



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

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The Noxubee Wildlife Refuge is a wonderful, safe, and educational place to take a family. They offer a variety of activities that correspond to each family members' likes. The Visitor Center is amazing and the staff are very friendly.—Survey comment from visitor to Noxubee National Wildlife Refuge.



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

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Introduction

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

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

Organization of Results

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

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

Methods

Selecting Participating Refuges

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

Developing the Survey Instrument

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

Contacting Visitors

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

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

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

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

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

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

Interpreting the Results

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

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

Refuge Description for Noxubee National Wildlife Refuge

Nestled in east-central Mississippi, Noxubee NWR lies in Noxubee, Oktibbeha, and Winston Counties. This 48,000-acre refuge was established in 1940 and contains a diversity of habitats. About 44,500 acres of the refuge are bottomlands and upland forest. These forest lands are occupied by a variety of species, including quail, deer, and turkey. The endangered red-cockaded woodpecker relies on the refuge for its existence. In addition, many neotropical bird species inhabit the Noxubee forests. Four green-tree reservoirs, two major lakes (Bluff - 800 acres, and Loakfoma - 400 acres), 16 small impoundments, and assorted wetland areas provide important habitat for the wood stork, American alligator, bald eagle and wintering waterfowl.

Before government ownership, the land area within the refuge was intensively farmed and overgrazed. After years of proper land stewardship, Noxubee NWR is now an excellent example of forest and wildlife management. This change has caused a return of bountiful wildlife populations and a progression toward restoration of the pine and hardwood forest types that were devastated in the early 1900's.

Noxubee National Wildlife Refuge was created to:

- Provide resting and feeding habitat for migrating waterfowl
- Provide a nesting habitat managed for waterfowl and other migratory birds
- Offer the public with activities including wildlife observation, fishing, and hunting.

With close to 190,000 visitors annually (based on 2008 RAPP database; U.S. Fish and Wildlife Service, 2011, written comm.) to Noxubee NWR, visitors participate in a variety of activities including fishing, waterfowl hunting, upland game hunting, big game hunting, use of the Visitor Center, hiking, motorized and nonmotorized boating, auto tour routes, bird watching, wildlife photography, wildlife observation, environmental education and research. Noxubee serves as an outdoor classroom for Mississippi State University and other local educational institutions. Figure 1 displays a map of the refuge. For more information, please visit <http://www.fws.gov/noxubee/>.

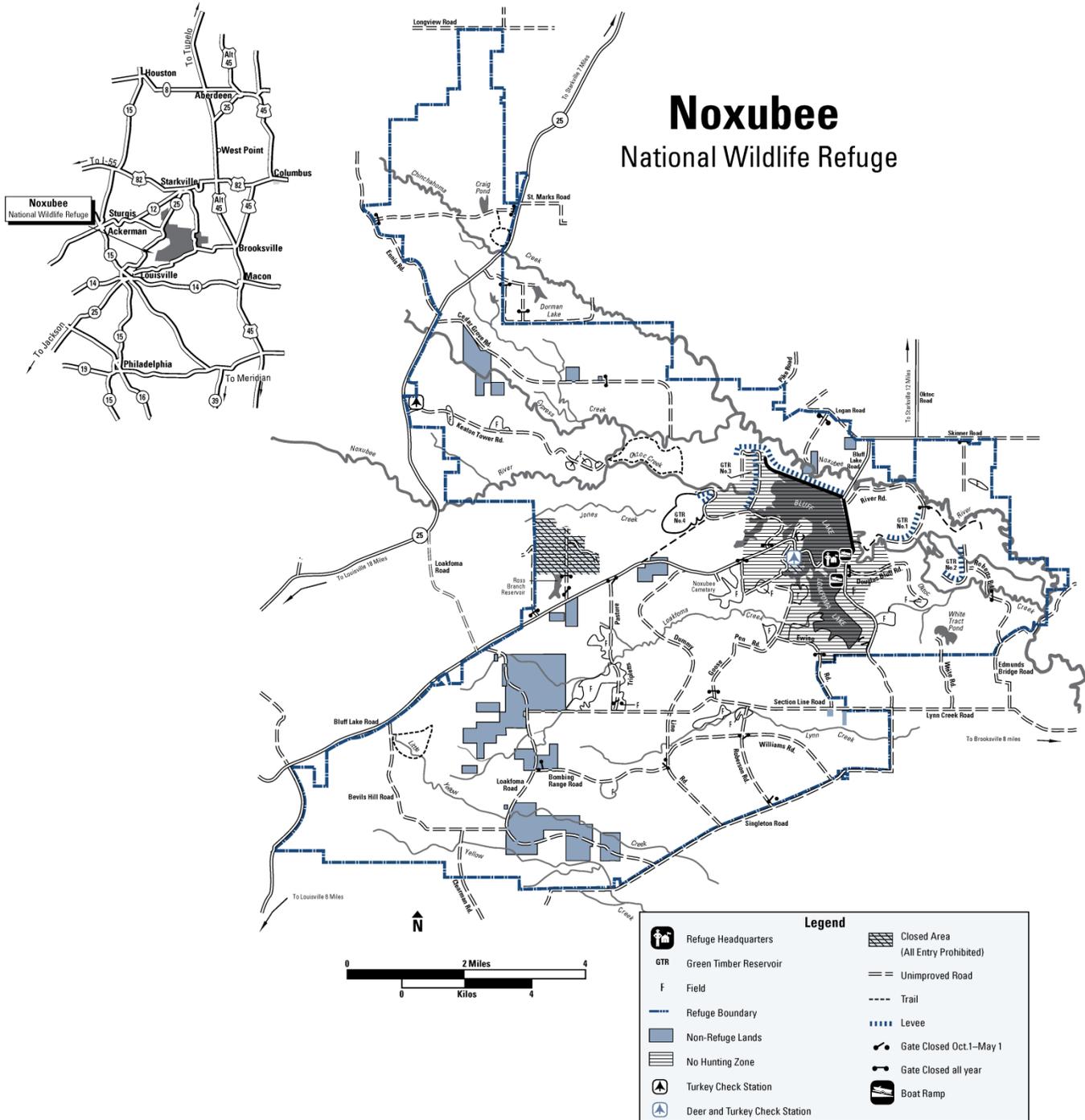


Figure 1. Map of Noxubee NWR, courtesy of U.S. Fish and Wildlife Service.

Sampling at Noxubee National Wildlife Refuge

A total of 305 visitors agreed to participate in the survey during the two sampling periods at the identified locations at Noxubee NWR (table 2). In all, 189 visitors completed the survey for a 65% response rate and $\pm 6\%$ margin of error at the 95% confidence level.¹

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

Sampling period	Dates	Locations	Total contacts	Undeliverable addresses	Completed surveys	Response rate
1	10/2/2010 to 10/16/2010	Visitor Center and surrounding public use area	136	6	73	56%
2	2/26/2011 to 3/12/2011	Visitor Center/Boat Ramp and surrounding public use area	169	6	116	71%
Total			305	12	189	65%

Selected Survey Results

Visitor and Trip Characteristics

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

Familiarity with the Refuge System

While we did not ask visitors to identify the mission of the National Wildlife Refuge System or the U.S. Fish and Wildlife Service, visitors to Noxubee NWR reported that before participating in the survey, they were aware of the role of the U.S. Fish and Wildlife Service in managing national wildlife refuges (88%) and that the Refuge System has the mission of conserving, managing, and restoring fish, wildlife, plants and their habitat (94%). Positive responses to these questions concerning the management and mission of the Refuge System do not indicate the degree to which these visitors understand the day-to-day management practices of individual refuges, only that visitors feel they have a basic knowledge of who manages refuges and why. Compared to other public lands, many visitors feel that refuges provide a unique

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

recreation experience (88%; 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. Some visitors to Noxubee NWR had been to at least one other National Wildlife Refuge in the past year (45%), with an average of 4 visits to other refuges during the past 12 months.

Visiting This Refuge

Some surveyed visitors (20%) had only been to Noxubee NWR once in the past 12 months, while most had been multiple times (80%). These repeat visitors went to the refuge an average of 14 times during that same 12-month period. Visitors used the refuge during only one season (32%), during multiple seasons (38%), and year-round (30%).

Most visitors first learned about the refuge from friends/relatives (70%), people in the local community (35%), or signs on the highway (14%; fig. 2). Key information sources used by visitors to find their way to this refuge include previous knowledge (66%), signs on highways (27%), or directions from friends/family (23%; fig. 3).

Most visitors (80%) lived in the local area (within 50 miles of the refuge), whereas 20% were nonlocal visitors. For most local visitors, Noxubee NWR was also the primary purpose or sole destination of their trip (90%; table 3). For most nonlocal visitors, the refuge was the primary purpose or sole destination of their trip (51%). Local visitors reported that they traveled an average of 21 miles to get to the refuge, while nonlocal visitors traveled an average of 192 miles. Figure 4 shows the residence of visitors travelling to the refuge. About 90% of visitors to Noxubee NWR were from Mississippi.

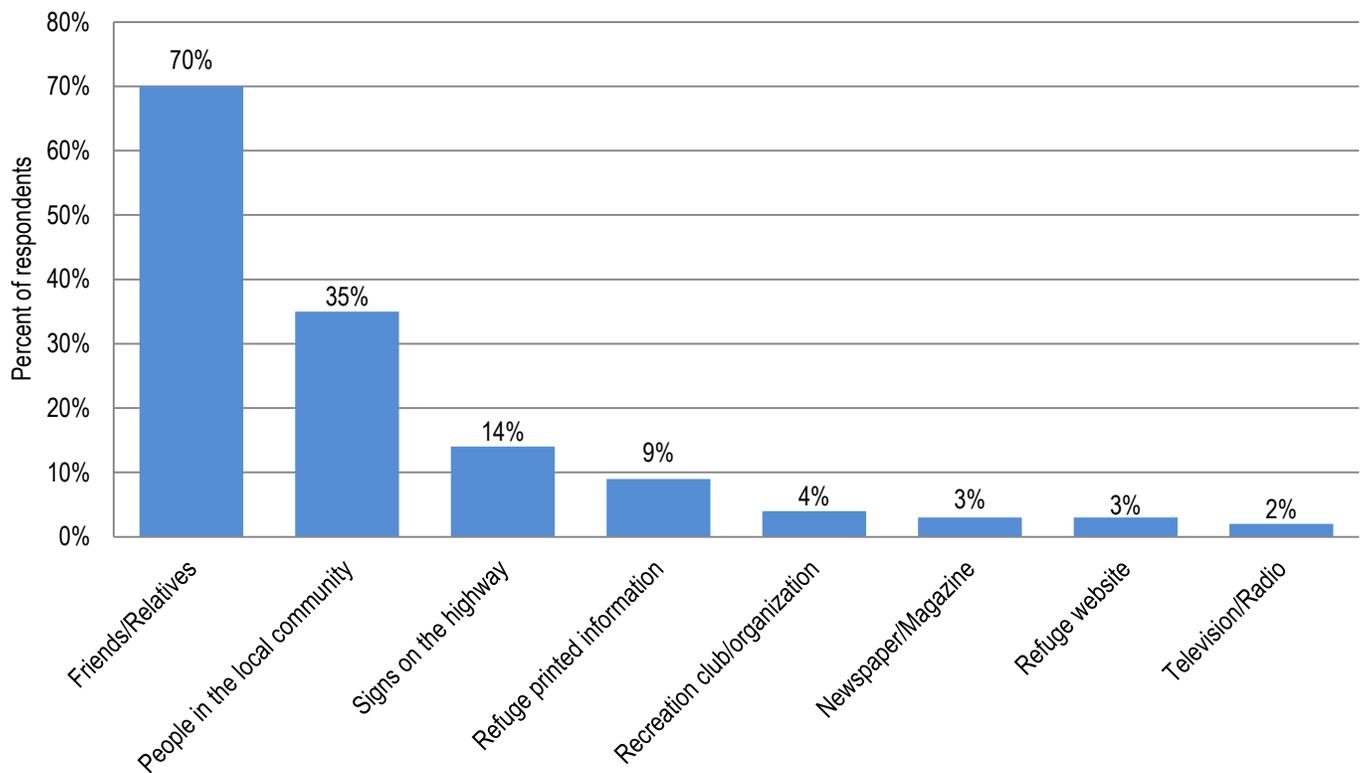


Figure 2. How visitors first learned or heard about Noxubee NWR (n = 181).

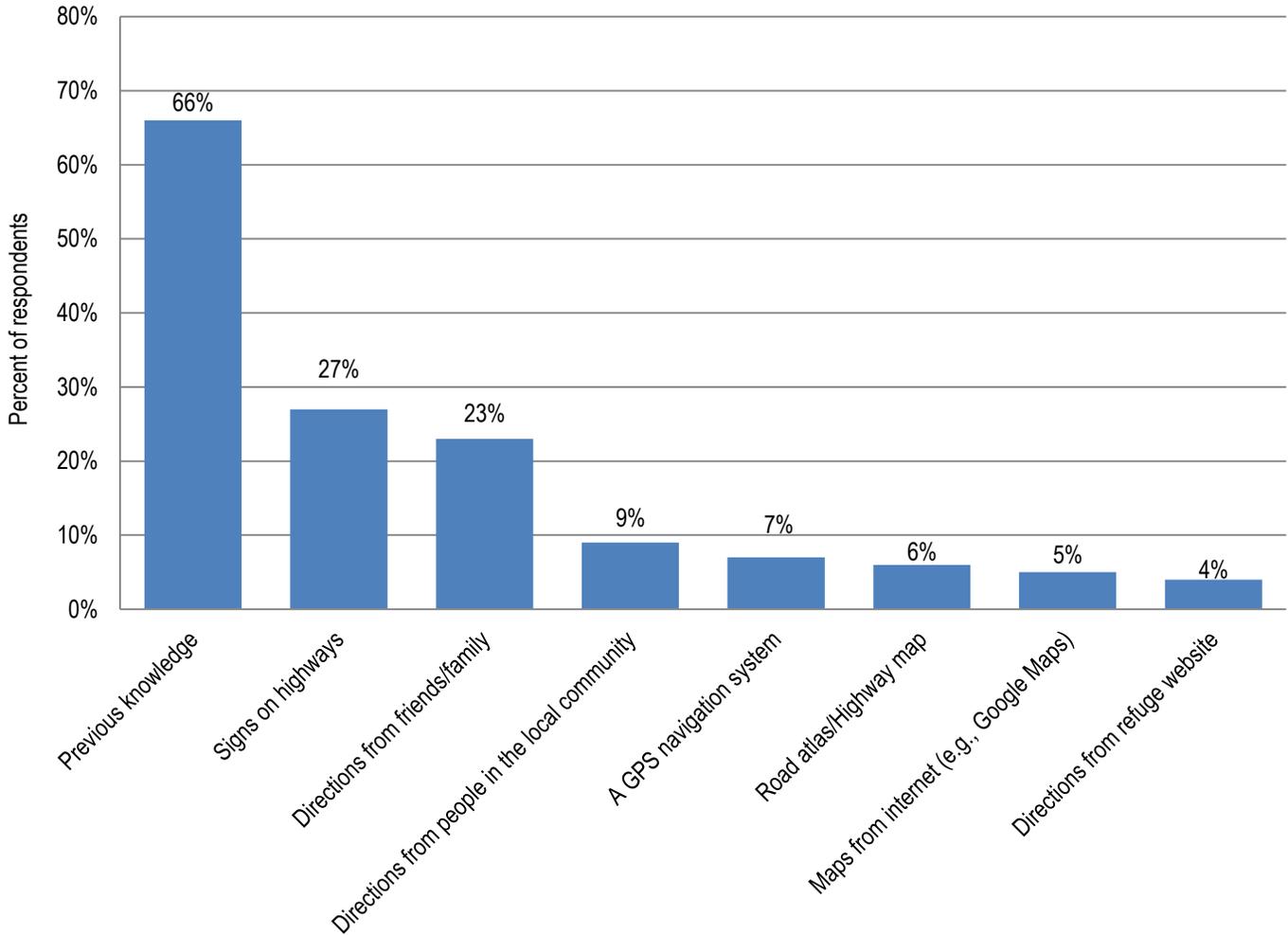


Figure 3. Resources used by visitors to find their way to Noxubee NWR during *this* visit (n = 187).

