



National Wildlife Refuge Visitor Survey 2010/2011: Individual Refuge Results for San Bernard and Brazoria National Wildlife Refuges

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Lots of wildlife! The largest oak (live) in Texas is at this refuge. Our students always enjoy the microscopes. The refuge is well maintained. We also enjoyed the bird banding of the red tailed hawk! A big thank you to the awesome volunteers for educating the younger generation. They are learning to love and protect our wildlife and their habitats.—Survey comment from visitor to Brazoria National Wildlife Refuge.



San Bernard and Brazoria National Wildlife Refuges. Photo credit: U.S. Fish and Wildlife Service.

Contents

Acknowledgments	iv
Introduction	1
Organization of Results	1
Methods	2
Selecting Participating Refuges.....	2
Developing the Survey Instrument	2
Contacting Visitors	2
Interpreting the Results	4
Refuge Description.....	5
Sampling at This Refuge	7
Selected Survey Results	7
Visitor and Trip Characteristics.....	7
Visitor Spending in Local Communities	14
Visitor Opinions about This Refuge	15
Visitor Opinions about National Wildlife Refuge System Topics.....	20
Conclusion	24
References.....	24
Appendix A: Survey Frequencies for This Refuge.....	A-1
Appendix B: Visitor Comments for This Refuge	B-1

Figures

1.	Map of this refuge.....	6
2.	How visitors first learned or heard about this refuge.....	8
3.	Resources used by visitors to find their way to this refuge during this visit.....	9
4.	Number of visitors travelling to this refuge by residence.....	10
5.	Modes of transportation used by visitors to this refuge during this visit.	11
6.	Activities in which visitors participated during the past 12 months at this refuge.	12
7.	The primary activity in which visitors participated during this visit.....	13
8.	Use of the visitor center at this refuge.	13
9.	Overall satisfaction with this refuge during this visit.....	15
10.	Importance-satisfaction ratings of services and facilities provided at this refuge.....	17
11.	Importance-satisfaction ratings of recreational opportunities provided at this refuge.....	18
12.	Importance-satisfaction ratings of transportation-related features at this refuge.....	19
13.	Visitors' likelihood of using alternative transportation options at national wildlife refuges in the future.....	21
14.	Visitors' personal involvement with climate change related to fish, wildlife and their habitats.....	22
15.	Visitors' beliefs about the effects of climate change on fish, wildlife and their habitats.....	23

Tables

1.	Participating refuges in the 2010/2011 national wildlife refuge visitor survey.	3
2.	Sampling and response rate summary for this refuge.	7
3.	Influence of this refuge on visitors' decision to take this trip.	9
4.	Type and size of groups visiting this refuge.....	11
5.	Total visitor expenditures for this refuge expressed in dollars per person per day.	14

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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 San Bernard and Brazoria NWRs (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 San Bernard and Brazoria NWRs, 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 San Bernard and Brazoria National Wildlife Refuges

The Texas Mid-Coast Refuge Complex consists of three refuges: San Bernard, Brazoria, and Big Boggy NWRs. San Bernard and Brazoria NWRs, the two refuges in the study, cover roughly 25,000 and 40,000 acres, respectively, of marshes, ponds and bottomland forests. During the winter, these refuges house over 100,000 snow geese, Canada geese, pintails, northern shovelers, teals, gadwalls, American widgeons, sandhill cranes, and mottled ducks. Brazoria NWR was established in 1966 as a winter feeding and roosting ground for over 200 species of birds. San Bernard NWR was established in 1968 for the same purpose. Popular activities on both refuges include hiking, fishing, and waterfowl hunting. In addition, San Bernard NWR maintains a 3-mile auto tour on which visitors can see large numbers of migrating warblers. Both refuges are deeply involved in environmental education. Brazoria is home to the Discovery Environmental Education Program (DEEP), which currently serves around 3,000 students. San Bernard also makes use of DEEP, serving around 500 students. San Bernard attracts over 41,000 visitors annually, while Brazoria attracts around 37,000 (based on 2008 RAPP database; U.S. Fish and Wildlife Service, 2011, written comm.). Figure 1 displays a map of both refuges. For more information, go to <http://www.fws.gov/southwest/refuges/texas/texasmidcoast/>.

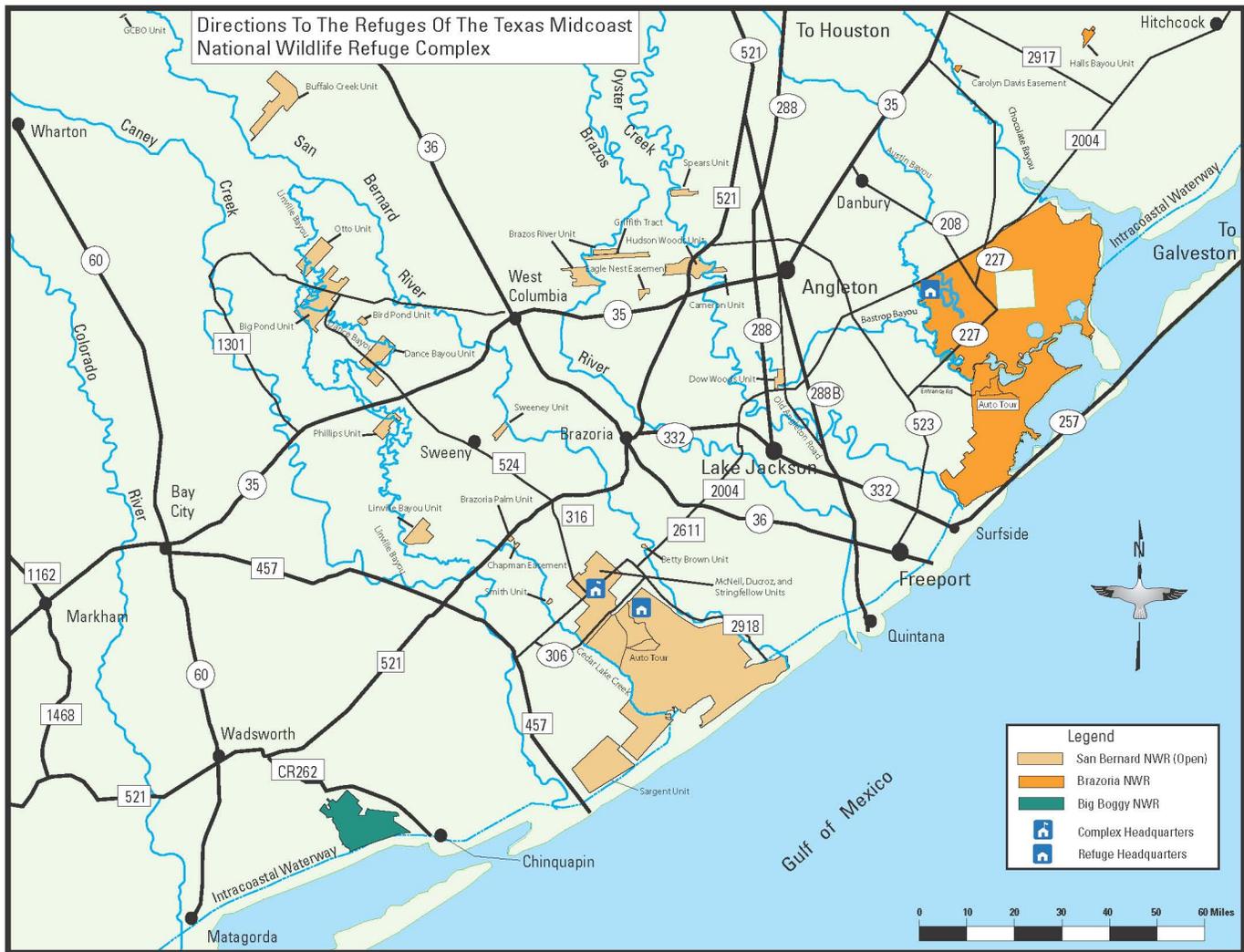


Figure 1. Map of San Bernard and Brazoria NWRs, courtesy of U.S. Fish and Wildlife Service.

Sampling at San Bernard and Brazoria National Wildlife Refuges

A total of 366 visitors agreed to participate in the survey during the two sampling periods at the identified locations at San Bernard and Brazoria NWRs (table 2). In all, 234 visitors completed the survey for a 67% response rate and $\pm 5\%$ margin of error at the 95% confidence level.¹ These refuges were sampled as “one” unit and results are only generalizable to both refuges. It is not known from this survey the number of visitors who visited both refuges during the visit when they were contacted.

Table 2. Sampling and response rate summary for San Bernard and Brazoria NWRs.

Sampling period	Dates	Locations	Total contacts	Undeliverable addresses	Completed surveys	Response rate
1	12/16/10 to 1/02/11	Sargent Permit Hunting Area Entrance to San Bernard Auto Tour Cedar Lake Creek Boat Ramp and Pier Discovery Center Salt Lake Fishing Area Clay Banks Fishing Area Bastrop Bayou Fishing Area	215	9	145	70%
2	4/16/11 to 5/01/11	San Bernard Field Office/Migration Celebration Entrance to San Bernard Auto Tour Discovery Center/Salt Lake Fishing Area Hudson Woods Bastrop Bayou Fishing Area Dow Woods Discover Center (DEEP)	151	8	89	62%
Total			366	17	234	67%

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 San Bernard and Brazoria NWRs reported that before participating

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).

in the survey, they were aware of the role of the U.S. Fish and Wildlife Service in managing national wildlife refuges (85%) and that the Refuge System has the mission of conserving, managing, and restoring fish, wildlife, plants and their habitat (90%). 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 recreation experience (87%; 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. Most visitors to San Bernard and Brazoria NWRs had been to at least one other National Wildlife Refuge in the past year (77%), with an average of 7 visits to other refuges during the past 12 months.

Visiting This Refuge

Some surveyed visitors (27%) had only been to San Bernard and Brazoria NWRs once in the past 12 months, while most had been multiple times (73%). These repeat visitors went to the refuge an average of 10 times during that same 12-month period. Visitors used the refuge during only one season (42%), during multiple seasons (27%) and year-round (31%).

Most visitors first learned about the refuge from friends/relatives (36%), signs on the highway (30%), or refuge printed information (16%; fig. 2). Key information sources used by visitors to find their way to this refuge include signs on highways (52%) or previous knowledge (50%; fig. 3).

Most visitors (67%) lived in the local area (within 50 miles of the refuge), whereas 33% were nonlocal visitors. For most local visitors, San Bernard and Brazoria NWRs was the primary purpose or sole destination of their trip (78%; table 3). For most nonlocal visitors, these refuges also were the primary purpose or sole destination of their trip (47%). Local visitors reported that they traveled an average of 22 miles to get to the refuge, while nonlocal visitors traveled an average of 236 miles. Figure 4 shows the residence of visitors travelling to the refuge. Almost all (95%) visitors travelling to San Bernard and Brazoria NWRs were from Texas.

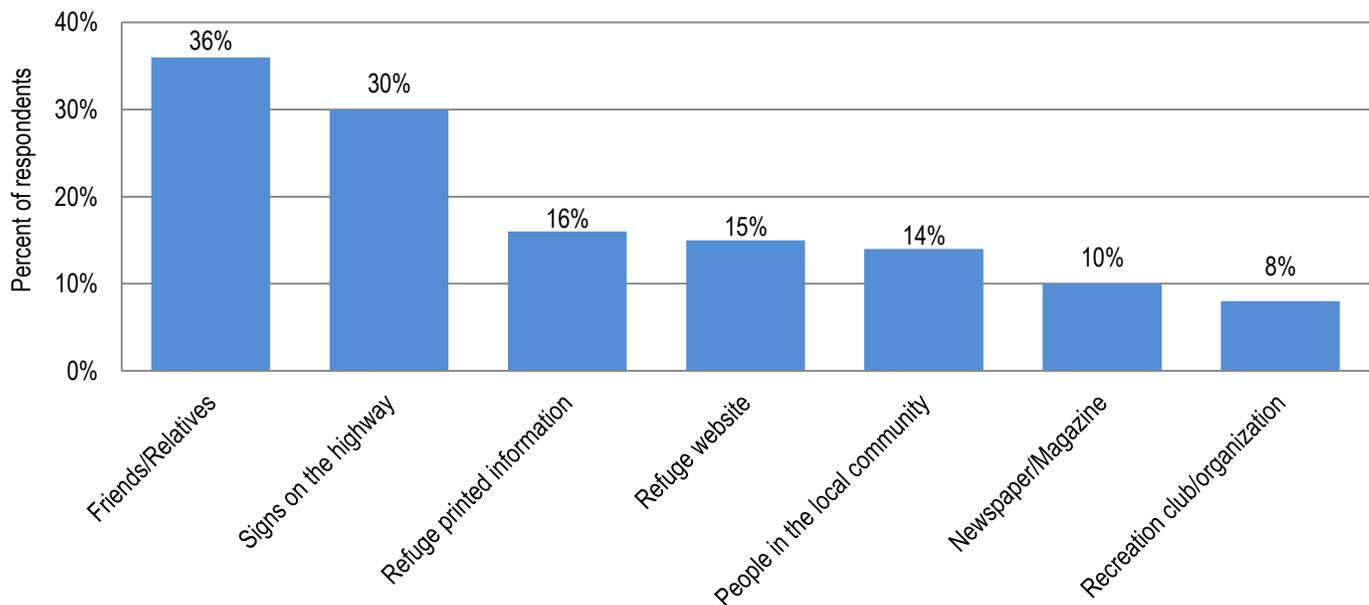


Figure 2. How visitors first learned or heard about San Bernard and Brazoria NWRs (n = 226).

