs on highways directing you to the Refuge	5%	8%	10%	25%	54%	NA
6%	4%	5%	41%	44%	Signs directing you around the Refuge roads	2%	8%	8%	36%	45%	NA
6%	3%	10%	32%	49%	Signs directing you on trails	2%	7%	20%	34%	38%	NA
5%	6%	17%	33%	39%	Access for people with physical disabilities or who have difficulty walking	0%	10%	34%	26%	29%	NA

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

See Appendix B

SECTION 3. Your expenses related to your Refuge visit

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

63% Yes

37% No → How much time did you spend **in the local area** on this trip?

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

only If you spent less than one day in the local area, enter the number of hours: 5 hour(s)

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

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

If you spent less than one day at this Refuge, enter the number of hours: 4 hour(s)

3. 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	Amount Spent in Local Communities & at this Refuge <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

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

2 number of people sharing expenses

5. 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
9%	20%	21%	9%	18%	2%	12%	0%	2%	2%	6%

6. 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**.)

100% Did not pay a fee (skip to Section 4)

Hagerman National Wildlife Refuge does not charge an entrance fee. This question does not apply.

7. 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.

Hagerman National Wildlife Refuge does not charge an entrance fee. This question does not apply.

SECTION 4. Your experience at this Refuge

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.	<input type="checkbox"/> 0%	<input type="checkbox"/> 1%	<input type="checkbox"/> 4%	<input type="checkbox"/> 35%	<input type="checkbox"/> 59%	NA
Overall, I am satisfied with the information and education provided by this Refuge about its resources.	<input type="checkbox"/> 0%	<input type="checkbox"/> 1%	<input type="checkbox"/> 3%	<input type="checkbox"/> 29%	<input type="checkbox"/> 67%	NA
Overall, I am satisfied with the services provided by employees or volunteers at this Refuge.	<input type="checkbox"/> 0%	<input type="checkbox"/> 1%	<input type="checkbox"/> 3%	<input type="checkbox"/> 23%	<input type="checkbox"/> 75%	NA
This Refuge does a good job of conserving fish, wildlife and their habitats.	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 5%	<input type="checkbox"/> 20%	<input type="checkbox"/> 74%	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
3%	7%	7%	39%	45%	Availability of employees or volunteers	2%	1%	5%	13%	80%	NA
4%	4%	4%	30%	59%	Courteous and welcoming employees or volunteers	2%	1%	5%	7%	86%	NA
3%	2%	2%	31%	62%	Knowledgeable employees or volunteers	2%	1%	4%	12%	81%	NA
2%	2%	5%	28%	64%	Printed information about this Refuge and its resources (for example, maps and brochures)	2%	3%	5%	13%	77%	NA
3%	3%	6%	40%	49%	Informational kiosks/displays about this Refuge and its resources	2%	2%	5%	18%	73%	NA
2%	3%	7%	31%	57%	Signs with rules/regulations for this Refuge	2%	3%	7%	23%	65%	NA
3%	2%	11%	35%	49%	Exhibits about this Refuge and its resources	2%	0%	10%	16%	72%	NA
2%	3%	21%	29%	45%	Environmental education programs or activities	1%	1%	20%	15%	63%	NA
1%	2%	4%	28%	65%	Visitor Center	2%	1%	4%	5%	89%	NA
2%	1%	3%	33%	61%	Convenient hours and days of operation	2%	2%	5%	18%	74%	NA
2%	1%	3%	26%	69%	Well-maintained restrooms	2%	2%	3%	11%	82%	NA
4%	4%	11%	38%	44%	Wildlife observation structures (decks, blinds)	2%	6%	17%	37%	39%	NA
4%	1%	11%	23%	61%	Bird-watching opportunities	2%	1%	11%	16%	70%	NA
2%	3%	6%	32%	58%	Opportunities to observe wildlife other than birds	2%	5%	9%	35%	49%	NA
4%	3%	16%	23%	54%	Opportunities to photograph wildlife and scenery	2%	0%	18%	19%	61%	NA
37%	7%	23%	10%	23%	Hunting opportunities	2%	2%	47%	13%	35%	NA
25%	7%	20%	21%	28%	Fishing opportunities	2%	0%	42%	16%	41%	NA
3%	2%	10%	35%	51%	Trail hiking opportunities	2%	2%	13%	28%	55%	NA
18%	6%	26%	29%	22%	Water trail opportunities for canoeing or kayaking	3%	3%	48%	20%	25%	NA
17%	5%	25%	34%	19%	Bicycling opportunities	1%	2%	46%	25%	26%	NA
7%	3%	33%	26%	31%	Volunteer opportunities	1%	0%	39%	15%	45%	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

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

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?

93% Yes

7% No

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

94% Yes

6% No

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

92% Yes

8% No

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

See Appendix B

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.	4%	6%	15%	38%	37%
We can improve our quality of life if we address the effects of climate change on fish, wildlife and their habitats.	5%	4%	16%	37%	37%
There is too much scientific uncertainty to adequately understand how climate change will impact fish, wildlife and their habitats.	14%	21%	19%	30%	15%
I stay well-informed about the effects of climate change on fish, wildlife and their habitats.	4%	10%	33%	38%	15%
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.	3%	4%	22%	54%	16%
I take actions to alleviate the effects of climate change on fish, wildlife and their habitats.	4%	7%	34%	40%	15%
There has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and their habitats.	22%	32%	22%	15%	9%
Future generations will benefit if we address the effects of climate change on fish, wildlife and their habitats.	3%	3%	16%	36%	42%
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.	8%	9%	39%	31%	13%

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 2 in Report

2. Are you? 50% Male 50% Female

3. In what year were you born? 1955 (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)							
					1%						16%						47%						35%

5. What ethnicity do you consider yourself? 4% Hispanic or Latino 96% Not Hispanic or Latino

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

<input type="checkbox"/> 6% American Indian or Alaska Native	<input type="checkbox"/> 0% Black or African American	<input type="checkbox"/> 96% White
<input type="checkbox"/> 1% Asian	<input type="checkbox"/> 0% Native Hawaiian or Pacific Islander	

7. How many members are in your household? 2 persons

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

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

<input type="checkbox"/> 2% Less than \$10,000	<input type="checkbox"/> 11% \$35,000 - \$49,999	<input type="checkbox"/> 11% \$100,000 - \$149,999
<input type="checkbox"/> 7% \$10,000 - \$24,999	<input type="checkbox"/> 27% \$50,000 - \$74,999	<input type="checkbox"/> 7% \$150,000 - \$199,999
<input type="checkbox"/> 9% \$25,000 - \$34,999	<input type="checkbox"/> 22% \$75,000 - \$99,999	<input type="checkbox"/> 5% \$200,000 or more

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

18 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.