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

Visitors	Visiting this refuge was...		
	the primary reason for trip	one of many equally important reasons for trip	an incidental stop
Nonlocal	51%	29%	20%
Local	90%	8%	2%
Total	83%	12%	5%

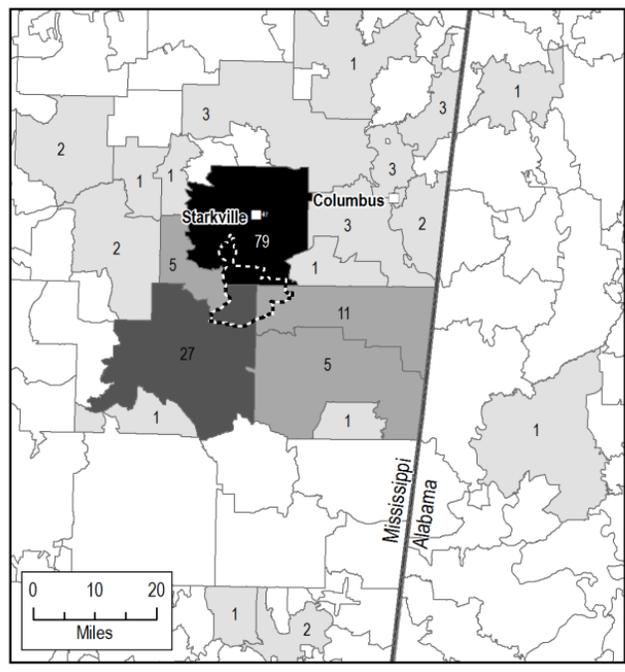
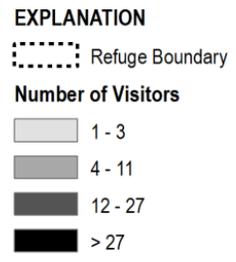
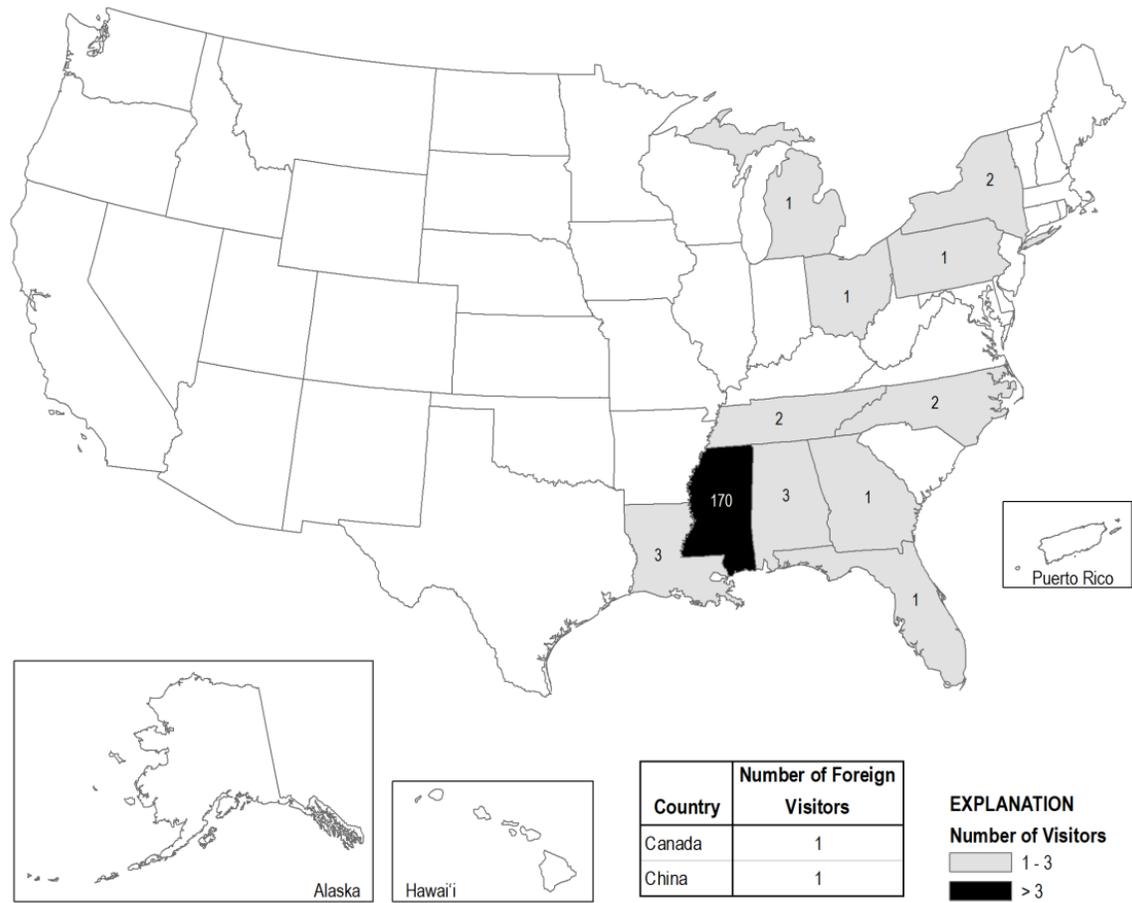


Figure 4. Number of visitors travelling to Noxubee NWR by residence. Top map shows residence by state and bottom map shows residence by zip codes near the refuge (n = 189).

Surveyed visitors reported that they spent an average of 4 hours at Noxubee NWR during one day there (a day visit is assumed to be 8 hours). However, the most frequently reported length of visit during one day was actually 3 hours (25%). The key modes of transportation used by visitors to travel around the refuge were private vehicle (90%) and walking/hiking (27%; fig. 5). Most visitors indicated they were part of a group on their visit to this refuge (69%), travelling primarily with family and friends (table 4).

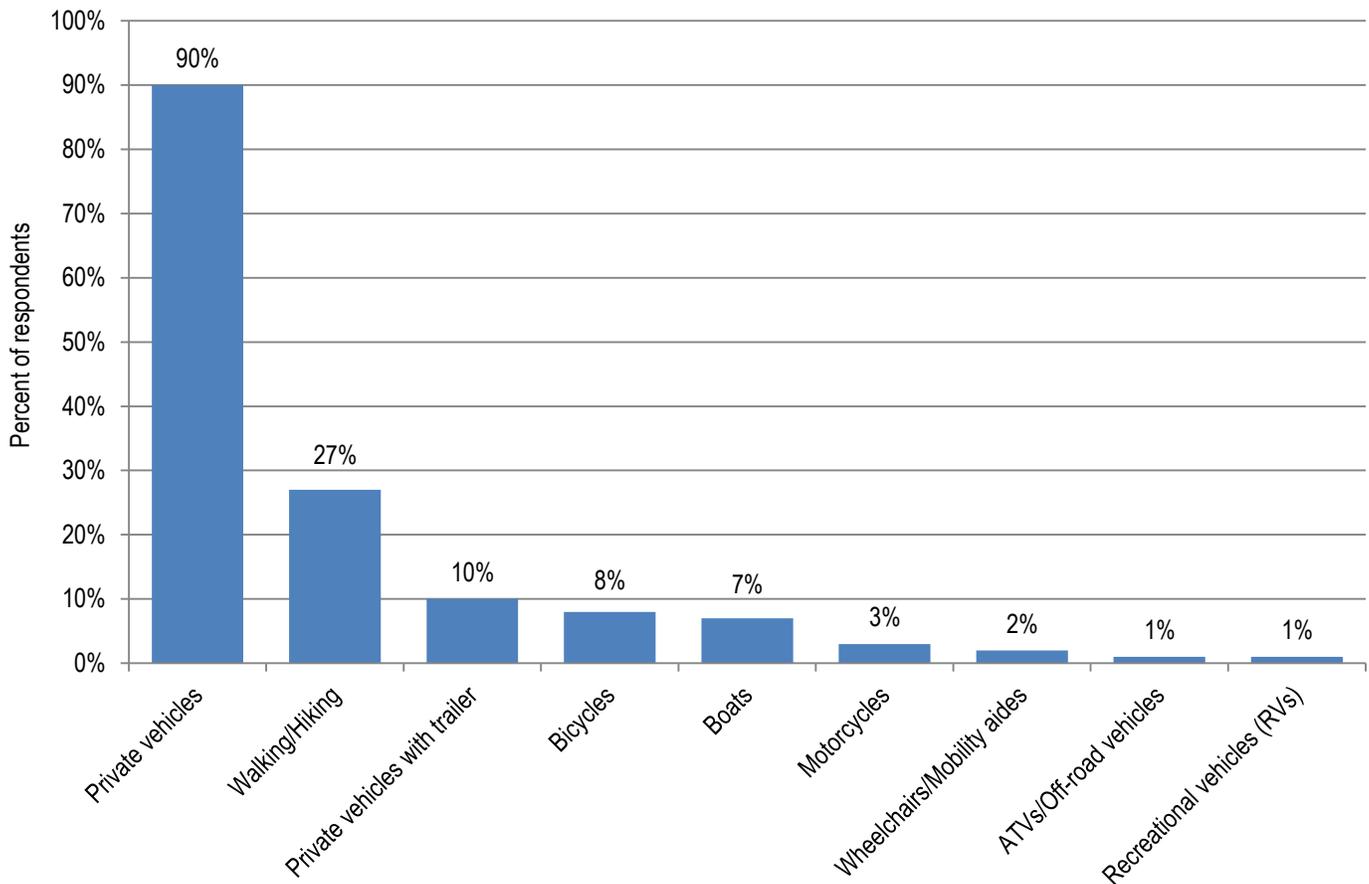


Figure 5. Modes of transportation used by visitors to Noxubee NWR during *this* visit (n = 188).

Table 4. Type and size of groups visiting Noxubee NWR (for those who indicated they were part of a group, n = 127).

Group type	Percent (of those traveling in a group)	Average group size		
		Number of adults	Number of children	Total group size
Family/Friends	78%	3	1	4
Commercial tour group	0%	0	0	0
Organized club/School group	13%	13	3	16
Other group type	9%	16	4	20

Surveyed visitors participated in a variety of refuge activities during the past 12 months (fig. 6); the top three activities reported were wildlife observation (61%), hiking (49%), and bird watching (41%). The primary reasons for their most recent visit included wildlife observation (19%), fishing (16%), and hunting (11%; fig. 7). The visitor center was used by 81% of visitors, mostly to view the exhibits (76%), stop to use the facilities (for example, get water, use restroom; 74%), and ask information of staff/volunteers (52%; fig. 8).

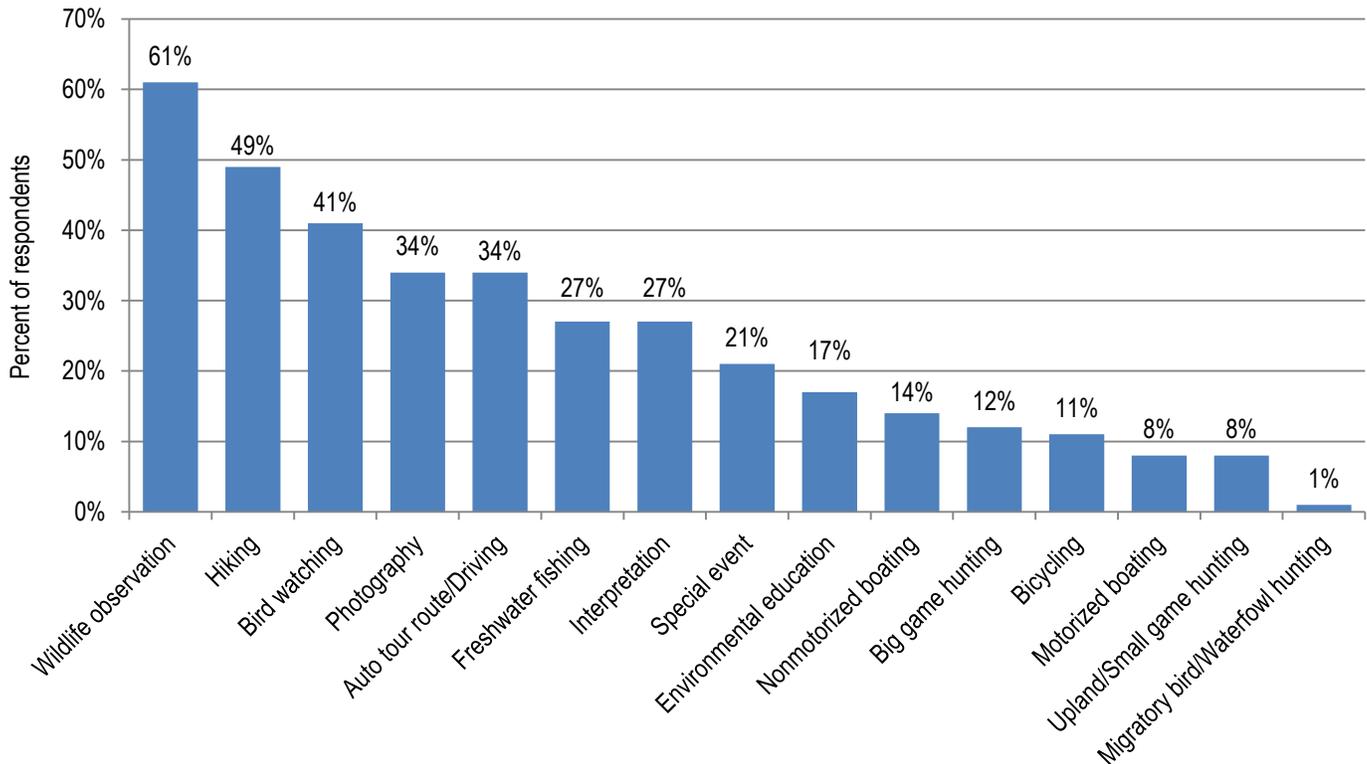


Figure 6. Activities in which visitors participated during the past 12 months at Noxubee NWR (n = 186). See Appendix B for a listing of “other” activities.