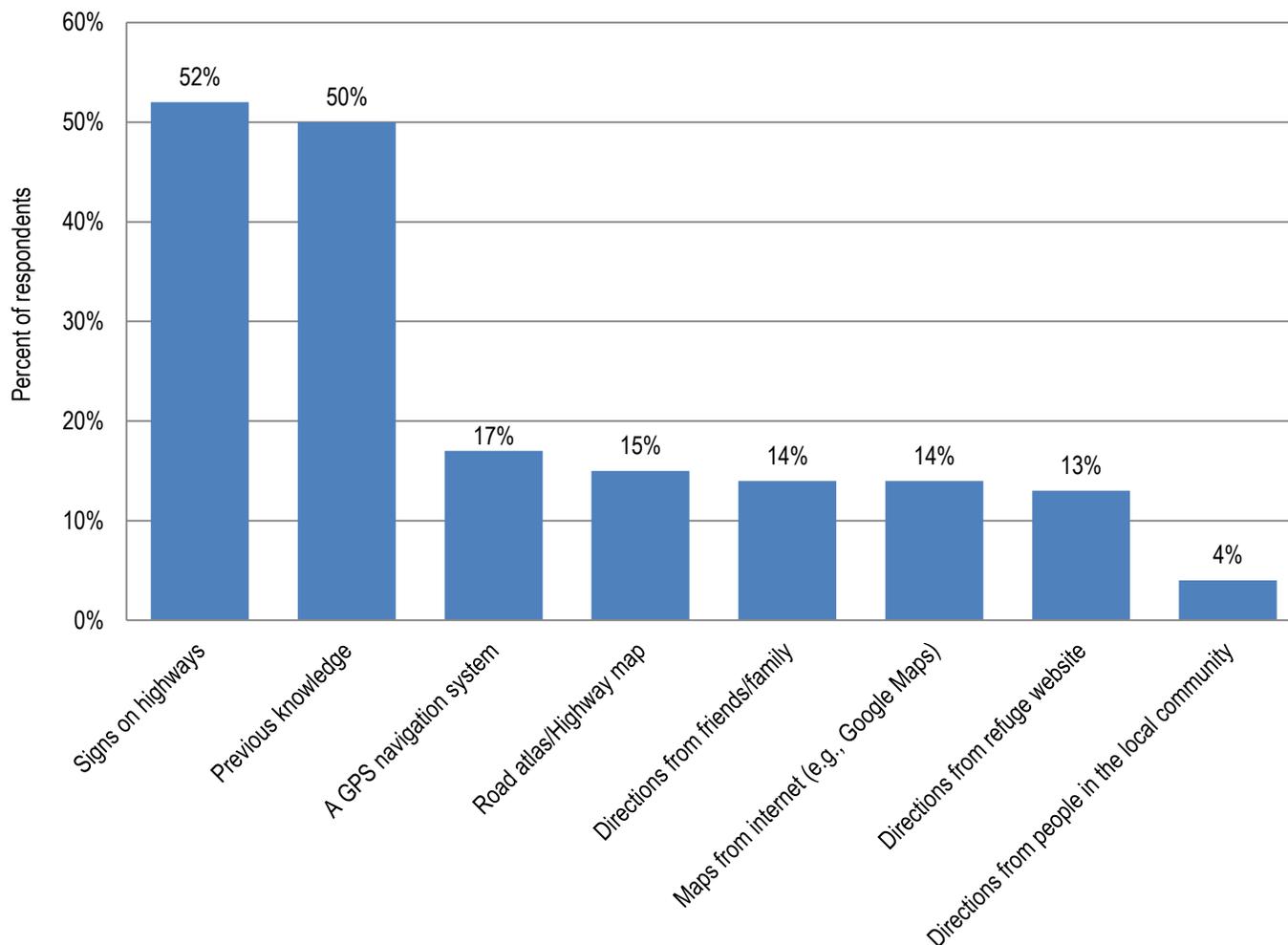


Figure 3. Resources used by visitors to find their way to San Bernard and Brazoria NWRs during *this* visit (n = 228).

Table 3. Influence of San Bernard and Brazoria NWRs 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	47%	35%	18%
Local	78%	11%	11%
Total	68%	19%	13%

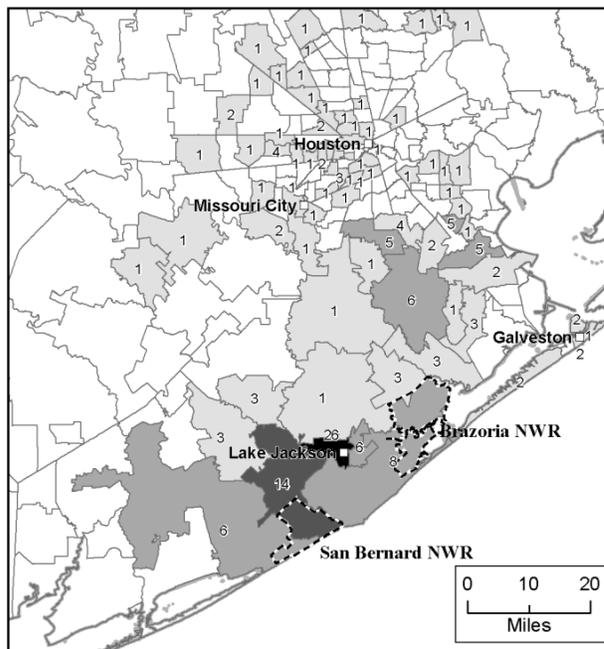
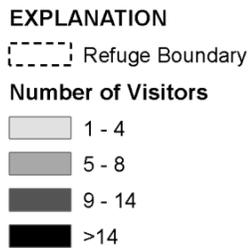


Figure 4. Number of visitors travelling to San Bernard and Brazoria NWRs by residence. Top map shows residence by state and bottom map shows residence by zip codes near the refuges (n = 231).

Surveyed visitors reported that they spent an average of 4 hours at San Bernard and Brazoria NWRs during one day there (a day visit is assumed to be 8 hours). However, the most frequently reported lengths of visit during one day were actually 2 and 8 hours (21% each). The key modes of transportation used by visitors to travel around the refuge were private vehicle (94%) and walking/hiking (21%; fig. 5). Most visitors indicated they were part of a group on their visit to this refuge (62%), travelling primarily with family and friends (table 4).

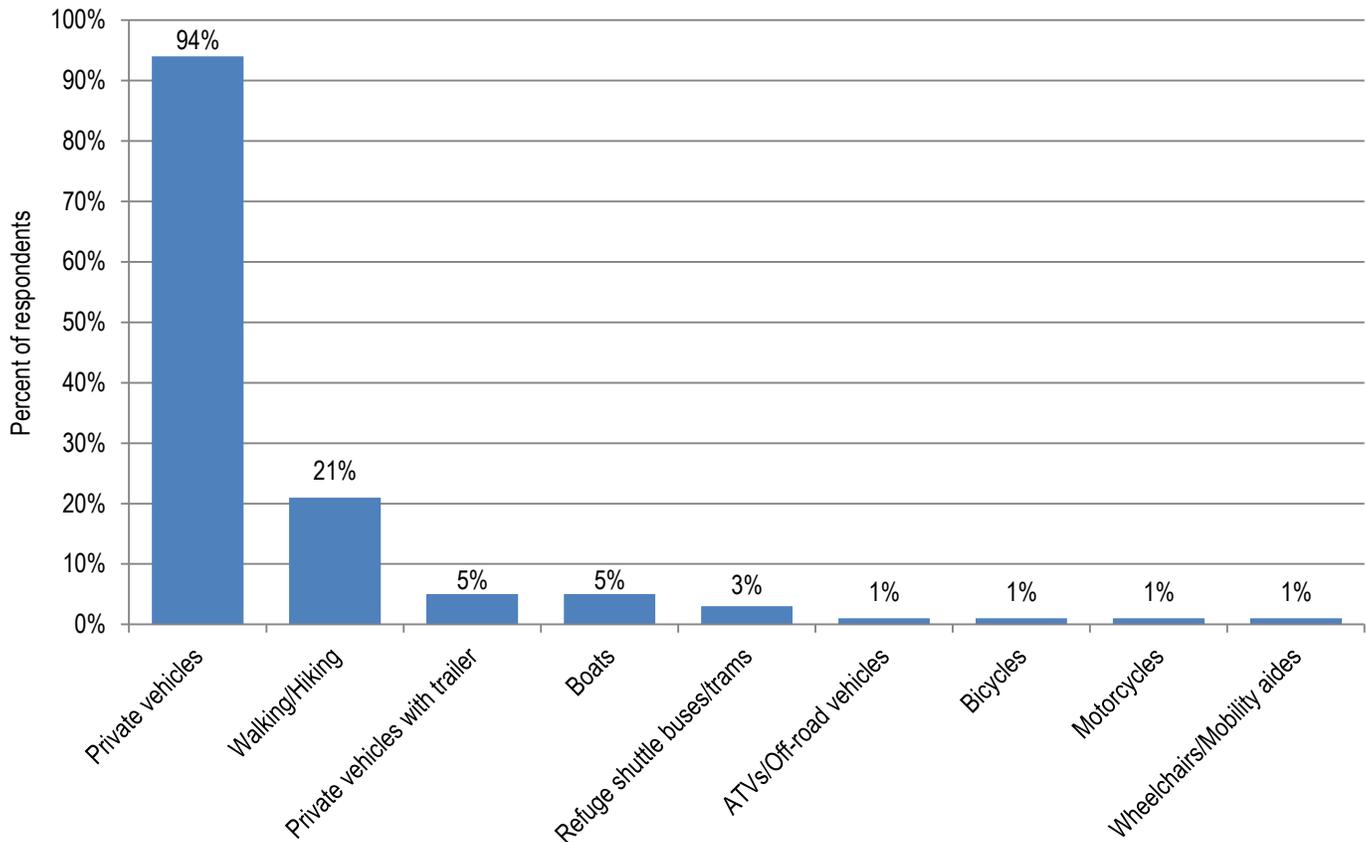


Figure 5. Modes of transportation used by visitors to San Bernard and Brazoria NWRs during *this* visit (n = 229).

Table 4. Type and size of groups visiting San Bernard and Brazoria NWRs (for those who indicated they were part of a group, n = 142).

Group type	Percent (of those traveling in a group)	Average group size		
		Number of adults	Number of children	Total group size
Family/Friends	88%	3	1	4
Commercial tour group	0%	0	0	0
Organized club/School group	7%	9	64	73
Other group type	5%	10	0	10

Surveyed visitors participated in a variety of refuge activities during the past 12 months (fig. 6); the top three activities reported were wildlife observation (70%), bird watching (69%), and auto tour route/driving (61%). The primary reasons for their most recent visit included bird watching (32%), fishing (17%), and wildlife observation (15%; fig. 7). The visitor center was used by 43% of visitors (28% of visitors contacted at San Bernard NWR and 53% of visitors contacted at Brazoria NWR), mostly to stop to use the facilities (68%), view the exhibits (59%), and ask information of staff/volunteers (48%; fig. 8).

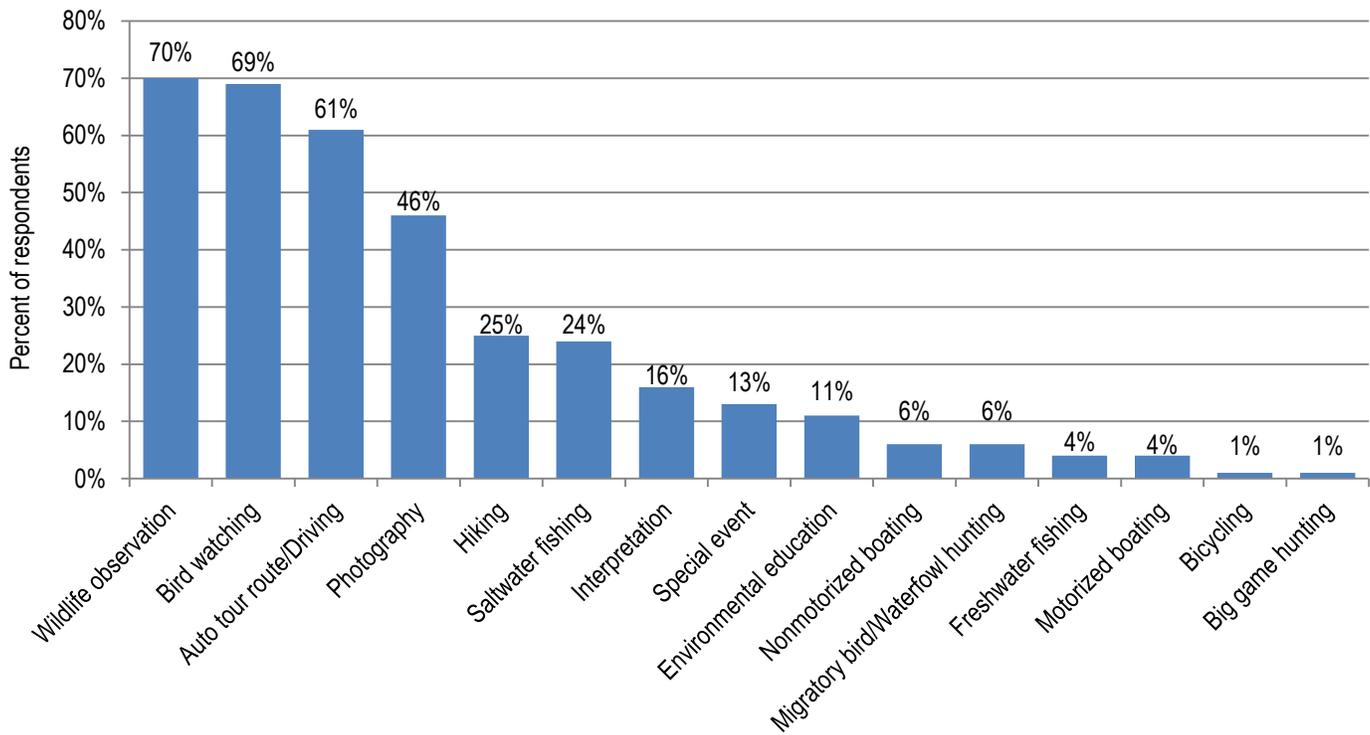


Figure 6. Activities in which visitors participated during the past 12 months at San Bernard and Brazoria NWRs (n = 227). See Appendix B for a listing of “other” activities.