Comments?

See Appendix B for Comments

PAPERWORK REDUCTION ACT STATEMENT: The Paperwork Reduction Act requires us to tell you why we are collecting this information, how we will use it, and whether or not you have to respond. The information that we collect in this survey will help us understand visitor satisfaction with and use of National Wildlife Refuges and to make sound management and policy decisions. Your response is voluntary. An agency may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a valid OMB Control Number. We estimate it will take an average of 25 minutes to complete this survey. You may send comments concerning the burden estimate or any aspect of the survey to the Information Collection Clearance Officer, Fish and Wildlife Service, 4401 North Fairfax Drive, MS 222-ARLSQ, Arlington, VA 22203. OMB CONTROL #1018-0145 EXPIRATION DATE 6/30/2013

Appendix B: Visitor Comments to Open-Ended Survey Questions for Hagerman 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
Archery hunt	2
BBQ, Second Saturday programs	1
Bluebirds	1
Dedication Ceremony, Second Saturday Lectures	1
Friends of Hagerman fundraiser and meeting	1
Friends of Hagerman programs	1
Grand opening and Super Saturday Event	1
Grand opening of new Visitor Center	1
Grand opening of new Visitor Center, Second Saturday Lectures	1
Ground breaking for new Visitor Center and appreciation lunch, monthly nature programs, volunteer training for new store	1
Guided wildlife tour with one of the volunteers	1
High on the Hawg fundraiser dinner, went to all three!	1
High on the Hog, Photo Safari	1
Kids day arts and crafts	1
Kids monthly project	1
Photo club, bluebird monitoring/giving tours	1
Photo safari, Second Saturday Lectures	1
Presentation on bluebirds	2
Presentation on bluebirds, grand opening of Visitor Center	1
Presentation on bluebirds, Second Saturday Lectures	2
Second Saturday events	1
Second Saturday Lectures	4
Second Saturday programs, hog barbecue	1
Second Saturday Youth Program	3
Second Saturday Youth Program, Second Saturday Lectures	1
Second Saturday, Tuesday bird count	1
Seminar on birds and waterfowl	1
Super Saturday	2
Super Saturday, BBQ dinner fundraiser for Friends of Hagerman	1
Talk on sparrows	1

To view deer killed in second segment.	1
Upcoming hog management planning	1
Wildlife Cookout	1
Workshops	1

Other Activity	Frequency
Bluebird Monitoring	1
Hunting old cemeteries that are reportedly on this property.	1
Job shadowing	1
Native flower bed maintained by Grayson County Master Gardeners	1
Oil company activities also reporting of illegal activities on refuge property.	1
Photo club	2
Scouting for hunting	4
Senior and Handicapped card	1
Tour on tram	1

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
A friend of mine grew up in the area and we were visiting the old water well.	1
First visit	1
Get out of town and see the countryside.	1
Hog Management Plan	1
Job Shadowing	1
Maintain native flower bed sponsored by Grayson County Master Gardeners	1
Reliving memories from my childhood and it is the way from my hometown to my grandmother's home.	1
Senior and Handicapped Card	1
To view deer harvested in second segment	1

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 a lunch we brought, between the bluebird presentation and going for a hike on our own.	1
Binoculars	1
Check recent bird sightings.	1
Educational brochures	1
Get maps and information of the areas.	1
Giving tours	1
Got a membership	1
Helped in bookstore/gift shop.	1
Helped manage Visitor Center as a volunteer.	1
Obtained trail camera permit, to use as scouting tool.	1
Photography	1
Pick up informative brochures.	1
Picked up bird check list and brochure.	1
Rented binoculars, listened to bird calls.	1
Say hi to volunteers.	1
Sign up for the auto tram.	1
Volunteer	3
Volunteer at information desk in Visitor Center	1
Work at the information desk and nature store.	1
Work-volunteer-VC	1

Question 6: “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
Controlled hunt	1
Grayson County Master Gardeners	1
Hunters	1
Travel with another volunteer, around visitors, volunteers and staff.	1
Volunteers	1

Question 8: "How did you first learn or hear about this Refuge?"

Other Website	Frequency
Checking the internet for activities in the area.	1
Facebook	2
Google maps	1
Searched for birding areas near home.	1
Texas photo forum at pixtus.com	1
texasbowhunter.com	3
Web surfing	1

Other Ways Heard about This Refuge	Frequency
Boating on Lake Texoma	1
Bow shop	1
Charles Bannister	1
College class	1
College professors	1
From other birdwatchers at the Connemara.	1
Hunters	1
Local birdwatchers	1
Met Joe Blackburn at Mineola Nature Preserve and he told me about it.	1
Personal friends with manager	1
Spouse works for FWS and applied for a job opening here.	1
Through a bow safety class I attended several years back.	1

Survey Section 2

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

Other Forms of Transportation	Frequency
Refuge vehicle	2

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

Other Ways Found This Refuge	Frequency
From refuge volunteer	1
Stopped for directions when lost.	1

Question 3: "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
ATV	1
Bicycle	1
Gator/4wheel drive vehicle	1
Golf cart for long trails	1
Horseback	5
Kayak	1
My own vehicle	1
Personal bike	1
Refuge van	1
Tub	1
Walk	1
Wheelchair	1

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 = 48)

20 MPH speed limit is way too low for a lot of traffic. The refuge is wide open.

A tram to transport people with difficulty walking to have access to trails.