Visitor Characteristics

Nearly all (96%) surveyed visitors to Noxubee NWR indicated that they were citizens or permanent residents of the United States. Only those visitors 18 years or older were sampled. Visitors were a mix of 64% male with an average age of 48 years and 36% female with an average age of 50 years. Visitors, on average, reported they had 16 years of formal education (college or technical school). The median level of income was \$50,000–\$74,999. See Appendix A for more demographic information. In comparison, the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation found that participants in wildlife watching and hunting on public land were 55% male and 45% female with an average age of 46 years, an average level of education of 14 years (associate degree or two years of college), and a median income of \$50,000–\$74,999 (Harris, 2011, personal communication). Compared to the U.S. population, these 2006 survey participants are more likely to be male, older, and have higher education and income levels (U.S. Department of the Interior and U.S. Department of Commerce, 2007).

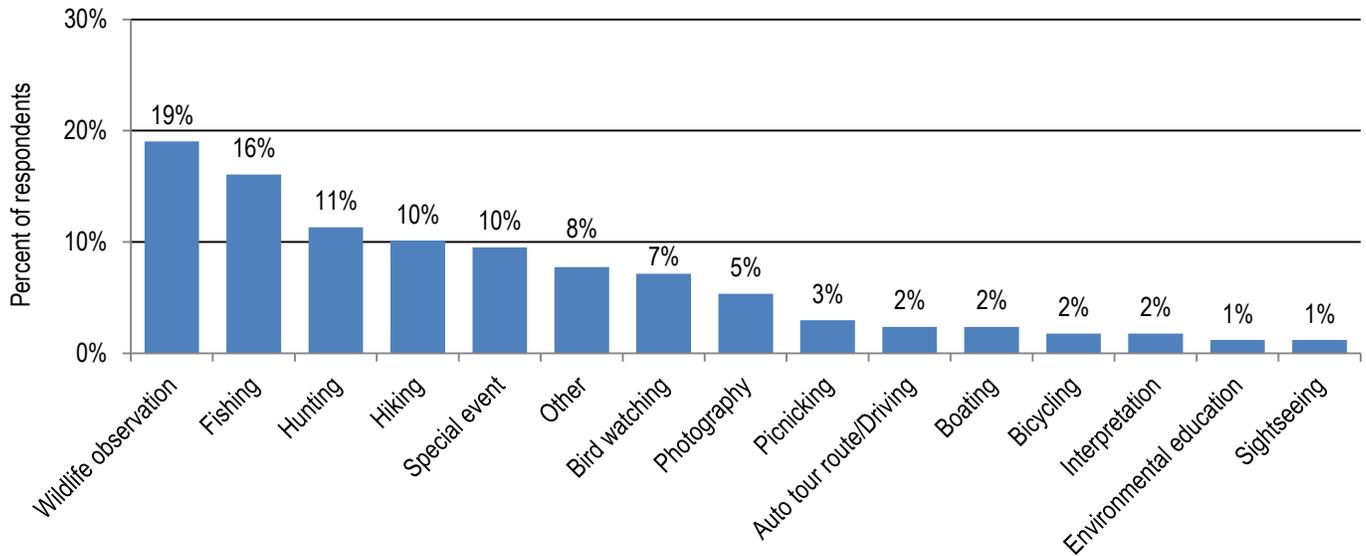


Figure 7. The primary activity in which visitors participated during *this* visit to Noxubee NWR (n = 168). See Appendix B for a listing of “other” activities.

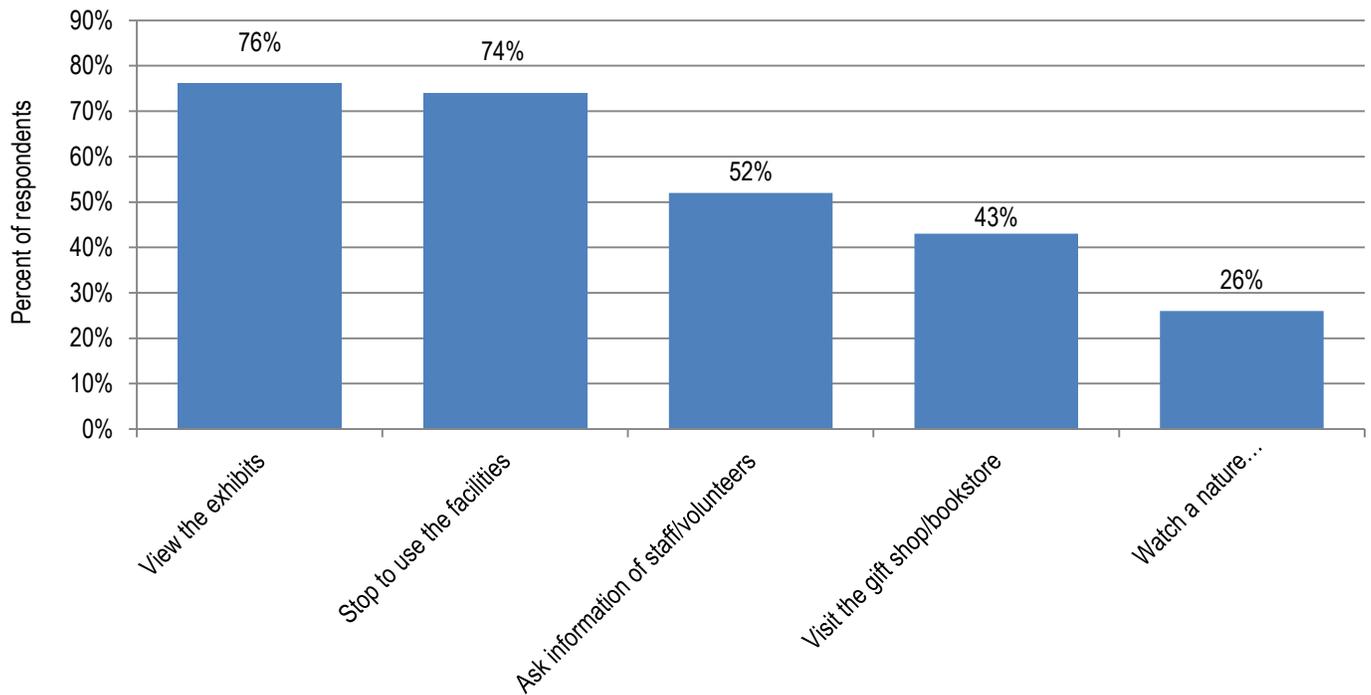


Figure 8. Use of the visitor center at Noxubee NWR (for those visitors who indicated they used the visitor center, n = 152).

Visitor Spending in Local Communities

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

A region (and its economy) is typically defined as all counties within 50 miles of a travel destination (Stynes, 2008). Visitors that live within the local 50-mile area of a refuge typically have different spending patterns than those that travel from longer distances. During the two sampling periods, 80% of surveyed visitors to Noxubee NWR indicated that they live within the local area. Nonlocal visitors (20%) stayed in the local area, on average, for 3 days. Table 5 shows summary statistics for local and nonlocal visitor expenditures in the local communities and at the refuge, with expenditures reported on a per person per day basis. During the two sampling periods, nonlocal visitors spent an average of \$65 per person per day and local visitors spent an average of \$25 per person per day in the local area. Several factors should be considered when estimating the economic importance of refuge visitor spending in the local communities. These include the amount of time spent at the refuge, influence of refuge on decision to take this trip, and the representativeness of primary activities of the sample of surveyed visitors compared to the general population. Controlling for these factors is beyond the scope of the summary statistics presented in this report. Detailed refuge-level visitor spending profiles which do consider these factors will be developed during the next phase of analysis.

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

Visitors	n ¹	Median	Mean	Standard deviation	Minimum	Maximum
Nonlocal	32	\$53	\$65	\$45	\$5	\$190
Local	116	\$14	\$25	\$32	\$0	\$180

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

Visitor Opinions about This Refuge

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

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

- 94% were satisfied with the recreational activities and opportunities,
- 92% were satisfied with the information and education about the refuge and its resources,
- 93% were satisfied with the services provided by employees or volunteers, and
- 92% were satisfied with the refuge's job of conserving fish, wildlife and their habitats.

Although 13% (n = 24) of visitors indicated they paid a fee to enter Noxubee NWR, the refuge does not have an entrance fee. It may be that some visitors were referencing deer or waterfowl hunt permit fees when they answered this question.

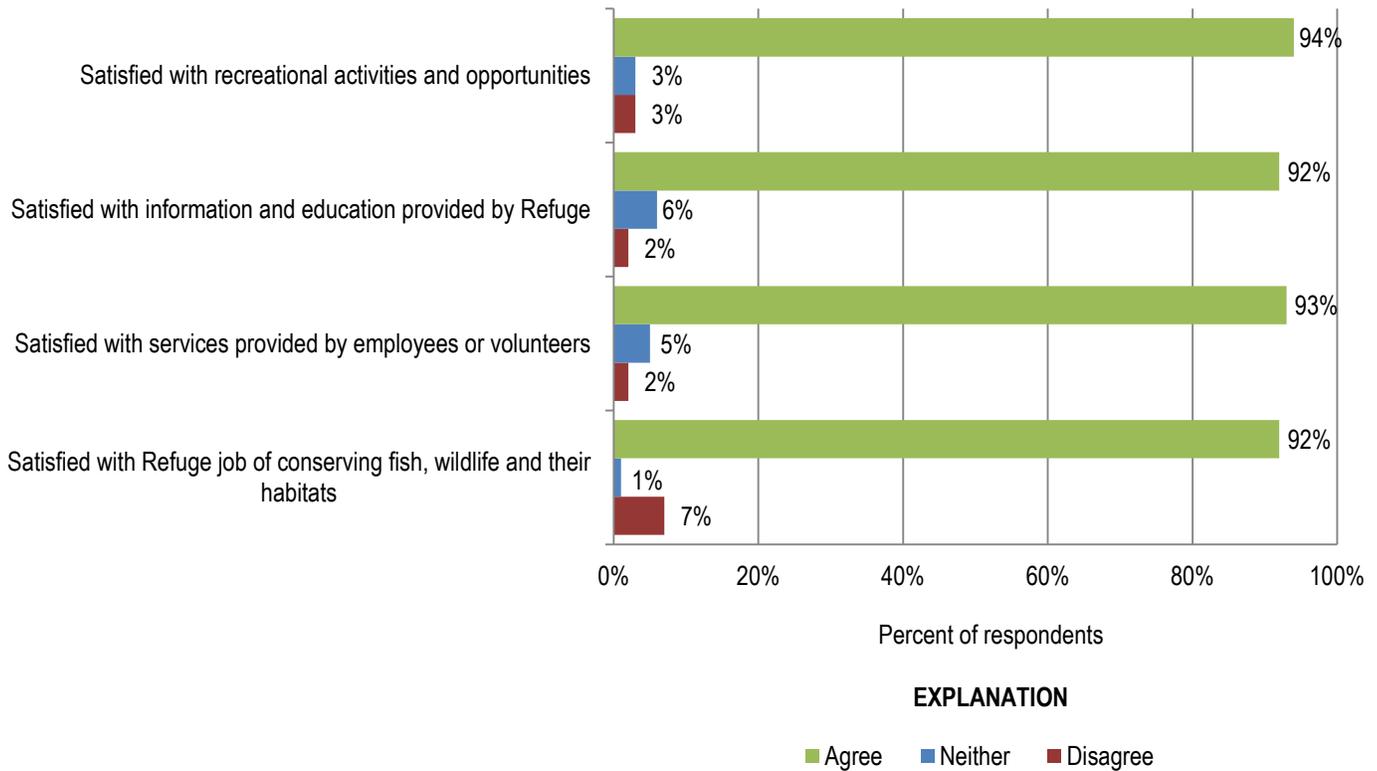


Figure 9. Overall satisfaction with Noxubee NWR during *this* visit (n ≥ 177).