Visitor Characteristics

Nearly all (99%) surveyed visitors to San Bernard and Brazoria NWRs 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 59% male with an average age of 55 years and 41% female with an average age of 56 years. Visitors, on average, reported they had 16 years of formal education (college or technical school). The median level of income was \$75,000–\$99,000. 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).

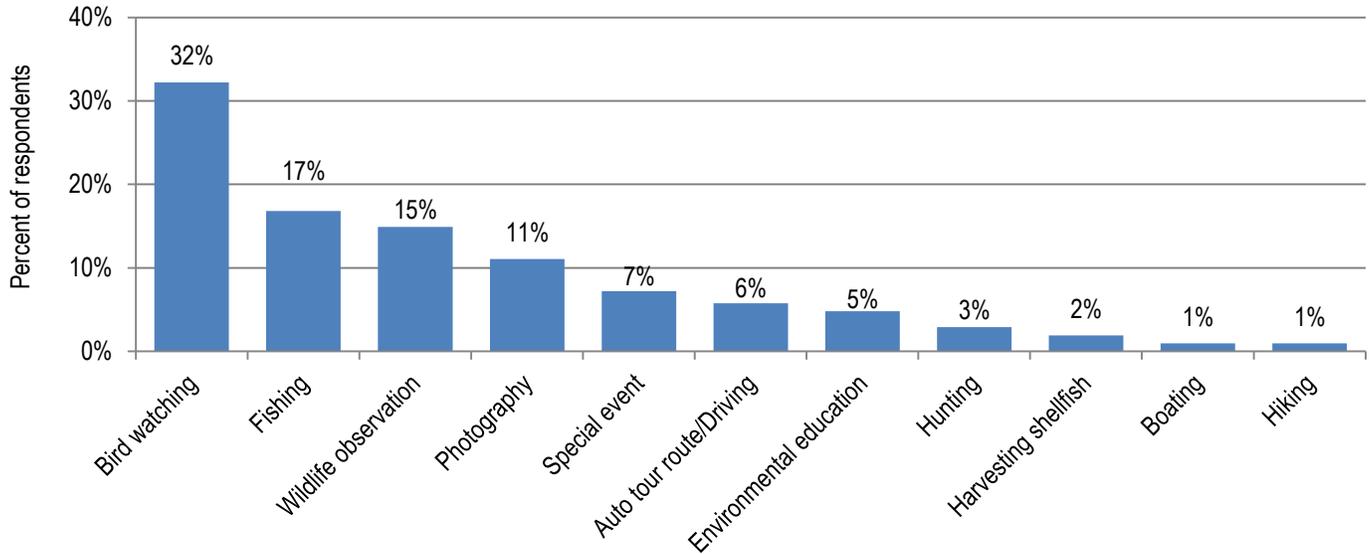


Figure 7. The primary activity in which visitors participated during *this* visit to San Bernard and Brazoria NWRs (n = 208). See Appendix B for a listing of “other” activities.

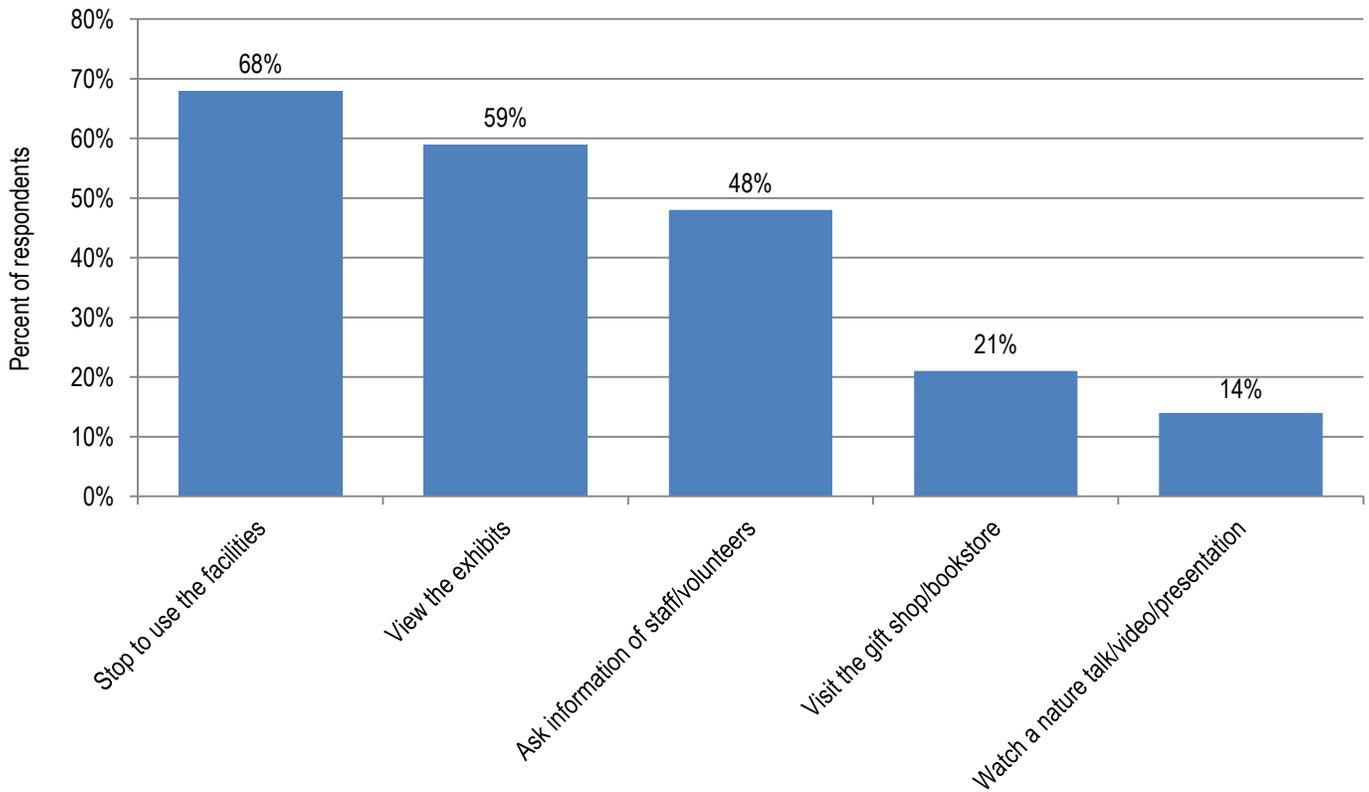


Figure 8. Use of the visitor center at San Bernard and Brazoria NWRs (for those visitors who indicated they used the visitor center, n = 98).

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, 67% of surveyed visitors to San Bernard and Brazoria NWRs indicated that they live within the local area. Nonlocal visitors (33%) stayed in the local area, on average, for 2 days. Table 5 shows summary statistics for local and nonlocal visitor expenditures in the local communities and at the refuge, with expenditures reported on a per person per day basis. During the two sampling periods, nonlocal visitors spent an average of \$121 per person per day and local visitors spent an average of \$31 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 the San Bernard and Brazoria NWRs expressed in dollars per person per day.

Visitors	n ¹	Median	Mean	Standard deviation	Minimum	Maximum
Nonlocal	67	\$55	\$121	\$159	\$0	\$775
Local	111	\$20	\$31	\$42	\$0	\$200

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 San Bernard and Brazoria NWRs were as follows (fig. 9):

- 93% were satisfied with the recreational activities and opportunities,
- 86% were satisfied with the information and education about the refuge and its resources,
- 87% were satisfied with the services provided by employees or volunteers, and
- 91% were satisfied with the refuge's job of conserving fish, wildlife and their habitats.

Although 9% of visitors to these refuges indicated they paid a fee (n = 9 visitors contacted at Brazoria NWR and n = 12 visitors contacted at San Bernard NWR), neither refuge charges an entry fee. It is unclear why this small percentage of visitors thought they paid a fee.

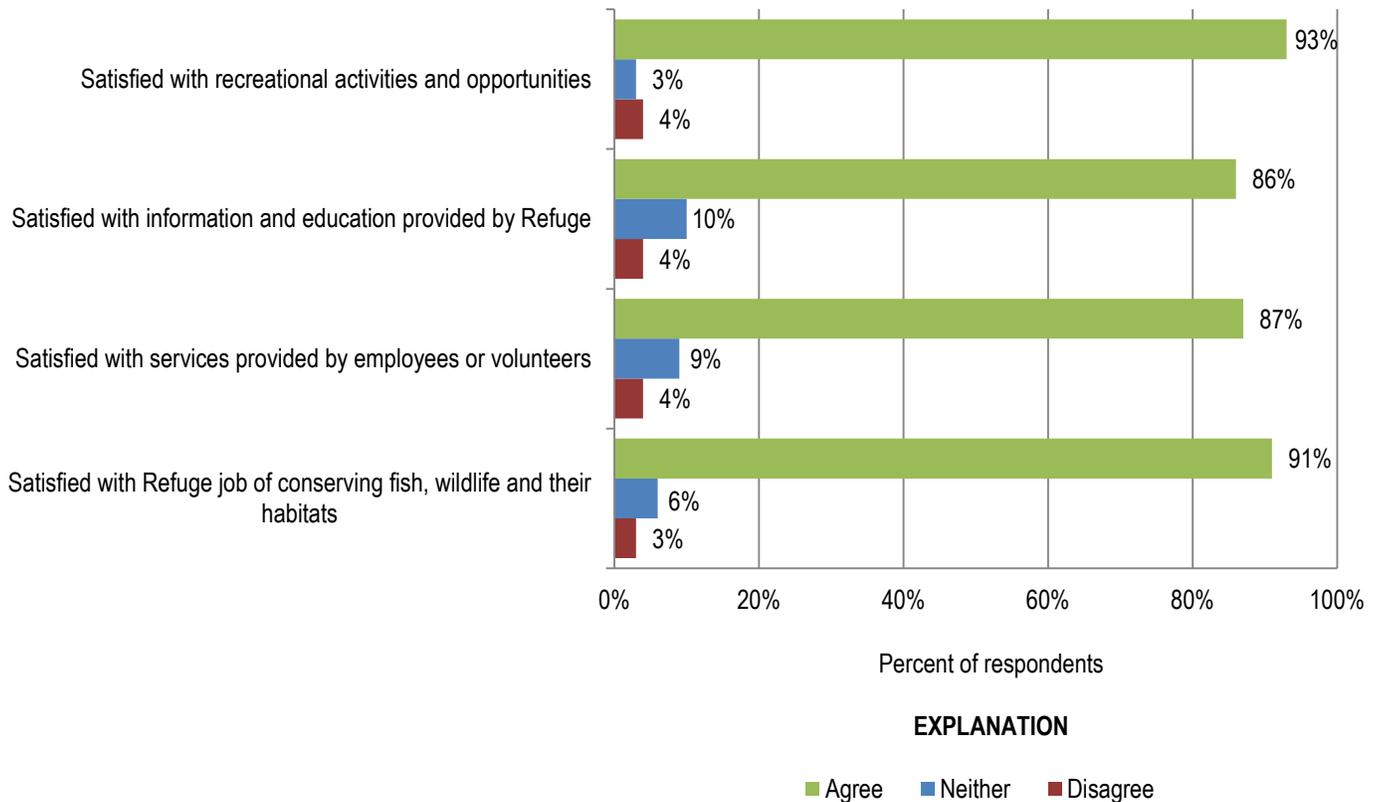


Figure 9. Overall satisfaction with San Bernard and Brazoria NWRs during this visit (n ≥ 207).

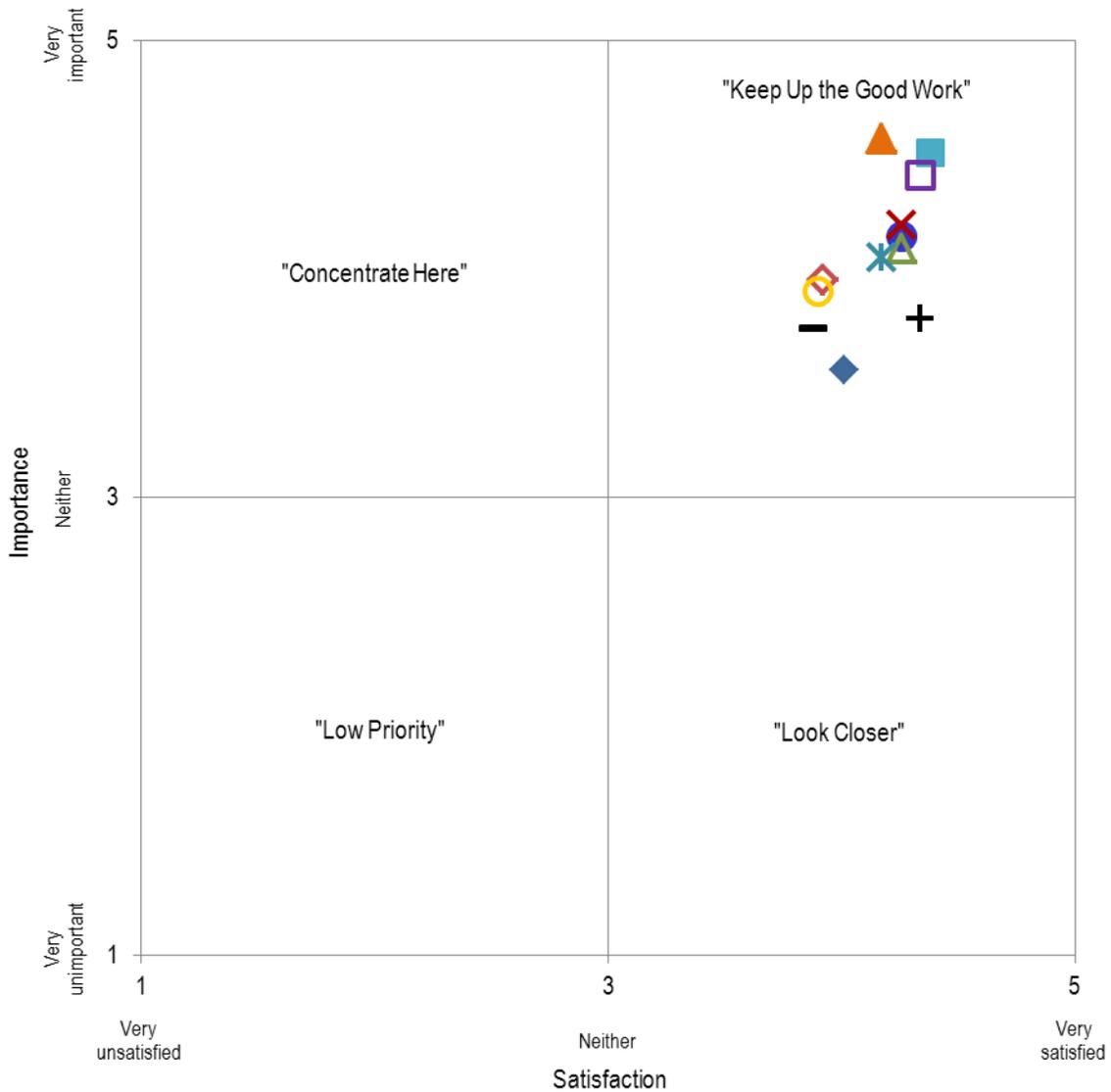
Importance/Satisfaction Ratings

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 San Bernard and Brazoria NWRs. 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.