After the roads are graveled they are always very dusty. This is my only real complaint about these roads. After leaving the refuge I must go wash my car. My last visit was shortened due to the great amount of dust that created a cloud over the entire wildlife drive area. This dust is not only not healthy for me and other people but how can this be good for birds or animals?

Because of the oil rig maintenance, people, and their trucks, the roads are often very treacherous because of the pot holes and dips that are created. This can especially be a problem on some of the roads connecting oil pumps along the auto tour and can impede the experience.

Came on this past trip from the west, had to trust through instinct that some of the turns were correct as signs were few and far between.

Google maps took me in the back way and was not really correct. Need more signs on those roads.

GPS and highway signs both bring visitors in the back entrance which is accessed through gravel roads that are not always the best. We have a new portion of Hwy 289 that brings people in closer, but the highway signs haven't been moved to show the better alternative.

Hagerman has done an outstanding job of maintaining/upgrading the roads and bridges around the refuge without taking away from the wildlife experience - i.e. the roads are still unpaved as they should be.

Hagerman NWR is not a limited access refuge. There are multiple public roads. People who are not visiting the refuge tend to drive very fast on tour roads and do not observe posted speed limits. Families park at the side of the road to fish and observe wildlife. The speed limit on these gravel roads is 20 mph but people fly through the refuge at 50 mph. More education is needed for the public to remind them of the importance of observing posted speed limits. There are too many miles of roads and a too limited law enforcement staff to stop every speeding driver. More education is needed to get people to slow down.

I came from the east. The sign on highway 82 is very faded. Then if you don't miss the turn there, you are sure to miss some turn on your way in. On the way out I always get confused too. If I go further and come in by Pottsboro, it's not well signed either like, 'Hagerman. 5 miles ahead' would be nice! Warning us how much further it is.

I have mixed feelings about paved trails. The trails at Hagerman are rugged and have to be walked very carefully, not suitable for handicapped use; however, the dirt is easier on my feet than other parks with concrete trails and better for the wildlife.

I took the self guided auto tour and was very pleased. Must recommend a high center vehicle though.

I would like to see better access for people with handicaps who use power chairs or wheel chairs and who like to fish. A friend who has to use a power chair is limited to a small number of areas where he can fish from shore.

I would like to see the refuge do more to invite disabled people to have a successful visit.

It is very nice when you are able to access a wildlife refuge via your own vehicle. However, I appreciate the delicate balance of managing this access.

My car is covered in white dust whenever we go to the refuge. I fear that the roads will be washed out whenever it rains. Need more signs leading to the refuge from local roads (not highways).

Not sure how well various units are labeled? Like Big Mineral, Myers, Harris Creek etc. May not have noticed signage.

Parking lot is too small when they have a program.

Paving the roads would be a big plus. Much too dusty, and when the wind is blowing it's terrible.

People don't abide by the speed limits. They drive too fast.

Pretty good, for unimproved (gravel) roads. Potholes probably unavoidable under such conditions. Grading is done on occasion.

Road to the Visitor Center has been improved greatly with the new surface.

Seems to be well maintained at all times.

Signs initially on the road are marked well, but when you are within 5-10 miles you do not see signs for a few miles. I have actually tried to drive to the refuge on a whim and ended up turning around and thought maybe it was no longer there. When I spoke of it to a friend, she stated that you just keep driving through the intersections and you would eventually run in to it. (I have driven from the east side and from the west side and have went home each time, because I couldn't find it.)

Signs on HWY 82 need to be updated.

Signs: haven't liked those that much.

Since the road is prone to flooding, it doesn't make sense to put in a paved road. The gravel road has always been in good condition when I've visited and is the appropriate level of maintenance for the conditions. The new signs are nice for new visitors but I didn't need them since I already knew how to get to the refuge and navigate the trails. I still think it was a good investment.

Sometimes roads can get quite rough.

Speed limit of 20 MPH through refuge is ridiculous and keeps people away. Many people do not go through the refuge due to the "20 MPH"!

Staff was very helpful. Cleanest bathrooms I have ever seen in a park.

The complete roads need to be redone with pavement and rock. Need signs for entrance on all roads- hard to find- if you don't know where the refuge is.

The condition of the refuge roads is such that it is very hard to ride a motorcycle, and it gets your vehicle very dirty.

The problem is the dust generated by vehicles driving on limestone surface roads and the speed of vehicles driving on the refuge. There is a 20 mph speed limit and they try to enforce it but they don't have enough manpower to enforce it adequately. Most days of the year it is very dusty. Becomes dusty the next day after a rain. It is my understanding that they are going to do a study using different materials to control the dust. For me that study cannot come too soon.

The refuge itself is great, but the directions on how to get there are not very good. There is only one little sign which you will pass if you are not looking.

The roads are always dusty. It seems to be a losing battle. The refuge has tried to deal with it.

The roads on Hagerman are always very maintained and I have never had a problem with my travels through the refuge. However, the dust is nasty and gets all over my vehicle inside and outside. I would love to see the roads paved, or at least the main road.

The volunteers are really knowledgeable and seem to deeply care about the refuge, and it shows through in their attitudes.

There are people that speed at high rates of speed through the refuge even when there are signs posted with a low speed limits. It is annoying to visitors and birds. I would like to see speed bumps installed on the refuge main road. The refuge is for the animals and it is not a highway.

There were quite a few pot-holes.

Very satisfied.

Wanted a better map describing trails. I was there for hiking with my kids.

Washouts on some of the oil pad roads are left unrepaired; signage is not consistent and is confusing on the west side of the arm of water, the more remote part of the refuge.

We were hunting in the woods where animal trails were what was important. This type of hunting does not lend itself to a handicapped person.