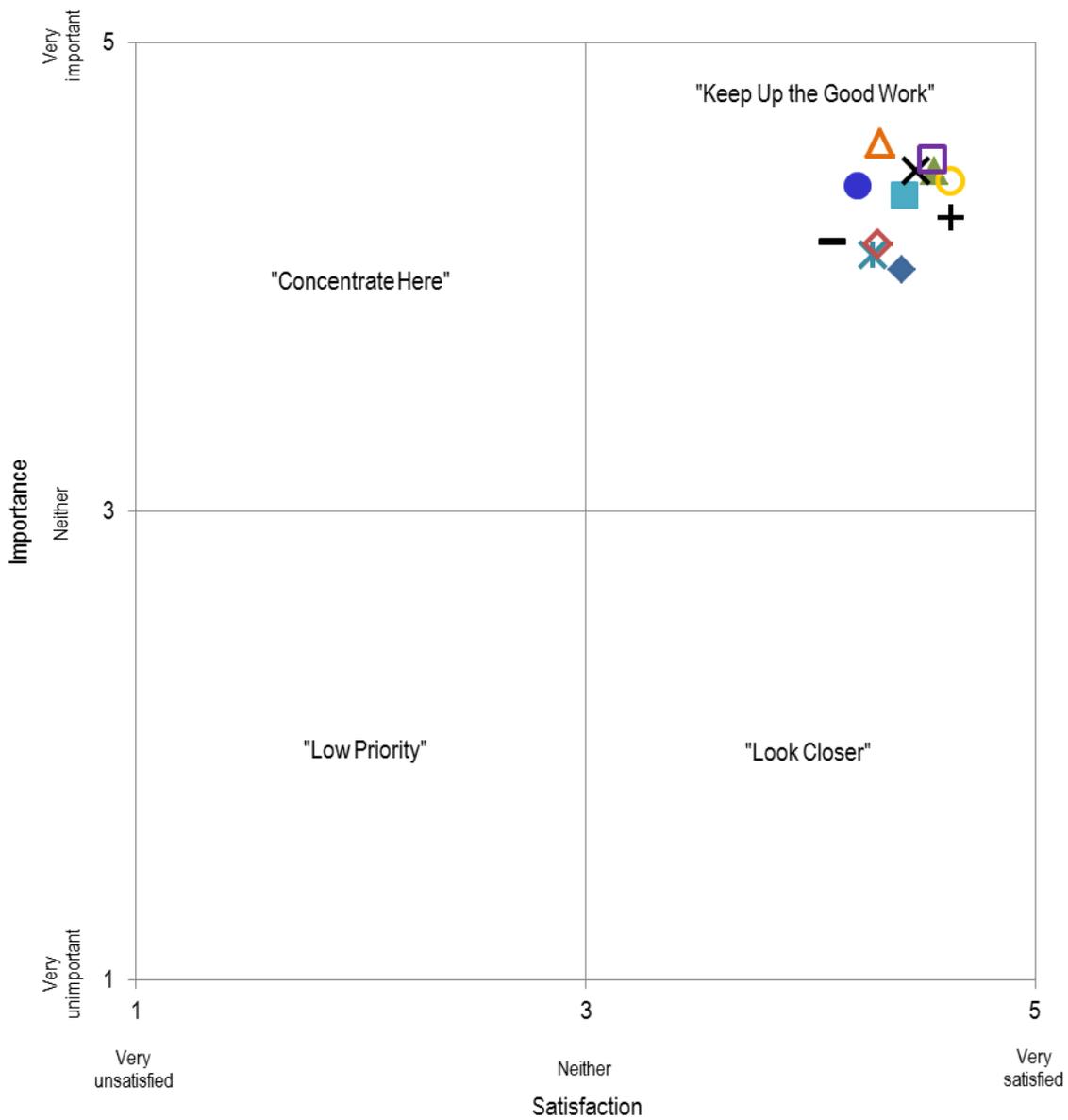
Importance/Satisfaction Ratings

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

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

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

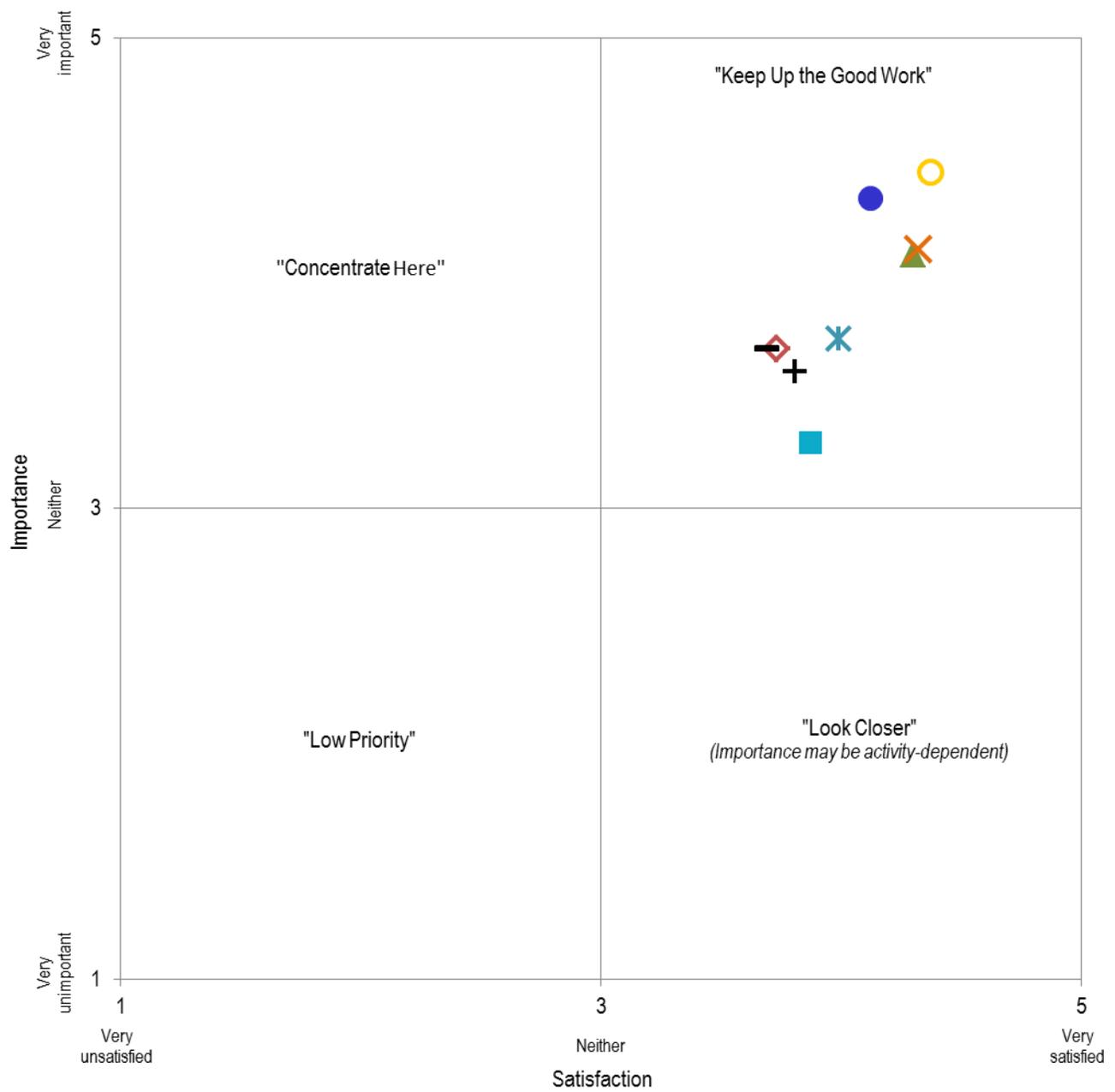
Figures 10-12 depict surveyed visitors' importance-satisfaction results for refuge services and facilities, recreational opportunities, and transportation-related features at Noxubee NWR, respectively. All refuge services and facilities fell in the "Keep Up the Good Work" quadrant (fig. 10). All refuge recreational opportunities fell in the "Keep Up the Good Work" quadrant (fig. 11). All transportation-related features fell in the "Keep Up the Good Work" quadrant (fig. 12).



EXPLANATION

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

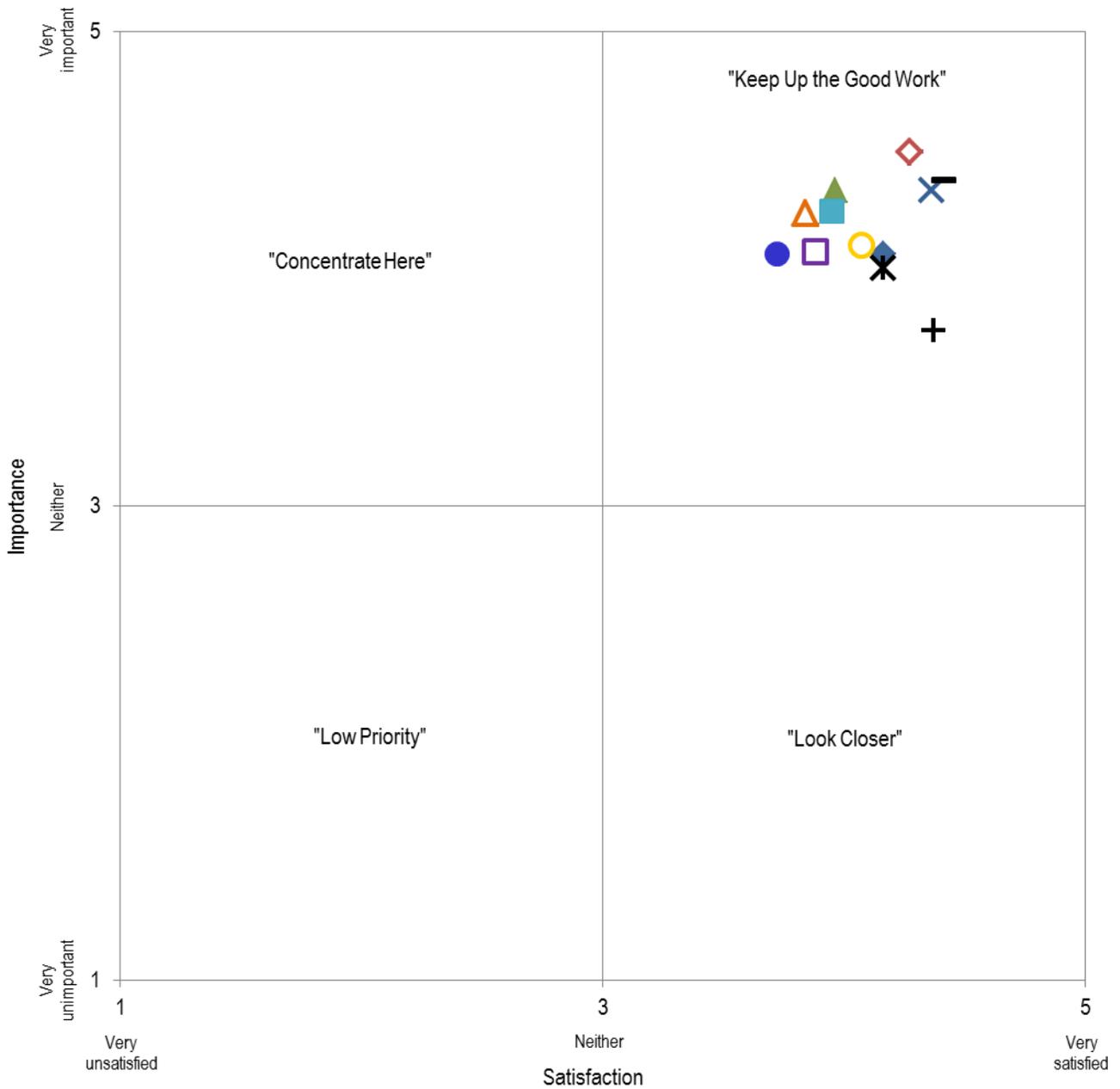
Figure 10. Importance-satisfaction ratings of services and facilities provided at Noxubee NWR.



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 Noxubee 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 Noxubee NWR.

Visitor Opinions about National Wildlife Refuge System Topics

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

Alternative Transportation and the National Wildlife Refuge System

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

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

- a boat that goes to different points on Refuge waterways; and
- an offsite parking lot that provides trail access.

The majority of visitors were *not* likely to use a bus/tram that takes passengers to different points at national wildlife refuges in the future (fig. 13).

When asked about using alternative transportation at Noxubee NWR specifically, 38% of visitors indicated they were unsure whether it would enhance their experience; however, some visitors thought alternative transportation would enhance their experience (31%) and others thought it would not (31%).

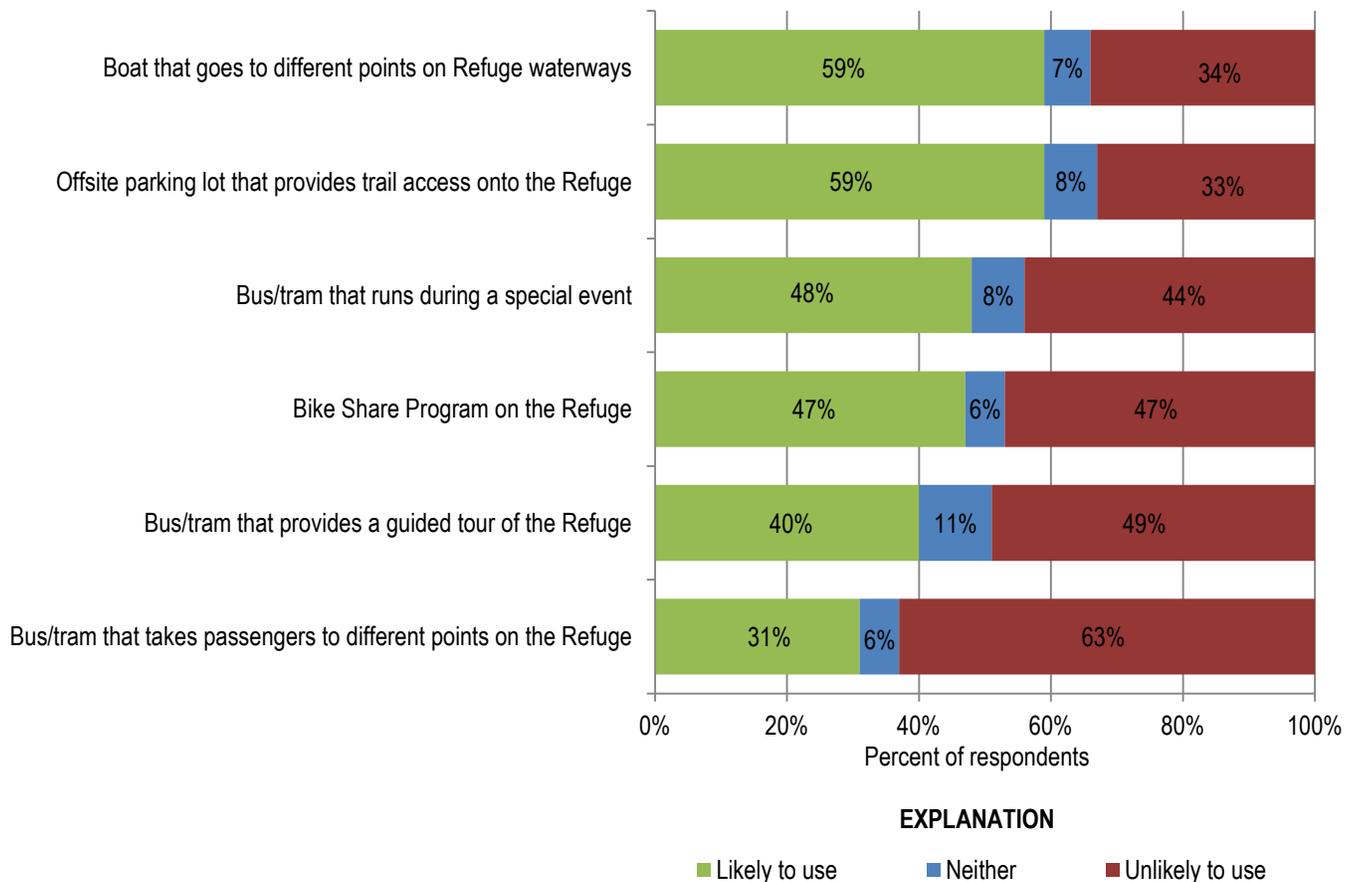


Figure 13. Visitors' likelihood of using alternative transportation options at national wildlife refuges in the future (n ≥ 178).