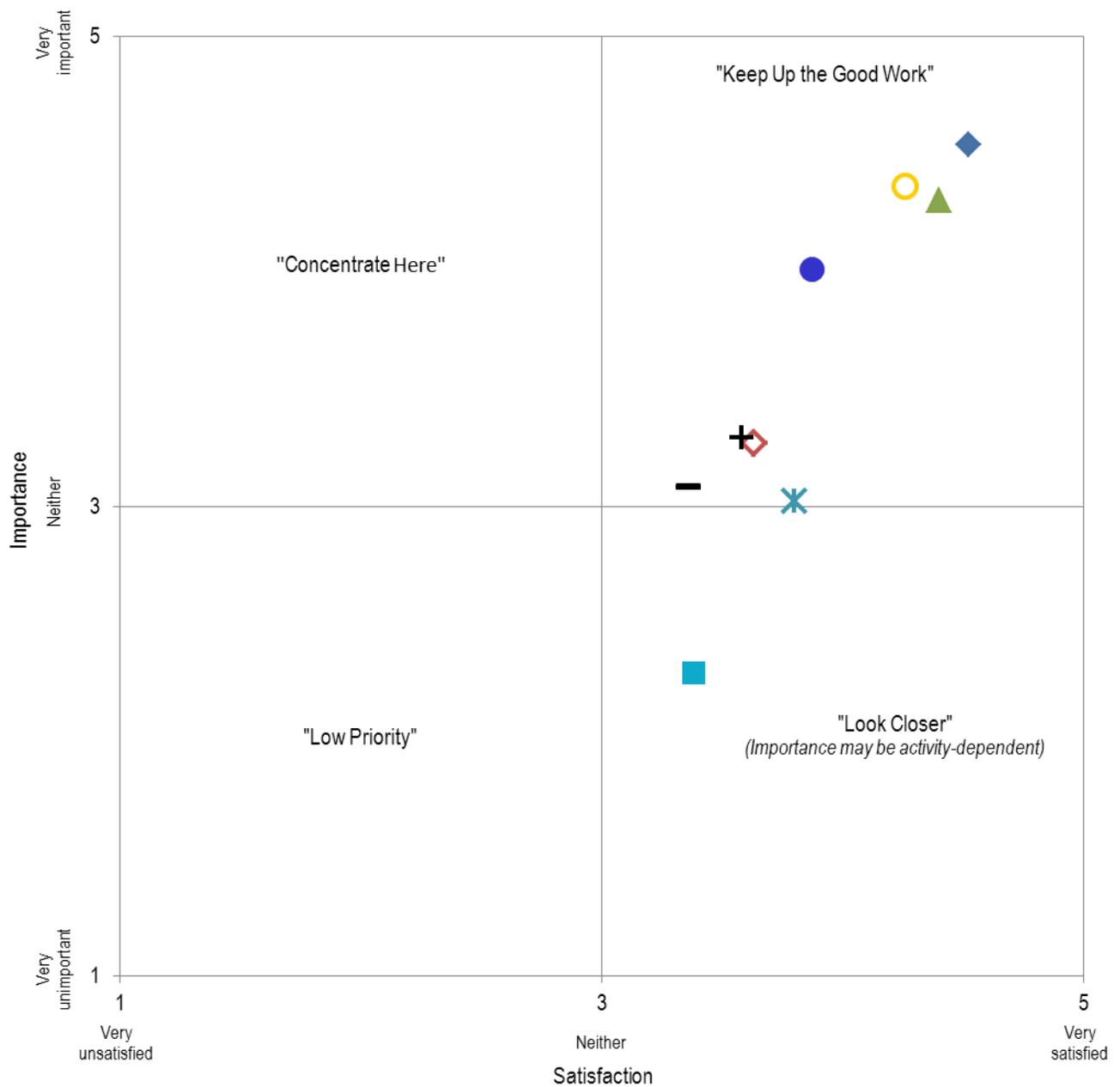
Figures 10-12 depict surveyed visitors' importance-satisfaction results for refuge services and facilities, recreational opportunities, and transportation-related features at San Bernard and Brazoria NWRs, respectively. All refuge services and facilities fell in the "Keep Up the Good Work" (fig. 10). Nearly all refuge recreational opportunities fell in the "Keep Up the Good Work" quadrant except hunting opportunities, which fell into the "Look Closer" quadrant (fig. 11). The average importance of hunting opportunities in the "Look Closer" quadrant may be higher among visitors who have participated in this activity during the past 12 months; however, there were not enough individuals in the sample to evaluate the responses of such participants. The average importance of fishing opportunities, while still in the "Keep Up the Good Work" quadrant, is very near to the "Look Closer" quadrant. Those who participated in fishing during the past 12 months (n = 50) indicated on average that fishing opportunities were much more important (mean importance score = 4.7) than those who did not participate in fishing (mean importance score = 2.5). All transportation-related features fell in the "Keep Up the Good Work" quadrant (fig. 12).



EXPLANATION

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

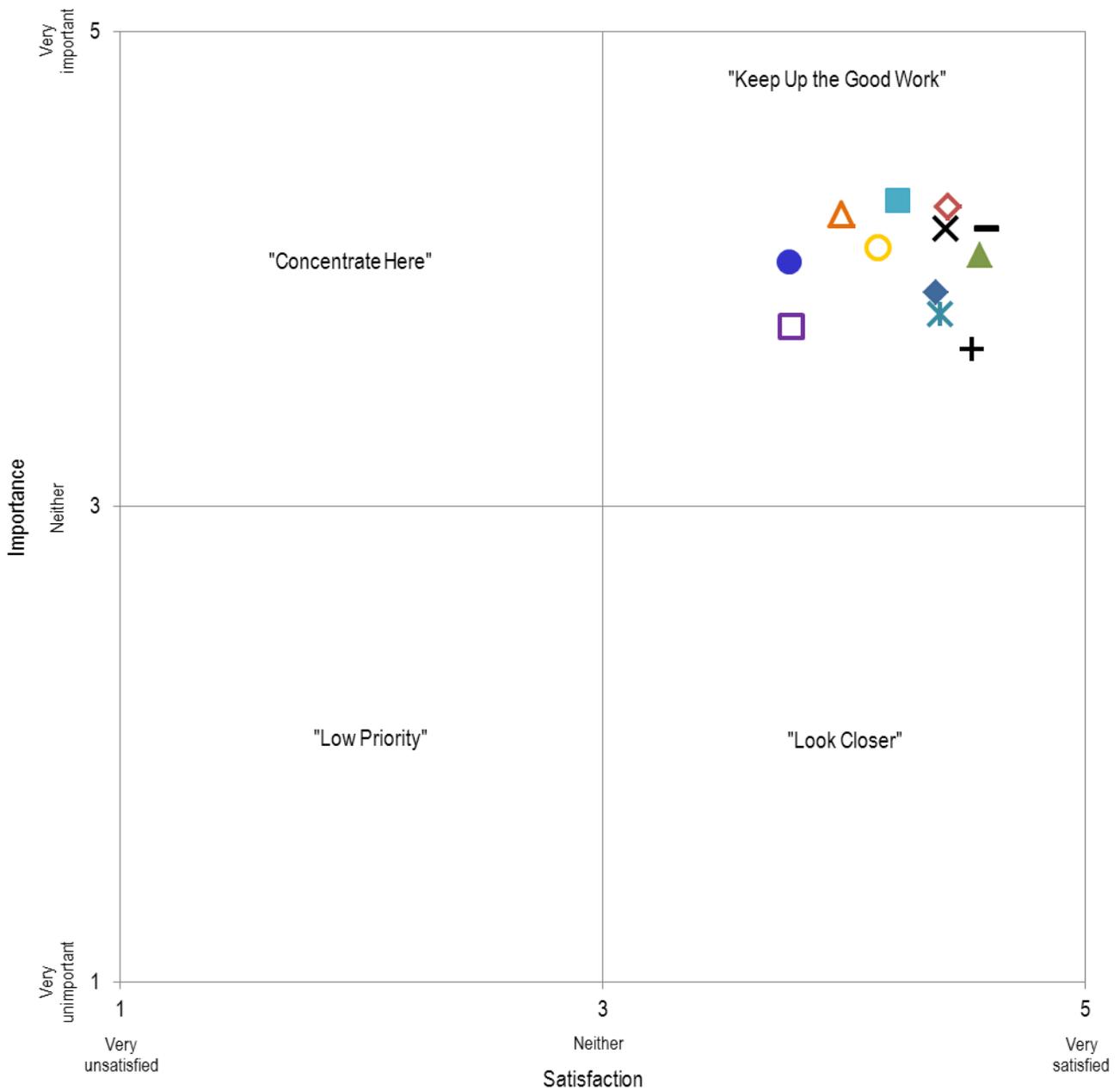
Figure 10. Importance-satisfaction ratings of services and facilities provided at San Bernard and Brazoria NWRs.



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 San Bernard and Brazoria NWRs.



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 San Bernard and Brazoria NWRs.

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 San Bernard and Brazoria NWRs 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 San Bernard and Brazoria NWRs 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;
- a bus/tram that runs during a special event;
- an offsite parking lot that provides trail access; and
- a bus/tram that provides a guided tour.

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

When asked about using alternative transportation at San Bernard and Brazoria NWRs specifically, 39% of visitors indicated they were unsure whether it would enhance their experience; however, some visitors thought alternative transportation would enhance their experience (28%) and others thought it would not (33%).

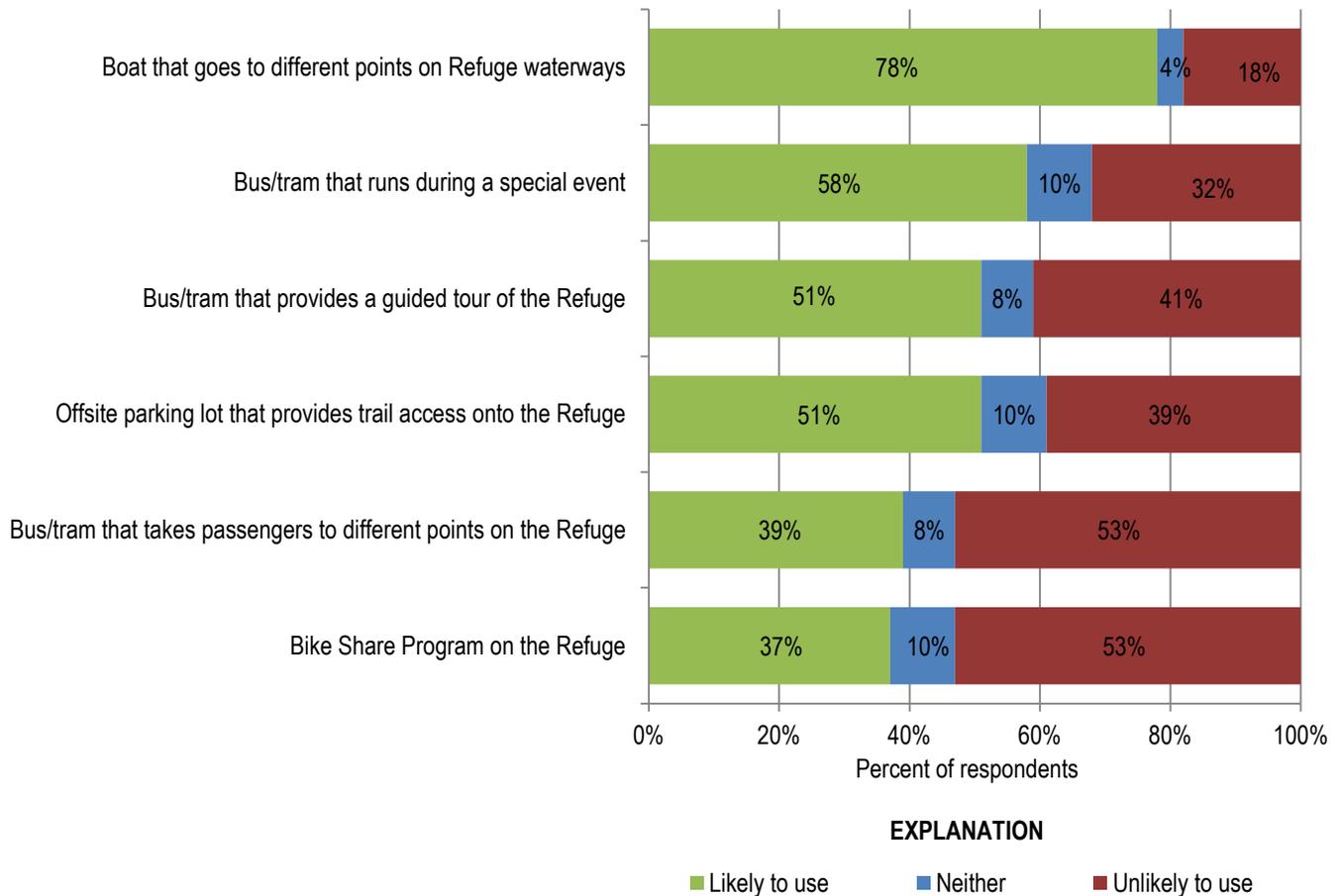


Figure 13. Visitors’ likelihood of using alternative transportation options at national wildlife refuges in the future (n ≥ 216).