We wish the roads were paved so there would be no dust when we drive through the refuge! The road signs are great and the "security guy" does a great job. Please pave the roads!

We would like access to more of the Hagerman land but there are only a few trails that we can access. We feel there is so much more to see and so little access to it. The stops could be more specific and updated also.

While all meet minimum standards, much could be improved.

White rock roads are real dusty in the dry weather. Gets in car and on camera equipment. Could main roads be black-topped?

Would like to see main roads paved.

Survey Section 4

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

Comments on Services, Facilities, and Activities at This Refuge (n = 67)

A lot of the newer trails are inaccessible for the bikes and difficult to hike due to tree stubs and other dangerous obstacles.

A super nice Visitor Center and extremely clean restrooms at the picnic areas- unusual considering they are open to the public but they are well maintained.

Better restroom for hunters.

Better signage on the highway would be great! Also around the refuge.

Concerned about safety on the trails when hiking alone. Maybe some way to send emergency signal if needed back to headquarters would be good.

Could use more hiking trails.

Delightful Visitor Center. Very good information seminars.

During the hunts, services are lacking. Roads run through the hunt sections, but the rangers will not open gates or help to retrieve the game that was shot. They generally will tell you to get out the best as you can. And it seems that the same hunters get drawn year after year not giving others a chance. I don't believe the drawings are fair.

Everything is for nature. Activities are great and very informative.

Extremely courteous and knowledgeable.

Fishing from the bank should be available 24 hours per day instead of day use only.

For the hunt I would like more info about access points.

Friends of Hagerman does a good job with outreach and communication. The manager does an excellent job.

Glad to see them offering the hog and turkey hunts. Would like to see some age or antler restriction minimum on the annual deer hunt. Would also like to be allowed to take predators during the hunt weekend.

Good for kids.

Great facility. Will return many times.

Great improvements.

Great refuge. Thanks for all that you do. We always enjoy spending the day there. Texas Master Naturalists.

Great visit.

Great volunteers.

Hagerman Visitor Center is beautiful and very informational. What a terrific resource.

Having just discovered this refuge, I look forward to spending more time there hiking, biking, and birding.

How about some fishing tournaments.

I dislike seeing (hearing)the occasional motorcycles in the refuge because they are so noisy and tend to scare off any kind of wildlife.

I don't like the oil well pumps but nothing you can do about that.

I have observed many life birds here and appreciate the work and effort of the staff and strong friend and volunteer program to make this an outstanding site for birdwatchers.

I loved the facilities and volunteers. We will be back.

I was really pleased by my short visit. I'd called the previous day about Bald Eagle sightings. True to form, they are not here all the time. I did get sightings of the Great Blue Heron and a rather rare sighting of the Roadrunner. The staff was most helpful! One could tell that due to the out of state cars (i.e. Kansas) that this is a great spot to visit!

I would like to receive information on deer hunting on Hagerman.

I would like to see more blinds around the refuge.

I would like trail opportunities to be of better surface material. Walking on the rock roads for an hour is painful.

I would love to kayak at the refuge and the only season one can do this is the heat of the summer. Please consider expanding this.

I'm a friend of Hagerman. They offer a lot of educational/fun activities. Fortunately I have attended and been able to take my grandchildren. Fun experiences families are not aware of.

Kathy Whaley has done a tremendous job in organizing and managing the activities provided.

Keep road traffic to a minimum – allow foot, bike, and watercraft only.

Many of these things don't apply to a person my age as I couldn't participate in them anyway. Can you picture a 71 year old man in a kayak? I wouldn't have messed with one in my 40's.

Need better maps of trails.

New facilities are beautiful! Will definitely be back!

New Visitor Center is very nice.

No places to camp or fish at night. But everyone at Hagerman NWR is very friendly and very helpful. Even the game wardens. I have always been able to stop by the office and get my questions answered. The restrooms are always clean and stocked. They always keep areas mowed down well.

Outstanding Visitor Center, very friendly folks there, excellent and interesting displays.

Please have the oil company clean their property. They make you guys look bad.

Should charge small fee for boat ramps or for fishing.

Speed limit "20 MPH" is a killer to the refuge!

Sun-up to sun-down restrictive, could extend to 10pm. Park personnel friendly, helpful. Overall a place to be proud of and I enjoy it!

The building was very green, for example using solar energy. It would have been nice to see flushless urinals in the men's restroom. We have them on campus and they save lots of money since they do not use water.

The manager that is here now has done a great job in improving the refuge. She is doing a fantastic job.

The new facility is very nice.

The new refuge Visitor Center is wonderful. Bathroom facilities are handicapped accessible, it's a "green" facility, the classroom is spacious, and the displays are very nice and filled with pictures by local photographers. The Friends of Hagerman has done a phenomenal job in the last few years to promote the refuge, establish volunteer opportunities, and organize activities and events.

The new Visitor Center and grounds are beautiful. We enjoy visiting Hagerman with family.

The new Visitor Center is awesome! I plan to attend a birding class next month.

The new Visitor Center is phenomenal. We have become birdwatchers after attending a program there. So much knowledge shared by the staff and volunteers! The volunteers are super committed and their work is appreciated.

The new Visitor Center is wonderful! The remote restrooms around the refuge are very nice and well-maintained.

The roads are too dusty for bike riding. If it was possible to control the dust then this would not only be a great place to ride a bicycle but a really safe place as well. Longer launch ramps would make canoe launching safer, especially with the lakes fluctuation levels.

The Visitor Center is very clean and well maintained. Need additional trams to observe wildlife. Feeders to draw them to those locations.

The volunteer on duty was extremely helpful and knowledgeable.

The workers at the Visitor Center were very friendly and informative.

There are bird outings with volunteers that occur during the week but none on the weekend, when I could attend. Is this because the refuge is busier with human traffic so it is not ideal birding? The hiking trails are so-so and the biking opportunities are not great, especially sharing a dusty road with trucks and cars. I don't think this refuge can really cater to bicyclist well. The auto tour of birds is good and very accessible with some educational signs. I also liked the few non-motorized boat areas that are available.