Climate Change and the National Wildlife Refuge System

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

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

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

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

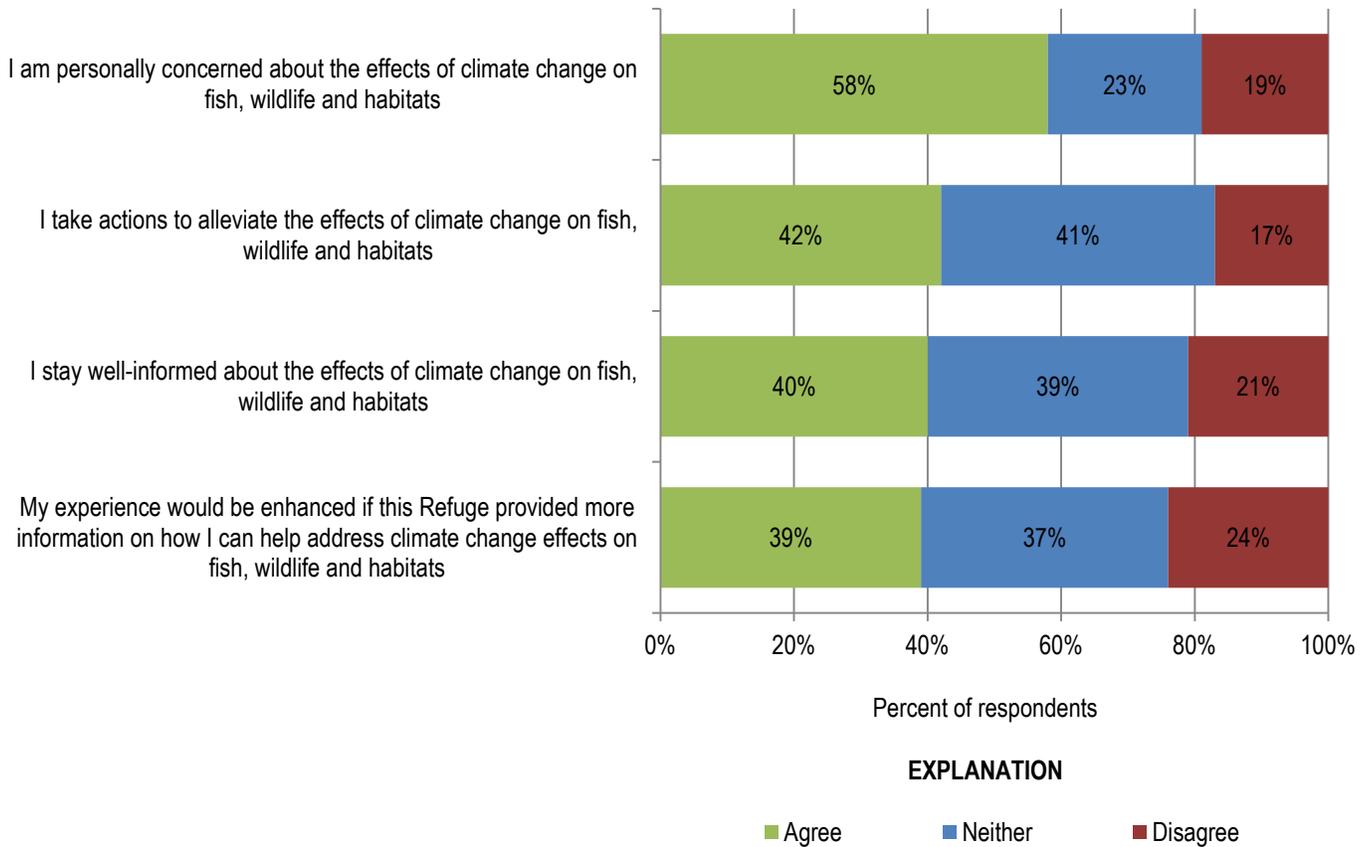


Figure 14. Visitors’ personal involvement with climate change related to fish, wildlife and their habitats (n ≥ 177).

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

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

- “It is important to consider the economic costs and benefits to local communities when addressing climate change effects;”
- “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
- “There is too much scientific uncertainty to adequately understand climate change effects.”

Such information suggests that certain beliefs resonate with a greater number of visitors than other beliefs do. This information is important to note because some visitors (39%) indicated that their experience would be enhanced if Noxubee NWR provided information about how they could help address the effects of climate change on fish, wildlife, and their habitats (fig. 14), and framing the information in a way that resonates most with visitors may result in a more engaged public who support strategies aimed at alleviating climate change pressures. Data will be analyzed further at the aggregate, or national level, to inform the development of a comprehensive communication strategy about climate change. There has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and habitats.

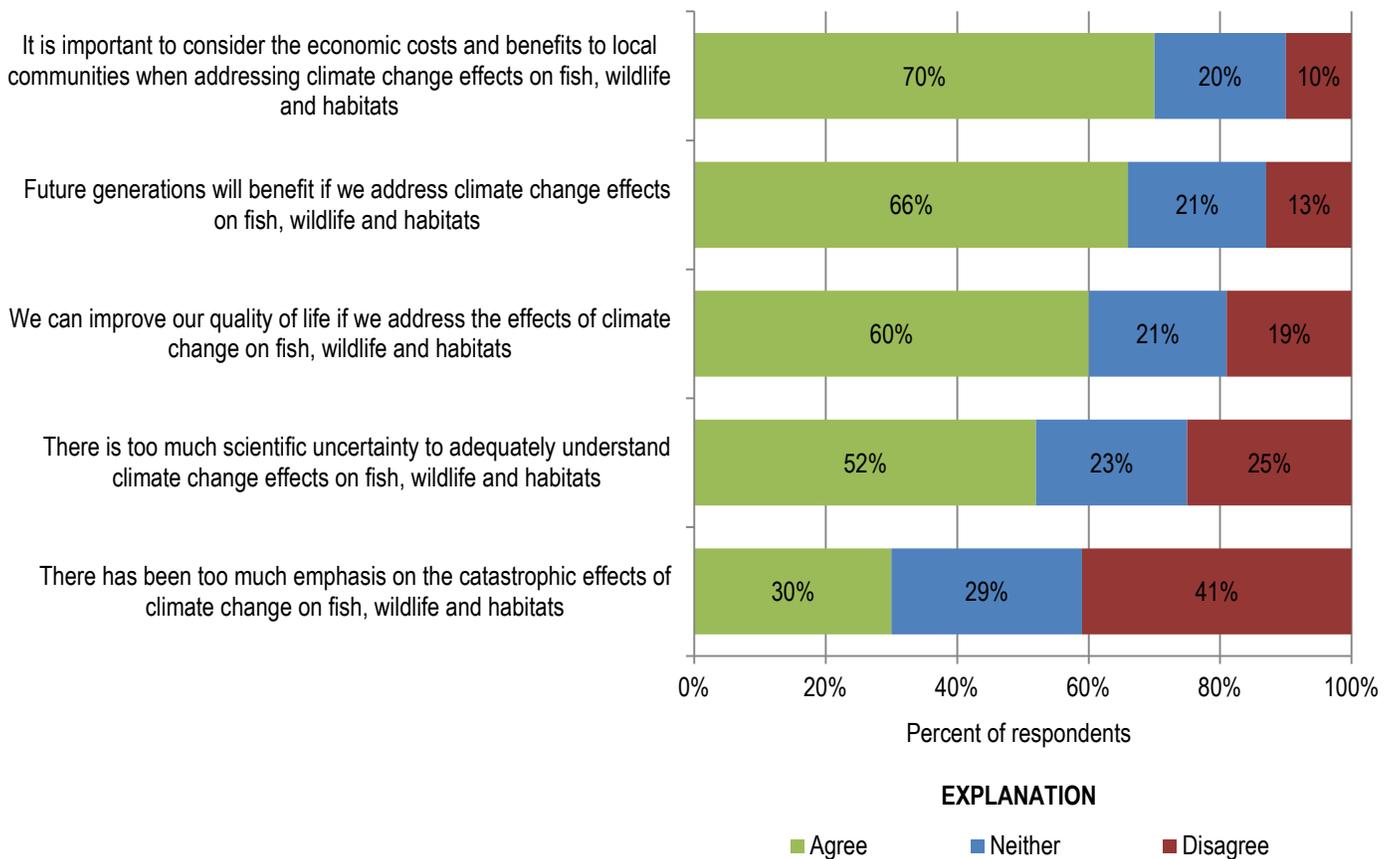


Figure 15. Visitors’ beliefs about the effects of climate change on fish, wildlife and their habitats (n ≥ 179).

Conclusion

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

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

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National Wildlife Refuge Visitor Survey



PLEASE READ THIS FIRST:

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

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

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"/> 12% Big game hunting | <input type="checkbox"/> 49% Hiking | <input type="checkbox"/> 17% Environmental education (for example, classrooms or labs, tours) |
| <input type="checkbox"/> 8% Upland/Small-game hunting | <input type="checkbox"/> 11% Bicycling | |
| <input type="checkbox"/> 1% Migratory bird/Waterfowl hunting | <input type="checkbox"/> 34% Auto tour route/Driving | <input type="checkbox"/> 21% Special event (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 61% Wildlife observation | <input type="checkbox"/> 8% Motorized boating | |
| <input type="checkbox"/> 41% Bird watching | <input type="checkbox"/> 14% Nonmotorized boating (including canoes/kayaks) | <input type="checkbox"/> 16% Other (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 27% Freshwater fishing | | |
| <input type="checkbox"/> 0% Saltwater fishing | <input type="checkbox"/> 27% Interpretation (for example, exhibits, kiosks, videos) | <input type="checkbox"/> 1% Other (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 34% 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?

- 19% No
- 81% Yes → If yes, what did you do there? (Please mark **all that apply.**)
- | | |
|--|---|
| <input type="checkbox"/> 43% Visit the gift shop or bookstore | <input type="checkbox"/> 26% Watch a nature talk/video/presentation |
| <input type="checkbox"/> 76% View the exhibits | <input type="checkbox"/> 74% Stopped to use the facilities (for example, get water, use restroom) |
| <input type="checkbox"/> 52% Ask information of staff/volunteers | <input type="checkbox"/> 16% Other (<i>please specify</i>) <u>See Appendix B</u> |

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

Nonlocal	Local	Total	
51%	90%	83%	It was the primary purpose or sole destination of my trip.
29%	8%	12%	It was one of many equally important reasons or destinations for my trip.
20%	2%	5%	It was just an incidental or spur-of-the-moment stop on a trip taken for other purposes or to other destinations.

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

Nonlocal 192 number of miles

Local 21 number of miles

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

See Report for Results

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

31% No (*skip to question #9*)

69% Yes → What **type of group** were you with on your visit? (*Please mark **only one.***)

78% Family and/or friends

13% Organized club or school group

0% Commercial tour group

9% Other (*please specify*) See Appendix B

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

 6 number 18 years and over

 1 number 17 years and under

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

70% Friends or relatives

3% Refuge website

14% Signs on highway

1% Other website (*please specify*) See Appendix B

4% Recreation club or organization

2% Television or radio

35% People in the local community

3% Newspaper or magazine

9% Refuge printed information (brochure, map)

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

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

66% Spring
(March-May)

57% Summer
(June-August)

82% Fall
(September-November)

42% Winter
(December-February)

11. 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"/> 90% | Private vehicle without a trailer | <input type="checkbox"/> 0% | Refuge shuttle bus or tram | <input type="checkbox"/> 8% | Bicycle |
| <input type="checkbox"/> 10% | Private vehicle with a trailer
(for boat, camper or other) | <input type="checkbox"/> 3% | Motorcycle | <input type="checkbox"/> 27% | Walk/Hike |
| <input type="checkbox"/> 0% | Commercial tour bus | <input type="checkbox"/> 1% | ATV or off-road vehicle | <input type="checkbox"/> 3% | Other (<i>please specify below</i>) |
| <input type="checkbox"/> 1% | Recreational vehicle (RV) | <input type="checkbox"/> 7% | Boat | <u>See Appendix B</u> | |
| | | <input type="checkbox"/> 2% | Wheelchair or other mobility aid | | |

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

- | | | | |
|------------------------------|--|------------------------------|---|
| <input type="checkbox"/> 27% | Signs on highways | <input type="checkbox"/> 4% | Directions from Refuge website |
| <input type="checkbox"/> 7% | A GPS navigation system | <input type="checkbox"/> 9% | Directions from people in community near this Refuge |
| <input type="checkbox"/> 6% | A road atlas or highway map | <input type="checkbox"/> 23% | Directions from friends or family |
| <input type="checkbox"/> 5% | Maps from the Internet (for example,
MapQuest or Google Maps) | <input type="checkbox"/> 66% | Previous knowledge/I have been to this Refuge before |
| | | <input type="checkbox"/> 1% | Other (<i>please specify</i>) <u>See Appendix B</u> |

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

How likely would you be to use...	Very Unlikely	Somewhat Unlikely	Neither	Somewhat Likely	Very Likely
...a bus or tram that takes passengers to different points on the Refuge (such as the Visitor Center)?	<input type="checkbox"/> 54%	<input type="checkbox"/> 9%	<input type="checkbox"/> 6%	<input type="checkbox"/> 19%	<input type="checkbox"/> 11%
...a bike that was offered through a Bike Share Program for use while on the Refuge?	<input type="checkbox"/> 34%	<input type="checkbox"/> 13%	<input type="checkbox"/> 6%	<input type="checkbox"/> 30%	<input type="checkbox"/> 17%
...a bus or tram that provides a guided tour of the Refuge with information about the Refuge and its resources?	<input type="checkbox"/> 35%	<input type="checkbox"/> 14%	<input type="checkbox"/> 10%	<input type="checkbox"/> 24%	<input type="checkbox"/> 17%
...a boat that goes to different points on Refuge waterways?	<input type="checkbox"/> 22%	<input type="checkbox"/> 12%	<input type="checkbox"/> 7%	<input type="checkbox"/> 29%	<input type="checkbox"/> 29%
...a bus or tram that runs during a special event (such as an evening tour of wildlife or weekend festival)?	<input type="checkbox"/> 30%	<input type="checkbox"/> 14%	<input type="checkbox"/> 8%	<input type="checkbox"/> 28%	<input type="checkbox"/> 20%
...an offsite parking lot that provides trail access for walking/hiking onto the Refuge?	<input type="checkbox"/> 21%	<input type="checkbox"/> 12%	<input type="checkbox"/> 8%	<input type="checkbox"/> 32%	<input type="checkbox"/> 27%
...some other alternative transportation option? (<i>please specify</i>) <u>See Appendix B</u>	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 18%	<input type="checkbox"/> 82%

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

- 31% Yes 31% No 38% Not Sure

5. For each of the following transportation-related features, first, **rate how important** each feature is to you when visiting this Refuge; then **rate how satisfied** you are with the way this Refuge is managing each feature. *If this Refuge does not offer a specific transportation-related feature, please rate how important it is to you and then circle NA "Not Applicable" under the Satisfaction column.*