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 San Bernard and Brazoria NWRs agreed with the following statements (fig. 14):

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

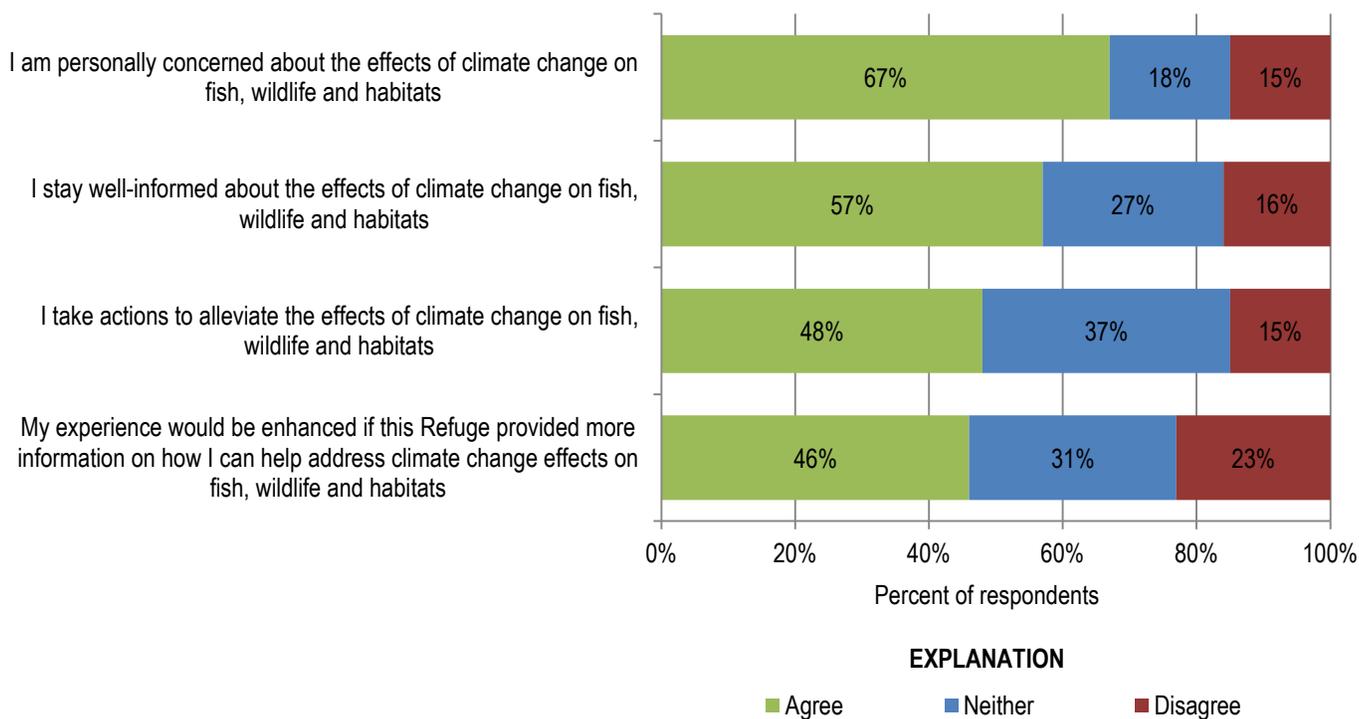


Figure 14. Visitors' personal involvement with climate change related to fish, wildlife and their habitats (n ≥ 211).

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 San Bernard and Brazoria NWRs, 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 almost half of visitors (46%) indicated that their experience would be enhanced if San Bernard and Brazoria NWRs provided information about how they could help address the effects of climate change on fish, wildlife, and their habitats (fig. 14), and framing the information in a way that resonates most with visitors may result in a more engaged public who support strategies aimed at alleviating climate change pressures. Data will be analyzed further at the aggregate, or national level, to inform the development of a comprehensive communication strategy about climate change.

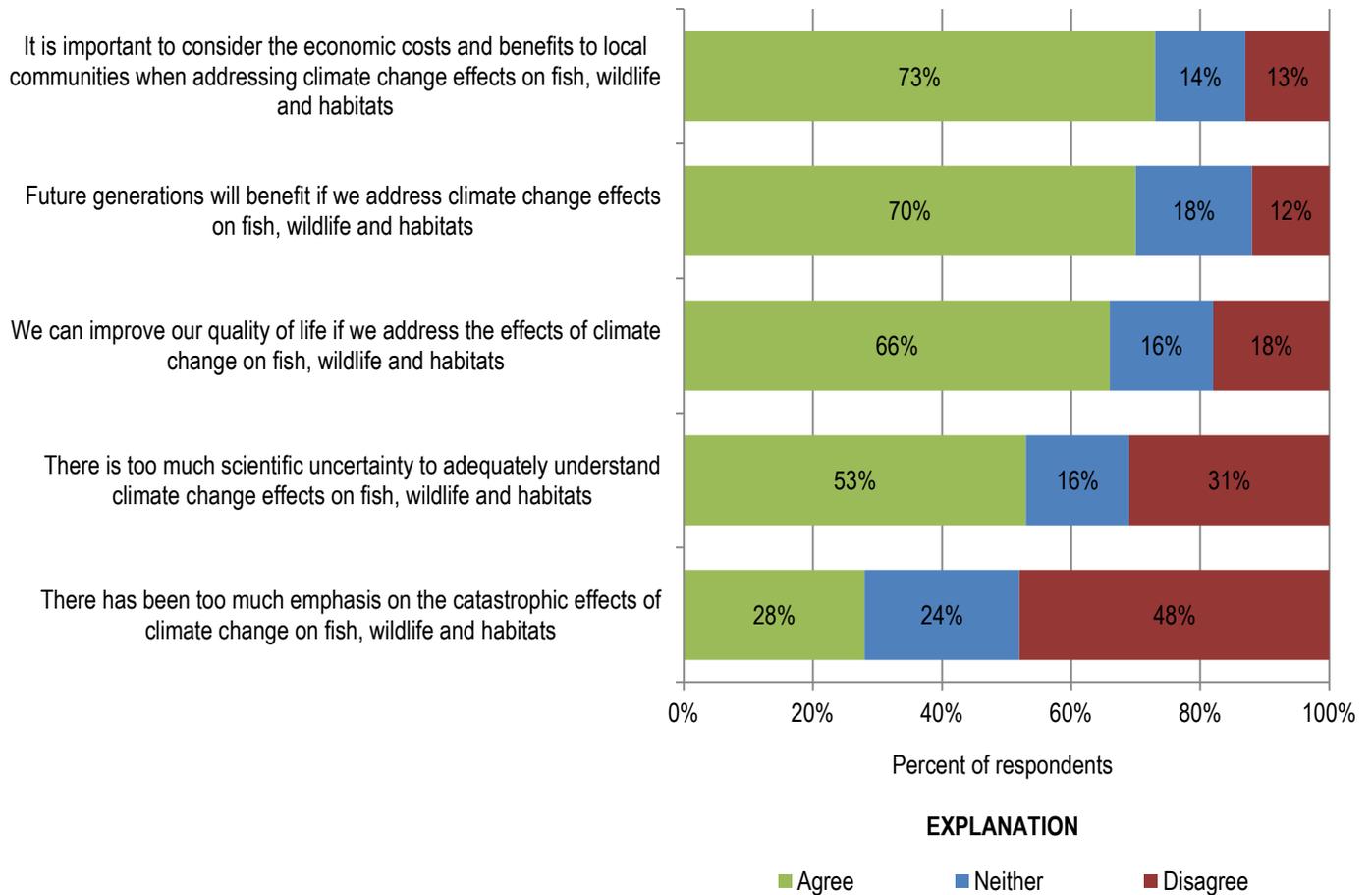


Figure 15. Visitors' beliefs about the effects of climate change on fish, wildlife and their habitats (n ≥ 214).

Conclusion

These individual refuge results provide a summary of trip characteristics and experiences of a sample of visitors to San Bernard and Brazoria NWRs 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"/> 1% Big game hunting | <input type="checkbox"/> 25% Hiking | <input type="checkbox"/> 11% Environmental education (for example, classrooms or labs, tours) |
| <input type="checkbox"/> 0% Upland/Small-game hunting | <input type="checkbox"/> 1% Bicycling | |
| <input type="checkbox"/> 6% Migratory bird/Waterfowl hunting | <input type="checkbox"/> 61% Auto tour route/Driving | <input type="checkbox"/> 13% Special event (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 70% Wildlife observation | <input type="checkbox"/> 4% Motorized boating | <input type="checkbox"/> 7% Other (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 69% Bird watching | <input type="checkbox"/> 6% Nonmotorized boating (including canoes/kayaks) | <input type="checkbox"/> 0% Other (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 4% Freshwater fishing | | |
| <input type="checkbox"/> 24% Saltwater fishing | <input type="checkbox"/> 16% Interpretation (for example, exhibits, kiosks, videos) | |
| <input type="checkbox"/> 46% 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?

- 57% No
- 43% Yes → If yes, what did you do there? (Please mark **all that apply.**)
- | | |
|--|---|
| <input type="checkbox"/> 21% Visit the gift shop or bookstore | <input type="checkbox"/> 14% Watch a nature talk/video/presentation |
| <input type="checkbox"/> 59% View the exhibits | <input type="checkbox"/> 68% Stopped to use the facilities (for example, get water, use restroom) |
| <input type="checkbox"/> 48% Ask information of staff/volunteers | <input type="checkbox"/> 23% 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	
47%	79%	68%	It was the primary purpose or sole destination of my trip.
35%	11%	19%	It was one of many equally important reasons or destinations for my trip.
18%	11%	13%	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 236 number of miles

Local 22 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?

38% No (*skip to question #9*)

62% Yes → What **type of group** were you with on your visit? (*Please mark **only one.***)

88% Family and/or friends

7% Organized club or school group

0% Commercial tour group

5% Other (*please specify*) See Appendix B

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

3 number 18 years and over

5 number 17 years and under

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

36% Friends or relatives

15% Refuge website

30% Signs on highway

4% Other website (*please specify*) See Appendix B

8% Recreation club or organization

0% Television or radio

14% People in the local community

10% Newspaper or magazine

16% Refuge printed information (brochure, map)

17% 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.***)

71% Spring
(March-May)

37% Summer
(June-August)

49% Fall
(September-November)

71% Winter
(December-February)

11. How many times have you visited...

...this Refuge (including this visit) in the last 12 months? 8 number of visits

...other National Wildlife Refuges in the last 12 months? 5 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"/> 94% | Private vehicle without a trailer | <input type="checkbox"/> 3% | Refuge shuttle bus or tram | <input type="checkbox"/> 1% | Bicycle |
| <input type="checkbox"/> 5% | Private vehicle with a trailer
(for boat, camper or other) | <input type="checkbox"/> 1% | Motorcycle | <input type="checkbox"/> 21% | Walk/Hike |
| <input type="checkbox"/> 0% | Commercial tour bus | <input type="checkbox"/> 1% | ATV or off-road vehicle | <input type="checkbox"/> 5% | Other (<i>please specify below</i>) |
| <input type="checkbox"/> 0% | Recreational vehicle (RV) | <input type="checkbox"/> 5% | Boat | <u>See Appendix B</u> | |
| | | <input type="checkbox"/> 1% | 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"/> 52% | Signs on highways | <input type="checkbox"/> 13% | Directions from Refuge website |
| <input type="checkbox"/> 17% | A GPS navigation system | <input type="checkbox"/> 4% | Directions from people in community near this Refuge |
| <input type="checkbox"/> 15% | A road atlas or highway map | <input type="checkbox"/> 14% | Directions from friends or family |
| <input type="checkbox"/> 14% | Maps from the Internet (for example,
MapQuest or Google Maps) | <input type="checkbox"/> 50% | Previous knowledge/I have been to this Refuge before |
| | | <input type="checkbox"/> 4% | 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"/> 37%	<input type="checkbox"/> 16%	<input type="checkbox"/> 8%	<input type="checkbox"/> 22%	<input type="checkbox"/> 17%
...a bike that was offered through a Bike Share Program for use while on the Refuge?	<input type="checkbox"/> 40%	<input type="checkbox"/> 13%	<input type="checkbox"/> 10%	<input type="checkbox"/> 17%	<input type="checkbox"/> 20%
...a bus or tram that provides a guided tour of the Refuge with information about the Refuge and its resources?	<input type="checkbox"/> 27%	<input type="checkbox"/> 14%	<input type="checkbox"/> 8%	<input type="checkbox"/> 29%	<input type="checkbox"/> 23%
...a boat that goes to different points on Refuge waterways?	<input type="checkbox"/> 14%	<input type="checkbox"/> 5%	<input type="checkbox"/> 4%	<input type="checkbox"/> 36%	<input type="checkbox"/> 42%
...a bus or tram that runs during a special event (such as an evening tour of wildlife or weekend festival)?	<input type="checkbox"/> 21%	<input type="checkbox"/> 10%	<input type="checkbox"/> 10%	<input type="checkbox"/> 30%	<input type="checkbox"/> 28%
...an offsite parking lot that provides trail access for walking/hiking onto the Refuge?	<input type="checkbox"/> 23%	<input type="checkbox"/> 16%	<input type="checkbox"/> 10%	<input type="checkbox"/> 27%	<input type="checkbox"/> 25%
...some other alternative transportation option? (<i>please specify</i>) <u>See Appendix B</u>	<input type="checkbox"/> 4%	<input type="checkbox"/> 0%	<input type="checkbox"/> 4%	<input type="checkbox"/> 40%	<input type="checkbox"/> 52%

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

- 28% Yes 33% No 39% Not Sure

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

Importance						Satisfaction					
Circle one for each item.						Circle one for each item.					
Very Unimportant	Somewhat Unimportant	Neither	Somewhat Important	Very Important		Very Unsatisfied	Somewhat Unsatisfied	Neither	Somewhat Satisfied	Very Satisfied	Not Applicable
4%	10%	7%	49%	30%	Surface conditions of roads	4%	4%	4%	25%	63%	NA
5%	14%	13%	44%	23%	Surface conditions of parking areas	2%	3%	8%	16%	71%	NA
5%	3%	18%	31%	44%	Condition of bridges	1%	1%	12%	15%	72%	NA
2%	5%	10%	39%	44%	Condition of trails and boardwalks	1%	3%	10%	24%	61%	NA
5%	10%	15%	42%	29%	Number of places for parking	3%	3%	7%	23%	64%	NA
5%	5%	9%	44%	37%	Number of places to pull over along Refuge roads	3%	17%	14%	33%	33%	NA
4%	3%	6%	36%	51%	Safety of driving conditions on Refuge roads	3%	4%	6%	21%	65%	NA
5%	3%	8%	37%	47%	Safety of Refuge road entrances/exits	2%	1%	6%	17%	74%	NA
4%	4%	13%	37%	42%	Signs on highways directing you to the Refuge	3%	9%	11%	24%	53%	NA
2%	3%	7%	40%	48%	Signs directing you around the Refuge roads	2%	7%	10%	28%	53%	NA
4%	1%	9%	38%	48%	Signs directing you on trails	3%	7%	19%	31%	41%	NA
9%	8%	19%	23%	40%	Access for people with physical disabilities or who have difficulty walking	3%	8%	31%	24%	34%	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)?