There are many things the refuge offers, but I have not taken advantage of them. I have tried to rate my satisfaction based on what I know of each.

This refuge is awesome. Nice, friendly and lots of great improvements taking place. Some of the oil rig areas are unsightly.

Very nice clean facilities, helpful staff.

Very nice.

Volunteers were full of information, enthusiastic, and welcoming. They showed us brochures about activities at future dates as well as lists of birds seen recently. Restrooms were welcome!

Wasn't at the refuge long, just passing by because of a friend's memory of the refuge growing up.

Wish you could do something about the dusty roads.

Wonderful people volunteering, very knowledgeable. Great restrooms.

Would like to see some hardwoods replanted along Brushy Creek that were lost in the last flood. I would love to help in the matter even if it meant supplying the seedlings. Please let me know if I can help.

Survey Section 5

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

Comments on What Makes Refuges Unique? (n = 158)

A lot of different birds.

A place to view large numbers of geese.

Although this refuge is highly disturbed, it will eventually be more natural one hopes. Refuges offer an environment less disturbed by man than most.

Amount of information available.

An abundance of wildlife in a concentrated area.

As a biologist, I see the refuge as primarily a "refuge" and habitat for wildlife that provides the opportunity for people to observe and learn about the wildlife.

As more land is developed and habitats are changed they offer a "refuge" to both local and migrating species and an opportunity for the public to "experience" nature.

Because of its location, many different species of migratory birds are seen in the refuge at different times of the year.

Because of the primary purpose being for the wildlife, keeping that land natural for the wildlife and directing it to their needs.

Because to the best of their ability the refuge people leave everything as natural as possible and try to provide food sources for the migrating birds.

Being able to walk through undisturbed landscapes and being able to see wildlife in their natural habitats.

Better kept and managed.

Better opportunity to see more wildlife.

Bird and fish sanctuary.

Birding was fantastic. Plan to return at least every season. I did not walk much of the trails because I was alone.

Close to home, wildlife habitat.

Combination of wetlands, lake, prairie, and woodlands.

Conservation of wildlife and the need for wildlife management.

Dedication as habitat first and foremost.

Easy access to waterfowl.

Educational and recreational opportunities are truly natural with wildlife and habitat, the important things.

Enjoyed visiting.

Excellent birding opportunities. Unfortunately the day I was there, many trails were closed for hunting.

For one thing, it is one of the best places to watch birds! Also I think the refuge is left out well and it seems more remote then it really is being so close to Dallas/Fort Worth.

Generally less crowded than national or state parks.

Gives an opportunity for adults and children to learn firsthand the habitat of the wildlife.

Gives an opportunity to see wildlife in its natural habitat.

Great for my granddaughter.

Great hunting for big game opportunity.

Great opportunities for observation of wildlife you don't have otherwise. You get a chance to see also to photograph.

Hagerman has some very good hunting(deer).

Hagerman is located on beautiful Lake Texoma. The refuge staff works hard to enhance the beauty of the refuge and does a lot to encourage wildlife to come and stay or winter at the refuge. There is abundant wildlife which encourages many photographs!

Hagerman NWR has a very diverse wildlife population. It's always fun to see and hear all the different sounds. Other public lands do not seem to have as many different migrating birds and I also enjoy the white-tail deer archery hunt.

Helps feed animals and fowls. And so many different animals gather in one place without fear of being hunted.

How natural everything was left :)

Hunting.

I feel that the NWR does its best during these times of money constraints, but it would be nice if there were more blinds such as I have observed in the UK.

I haven't been to many, but anywhere we can preserve land for the real owners of this planet is terribly important.

I like nature and like to see as much left untouched as possible.

I like that it is free to visit the NWR's. I feel that it puts my tax money to good work. Preserving our environment is a great use of my money.

I like the way it is maintained in a natural setting.

I love being able to hike in an area that has been maintained, but not commercialized. I feel safer with the employees (rangers, law enforcement)around.

I so enjoy having an area where wildlife assemble and I am free to observe them in their community behavior.

I visit the Wichita Mountains Wildlife Refuge very frequently for rock climbing. One of the most amazing parts of the experience is seeing the wildlife. I love wild animals and love photographing them. It is unique to have that opportunity while I'm out there.

In the case of Hagerman NWF, the fact that a town existed there prior to the construction of the Red River Dam in 1943 or so makes this area a unique visitation.

It is a lot larger than most refuges we have been to and it had abundant wildlife to watch.

It is a very peaceful place to be.

It is important that each refuge provides visitors with different types of terrain throughout the United States protected from intrusion and from development. This lets wildlife indigenous to the area thrive and for people to observe the wildlife in the natural habitat.

It is more directed at education and conservation of the land and all living things.

It is more natural and not commercialized.

It is not commercialized as most attractions are. It is nice to not have as many distractions and is a pleasant and calming environment.

It is very conscious to make conservation known to the public more than recreation.

It protects wildlife and allows the visitors to see the wildlife in their natural environments instead of in zoos behind cages.

It was good to see nature and take photos of the birds. What makes it good is that it is a safe haven for animals, which they need.

It was very relaxing to observe the birds. That is why we are planning to go there and spend more time. Thank you.

It's a beautiful place to hike and well taken care of. I like that there are several pools of water. I haven't yet, but plan to ride a bike on a couple of the trails.

It's a great place for learning and watching birds.

It's all about nature.

It's the only wildlife resource we have in this area where we can observe and learn.

It's unique because wildlife and land is conserved. It's not like going into the wild.

Keep undesirables out of refuge. The wildlife have safety inside the refuge.

Keeping everything natural.

Less commercial activity and greater focus on wildlife and wildlife habitat preservation/restoration.

Less crowded, less developed.

Like the way you plant crops or flood areas to help the wildlife flood.