Importance						Satisfaction					
Circle one for each item.						Circle one for each item.					
Very Unimportant	Somewhat Unimportant	Neither	Somewhat Important	Very Important		Very Unsatisfied	Somewhat Unsatisfied	Neither	Somewhat Satisfied	Very Satisfied	Not Applicable
<input type="checkbox"/> 3%	<input type="checkbox"/> 10%	<input type="checkbox"/> 4%	<input type="checkbox"/> 43%	<input type="checkbox"/> 40%	Surface conditions of roads	<input type="checkbox"/> 3%	<input type="checkbox"/> 8%	<input type="checkbox"/> 3%	<input type="checkbox"/> 39%	<input type="checkbox"/> 46%	NA
<input type="checkbox"/> 5%	<input type="checkbox"/> 13%	<input type="checkbox"/> 12%	<input type="checkbox"/> 43%	<input type="checkbox"/> 27%	Surface conditions of parking areas	<input type="checkbox"/> 4%	<input type="checkbox"/> 2%	<input type="checkbox"/> 4%	<input type="checkbox"/> 33%	<input type="checkbox"/> 57%	NA
<input type="checkbox"/> 3%	<input type="checkbox"/> 3%	<input type="checkbox"/> 6%	<input type="checkbox"/> 32%	<input type="checkbox"/> 55%	Condition of bridges	<input type="checkbox"/> 4%	<input type="checkbox"/> 15%	<input type="checkbox"/> 4%	<input type="checkbox"/> 35%	<input type="checkbox"/> 42%	NA
<input type="checkbox"/> 5%	<input type="checkbox"/> 3%	<input type="checkbox"/> 5%	<input type="checkbox"/> 28%	<input type="checkbox"/> 59%	Condition of trails and boardwalks	<input type="checkbox"/> 3%	<input type="checkbox"/> 4%	<input type="checkbox"/> 7%	<input type="checkbox"/> 27%	<input type="checkbox"/> 59%	NA
<input type="checkbox"/> 4%	<input type="checkbox"/> 6%	<input type="checkbox"/> 9%	<input type="checkbox"/> 45%	<input type="checkbox"/> 35%	Number of places for parking	<input type="checkbox"/> 5%	<input type="checkbox"/> 5%	<input type="checkbox"/> 9%	<input type="checkbox"/> 32%	<input type="checkbox"/> 49%	NA
<input type="checkbox"/> 5%	<input type="checkbox"/> 4%	<input type="checkbox"/> 10%	<input type="checkbox"/> 42%	<input type="checkbox"/> 39%	Number of places to pull over along Refuge roads	<input type="checkbox"/> 5%	<input type="checkbox"/> 12%	<input type="checkbox"/> 15%	<input type="checkbox"/> 43%	<input type="checkbox"/> 26%	NA
<input type="checkbox"/> 4%	<input type="checkbox"/> 3%	<input type="checkbox"/> 3%	<input type="checkbox"/> 21%	<input type="checkbox"/> 69%	Safety of driving conditions on Refuge roads	<input type="checkbox"/> 3%	<input type="checkbox"/> 5%	<input type="checkbox"/> 4%	<input type="checkbox"/> 39%	<input type="checkbox"/> 49%	NA
<input type="checkbox"/> 4%	<input type="checkbox"/> 2%	<input type="checkbox"/> 5%	<input type="checkbox"/> 32%	<input type="checkbox"/> 57%	Safety of Refuge road entrances/exits	<input type="checkbox"/> 1%	<input type="checkbox"/> 4%	<input type="checkbox"/> 4%	<input type="checkbox"/> 34%	<input type="checkbox"/> 56%	NA
<input type="checkbox"/> 6%	<input type="checkbox"/> 6%	<input type="checkbox"/> 10%	<input type="checkbox"/> 30%	<input type="checkbox"/> 49%	Signs on highways directing you to the Refuge	<input type="checkbox"/> 2%	<input type="checkbox"/> 8%	<input type="checkbox"/> 15%	<input type="checkbox"/> 33%	<input type="checkbox"/> 43%	NA
<input type="checkbox"/> 5%	<input type="checkbox"/> 3%	<input type="checkbox"/> 5%	<input type="checkbox"/> 35%	<input type="checkbox"/> 51%	Signs directing you around the Refuge roads	<input type="checkbox"/> 2%	<input type="checkbox"/> 10%	<input type="checkbox"/> 13%	<input type="checkbox"/> 40%	<input type="checkbox"/> 35%	NA
<input type="checkbox"/> 5%	<input type="checkbox"/> 2%	<input type="checkbox"/> 12%	<input type="checkbox"/> 28%	<input type="checkbox"/> 53%	Signs directing you on trails	<input type="checkbox"/> 3%	<input type="checkbox"/> 9%	<input type="checkbox"/> 19%	<input type="checkbox"/> 40%	<input type="checkbox"/> 30%	NA
<input type="checkbox"/> 5%	<input type="checkbox"/> 4%	<input type="checkbox"/> 17%	<input type="checkbox"/> 26%	<input type="checkbox"/> 47%	Access for people with physical disabilities or who have difficulty walking	<input type="checkbox"/> 3%	<input type="checkbox"/> 6%	<input type="checkbox"/> 22%	<input type="checkbox"/> 37%	<input type="checkbox"/> 32%	NA

6. 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)?

80% Yes

20% No → How much time did you spend **in local communities** on this trip?
 2 number of hours OR 3 number of days

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

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

See Report for Results

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

 2 number of people sharing expenses

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

\$0	\$10	\$20	\$35	\$50	\$75	\$100	\$125	\$150	\$200	\$250
7%	22%	27%	13%	16%	3%	9%	1%	2%	0%	1%

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

4%	Far too low	4%	Too low	92%	About right	0%	Too high	0%	Far too high	87%	Did not pay a fee
<i>(skip to Section 4)</i>											

6. Please indicate whether you disagree or agree with the following statement. *(Please mark **only one**.)*

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

0%	Strongly disagree	0%	Disagree	17%	Neither agree or disagree	65%	Agree	17%	Strongly agree
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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.	1%	3%	3%	46%	48%	NA
Overall, I am satisfied with the information and education provided by this Refuge about its resources.	1%	2%	6%	40%	52%	NA
Overall, I am satisfied with the services provided by employees or volunteers at this Refuge.	2%	1%	5%	34%	59%	NA
This Refuge does a good job of conserving fish, wildlife and their habitats.	3%	4%	1%	28%	64%	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%	5%	13%	42%	36%	Availability of employees or volunteers	2%	3%	9%	25%	61%	NA
3%	3%	10%	35%	49%	Courteous and welcoming employees or volunteers	1%	2%	5%	17%	75%	NA
2%	0%	5%	39%	55%	Knowledgeable employees or volunteers	1%	2%	5%	24%	68%	NA
1%	2%	7%	34%	57%	Printed information about this Refuge and its resources (for example, maps and brochures)	1%	4%	5%	31%	60%	NA
2%	5%	14%	40%	39%	Informational kiosks/displays about this Refuge and its resources	1%	2%	16%	33%	49%	NA
1%	1%	11%	33%	54%	Signs with rules/regulations for this Refuge	3%	5%	7%	38%	47%	NA
1%	3%	13%	46%	37%	Exhibits about this Refuge and its resources	2%	2%	12%	32%	52%	NA
1%	3%	20%	31%	44%	Environmental education programs or activities	2%	4%	22%	26%	46%	NA
1%	2%	6%	37%	53%	Visitor Center	1%	1%	6%	18%	74%	NA
1%	2%	8%	41%	49%	Convenient hours and days of operation	2%	3%	7%	29%	60%	NA
2%	1%	5%	25%	68%	Well-maintained restrooms	3%	8%	6%	21%	62%	NA
1%	2%	6%	29%	62%	Wildlife observation structures (decks, blinds)	1%	1%	6%	26%	66%	NA
3%	5%	16%	32%	44%	Bird-watching opportunities	1%	2%	18%	27%	53%	NA
1%	2%	6%	37%	54%	Opportunities to observe wildlife other than birds	1%	3%	7%	37%	52%	NA
5%	4%	16%	28%	48%	Opportunities to photograph wildlife and scenery	1%	2%	16%	26%	55%	NA
24%	7%	20%	14%	35%	Hunting opportunities	2%	4%	33%	24%	36%	NA
15%	4%	16%	23%	41%	Fishing opportunities	2%	5%	25%	28%	40%	NA
2%	2%	10%	31%	54%	Trail hiking opportunities	1%	5%	13%	45%	37%	NA
8%	7%	21%	34%	29%	Water trail opportunities for canoeing or kayaking	1%	7%	37%	28%	27%	NA
7%	9%	22%	34%	28%	Bicycling opportunities	3%	8%	33%	31%	26%	NA
8%	5%	34%	26%	26%	Volunteer opportunities	0%	3%	43%	24%	30%	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?

88% Yes

12% 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?

88% Yes

12% No

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

See Appendix B

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

Statements about climate change	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I am personally concerned about the effects of climate change on fish, wildlife and their habitats.	7%	13%	23%	35%	23%
We can improve our quality of life if we address the effects of climate change on fish, wildlife and their habitats.	6%	13%	21%	38%	21%
There is too much scientific uncertainty to adequately understand how climate change will impact fish, wildlife and their habitats.	7%	18%	23%	34%	17%
I stay well-informed about the effects of climate change on fish, wildlife and their habitats.	5%	16%	39%	32%	7%
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.	2%	8%	20%	54%	16%
I take actions to alleviate the effects of climate change on fish, wildlife and their habitats.	6%	11%	41%	29%	13%
There has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and their habitats.	17%	24%	29%	17%	13%
Future generations will benefit if we address the effects of climate change on fish, wildlife and their habitats.	4%	9%	21%	36%	30%
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%	16%	37%	26%	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?

96% Yes 4% No → If not, what is your home country? See Figure 4 in Report

2. Are you? 64% Male 36% Female

3. In what year were you born? 1962 (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)			
					3%			17%				39%				41%			

5. What ethnicity do you consider yourself? 1% Hispanic or Latino 99% Not Hispanic or Latino

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

- 3% American Indian or Alaska Native 6% Black or African American 88% White
 5% Asian 0% Native Hawaiian or Pacific Islander

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

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

- | | | |
|--|--|--|
| <input type="checkbox"/> 5% Less than \$10,000 | <input type="checkbox"/> 17% \$35,000 - \$49,999 | <input type="checkbox"/> 15% \$100,000 - \$149,999 |
| <input type="checkbox"/> 11% \$10,000 - \$24,999 | <input type="checkbox"/> 20% \$50,000 - \$74,999 | <input type="checkbox"/> 2% \$150,000 - \$199,999 |
| <input type="checkbox"/> 14% \$25,000 - \$34,999 | <input type="checkbox"/> 14% \$75,000 - \$99,999 | <input type="checkbox"/> 2% \$200,000 or more |

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

24 number of trips

Thank you for completing the survey.

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

See Appendix B for Comments

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Appendix B: Visitor Comments to Open-Ended Survey Questions for Noxubee 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
Bluebird house building with Cub Scouts	2
Bluebird Workshop, National Wildlife Refuge Day	1
Boy Scout meeting	1
Build a birdhouse	1
Canoe Day	1
Children Event Day	1
Fall Festival	1
Family Fun Day	5
Family Fun Day, Historic Day in Fall 2010	1
Family Fun Day, Pioneer Days	1
Family Outing	1
Family Picnic	1
Field trip	1
Fish and Water Samples	1
Fishing Rodeo	1
Fruit Jar Bass Tourney (we won!)	1
Group of Internationals and grandchildren, just to enjoy nature	1
Home school group	1
Kids Day	1

Kids Fishing Rodeo	1
National Refuge Week, Family Fun Day	1
National Wildlife Refuge Day	7
National Wildlife Refuge Day, Fishing Rodeo	1
National Wildlife Refuge Day, Pioneer Days, Fishing Derby	1
Refuge Week Celebration	1
Visitors Day	1
We took a group of internationals for a video and tour of animal and picture displays.	1
Youth Conservation Camp	1
Total	39

Other Activity	Frequency
Alligator viewing	1
Archery	1
Church group activities	1
Church picnic	1
Classroom Field Trip (May)	1
Cook-out	1
Cooperative research	1
Family outing	1
Film	1
Graduate student study sites	1
Just relax, picnic, sightseeing	1
Landscaping	1

Mushroom Program/Collecting	1
Picnic	6
Research	1
Saturdays at the refuge activities	1
To be outdoors	1
Tour	1
Various Friends of Noxubee Refuge	1
Walking dogs and picnic	1
Wedding	3
Work days	1
Total	29

2 nd Other Activity	Frequency
Prairie Restoration Project	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
Alligator watching	1
Church group activities	1
Cooperative research	1
Cub Scouts/Family Trip	1
Enjoy nature	1
Family Fun Day	4

Family outing	1
Family outing and daughter needed information for college report on poisonous snakes in area.	1
Look around	1
National Refuge Week Family Fun Day	1
Refuge Day	2
Sample collection	1
Saturdays at the Refuge activities	1
To be outdoors	1
To enjoy nature!	1
Tour of refuge offices and the surrounding area	1
Video	1
Wedding	1
Work	1
Work days	1
Total	24

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

Other Visitor Center Activity	Frequency
Bluebird workshop	3
Bought hunting permit.	7
Establish research study	1
Lecture to guests visiting from abroad.	1
Meeting room.	1
Obtain deer tags.	1

Participated in classes on different subjects.	1
Receive updates on wildlife that I photograph.	1
Talked to rangers about water level, alligators, snakes.	1
Tour	1
View from observation deck.	3
Viewed through binoculars.	1
Visited booths during National Wildlife Refuge Week.	1
Volunteer	1
Watched a film on bluebirds.	1
Total	25

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

Other Group Type	Frequency
Another student	1
Church	2
Church group	1
Cub Scouts	2
Drivers Ed. Class	1
Forest Service personnel	1
International Delegation	1
International Group	1
International Insect Rearing Workshop for people all over the world.	1
Total	11

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

Other Website	Frequency
E-mail	1
Google Maps	1
Total	2

Other Ways Heard about This Refuge	Frequency
Audubon Society	1
Biology classes at Mississippi State University in the late 1950s.	1
Federal Highway	1
Hunting	1
Legion State Park staff Jenny	1
Map	1
Mississippi State	1
Mississippi Topographical Map	1
MSU Grad	1
USFWS NWR System	1
Total	10

Survey Section 2

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

Other Forms of Transportation	Frequency
Bus	1
Canoe	2

Drivers Ed. Class	1
Forest Service truck	1
School bus	1
Total	6

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

Other Ways Found This Refuge	Frequency
Another member of the group drove there.	1

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

Other Transportation Option Likely to Use	Frequency
4 wheeler-use on cable roads.	1
ATV	4
ATV for hunting	1
ATV ride through woods.	1
ATV/Four wheeler	1
Canoe rental	1
Canoe/Air boat	1
Canoe/Kayak	1
Car, walk	1
Horse riding	1
Personal vehicle	6
Rent-a-boat	1

Rental John boats	1
Tour boat	1
Total	22

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 = 40)

"Signs directing you on trails"-If I'm alone on the trail, I could have a problem with getting lost. My sense of direction is not so good, and there are trails leading off of trails that get me confused. On the other hand, I appreciate that the trails aren't so unnatural. I love the rugged feel of them, like you're up in the woods, not a perfectly laid path.

A bus service would be helpful. A parking lot also would be helpful. It is difficult to park vehicles during and after heavy rainfall.

All of the above were important and satisfactory.