67% Yes

33% No → How much time did you spend **in local communities** on this trip?

 2 number of hours OR 4 number of days

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

Categories	Amount Spent in <u>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
9%	15%	24%	11%	15%	3%	10%	1%	2%	4%	6%

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

0%	Far too low	19%	Too low	76%	About right	5%	Too high	0%	Far too high	91%	Did not pay a fee (skip to Section 4)
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6. Please indicate whether you disagree or agree with the following statement. (*Please mark **only one.***)

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

0%	Strongly disagree	5%	Disagree	10%	Neither agree or disagree	33%	Agree	52%	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%	41%	52%	NA
Overall, I am satisfied with the information and education provided by this Refuge about its resources.	1%	3%	10%	46%	40%	NA
Overall, I am satisfied with the services provided by employees or volunteers at this Refuge.	1%	3%	9%	37%	50%	NA
This Refuge does a good job of conserving fish, wildlife and their habitats.	1%	2%	6%	25%	66%	NA

2. For each of the following services, facilities, and activities, first, **rate how important** each item is to you when visiting this Refuge; then, **rate how satisfied** you are with the way this Refuge is managing each item.
If this Refuge does not offer a specific service, facility, or activity, please rate how important it is to you and then circle NA "Not Applicable" under the Satisfaction column.

Importance					Refuge Services, Facilities, and Activities	Satisfaction					
Circle one for each item.						Circle one for each item.					
Very Unimportant	Somewhat Unimportant	Neither	Somewhat Important	Very Important		Very Unsatisfied	Somewhat Unsatisfied	Neither	Somewhat Satisfied	Very Satisfied	Not Applicable
4%	14%	21%	43%	18%	Availability of employees or volunteers	3%	7%	21%	24%	45%	NA
5%	7%	19%	40%	28%	Courteous and welcoming employees or volunteers	1%	4%	15%	19%	61%	NA
2%	7%	10%	40%	40%	Knowledgeable employees or volunteers	2%	5%	14%	24%	55%	NA
3%	2%	11%	39%	45%	Printed information about this Refuge and its resources (for example, maps and brochures)	3%	5%	10%	29%	54%	NA
3%	4%	12%	47%	34%	Informational kiosks/displays about this Refuge and its resources	3%	2%	16%	34%	46%	NA
3%	5%	8%	42%	42%	Signs with rules/regulations for this Refuge	2%	2%	15%	28%	52%	NA
2%	6%	14%	50%	28%	Exhibits about this Refuge and its resources	3%	8%	20%	32%	37%	NA
5%	6%	24%	39%	26%	Environmental education programs or activities	1%	3%	35%	27%	33%	NA
5%	4%	16%	46%	29%	Visitor Center	3%	10%	22%	24%	41%	NA
1%	1%	5%	32%	61%	Convenient hours and days of operation	3%	7%	3%	22%	65%	NA
1%	0%	5%	28%	66%	Well-maintained restrooms	4%	5%	8%	33%	49%	NA
1%	1%	6%	38%	54%	Wildlife observation structures (decks, blinds)	2%	5%	6%	34%	54%	NA
1%	2%	6%	20%	70%	Bird-watching opportunities	1%	2%	6%	26%	65%	NA
1%	2%	7%	38%	52%	Opportunities to observe wildlife other than birds	2%	4%	10%	37%	48%	NA
3%	1%	13%	29%	54%	Opportunities to photograph wildlife and scenery	1%	3%	10%	30%	57%	NA
50%	9%	17%	10%	14%	Hunting opportunities	5%	5%	57%	17%	17%	NA
31%	9%	14%	19%	27%	Fishing opportunities	4%	1%	36%	25%	33%	NA
6%	3%	15%	36%	41%	Trail hiking opportunities	2%	8%	20%	43%	28%	NA
16%	8%	26%	30%	19%	Water trail opportunities for canoeing or kayaking	1%	6%	44%	26%	23%	NA
21%	8%	28%	29%	14%	Bicycling opportunities	2%	7%	55%	22%	13%	NA
14%	4%	39%	26%	17%	Volunteer opportunities	1%	3%	53%	22%	21%	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?

85%

Yes

15%

No

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

90%

Yes

10%

No

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

87%

Yes

13%

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%	9%	18%	38%	29%
We can improve our quality of life if we address the effects of climate change on fish, wildlife and their habitats.	8%	9%	16%	38%	28%
There is too much scientific uncertainty to adequately understand how climate change will impact fish, wildlife and their habitats.	13%	19%	16%	31%	21%
I stay well-informed about the effects of climate change on fish, wildlife and their habitats.	3%	13%	27%	47%	11%
It is important to consider the economic costs and benefits to local communities when addressing the effects of climate change on fish, wildlife and their habitats.	5%	8%	14%	49%	24%
I take actions to alleviate the effects of climate change on fish, wildlife and their habitats.	7%	8%	38%	34%	14%
There has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and their habitats.	23%	25%	24%	14%	13%
Future generations will benefit if we address the effects of climate change on fish, wildlife and their habitats.	7%	4%	18%	33%	38%
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.	12%	11%	31%	31%	14%

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?

99% Yes 1% No → If not, what is your home country? See Figure 4 in Report

2. Are you? 59% Male 41% Female

3. In what year were you born? 1956 (YYYY)

4. What is your highest year of formal schooling? *(Please circle one number.)*

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
(elementary)					(junior high or middle school)			(high school)				(college or technical school)				(graduate or professional school)			
					0%			17%				49%				35%			

5. What ethnicity do you consider yourself? 7% Hispanic or Latino 93% 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 3% Black or African American 92% White
 4% 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"/> 0% Less than \$10,000 | <input type="checkbox"/> 15% \$35,000 - \$49,999 | <input type="checkbox"/> 22% \$100,000 - \$149,999 |
| <input type="checkbox"/> 4% \$10,000 - \$24,999 | <input type="checkbox"/> 17% \$50,000 - \$74,999 | <input type="checkbox"/> 7% \$150,000 - \$199,999 |
| <input type="checkbox"/> 7% \$25,000 - \$34,999 | <input type="checkbox"/> 22% \$75,000 - \$99,999 | <input type="checkbox"/> 5% \$200,000 or more |

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

 20 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 San Bernard and Brazoria National Wildlife Refuges

Survey Section 1

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

San Bernard

Special Event	Frequency
Bird Banding	1
Christmas bird count, Migration Celebration	1
Migration Celebration	17
Scouting	1
Spring - Birds displayed, food, hay rides, etc. (can't remember the name)	1
Spring refuge "open house"	1
Total	22

Brazoria

Special Event	Frequency
Audubon Christmas Count	1
Christmas bird count	2
DEEP	1
Migration Celebration	2
School Field Trip	1
Total	7

San Bernard

Other Activity	Frequency
Avian research - rail monitoring	1
Bird Banding	1
Exploring	1
Fossils	1
Jogging	1
Picnic	1
Picnic lunch	1
Turtle Patrol	1
Volunteer-bird count	1
Watching alligators	1
Total	10

Brazoria

Other Activity	Frequency
Casts of tracks	1
Crabbing	2
Friends Board Meetings	1
Migration Celebration, guided tour	1
School field trip	1
School Field Trip for another child	1
Total	7

San Bernard

2 nd Other Activity	Frequency
--------------------------------	-----------

Brazoria

2 nd Other Activity	Frequency
Friends General Meetings	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.

San Bernard

NA

Brazoria

Other Miscellaneous Primary Activities	Frequency
Crabbing	2

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

San Bernard

Other Visitor Center Activity	Frequency
Ate	1
Migration Celebration	1
My club was hosted by the Brazoria National Wildlife Refuge to see the scientific work being done by Donna Jabeleki . This was fascinating and a delightful experience.	1
Stopped, but there is not really a visitor center. It needs one!	1
Went to the Spring Migration Festival.	1
Total	5

Brazoria

Other Visitor Center Activity	Frequency
Eat lunch in the meeting room.	1
Got ready to teach.	1
It was closed.	1
Look at wildlife	1
Map	2
Obtain map of refuge	1
Pick up auto tour CD.	1
Picked up literature.	1
Receive orders as to what I would be teaching.	1
School field trip	1
Short nature walk	1
Sign in	2
Teach sessions on environmental education.	1
Visitor Center volunteer staffed and almost always closed.	1
Volunteer - Environmental Education	1
Volunteering	1
Total	18

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?”

San Bernard

Other Group Type	Frequency
Hunting party	1
West University Senior Citizens Trip	1
Total	2

Brazoria

Other Group Type	Frequency
Christmas Bird count group	1
Docent	1
Texas Master Naturalist	2
Texas Master Naturalist volunteers	1
Total	5

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

San Bernard

Other Website	Frequency
Browsing for info on the refuge, things to see.	1
Great Texas Wildlife Trails	1
Houston Audubon	1
http://beta-www.tpwd.state.tx.us/huntwild/wildlife/wildlife-trails/	1
Total	4

Brazoria

Other Website	Frequency
Google	1
Google maps	1
Google maps, www.geocaching.com	1
Google, map of Houston area	1
maps.google.com	1
Texas Master Naturalist - COT	1
Total	6

San Bernard

Other Ways Heard about This Refuge	Frequency
Audubon Guide to the National Wildlife Refuges - Southwest	1
Bird watching organizations	1
Cookie Sale at Wal-Mart (Lake Jackson).	1
Flyer at school.	1
Gulf Coast Bird Observatory (name of worker)	1
Learned about it from Brazoria NWR.	1
Looked at Road Map	1
Map locator (state)	1
Map of the entire state of Texas	1
Road map & a national listing of NWRs	1
Sight seeing	1
State map	1
State of Texas birding map	1

Texas A&M University, wildlife field trip	1
TexBirds list serve	1
We visit all NWRs we can.	1
West University Newsletter	1
Total	17

Brazoria

Other Ways Heard about This Refuge	Frequency
Audubon birding class	1
Book. 60 Hikes Within 60 Miles	1
Fishing map	1
Flyer from Galveston Island Nature Tourism Council	1
Highway map	1
Marked on a map	2
OLQP (school)	1
Professional birding guide	1
Regional map	1
Regional world maps	1
Saw it on the map	1
School	1
School function	1
School visit of sons	1
Texas Master Naturalist Partner	1
Texas Master Naturalists	1
Texas photo forum	1

Texas state birding trail	1
The refuge is noted on my fishing map.	1
U.S. Fish and Wildlife Service	1
Total	21

Survey Section 2

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

San Bernard

Other Forms of Transportation	Frequency
Fly over	1
Marsh Buggy	1
Truck	1
West University Bus	1
Total	4

Brazoria

Other Forms of Transportation	Frequency
Kayak	1
Plywood piraux with paddle	1
School bus	6
Total	8

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

San Bernard

Other Ways Found This Refuge	Frequency
Directions from Great Texas Wildlife Trails website (Upper Texas Coast).	1
Map from GCBO	1
Phoned visitors center	1
Total	3

Brazoria

Other Ways Found This Refuge	Frequency
Assistance from ranger for route home.	1
Book by Ron Weeks	1
Bus driver	1
County map	1
Fishing Holes Book	1
Followed school buses.	1
Map from the refuge	1
Total	7

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."

San Bernard

Other Transportation Option Likely to Use	Frequency
ATV	3
Automobile	1
Driving my own vehicle	1

Golf cart	1
Personal transportation	1
Some years back another NWR had spring marsh bug tours through the marshes and it was a fascinating tour.	1
What's left?	1
Total	9

Brazoria

Other Transportation Option Likely to Use	Frequency
ATV	1
ATV four wheeler	1
Auto drive through	1
Car	2
Fishing guide and allowed kayak or canoe in water	1
Horse	1
Horseback	1
Kayak/canoe share plan	1
Marsh Buggy	1
Motorized carts for disabled people	1
My personal vehicle for birding. I can go at my pace and stop where birds are.	1
My truck or boat	1
Off road swamp buggy or an elevated open bus	1
Private vehicle	1
Rental kayak or canoe	1
Small plane ride	1
Something powered that would allow me to see more. Golf cart rentals? Electric bikes?	1

We use Marsh Buggy for Rail identification.	1
Total	19

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

San Bernard

Comments on Transportation-related Items at This Refuge (n = 18)

Because we were there for the celebration activities, we took the shuttle provided through the reserve and didn't have to drive our own vehicle. We did little hiking, although hiking is generally important to us.