Lots of birds at Hagerman in TX and Bosque del Apache, in NM. Not just an occasional bird because they are refuges and normal part of migration. I particularly like that the birds can live in proximity to oil wells at Hagerman.

Lots of open area.

Managed areas for wildlife which are becoming a luxury as time passes, in the interest of improvements.

Managing the land in order to attract a greater number of wildlife to the areas. Like planting crops.

Many birds and other wildlife.

Migratory birds, geese, ducks and deer.

Migratory birds.

Migratory waterfowl and fishing.

More available for visits than WMA's. Most have very good volunteers and Visitor Centers where I have visited.

Most of the habitat is left natural, thus providing good cover and food for the deer.

Much needed preserve for wildlife. Thank you!

National Wildlife Refuges attempt to manage habitat and for the most part seem to be doing a very good job. Wetlands in particular.

Natural- easy access to viewing areas.

Nature in a preserved, safe state.

Not only do they have recreational activities but also educational opportunities.

NWRs are always well maintained and staffed with knowledgeable people that can make the experience wonderful for everyone. They offer unique learning experiences unlike anywhere else but allow the visitor freedom to choose how much learning and teaching in which they want to participate.

Observation decks and availability of binoculars to use for free.

Observe nature in natural surroundings- minimal alterations.

Observing nature as it should be. Seeing the nooks and crannies of true wilderness for the original inhabitants (sometimes being restored). I never thought that I would see thousands of birds migrating until I visited a NWR. After what I have seen this makes me very aware of the very great importance of NWRs' roles of conserving, managing, and restoring these varied habitats. Also the very great need to add lands in order to protect the decreasing natural lands and those many inhabitants.

Offers the chance to see nature in its purest way.

One of the places that the funds are distributed around the country instead of overseas.

Only refuge I have ever been to.

Open areas to watch wildlife in their natural habitat. We enjoyed going to Hagerman. Thank you!

Opportunities to experience the outdoors today are very limited. NWRs provide that experience to lots of people. Hagerman provides an opportunity to see birds that are seldom seen in the DFW area just a few miles south.

Opportunities to observe different wildlife and different species of birds.

Opportunity to see life in natural habitats.

Opportunity to see wildlife in natural habitat.

Option not available otherwise.

Preservation of animals and plants.

Preservation of the land and protection of the wildlife (management of wildlife and the land.)

Preservation of wildlife and natural habitat.

Preserves habitat for native fauna and flora and provides the opportunity for all to see them.

Primarily the birds, since it is a migration stopover and final destination for so many species.

Provides a unique opportunity of hunting and quality white-tailed deer at a great price.

Provides an opportunity for young people to gain an understanding of nature.

Public land owned by the Federal Government.

Quantity of birds and well maintained feeding areas.

Refuges are about conserving and viewing wildlife whereas National Parks are about the scenery and camping/etc.

Refuges are managed primarily for the benefit of wildlife. There are no bells and whistles to 'enhance' a visitor's experience (as compared to Yosemite NP). It's more peaceful to visit a refuge due to fewer crowds.

Refuges are primarily aimed at restoring and protecting nature. Supporting that work, experiencing nature, and learning to appreciate and protect nature are the important factors when visiting a refuge. It's the purist and most wonderful form of recreation.

See birds and ducks that might not have been seen at another place.

Species of birds and sheer beauty of the area.

That the refuge teaches the importance of preservation and the wonders of nature!!! Really enjoyed the place and the different ecological features.

The ability to see and photograph wildlife/scenery at my own pace.

The amazing animals.

The amount of wildlife available for observation.

The auto tour to birdwatch.

The employees have their hearts in the NWR mission.

The fact that they preserve and manage wildlife is very important.

The flora and fauna are undisturbed and there for the native animals. We get to visit them and that's a lot of fun!

The hard work that it takes to keep up such a facility.

The hunting.

The hunts are very well maintained, and conducted.

The intent is to keep the surroundings in their natural state; a place of nature that is manipulated as little as possible. It's a place where wildlife is encouraged and protected and I benefit from all of that.

The natural way in which conservation is practiced, resources managed and promoted.

The NWR is very concerned about conservation and has very strict rules and laws. Maybe too strict.

The NWRs are able to have experienced, professional wildlife experts on hand for education and guidance. We really enjoy the programs offered for children and adults.

The opportunity to observe and learn about wildlife.

The overall quality and genuine concern for wildlife.

The reason we come is to observe wildlife.

The refuge we have visited offer more amenities than more urban public lands.

The variety of the lands preserved and the management of them.

The white tail deer and photography opportunities.

The whole environment and the front desk was extremely wonderful in explaining things around.

Their emphasis on preservation and improvements of the environment with its good effects on plants and animals.

Their focus on conservation.

There are fun places in North Tapa where one can observe wildlife in its natural environment.

There's more wildlife and fish.

They are more natural and undisturbed.

They are unique in that they provide a safe haven for wildlife which is their primary purpose. I feel that our wildlife is disappearing at an alarmingly rapid rate. I have been volunteering at this refuge for 22 years and in that time I have seen a big change in bird populations. Refuges unlike many public lands control the human factor to a greater extent for example by not allowing overgrazing and recreational vehicles destroy the habitat. It will be a sad day if we start to lose our wildlife refuges. People need to read Aldo Leopold's writings and take them to heart.

They generally allow more freedom to move around. They generally are less crowded.

They give people a good opportunity to see wildlife and nature.

They have a different focus from National Parks and Forests. I think it offered a unique experience and way of learning.

They host migratory birds. With the driving tours you can get up close. Great photography opportunities. Also have seen deer and bobcats at this location. We have taken some amazing photos at Hagerman.

They offer families the opportunity to enjoy nature. This is especially important in the North Texas area where the amount of wild, green space is dwindling due to rapid growth in the DFW Metro area. Refuges offer the chance to slow down and notice the natural beauty that surrounds us. From the smallest wildflower and dragonfly to majestic animals and mature trees and habitat, the amazing endurance and navigation skills of migrating waterfowl and songbirds, and the opportunity to pass the love of nature to future generations.