Although I miss the old gravel roads, the new paved roads make it easier for people to visit that might not otherwise visit and the paved roads are generally safer. But, it also means increased speeds. I don't like tail-gaters and people using it as a highway to get somewhere else when I am driving slow and trying to enjoy the view.

At one boardwalk trail we took, there was no parking and no place to pull over and not be in the mud off the road shoulder. It could be a hazard for people exiting on the road side from other traffic.

Bridge over the spillway that leads you to the Visitor Center on Bluff Lake is in extremely poor condition. Any vehicle crossing this bridge could go out of control and crash. The wood on the bridge's road surface is completely rotted out, leaving 12 inch deep ruts that can cause severe front-end damage to tires, the suspension system, etc.

Four wheelers are not allowed on the refuge, and that is fine, but there are no places to pull off without getting stuck in the ditches. You're not allowed off the roads anyway, so where is a person to park if they want to hunt an area that looks good?? I personally don't believe that any importance is put on the hunters access to hunt the refuge - it's one less thing they have to deal with, i.e., deer tagging, rules enforcement, etc. I'm sure it's understaffed.

Glad to see a brick walkway through the nature area at the office for handicap access.

Great transportation at our Noxubee National Wildlife Refuge. We love it all!

I absolutely love coming to the refuge. My family and I love spending weekends there. I just wish they would hurry up and finish the road work and fix the first spillway bridge. The wooden bars are breaking and are weak, but it does not stop us from coming.

I believe the refuge should open more roads and trails for hunting access. I believe the refuge should consider ATV use for game retrieval. I believe more does would be taken if this is allowed. I do not believe the buck-to-doe ratio is being properly managed.

I dislike the roads being closed for nesting turkeys. The refuge burns the woods at nesting time.

I don't fully understand why so many miles of roads are closed off; an ATV isn't even allowed for retrieving large game.

I feel that golf carts should be allowed on the trails for people who can't walk long distances.

I hope this survey eventually addresses wildlife habitat management on NWRs instead of transportation and other people management tactics. Is NWRS becoming another branch of the Park Service? I hope not!

I might have some difficulty getting someone around in a wheelchair.

I walk with a cane because I am imbalanced. In the place we like to fish, there is no way it can be improved. I would like to check out the new walkways.

I would like to have all the roads, or at least some of them, open during deer season!

I would like to see the trails and roads more useable for bicyclists.

If you place an alternative transportation for travel around the refuge, please let it be as "green" as possible. Exhaust and noise from engines would take away from the experience.

It needs speed bumps to slow down cars driving through the refuge.

It would be great to have longer hiking trails in the Noxubee Wildlife Refuge. The newly paved road is very nice to ride on with a bicycle. Thanks.

Little to no parking to access hunting areas. Sportsmen have to park alongside the road on a two lane road and obstruct the flow of traffic, especially in the hours of limited visibility when hunters are entering and exiting the woods. Access to the woods is limited to walking or biking. No assistance or the use of ATVs to retrieve large game animals.

Need more parking spaces at locked gates. Need more closer access for people with disabilities. Need to be able to get deer out by 4 wheeler with disabilities. Need more food plots and control bureau.

Need to finish the road in; dirt roads are not pleasant.

Needs more roadside parking--just an area to pull off.

Noxubee Wildlife Refuge needs better printed trail maps and trail guides.

Overflow parking with shuttle service would be helpful during special weekend events.

Recent resurfacing of roads has been great for bikers.

Road conditions are being improved. A new Refuge Center is open and is an outstanding experience for visitors.

Road work was being done during the visit, and it seems very necessary and will be an improvement.

Some listed trails in more isolated areas of the refuge are very poorly marked and it is difficult to navigate them.

Some of the roads could be improved going to the refuge. We just went to the lodge, and did not use the trails.

The condition of the roads and parking needs improvement (some are in the process). Trails need some clearing

and markings. I would like plaques to identify trees. More places needed to pull over along Refuge roads.

The road sign coming from Noxubee County could be bigger and closer to the entrance so that visitors could find it.

The Visitor Center parking lot is excellent! Goose overlook and new fishing pier areas have good parking.

There was one time we visited a trail and the road mark was very confusing and we were lost! The trail seemed abandoned. But anyway, it's very important to have a clear direction for the trail!!!

Things have really improved in the last 40 years!!!

Trails could be marked better and have better drainage.

Went down Beaver Trail and there wasn't much signage. It would have been helpful to know ahead that it was not a loop trail, but one in which, at the end, you turn around.

Survey Section 4

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

Comments on Services, Facilities, and Activities at This Refuge (n = 58)

A larger deck would be nice and one a little more stable.

Due to budget restraints, there is often no one at the front desk of the Visitor Center/office unless a volunteer or intern is available. Alas, I guess this is no time to be hoping for more money!

Each time I go to this refuge I enjoy the scenery and fishing, even if I don't catch anything! It is very pretty and calm!

Employees and volunteers were very courteous and knowledgeable.

Excellent employees and volunteers! They are always enthusiastic, eager to please, and so very welcoming. We love our Refuge!

Excellent service by employees and volunteers. Excellent educational programs for kids.

Excellent wildlife refuge.

Fishing in Bluff Lake is getting harder and harder because of too much moss and grass in the back part of the lake.

Have only had the time to drive around and look, by next year I will be able to answer all of this more in-depth.

Hiking trails are too short for serious hikers. Open the fishing season earlier.

I am a hunter. In the years past, I haven't hunted public land but recently decided to. While I was there, I asked about the food plots and was told they would not be planted nor had been planted for several years. This didn't make

much sense to me for a refuge.

I am very proud of the Noxubee Wildlife Refuge and the work being done there. The newly paved roads are especially wonderful.

I don't think it is right for the deer hunters to have to pay a fee and squirrels etc. are free.

I have health problems walking to get to good fishing spots on the lake. It is really painful to carry fishing equipment to different fishing spots.

I have taken all of our grandchildren to this refuge. It was a very good outing.

I hiked one of the trails through a bamboo grove (maybe?). There were no trail markers on the trail, and I'm not sure where it ended. We hiked around a mile, but weren't sure where to go, so we hiked out.

I love this refuge. Fishing needs improvement. Management seems to be working diligently on the problem.

I specifically went though the Noxubee NWR to sign my children up for the fishing rodeo. I filled out the applications and tried to pay and the ranger on duty stated she might lose the application and to just mail it in. I made a 50 mile trip to do this and the applications are still in my truck!

I think refuges have a good place in our world, but I don't always think they spend our money wisely. This one seemed a lot better in the 80's for hunting and fishing.

I was amazed at how nice everything looked to be out in the middle of nowhere. The grandkids loved it all.

I was once lost on a trail for several hours and no one could find us. The trail should have been better marked. It was the Wilderness Trail.

I was saddened to see the bench on the fishing walk had been stolen. My family and I used it and we miss it.

I was very impressed with the Visitor Center, its workers, and the overall Refuge, as it had been years since I last visited. I plan to return again soon.

I wish deer season would run until the end of January. For some people, the refuge and J. W. Stone are the only hunting areas we have.

I wish I would catch more fish when I go; it was cold and I didn't catch any.

I wish, if you did have activities going on at the refuge, that I could get a letter of information about it so I could come and bring my family and it isn't too late.

I would like to comment on the condition of the observation structure at the Morgan Hill Overlook in Noxubee Wildlife Refuge. During my last visit, I was disappointed to find offensive graffiti spray painted on the deck. I enjoy visiting this area and would greatly appreciate finding it cleaned up on my next visit.

I would like to see as much food sources for deer as there are for ducks and geese.

I would like to see more patrols by the game wardens because I noticed alcohol consumption on numerous occasions.

I would like to see the weeds and grasses cut around the **spillway** and year-round fishing on the **spillways** instead of closing them on the 31st of October each year.

I'm lucky to live so close to a place that I can take my family to enjoy our wildlife and fish. Bring back camping please!

In activities, some people were fishing in a boat. There are three crocodiles and if the boat turns over there may be an accident. It is very dangerous.

It is all just people, people, people in these questions! What about wildlife habitat management? Although people management is critically important, it is becoming the focus on this and other NWRs and is replacing habitat management and conservation for fish and wildlife and for which the NWR System was established. Theodore Roosevelt would be shocked!

It is beautiful, wonderful, and transpiring "get-a-way", "hide-a-way" for a human refuge!

It would be nice to have a snack facility (machines).

Love the staff at this refuge!

Need more prominent information and signage about boating seasons and what constitutes the required free fishing permit.

Our trip was greatly enjoyed. The staff was very helpful and delightful. The film we saw was very good and the displays were well done.

Over manipulation of water levels.

Staff is extremely helpful and kind!

The facilities, roads, bridges, and trails are well maintained. The employees are very courteous.

The grass should be mowed around the edges of the lakes and pools. It gets snaky-looking.

The picnic table around the Visitor Center could be replaced. Trash cans are needed.

The Refuge offers many wonderful activities. They are fun and educational. The staff is very helpful and knowledgeable.

The workers are very helpful with answering my questions and their knowledge on the subject area was outstanding.

There are great activities for children to come and learn about the Noxubee Wildlife Refuge. The restroom facilities at the boat ramp do not seem to be as clean as they used to be. The Refuge has great wildlife observation areas. Some of the management does not seem to appreciate the activities and contributions of volunteers and how that makes them look better.

There is good fishing.

This is a really nice refuge; I was visiting from North Carolina and was impressed.

This refuge allows too much hunting. There are too many people shooting guns where I'd like to bird watch on the weekends. There are too many boaters on the lake disturbing nesting and migratory water birds, including endangered Wood Storks.

This refuge is one of the nature's highlights in this community. The variety of birdlife in this refuge offers education for all of us in the need to promote conservation of habitat of all life.

Too much clear cutting and logging, especially in bottomland hardwoods and around active RCW clusters.

Trails off Keaton Tower Road, between 2 fields, need to be bush-hogged. Also, I know a lot of our money is spent feeding ducks and geese, but there are no food plots or crops planted for deer fields. Plantings like those on Keaton Tower would be ideal.

Very clear signs, road marks, and introduction information can release the pressure of hiring employees and volunteers. So the clear and thorough information will be essential!

Very well cared for refuge. The staff had a great sense of pride.

We came there to buy a pet from the Ranger's wife. We stopped at the Visitor Center, used the restroom, looked at the exhibits, spoke to a volunteer, and left. The facility was nice and so were the people. If we were in the area again, we might visit and spend more time.

We have no negative comments about the above.

We were visited by staff that pointed out eagle nesting sites and alligator sighting locations. It was very nice.

Why do they let the water go down so low in the summer?

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 = 135)

A friend and I would go kayaking on the west side of the lake under the cypress trees and among the alligators; it was a very quiet and peaceful time. The boardwalks do a lot for people that aren't much of explorers.

A greater chance of seeing birds and other wildlife.

Access info about wetlands and see nature up close and personal.

All the rules and regulations.

Alligators.

At Noxubee Refuge, I have seen all native wildlife. This facility excels at catering to the needs of wildlife.

Being able to get up close and personal with wildlife. Also, the beauty of nature.

Being able to observe alligators in their natural habit.

Conserves habitat, if managed correctly. These are not timber farms and should not be managed for timber production (board feet).

Different hunting terrains and the opportunity to meet new people who share the same interests as yourself. It's a safe place to hunt when not abused by others.

Educational opportunities.

Enjoy wildlife with wonderful facilities to use.

First, the fact that it provides a safe ground for animals and birds, especially migratory birds and insects. Second, refuges are unique because somehow they bring humans and wildlife closer to each other and give us an opportunity to observe animals and learn more about them.

Focus on wildlife "use" and conservation. Practical blend and use.

For the most part, they are usually free to enjoy. I have never been to one where I had to pay a fee.

Generally, they're not managed like Parks, so there tends to be more opportunities to view wildlife that it is not habituated to humans.

God has given us so much in this world to enjoy and we don't take the time to enjoy His gifts. Thank you for making a way for people to get out and see wildlife right here and the wonder and beauty of it all. Thank you for their park and for keeping it open for all to see so many beautiful sights of nature and wildlife. Thank you for making a way for our group to bring a group of internationals and to see this beautiful place. Please continue to make improvements on the park and keep it up so that those that come behind us can enjoy the heritage we have. The display of the Indians here and driven off this land was very interesting.

Good management, attention to details, and clean offices and facilities. I don't understand why there is no fishing year round.

High quality sanctuaries for management of wildlife.

Hunting and fishing is important in children's family life. It offers a place for this to happen.

Hunting opportunities on several acres of land.

Hunting opportunities.

I appreciate the fact that management on the refuge specifically addresses species conservation as opposed to merely focused on profiting from harvests.

I enjoy the "wilderness experience" and roaming the cypress swamps. I love to admire the big hardwood bottoms and the different species that live in the refuge.

I have been coming to Bluff Lake since I was a child. It is a beautiful place. Just being on the lake, catching fish or not, is very therapeutic for me.

I have been to several refuges and Noxubee Wildlife Refuge has been my favorite. The Visitors Center and workers and volunteers are amazing. It is such a treasure to have it in my area.

I live in town and don't hunt at all or fish too often. Just getting out to walk a trail is all the nature I can handle. The refuge offers that in spades.

I love seeing the different wildlife at the refuge. I know that when I go there I will come home feeling more calm and realize how God makes beautiful countries and scenes!

I think it is nice to have the Noxubee Wildlife Refuge that offers different activities for everyone.

I think Refuges are well maintained and offer more opportunities to see more wildlife.

I think their mission is unique.

If a person likes to be in the outdoors just to enjoy nature and hear/see different animals in their habitat, then the Refuge is a good recreation experience.

In a world of 'developed land' by humans, Refuges preserve the original landscape and conserve the wildlife of the area. They are one of few opportunities for young and old to experience nature's uniqueness of a community.

In the area it has a nice national park feel like Yellowstone, and it's nice that we don't have to go out of state to get that feel.

It does an excellent job with local schools.

It has a lot of land that you are able to hunt.

It has alligators.

It has great appeal to explore the surroundings and see wildlife. With its picnic areas to boardwalks to the vast amount of animals you can view, and its Visitors Center is very informational on what wildlife you can see. I love the Refuge!

It has plenty of places to watch birds and wildlife. It has a boardwalk and observation decks.

It is "heaven on Earth." I'm an artist--I have for years gone to the Noxubee National Wildlife Refuge to paint everything out there: the spillway trees, birds, wildlife in the spring, summer, fall, and winter. I even had a complete wildlife art show. I have kept all of my artwork of these years. I'm very proud of my colorful world of the National Wildlife Refuge (Noxubee).

It is a beautiful place that provides an interesting view of Mississippi's natural resources and wildlife.

It is a nice, quiet ride and nice to see the nature.

It is a place to enjoy the outdoors in a safe environment.

It is a quiet, restful place to observe nature and the only place I know of in this area to observe alligators in a natural habitat.

It is educational and a wonderful place for people of all ages to explore the wonders of nature, fishing, and hunting. It is also a stress free from the technological advances of today's society.