County road leading to refuge is very rough...

I feel the refuge is well maintained.

I wish the tour loop wasn't one way.

I would like to see kayaks and bikes for rent.

More access to very remote areas of marsh would be very nice

More road signs directing to the correct entrance to this refuge.

My husband is disabled and therefore a car is our best mode. He can walk short distances but needs benches to sit on. We could walk over a mile if there were benches every couple hundred yards.

Open more of the park up, more roads, more pullovers along roads, more trails, and the boardwalk.

People that can't walk can't see the refuge, like my parents. We drive it with them. Thank you so much for letting us hunt on the refuge.

Roads were gravel, very dusty (though I know paved roads are expensive). It could use some more pull-outs on the auto tour route.

So much of the refuge is only accessible by boat, and I'm sure we would've seen more birds if we had been able to get out on the water. I wish there were boats available to use for a few hours at a time (please consider adding rentals). We were stuck on roads and trails only. Birdwatchers don't generally bring their own boats, like hunters do.

The refuge would be a lot more enjoyable if the entrance and auto-tour roads were not surfaced with coarse gravel. It would also be nice if the hiking trails (such as Live Oak Trail) were not behind locked gates.

The road condition is very poor and needs to be improved.

The staff greeting us at the bulletin board were very courteous.

Vans/Shuttles/Swamp Buggies were very well organized and staffed by knowledgeable and friendly people.

We did not go on roads or trails on this trip.

Would enjoy a driving loop around Wolf Weed wetlands. It would open up much greater access to new wildlife viewing areas.

Brazoria

Comments on Transportation-related Items at This Refuge (n = 25)

As I am typically by myself, not getting lost is critical while in a wildlife refuge, thus the need for the signs and good roads. Although I, thankfully, did not have to utilize the physical access, having MS, I may in the future. Having such access is important as I don't want to have to stop seeing the wildlife.

Except for the trails by the Visitor's Center and the walkway at Teal Pond Observation Platform, the walking trails are quite bumpy and mostly non-handicapped friendly.

I don't do hiking or go on the boardwalk, I strictly fish!

I would like to see gravel roads become asphalt.

I would like to see more fishing access areas to drive to for family bank fishing.

If a Refuge is truly a REFUGE for wildlife then transportation, including for disabilities, should be to minimize disruption of wildlife. Slimbridge in the UK is a great role model.

It would be nice if more of the refuge was accessible to visitors.

My physical disabilities allow me limited walking. Bicycle or tricycle have worked well for me, but hauling them and loading and unloading is an extra physical demand. Electric cart or bicycle sounds like a good option and would allow me the opportunity to see more of the park. I also liked the bike loan idea.

My pick-up gets very dusty even in my covered back, but it's a refuge for animals.

Need more pull off areas.

Need parking (room to get off one lane road) at the picnic tables at the far lake. To spend time taking gator/bird pictures or for lunch you have to block the main gravel road. That tends to tick off other visitors. Otherwise it's a great place to visit if and when it rains down here. It's starting to look like west Texas desert due to lack of rain.

Not enough trails at this refuge. I love striking straight out into the wilderness, but I would prefer to stay on a trail when just generally looking around to lessen my impact on an environment. However, more importantly to me is that I believe it lets folks that don't often get into a habitat the chance to safely get a close up feel for the area.

Not many signs leading to the refuge from the side road. I didn't see any on the main highway and no search appeared on GPS (Anahuac NWR did).

Please consider adding a couple of more pull-out areas along the major ponds. If a car comes up behind you, you have to move on instead of being able to sit and watch the birds or other wildlife.

Rent motorized carts to disabled people.

The auto tour CDs didn't match the signs on the tour route.

The elevated pull offs are very nice. It would be GREAT to have more.

The refuge I visited is the Brazoria Co. W.R. I like driving my own vehicle around the refuge. I don't think bikes are a good idea here because of the mosquitoes.

The roads in the very back at the clay banks need to be wider, also need more bathrooms for everyone.

The signs on the auto tour need to be greater in number--really just arrow type directional signs--number signs for each site is fine. I do not want too many signs, simple arrows would be nice.

These questions do not really apply to Brazoria NWR. There is a simple, automated entrance/exit and a Discovery Center seldom open with incomplete exhibits and no effort to gain some of the potential that exists.

We have a relatively new economy car - not really made for dirt roads. Most of the time we just travel the pavement to the parking lot and then walk on the boardwalk, visit viewing areas, and small loop hiking trails. We didn't check on our Dec 2010 visit but I think the rest of the refuge drive is unpaved. Even if it wasn't so cold we probably would not have chosen to drive on dirt. Thanks for the opportunity to respond.

We were unable to access the roads for most of the refuge (except the Visitor Center) because of the use of gravel. We came to the refuge on motorcycles and the gravel would have been too dangerous for us to travel on. I came another time in an automobile and was able to access the refuge, but it is too dangerous for motorcycles (which is unfortunate, because it is a beautiful area to ride to.)

When I came to the park I took the first road to the right. I drove to the parking area at Salt Lake, a nice clean parking area with a Port-a-Can restroom. I paddled my plywood piraux along the shore line of the salt water lake for red fish and speckled trout. The road to the launch area was good. I'm 62 years old. I only needed access to the water.

While waterfowl hunting you need a four wheeler. Walking is good, but not while hunting this much land. You need to set up some kind of number system for blinds and the number of ATVs allowed. You need to make a way for four wheelers so we can enjoy our youth before they grow up. I'm 43 years old and walking that distance is not very enjoyable. Please call me at (phone number)

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."

San Bernard

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

A very good experience on a cloudy winter day for our families.

As a Wildlife REFUGE, I do not agree that hunting should be allowed in the National Wildlife Refuge system, especially for waterfowl. I am less opposed to management of deer populations or invasive species such as hogs, but I am absolutely opposed to the hunting of birds in the National Wildlife Refuge System. I am a somewhat frequent visitor to wildlife refuges across the country and am an enthusiastic supporter and user of the system. I just want to make it clear that I find waterfowl hunting in wildlife refuges to be absolutely opposed to the spirit of providing a refuge for waterfowl and other birds.

Because we were there for celebration activities, we didn't see the refuge during "normal" operations.

Failure to maintain adequate water in fresh water ponds throughout the seasons. Failure to remove obstructive vegetation on the edges of auto trail ponds that severely limit viewing water birds. Need an eradication program to control cat tails and bull rush that is overtaking the shallow ponds.

Great crew, well done. I will go again! I will recommend it to my friends!

I could not find any information on-line prior to our trip about renting boats or fishing gear for guests who flew in. I would very much liked to have rented gear for the day.

I enjoyed going the San Bernard Refuge. There is lots of wildlife and it's in good shape. Thanks.

I had a great day here. I would go again. I've suggested that we go next year.

I just learned about the refuge at this event and plan to look into doing many things there.

I love the San Bernard Wildlife Refuge. I would love to have wildlife viewing tips for seeing the deer and other mammals. It's the best place to view them. I would also like more trails.

I think you do a great job!! Love the refuge. Although weekends are when most people can come, the visitor center has never been open while I am there during that time. Anahuac has a nice Visitor Center (not fancy) but you can generally chat with someone about what's been seen and buy little gifts that help support the refuge (can never have enough coffee mugs). Just a thought. I know it takes volunteers. San Bernard is a great refuge, but generally it seems that a person shows up and leaves with only their knowledge and not the benefit of info from someone at the refuge.

I would like additional picnic facilities; a few more tables scattered about and another restroom facility. Some benches throughout for observing quietly and resting.

I would like to see more done to reestablish native species of wildlife (red wolf, Atwater's prairie chicken).

I would like to see more hiking trails. Maybe rent canoes, kayaks, and bikes.

I would really like to see lights installed at the boat ramp and make night fishing available to the public and possibly more trash cans to keep the boat ramp clean.

I'm amazed at the wonderful volunteers and their knowledge.

It is sad that the Live Oak Trail is only open once a year, as a volunteer told me.

It is time for wildlife REFUGES to be that and to focus on habitat and wildlife protection. Our wildlife is in peril and allowing hunting is NOT consistent with their protection. If people want to hunt, there are private hunt clubs. My taxpayer dollars should not be spent on providing public hunt clubs.

It needs another observation deck.

It would be nice if the entry to the viewing platform was not so visible so as not to scare the birds.

More kayaking opportunities would be nice, as would information on the fish in the bayou, etc. Things like migration of fish, what fish are present, and so on.

More opportunities needed for getting into the marsh area, even camping there. More bird watching areas would be appreciated.

Need better signs at the boardwalk trail stating how far it goes and estimated time to walk, maybe info on where it goes and what you could expect to see.

Refuge maps would be useful for all activities: running/hiking, hunting, even kayaking. Good maps with distances would be nice, especially for loop trails and roads (for running). Areas marked where hunting (duck/goose) is offered would be good. I would be happy to pay for better maps.

Since this was a special event some of the opportunities were not available on this weekend. It would have been nice to have had real restrooms available rather than port-o-lets.

The current level of activity is okay.

The fishing hours are too short.

The only restrooms are porta potties. Good permanent restrooms should be built.

The sign is not convenient.

There is no visitor center at this refuge; it would be great to have one.

There is not much information on refuge website - there wasn't even a mention of the Christmas Bird Count as an upcoming activity. Why? Also, the road signage could be improved. We got the impression that you do not want visitors to find San Bernard NWR. The first time we tried to find the refuge from FM 2918 we bypassed the dirt road (CR 306), not realizing it was the ONLY public road access, and drove all the way down FM 2918 until it ended at the river. Then we had to drive all the way back.

This particular refuge does not have a manned welcome center, it is basically natural. The fish and game people are very helpful and courteous and are working very hard to keep the refuge in a natural state for the birds and wildlife. It is wonderful to have a place to visit without "asphalt" and not overrun with tourists. The Friends of the Refuge and the Fish and Wildlife sponsor the annual Migration Celebration, which this past April brought in around 1,000 visitors to experience the wonders of nature.

This refuge is hard to visit since it is not apparent if the headquarters is a place for visitors to stop and get information. The area seems to be a working area and is often abandoned, especially on weekends when visitors are likely.

Trails and markers are not well maintained. Some trails are difficult to discern even with a map.

We enjoyed photographing birds and wildlife. We also enjoyed the marsh buggy ride; the ranger guide did a really good job.

We have not availed ourselves to all resources so it was difficult to fairly rate some of these components.

Well maintained for such a large refuge and shortage of government funding.

You need to pump water into Moccasin Pond, it dries up killing fish, causing alligators to band together in dead pools and waterfowl leave.

Your signage was contracted out to low bidders 800 miles away who know NOTHING about the local wildlife. Three signs had misidentifications!!!

Brazoria

Comments on Services, Facilities, and Activities at This Refuge (n = 41)

Again, not enough trails - need a few short ones (under a mile) that are very accessible for those less capable, medium (1-3 miles) and less maintained, and long (3+) rough trails. Also, should have a spot or two designated for putting in a canoe/kayak.

All were remarkable.

At this place the visitor centre doesn't seem to be open on the weekends. I would appreciate, even limited, weekend hours as it would tailor my visit to be able to utilize it to see inside exhibits. The outside boards/displays are even more important to be able to provide the information and for continued reference. The refuge does a good job of this. A volunteer happened to appear and I had a wonderful talk with him to get the necessary information I needed for volunteer opportunities.

Did not visit the visitors center; didn't see any employees.

During our sporadic visits to this Refuge, the Visitor Center has been closed. It would be great to support the Refuge through gift shop sales. At another Refuge, Anahuac Wildlife Refuge, we were able to buy hats, tee shirts, long sleeve shirts, bookmarks, etc. It was wonderful having souvenirs while supporting the rebuilding of the refuge in the aftermath of Hurricane Ike.

Fix the CDs for the auto tour wildflower brochure.

From my perspective the only disappointing aspect is that the Visitor Center is so seldom open and there are no "experts" available to let the visitor know what is currently happening in the park (where to look for what bird etc.).

I don't need anything fancy, I only need a road to the water access point to launch my piraux boat.

I enjoy this place when I go fishing. It's a place of mine and a place to relax. Thank you.

I have bird watched here for several years and am very familiar with the refuge so I do not usually interact with employees and do not use the hunting/fishing areas. This is why many of my responses are "3".

I like the fact that the building is solar powered, but it should have some kind of back up generator since it was cloudy the day we visited and we couldn't use the microscopes.

I love everything the refuge has to offer. Good employees. I would like to see it open longer.

I miss family day. That was a good time.

I would like the poison ivy cleared.

I would like to see a restroom facility at Day Banks.

I would like to see more restroom facilities and stocking of game fish. There currently are no visitor center or exhibits at this refuge.

It seems like only a limited portion of the diversity of the refuge is open to non-hunter visitors.

My brother visits every time he comes from Iowa (twice a year). He loves simplicity, wildlife, and the enjoyment of it all. My sister and I visited it for the first time. We grew up around Danbury and never knew this wonderful world existed. Thank you!

Needs a visitor center kiosk and information for visitors.

Need to have four wheelers allowed for hunters. If you charge you have to have four wheelers. \$25 per hunter or bike and a signed waiver to release.

Needs more restrooms.

Not enough room to park on the auto tour road. The cars driving on the road scared the birds away. There are plenty of waterways, but no place to put in a kayak or canoe. Additional hiking trails closer to the birds would be nice. Again, the auto tour road is too close and scares the birds.

Please consider adding bird blinds around the major ponds.

Publishing results of animal/bird counts from within the refuge would be helpful. Geese used to inhabit the area in large numbers, now there are none. What happened?

Spent too much on structures. Need bigger interpretation, need longer walking loops and paths.

The day I visited was my first time at this one. The main office was closed.