They offer great opportunities to all, to enjoy a place to commune with nature with like-minded (mostly) folks that seek such a spiritual opportunity. The variety of places to visit makes the experiences awesome. What would we do without these wonderful places?

They provide people an opportunity to see wildlife in their natural habitats and educate people in conserving that nature and habitats. It is great recreation for all ages. Thank you!

They seem to be better than most public lands for wildlife viewing.

This county offers some of the best deer hunting in Texas, bow season only. It is appreciated that we have the opportunity for these high quality whitetail deer hunts.

To get away from the noise and riff raff of most fishing places that I have been to.

Up-close viewing.

Use of "our" resources.

Variety of activities- can walk, hike, or ride.

Variety of bird/wildlife. Great hands on experiences for young and old alike.

Very well kept.

Very well maintained, wildlife very abundant, and accessibility to all parts of refuge available.

Viewing wildlife in their habitats.

Well maintained and more chances to see birds and wildlife.

Well maintained.

Well managed and maintained compared to others.

Wildlife needs a home of their own and NWRs provide this.

Wildlife refuges put emphasis on living things as the focus of a visit instead of looking at, say, a rock formation, so it's different each visit.

Wildlife viewing in a natural environment.

Additional Comments (n = 62)

1) I think the white rock dust of the roads has a negative effect on wildlife and man at Hagerman 2) I think oil leaching may be polluting the back waters 3) Rules and regulations on boating the refuge lake and creek areas should be posted more places 4) Speed limits should be enforced more on main roads 5) Need better boat slides at various places on Big Mineral Creek.

A wildlife refuge is not a zoo. Visitors should not expect many viewings, other than a place to possibly view wildlife. A child once asked me while I was working the Visitor Center, "where are the fences to keep the animals from escaping?"

At this time this is an exceptionally well managed refuge with a very strong friends group which assists in educating the public.

Enjoyed it. We came from FL for a family reunion in Pottsboro, TX and visited the refuge.

Even though we've only been once in the past 12 months, we plan to make regular use of the refuge. Our youngest is just now old enough to enjoy and comprehend all at the refuge.

Friends of Hagerman "Wild Hog" Dinner is promoted as an event for the bow hunters that attend the hunt. I have attended the dinner twice. The first dinner included maybe 8 bow hunters. This years dinner I counted 4 bow hunters. I believe it is a great idea but an integrated approach needs to be taken to get more participation from the bow hunters that are in town for the big game hunt.

Great - really enjoyed the time. Staff and volunteers were great.

Hagerman is a great refuge to volunteer at. The employees and other volunteers are great to work with.

Hagerman is a great refuge. I enjoy visiting with the people there. Friends of Hagerman are doing great things for the refuge.

Hagerman is a local jewel and so important for the birds on the central migratory flyway. We have the opportunity to see many rare birds for our area during the year. I have enjoyed the refuge for over 30 years and have been quite impressed with the improvements and new Visitor Center.

Hagerman NWR has an outstanding "friends" organization which does many things to promote the refuge. It is a win/win situation for the refuge and the whole community. The staff work with the friends to make Hagerman a real asset to our area.

I am so very grateful we have Hagerman and that the people running it are professionals that give their heart as well as their time to make it such a wonderful place to visit. It is a jewel in this dreary area of the world.

I came to the refuge for a scouting trip for my upcoming deer hunt.

I do not believe in killing wildlife and letting it go to waste. The refuge officers and game wardens kill hogs and leave them laying or drag them off. There are a lot of people that would put this meat to good use. I agree they need to be thinned out, but at least donate the hogs killed like they would do if it were a deer. They could even open the refuge up for hog hunting, this would help.

I do not believe that climate change is being caused by man. Climate change is a natural thing and it has warmed and cooled many times over the course of history.

I enjoyed my visit. The birds were great. The roads were a bit dusty and it was very windy. Thus my sinuses acted up when I got home.

I have been coming to Hagerman Refuge for almost 20 years. There is an area called Sandy Point that is used by many locals and visitors, and erosion of the lake banks has already taken a great amount of lake access and trees. It will soon take over picnic tables and walnut trees that have been there for many years. This should be addressed before this area is completely unusable.

I hope my survey helps, however since my visit to the refuge was limited time I didn't have much of an experience to rate.

I hope you can have funds to continue the refuge. It gave us a lot of pleasure. Thank you.

I really enjoyed talking to the staff. They answered all questions very effectively. I was expecting to get an informative course that had been previously taught by refuge personnel and when I inquired about it, I was advised the course had been cancelled.

I really enjoyed the refuge, the Visitor Center, and the volunteers. We also spoke to law enforcement while there and found everyone we encountered nice and knowledgeable.

I think that Hagerman NWR is well run and the people there are very dedicated and are proud of their new facility. I always enjoy my visits.

I really think we need to start a reforestation project along the North side of Brushy Creek the main creek that feeds into the refuge. Just past the bridge. There were a tremendous number of hardwood trees lost during the last flood. Trees are a passion of mine and I would love to help replant the hardwoods that were lost with Native Pecans, Red Oaks and Live Oaks maybe a few Bald Cypress. All these would help the habitat and also be a great source of habitat food for all of the wildlife. Right now it looks like a war zone.

I understand there is a petition to stop the archery deer hunt at Hagerman NWR. If there is anything I can do to help stop this petition, please just ask me. My friends and myself spend a lot of money each year towards hunting and a lot of it goes towards wildlife conservation and preservation. Such as through the Pittman-Robertson Act and through purchasing a hunting license/stamps and spending money in local communities supporting jobs. Thank you USFWS for all you do. Keep up the great work!

I was really pleased to visit this time and look forward to my next time! Well done!

I would like to see the amount of land for the refuges to increase either by government funds and/or by private donations.