It is so primitive and private.

It is unique in that it has conserved a big area in our home state of forest and swampland that is not nearly as prevalent as before. We are surrounded by farmland and open areas so it is a welcome refuge.

It is very relaxing. It is restful and gives a calming effect in our lives to see God's handiwork. We enjoyed our afternoon very much! Thank you!

It provides hunting and fishing opportunities not available on other public lands in our area.

It provides opportunities that are not available in some areas of the state.

It seems to me that there is more game on refuge land.

It's a great place to fish, it's not far from home, and there is abundant wildlife to observe.

It's a place to go that is safe, quiet, and you can fish once in a while.

It's easy to get around, very clean, and the duck hunting is the best in east MS.

It's easy to photograph here.

It's just a great way to get out, relax, and enjoy nature.

It's near my home. It is a great Goose Flyway and has great fishing.

It's the care and planning of a group working to preserve wildlife that matters to me.

It's unique because you don't have to pay a fee.

Its beauty and fishing make it unique.

Its first priority is wildlife, preserving and nurturing it, and teaching people to appreciate the beauty and harmony of wildlife and nature.

Just look around. Enough said.

Large area and many accessible opportunities.

Large tracts of undisturbed land are non-existent. The opportunity to go see the undisturbed wildlife and plants, and show your children the importance of managing the resources we have been blessed with.

More wildlife than found in most Parks.

Most refuges are well managed with facilities to enhance outdoor experiences compared to other public lands which receive little funding for maintenance and upkeep.

My wife and I feel Noxubee Wildlife Refuge is a unique example: The Box Educational Center that hosts pre-college students to learn about nature, its plants and animals. This is a wonderful joint effort by the National Wildlife Refuge and the local public school system of Starkville, MS.

Natural conservation is one of the goals, which is important. I also like the fact that I may see many wildlife!

Nice environment.

One of very few places to go to fish, hunt, hike, camp, etc. all in one area.

Opportunities to see wildlife such as eagles and alligators. Trails and education exhibits.

Ours is so relaxing and laid back. It's more natural than the parks around here, not so paved, etc., which makes it feel more homey and peaceful.

Policing of the area by the game wardens.

Preserving wildlife and making it possible to observe birds and animals.

Protection of wildlife, informative.

Quiet nature... very peaceful!

Refuges allow anyone of any ability to come in contact with the natural beauty of our country.

Refuges are more pristine and unspoiled compared to some other Parks.

Refuges are well maintained and a person feels safe because of the employees who maintain them.

Refuges make visiting easier and more enjoyable.

Relatively large size bottomland as well as upland habitat, opportunity to observe Red-coated Woodpecker, and high quality Visitor Center.

Some people were fishing on the boat.

Sometimes. Don't turn NWRs into "Yellowstone Parks!"

The available resources for education of youth and other civilians are extremely beneficial and often only take place at refuges or at least more often than other Federal or State owned land.

The beauty of conservation and the wildlife is a perfect place for serenity.

The birds including the endangered Red-Cockaded Woodpecker, Bald Eagle, and Egret Rookery.

The cypress trees, different vegetation, and wildlife. I live in the North. It's just interesting to see different things and places.

The decks overlooking the lakes in the refuges I have visited are great. They are as nice as expensive private decks.

The emphasis is on wildlife, not people.

The environment that is created.

The focus is on the wildlife.

The full preservation of habitat and, in this case, the opportunity to walk out on decks over the water and see waterfowl and wildlife in context.

The hunting, fishing, hiking trails, and wildlife lookouts make it unique.

The lack of commercial activity and the chance to observe nature without being crowded or disturbed makes it

unique.

The Noxubee National Wildlife Refuge has a large area with a variety of activities, from lovely walkways and observation areas, to paved roads for bicycling, and lots of great area to view deer, birds, and alligators. The perfect low-cost family daytime getaway.

The Noxubee Wildlife Refuge is unique because it offers visitors an opportunity to enjoy recreational activities and celebrate the wonder of nature. This refuge is a beautiful place to visit year-round, and my family enjoys each visit.

The Noxubee Wildlife Refuge offers many educational activities at no cost.

The overall atmosphere and the wildlife. During our visit, we saw several kinds of birds, turtles, alligators, and even a rare, good look at either a coyote or a wolf. The decks for observation were very good.

The refuge has a lot of fishing spots. It's very quiet and peaceful at the refuge. I feel welcome when I visit and fish.

The refuge has more options (fishing, hunting, hiking, etc.) than other public lands.

The refuge is a well preserved natural habitat and is void of commercial exploitation.

The trails are easy to walk on and the lookouts are interesting to observe.

The way it is managed.

The way they cater more towards conservation and education in all forms. They look towards responsible management by allowing hunting in some areas in well managed forms, while preserving others. The best way to put it is to say that they work the most towards a "good balance" for all parties.

The well-kept grounds and the beautiful wildlife that is drawn to the lake and grounds make the Noxubee Wildlife Refuge the best and unique.

The wildlife and forest is being protected.

Their rules about hunting are more lenient.

There are different things to do and see.

There are few other places.

There are more educational opportunities. When I was teaching, I took my class to the Noxubee Wildlife Refuge every year.

There is a diverse set of activities available. It is well maintained and managed.

There is good fishing and good boat ramps.

There is good wildlife management, conservation and timber management, and waterfowl management.

There is more visible wildlife.

They are an excellent way to introduce a younger person to many aspects of the outdoors.

They are great places for family oriented activities like picnics, biking, and hiking. Most have better facilities and more dedicated areas to view wildlife.

They are maintained with the "creatures'" needs in mind first and people's convenience second, as it should be.

They have nice lakes and lots of deer.

They offer a great balance between nature conservation and outdoor recreation.

They promote and try to appropriate the way of life for the wildlife of the area, and they actually try to make the exhibits as realistic as possible.

They provide large acres of land for public use at very reasonable prices. It's a place to take the children to enjoy the outdoors!!!

They try to allow wildlife areas to remain in a natural state.

This is one place I can always take my family that never costs me anything but time.

Unlike Parks and National Forests, Refuges manage land as wildlife habitats with hunting and fishing as part of the mission. You are more likely to encounter hunters and fishers at refuges. It makes for a different experience.

We all need ways to escape the city. Wildlife deserves a place as well.

We can observe the ecosystem and real nature.

We enjoy getting information from the rangers about the wildlife-especially the eagles and the alligators. The new walk is a wonderful observation area. We love to take our dog for a walk at the refuge.

We live in Pennsylvania. Our daughter attends Mississippi State and is a wildlife science major. She has had so many wonderful opportunities to come to Noxubee. We especially enjoyed the peace and tranquility, the walkup "up close and personal" experience with the marsh, and of course the alligators!

Well managed, beautiful habitat.

Whereas other places I've been cater to one specific habitat or environment, the refuges I've been to have so much diversity in a very close proximity, and also they cater to a much larger diversity of wildlife, so the possibilities are much greater.

Wildlife-oriented recreation.

You are surrounded by different wildlife.

You can return to the woods in a natural state.

You can usually see more wildlife than at a regular park.

You get to enjoy the wildlife. You can fish, picnic, etc. all in one day. It is a fun and exciting family experience no matter how many times you go. We love it!

Additional Comments (n = 42)

1) When are you going to allow alligator hunting? 2) The refuge map in the brochure needs improvement.

A very enjoyable experience!

As Canadians who value our natural heritage and with few experiences in the south, National Wildlife Refuges are valuable opportunities for us to expand our horizons in an environment new to us.

Cabin rentals at Legion State Park are too high and rates have no flexibility during off-season, even if all cabins are empty! This is ridiculous. I know this is not about the refuge, but a lot of people from the coast hunt Noxubee and stay at Legion, and we would come much more often if these rates were more reasonable. Please help if you can. Thanks.

Especially satisfied with the quality of employees I had contact with on all my visits to the refuge.

Every year you hear from the biologist and game wardens about how we need to harvest more deer, but we keep getting more and more restrictions on what is legal and what is not. I believe more deer would be checked in and harvest rates would go up if you do away with antler restrictions. As it is now, I believe more illegal deer are being harvested and sneaked out of the refuge lands because of antler restrictions. I mean, if you're going to have antler restrictions, make it a 4-point or 6-point, maybe an 8-point rule, but not a 10-inch wide, 12-inch wide, 13-inch main beam, or 15-inch main beam. This is more discouraging. I mean I personally let deer go that may have been legal because of uncertainty that it was legal or not. Kids should be able to kill anything all year long from age 15 and younger. "Daddy why can't I shoot that deer?" I've been hunting on Noxubee since 1985 and it's getting harder and harder, and the timber and farmlands are just not as abundant as in the 80's anywhere. Not just at Noxubee, but everywhere!

For approximately 20 years I would purchase a deer and waterfowl permit, but very seldom did I hunt. I did so because I wanted to support the refuge. This was a \$12.50 fee for deer and \$12.50 fee for waterfowl, which was returned all but one time. I was drawn to hunt waterfowl only once in 2000. I have become disgruntled with the majority of the refuge operations, but I still enjoy my visits there. Hunting for large game is cut short by one month vs. the state seasons. I have to travel through the refuge to access my hunting club and must abide with refuge regulations when passing through. I agree with the policy of having weapons cased during transport through the refuge, but do not like the idea of being stopped by a Federal Game Warden and checked. I feel like this regulation is a form of self-regulation by the hunter. Casing a firearm will not stop road hunting, but enforcement by the Rangers and Wardens will.

I am a disabled Vietnam USMC veteran who likes to fish and hunt. I would like to be able to drive to the good fishing spots without having to carry all of my equipment. Thank you. (Signature)

I am EXTREMELY CONCERNED with the over-zealous cutting of mature trees. It appears the refuge is being managed for timber rather than wildlife.

I attended the wedding of my granddaughter on 10/10/10. I enjoyed the scenery and cleanliness.

I do not agree with greatly lowering Bluff Lake during the winter months for "ducks" when, even with the lake at regular level, there is equal eating space for the ducks. I, among many others probably not taking this survey, think the lake should stay open for fishing all year long.

I enjoy going to the website for information. I would consider joining Friends of the Refuge Group. I teach in a small private school and our final field trip has been to the refuge in May with a picnic. I love going to the refuge.

I feel that the alligator populations need to be kept at a minimal number for the safety of visitors and visitors with

pets. The grass around lakes and ponds needs to be cut more often; it gets snaky-looking.

I lived on the Noxubee Wildlife Refuge from 1968-1970. It is one of the most special places in the world to me, and I am a world traveler. I was in Columbus for the memorial service for a family member, so I just had to stop and see the refuge. It is perfect! The new facilities - and the staff member who talked with me on Sunday morning - were wonderful. I'm a Fish and Wildlife Service retiree (and briefly was a refuge manager), so I've been to many, many refuges. But Noxubee is very, very special to me. (I did not work there, but my first husband did. I scattered some of his ashes on the lake at Noxubee 21 years ago.)

I love Noxubee Wildlife Refuge. The lakes have grown up so bad you can't enjoy them. The gravel roads are closed or so rough you can't enjoy riding them.

I love with my whole heart our fabulous, beautiful, so peaceful, Noxubee National Wildlife Refuge, near my home at (address). As an artist, it's my perfect "hide-a-way" and my special refuge! (signature, date, and email address)

I really enjoy the trips to the park with my students. The workers are very helpful and knowledgeable.

I think biologists should have more say in how refuges manage wildlife. It seems that foresters, with their educational emphasis on timber production, sometimes do not see the complete picture. And while this refuge has a great educational program and hunting and fishing opportunities, there needs to be more emphasis on activities to enhance non-game animals and other programs that benefit wildlife that the public may not be aware of but that is done anyway.

I think logging in Noxubee National Wildlife Refuge should stop. This is hurting certain species of birds that depend on hardwoods and swamps.

I think that big game hunting should be extended longer than it is right now.

I would like to see the fishing season include twelve months a year instead of only eight months.

I would love to have a tour guide or trail guide or park ranger who was able to answer questions and offer tours. I was told by a park ranger that there wouldn't be a guide available for my family, and that they're only available to school groups.

It is a great place to visit. Not too far, well-maintained, good place for kids of all ages, and every person we have come in contact with who works or volunteers here has been so nice, friendly, and helpful.

It is always enjoyable to come to Noxubee Wildlife Refuge.

It seems to be well managed and strives to conduct educational activities for all ages. It serves its volunteers well.

It was a great day of fun, especially for the grandchildren!

More food plots for deer.

More trails and benches for visitors to sit would add value to the refuge. If cabins are provided in the mix of amenities offered, it would be really great and would attract more visitors to the refuge. This can also help generate substantial revenue. Outdoor pavilions/picnicking areas can also attract visitors in groups to the refuge. Access to drinking water at different parts of the refuge can help visitors. Conducting seasonal events involving the local community can promote the refuge in a great way. Emergency call options can be provided in the refuge and this can add value to the safety element of the refuge.

More work is needed to enhance the fishing at this refuge: more fish surveys, stocking programs, or any way to improve fishing.

My family really enjoys this refuge. It is very clean and well kept up. My family and I love fishing and other things at this refuge. Whatever you are doing, keep it up, as it's working. Every Sunday, we are at Bluff and it is so much fun. Thank you for allowing us to come and enjoy this refuge. I enjoyed helping and filling out this survey. Thank you (signature)

Noxubee National Wildlife Refuge is a nice experience.

Noxubee National Wildlife Refuge is one of the best refuges I have been to. It is a jewel in our area. It is maintained the best that the dedicated staff could do. They are so friendly and so knowledgeable. It provides a wonderful recreation area for surrounding communities. When I have visitors to this area, I bring them to this refuge. They all enjoy it so much.

Thank you for this opportunity!

The first time we came to this refuge the roads were gravel. I love the new roads! I wish there were more ramps or something that would make it easier for me to go up and down hills.

The Friends of Noxubee Refuge Group has activities twice a month for families - what a wonderful way to give our children extra hands-on wildlife and conservation experiences.

The Noxubee Wildlife Refuge is a wonderful, safe, and educational place to take a family. They offer a variety of activities that correspond to each family members' likes. The Visitor Center is amazing and the staff are very friendly.

The Noxubee Wildlife Refuge is one of the best things about living in Starkville. I wish they had more activities, and that information about activities were publicized better. They need a better, more up-to-date website. They opened a new trail in July, but there is no information about it online.

The volunteers at the Noxubee Wildlife Refuge were phenomenal. They helped to make the most of the short amount of time I had there.

This refuge logs too much of its forests, is overly aggressive with herbicide use, fails to use adequate management to protect endangered species (Red-cockaded Woodpecker, Wood Stork) and migratory birds, and is too focused on recreation when it needs to be more focused on its conservation mission.

We are in a National Park or State Park almost every available moment. We enjoyed the Refuge and its alligators that most people never get to see.

We love the Noxubee National Wildlife Refuge!

When hunting you should be able to use a 4 wheeler to retrieve your game.