I've always been extremely confused why wildlife refuges allow for hunting and fishing. Fish are the source of food for many birds that live in these refuges so it confuses me that we are allowing to create competition for that when we are supposed to be conserving them. I really enjoyed my trip to the refuge! We saw a huge flock of snow geese and Ross's geese. Beautiful. Thank you for your work.

I've been coming to Hagerman for over 30 years and I am happy with the management overall, but wished they had a better Visitor Center. So glad to see it happen finally. The volunteers are very helpful and friendly!

Impossible to count my visits to the refuge as I am usually there weekly, sometimes much more. Our refuge has come a long way in the last couple of years and I hope we see it continue to improve. It is a wonderful resource for the community.

It was great to be able to see both the Snow Goose and the Ross Goose on my trip.

It would be nice if the roads were paved, but that is not a high priority in my opinion. It is really great that some of the wetlands are being replaced. American society is really concerned about climate change, but our records are a blink of the eye in world history. It wasn't that long ago that we had the Ice Age. We are returning far too much carbon dioxide to the atmosphere!

Keep up the good work in conserving wildlife.

Keep up the good work!

Keep up the good work! Also lobby to congress and people in the government to do something about gasoline prices! People at my income level will be more limited to driving distances to visit such places as the wildlife refuge.

My last visit was slightly different because the roads had just been graveled and my visit was dramatically shortened due to the dust. My last visit was approximately 2 hours. Most of the time when I go out to the refuge I spend all available daylight(approximately 5 - 7 hrs.).

My only surprise when I first visited the refuge was the number of oil pump jacks on the site. If Hagerman NWR were to emphasize the importance of dealing with climate change, how would they explain that the oil extraction on the site may not directly negatively affect the wildlife (specifically the birds) but that indirectly, by burning the oil, the habitats and wildlife are adversely affected? This seems especially contradictory since there is more exploration occurring the last few visits I have had to the refuge.

My spouse and I would love to see a couple areas open to overnight camping - tent areas where we could camp out and fish at night. We would even be glad to pay a fee for this service. If overnight camping areas like at Sandy Point or down by the creek at the bridge can't be possible, then we would at least like to see the refuge open to night fishing. But we love fishing out at Hagerman and seeing the deer in the mornings as we drive out to fish. We love what you guys do to keep game abundant. Thanks.

My wife and I have owned acreage and built a home over 35 years ago. It is practically surrounded by Hagerman acreage. During these years we have always tried to assist wildlife personnel in their many activities. Being next door neighbors, what happens on either wildlife or my side of the fence line will frequently have an effect on the other neighbor. We also own acreage that is located on the opposite side of the refuge. Raising cattle necessitates travel on the refuge roads on a near daily, sometimes more than once a day, basis. It is noticed over the years that there is less of a cooperation attitude and more of a "big government" state of affairs developing on a more frequent basis. From time to time, my wife and I are contacted about a mutual situation and we are pleasantly surprised to be included in the loop. By the same token, when we make contact concerning a mutual problem, it is frequently met with an attitude that it's "none of our business". It is not my intent to single out personnel associated with Hagerman National Wildlife Refuge in a negative manner. However, if any one wishes to discuss this matter, feel free to contact me at your convenience [signed and addressed].

Please add signs on all entrances and exits for Hagerman NWR. Please resurface, and maybe flatten, the roads that are surfaced. The road is terrible, more rock on rock roads so won't be muddy. Easier access to fishing, and bird watching areas and being able to see more deer. Maybe even roads through more of the unroaded areas, so can see more animals other than deer or fish and birds. I know there are other animals out there. Thank you! Also, I would have bought a shirt if they were in my size.

Refuge needs to provide cleaning stations for hunters and walking cooler for proper handling of harvested game.

Repeat visitor here both to view, photograph, just park look, and let time comfortably pass.

Should consider a yearly permit or pay fee for individual visits to preserve. Limit size of boat motors going up the creek to 10 horsepower.

Speed limit "20 MPH" is not good for the refuge or Parks and Wildlife reputation.

Thank you for the note cards I was given when signed up for this survey.

Thank you very much for providing opportunities for our children to experience nature. Hats off to you. (signed)

Thanks.

Thanks. Hagerman is a fine place.

The National Wildlife Refuge was and continues to be a great idea. Please keep up the good work. A lot of species would have been lost if it wasn't for the refuges. I am a great supporter.

The new Visitor Center is very nice. Looks to be a real learning center for children. I enjoy the refuge Facebook pages photographs and other information regarding activities.

The preservation of lands for our posterity should be a permanent budgetary item considered essential.

Visiting the refuge has become a very important part of my life and I would not easily give it up.

We are a home school family who enjoy God's creation. Thank you for helping preserve this resource at the refuge. Thank you for the excellent exhibit and informative brochures. Our family made a special memory.

We didn't get a chance to go in the Visitor Center on this trip, so I can't answer questions about it, but we plan to visit regularly. I love the peaceful atmosphere at the refuge, and we saw a spectacular variety of birds. It was a very enjoyable and restorative day hiking and taking photos. Also, the gentleman who asked us if we would be willing to participate in the survey was very friendly.

We have family from other areas of Texas who come to visit us. A trip to Hagerman is always on our schedule. Transportation to wooded areas would be a plus and also a picnic area.

We love it and plan on going again within a week or two.

We love visiting Hagerman NWR!

We own a boat and go fishing often. Stopping pollution is important, climate change? What climate change?

We RV camp at the Thousand Trails resort in Gordonville, Texas, and try to make it out to the refuge to mark the change of seasons. We became "Friends" of the refuge after meeting the volunteers at their recent hog dinners.

Went with 70 people total and not sure of age groups.

Would like some photography blinds. Also bird feeding area outside the Visitor Center needs attention to make it more attractive and safe for the birds. Add a photo blind for the feeding area.

Would love to hear about the opportunities where the general public can volunteer a days work (out in the field) to better our natural lands and keep our wildlife safe.