The gate automatically closes at sundown so I worry that I will not leave in time and whether the gate will open if I am still inside. I would prefer a specific time of closing so you are not left guessing when the gate will close.

The refuge had both a Men's and Women's restroom, but on one occasion, the Men's was locked.

The refuge should be advertised more in a Texas wildlife book. A lot of people do not even know where it is. It is a nice place, but it doesn't have many visitors. Visitors need to have more exhibits and seminars.

The restrooms are atrocious. Please, the fishing area needs more attention, especially at the pier; there are NO lights or there are broken fixtures, and it is a total mess at the garbage area.

The restrooms were not maintained well; they were barely acceptable. The visitor centre was closed at the time of my visit.

The visitors' center has only been open one time during our visits over the past 2 years.

There are no restrooms. I have not seen nor heard about volunteer opportunities.

They're okay.

Very recently I was hassled by a law enforcement officer while on auto loop, in my car, driving slowly. What's up with that?

Visitor Center is not open on weekends.

We commend the refuge staff for their management of this refuge for the benefit of wildlife.

We have our kiosk, one pavilion, two viewing stands, and our cleared hiking trails.

We like to do night fishing off the pier. We have found that the lights do not come on when it gets dark.

We went on a Sunday and there is nothing open. We always go on a Saturday or Sunday.

We wish the refuge stayed open later in the evening. Some of the bird watching we'd like to do requires late evening listening/watching, such as the search for rails.

Survey Section 5

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

San Bernard

Comments on What Makes Refuges Unique? (n = 74)

Access to bird watching in a major flyway is very important. Also, the ability to see alligators in their natural habitat is unique and is one of the reasons we visit with friends and family.

Accessibility, wildlife diversity on water and land, fishing, hunting opportunities, well maintained, kid and senior citizen friendly.

Although I understand that hunting and fishing are allowed on refuges, I feel safer than in a National Forest where those activities are more prevalent. Refuges seem more attuned to environmental preservation.

Although the Texas Gulf Coast is a great location for bird watching, there's very limited access for the public.

An outdoor nature experience on a wildlife refuge with a staff that is pleasant and accommodating.

Birding. I especially liked Bosque NWR in New Mexico.

By providing natural habitats, refuges invite all sorts of wildlife to a specific area, allowing us to get "up close views" of the local wildlife. The information provided makes it fun to observe and learn about all the plants, animals, fish, and birds in the area. Refuges promote a deep respect for our public lands while providing an educational and enjoyable outdoor experience.

Convenient hours--24 hours access.

Everything is very natural. We learned many new things about the surroundings we are in everyday. We loved it!

Excellent facilities provided--boat ramp and piers.

Far better, as they have more wildlife than the average parks, BUT you people are STILL managing for waterfowl to please your presumed constituency--hunters. This is 2011, wake up! Let Texas Parks and Wildlife be "blast and cast," but you guys need to preserve the ENTIRE ecosystem! And get rid of those PIGS!

First priority is wildlife. Very inexpensive place to visit.

Fishing and boat ramp for handicapped, wheelchair accessible.

I enjoyed the activities tailored for kids and appreciated the opportunity for them to "earn" a reward--a bracelet.

I love the bird watching. Access for handicap is terrific. Car/road access are good.

I visited this refuge in winter vs. other visits, which were mainly in the warmer days up north.

In spite of allowing hunting and managing the resources for that purpose (in many refuges that is the primary focus of the management), refuges are critically important to our wildlife and provide us the opportunity to view them.

It is a place you can safely go to observe wildlife and not be bothered by a lot of people, traffic, and busy, hectic distractions.

It is one of the few places that are primarily dedicated to the preservation of wildlife habitat. Wildlife refuges should never be places for peoples' recreation activities, they should be solely there for the well being of the wildlife with the opportunity for respectful human observation.

It was great to be out in such a natural setting with acres and acres to just wander around in.

It's a great place to be in nature without having to take up all of your day. And I can go there on a whim on a nice day and the gate is always open.

Kept for the animals more than the people, which keeps it pristine.

Less visitors and traffic than national parks, abundant wildlife, secluded experience, very close to our home (convenient), and no entry fee.

Most parks are provided primarily for the benefit of people. NWRs are provided more for the benefit of creatures and people are allowed in if they don't upset that purpose. People can "recreate" around the creatures, not the other way around.

My children can see wild hogs, deer, alligators, and birds. They love the gators the best.

Natural habitat for wildlife, good opportunity to photograph wildlife.

Nice to see most of it unconstructed and natural.

NWRs usually have employees that give visitors birding information readily. They are helpful and seem happy to have visitors.

Offers an opportunity to observe wildlife in their natural habitat.

Please see additional comments. Unfortunately this refuge is losing its unique recreation and learning experience.

Preserving nature.

Public access to outdoors.

Refuges give people a great chance to see wildlife in their habitat and learn about them. Places like that are disappearing too quickly.

San Bernard in particular allows member of the public to view wildlife in marsh and forest habitats, and is good with facilities for people with limited mobility. Other public lands are wonderful for scenery and physical recreation. The refuge system is especially good for appreciation of plants and animals.

Self exploration of nature is fun. Information kiosks, etc. can teach even when the purpose of going to a refuge was for fun only.

Signs and people who point out the "attractions."

The ability to drive a personal vehicle and/or well maintained walking trails and/or tram rides so the handicapped can also enjoy the refuge.

The ability to see the flocks of birds.

The ability to view birds and other wildlife and for education purposes as well.

The amount of wildlife present and long driving and walking.

The chance of seeing alligators, great blue herons, other water birds, and occasionally birds other than hawks keeps us returning to the two nearby refuges in my area. Sadly, most trips we do not see much. Some winters we see migratory birds in flight. There seem to be fewer the last two years. Gators are seen mostly on cold, sunny days only.

The fishing.

The lack of commercialization. It's nice to experience the wildlife in such a natural setting. Plus it's not overrun with tourists like the National Parks. Please don't ruin it by offering any amenities.

The opportunity to be in touch with native species, to observe, protect, and learn.

The opportunity to observe the wildlife in their natural habitat.

The opportunity to observe wildlife as it really is.

The opportunity to view natural wildlife, flora and fauna, in wildlife refuges is unparalleled in any other setting with the possible exception of national parks.

The refuge is unique to me because I have been fishing it all my life, that's why I would really like to see the night fishing made available to the public.

The refuges normally have less people and traffic visiting.

The setting is usually more geared towards conserving wild areas and enhancing wildlife habitats than National Parks, less tourist-oriented, and less geared towards harvesting wildlife resources such as hunting and fishing in Wildlife Management Areas. It is just the right balance for me, who is primarily interested in visiting the refuges for the opportunity to observe wildlife, especially birds.

The way the land is kept up. Using fire to keep trees from taking over the land.

The whole family enjoys the outing and it's very educational. It helps our family learn how important it is to protect wildlife and the environment.

Their access is better and more developed.

Their commitment to conservation, restoration, and education.

Their location and structure are designed to maintain and promote wildlife habitat and therefore many species can prosper. Birding at San Bernard NWR is world class. Refuges are unique simply because they exist. Such sanctuaries are not within the scope of private enterprise interests. They are unique to our society's natural heritage, they benefit all citizens, and it is therefore appropriate that they be paid for with federal monies. That is, the federal government has the unique opportunity for the creation and maintenance.

Their size.

They are generally less developed and less crowded than other facilities I have visited and are good for wildlife observation at ones' own pace without the crowds frequently encountered in other places, such as state and national parks.

They are maintained and kept so we can enjoy our wildlife in its natural state and habitat.

They are usually less populated by visitors than national parks plus there is a greater opportunity to see wildlife.

They need to be organized, to offer camping and other family activities .

They offer more opportunities to see wildlife and allow you to learn about the animals that inhabit the refuge.

This is where animals and wildlife live. It's extremely important to protect these areas. It's nice to be able to visit their home. Also these refuges with their programs can educate the public of the importance for their protection. Thank you for having and maintaining them.

This was the first place I visited where there were alligators off the side of the road, no fence. Seeing thousands of migrating birds is very cool.

To educate and experience.

To enjoy birds and animals in natural habitat

Tours, knowledge of volunteers, courtesy of volunteers, and great experiences for children of all ages.

Unique natural location, variety of wildlife and layout.

Unlike public parks (state parks, etc.), NWRs have a more raw (natural) feel to them. There are not as many man-made structures throughout the refuge, which puts an emphasis on conserving habitat for wildlife. This is a great thing.

Using the goals and mission mentioned in #1, the refuge contains most of the wildlife and plants that are indigenous or unique to that specific area. They offer the benefits of observing wildlife, scenery and unspoiled nature. Plus "creature" comforts of varying degrees.

Very accessible to older visitors.

We enjoy the birds, gators, and with luck, seeing the deer and hogs. Occasionally we spot a rabbit.

We're able to observe nature from our car in a well managed environment.

You get to see wildlife that you don't see in your backyard. And who does not love nature!?

You're closer to nature, you never know what you may observe or photograph.

Brazoria

Comments on What Makes Refuges Unique? (n = 93)

A great place to view and identify birds.

Animals are not under hunting threat and they're easier to observe and act more natural.

Because most everything is in a natural state.

Being able to take our Yorkshire terrier (on leash of course) with us while touring the refuge.

Birds....wow! I liked the combination of the driving tour and hiking opportunities.

Clean bathrooms where I fish.

Direct exposure to nature, close proximity to plants and animals.

Education about local wildlife.

Fresh water/salt water environment. Volunteers that are always available for the public and school groups.

Gators!!

Great opportunities for birding.

Having the ability to observe the wildlife in their native habitat is very important to fully understand their and our role in nature and the importance of maintaining wild spaces.

I am thrilled I have discovered the National Wildlife Refuge System here in Texas. I have learned to appreciate nature and specifically the variety of bird species in the Brazoria and surrounding counties. I am also learning photography and find many opportunities to photograph the different birds in their natural habitat in the wildlife refuges.

I got to see different wildlife not seen at other public lands.

I love the wildlife experiences, it is easily accessible, and there are a variety of activities.

If it were not for refuges some of us would not be able to travel to some of the fishing and hunting places thanks to the refuges.

If wildlife needs are catered for, then the opportunity to observe them is increased. They should only be recreational from that point of view. The Parks system is for humans.

In Texas public land is scarce. We find more solitude and wildlife at refuges than more popular state or county parks.

It gives a winter home to birds and wildlife.

It is a needed resource for local and migrating birds and for local wildlife. As development occurs the wildlife loses valuable habitat and is likely adversely affected. These refuges allow animal life a safe haven during migration and preserve local wildlife.

It is clean, well kept, and peaceful. It is also only 20 minutes away so I can come and go any time of the day.

It is close to home.

It is good for everyone that hikes, fishes and hunts, and for boating.

It is left as nature intended with the exception of roads etc. It is not a tourist trap.

It is nearby; we go often. No equipment required for birding.

It provides a good fishing area with easy access for both the elderly and the very young.

It provides a place to see wildlife in its natural habitat.

It was well maintained, roads and trails were good. Signs are very good. There are lots of birds to view.

It's a good place for families to go spend time together.

It's by the sea. Also, not many developed nature facilities are available near Houston. If this place is developed more, and is advertised more, I am sure it will be a hit.

It's close up look at nature. I tell the kids in our DEEP classes that the refuge is our wildlife home.

It's just a good place to get out and observe wildlife in its natural habitat without having to gain access to privately owned land.

It's more natural.

It's nice and quiet. Nature really looks restored in their natural habitat. I really like the auto tour; it's perfect for bird watching.

It's the only almost natural area along the mid-Gulf Coast that protects migrating birds and butterflies.

It's the only refuge I know of.

Large areas of land are made accessible to public. Development in areas close to refuge have limited most indigenous species in other areas. Migratory waterfowl seem to be the exception as geese no longer use the refuge.

Large tracts of land preserved and managed for natural history.

Lots of wildlife! The largest oak (live) in Texas is at this refuge. Our students always enjoy the microscopes. The refuge is well maintained. We also enjoyed the bird banding of the red tailed hawk! A big thank you to the awesome volunteers for educating the younger generation. They are learning to love and protect our wildlife and their habitats.

Maintaining natural habitat while providing access to view wildlife in their own backyard.

Many water refuges are for migrating birds. I would like more places to pull off the road near the water (ponds) for photos.

Migratory birds, few people.

Most of the refuge system is less known than the parks and do not draw the crowds that tear up the habitat and disturb the residents. This allows much better chances for photography and observation of wildlife.

People who go to refuges respect the land and wildlife. They understand the refuges are not public parks. Generally, refuges are quiet, clean, less crowded, peaceful places, and we should keep them that way. If you start adding additional recreation activities you may lose the wildlife you intent to protect. Keep the refuges wild. Folks can visit Local, State and National Parks if they want more opportunities for recreation.

Refuges are all natural. You get to see wildlife and plants as they should be.

Refuges are unique due to natural habitats being preserved and providing viewing of wildlife in natural habitats.

Refuges help folks to turn down the noise in their everyday lives. It is very important to preserve these precious pieces of serenity.

The ability to see wildlife.

The auto loop provides a unique bird watching opportunity, because the car acts as a blind so more birds and wildlife can be seen.

The auto tour with CDs that are full of information.

The best chance to observe wildlife without having to deal with people disturbing the wildlife.

The dedication to wildlife conservation.

The fishing pier is well maintained. I wish there were more of them.

The focus on conservation gives wildlife a place to thrive. Most people who visit such places are there to enjoy and respect nature so visits to the refuges are generally serene and good for the soul.

The goal is to preserve without human intervention so this should almost be an off limits area to major development.

The open coastal space.

The opportunity to experience true wilderness or close to it.

The opportunity to observe wildlife, the environment and its importance to human relevance.

The possibility of educational opportunities in the wildlife and environment is so great with the refuges. Seeing nature at its best and up close is an awesome thing and makes one aware of the greatness of God's creations.

The primary purpose of a wildlife refuge is to manage wildlife and their environment; visiting or allowing visitors is secondary. These areas represent a chance to see environments that are less impacted by our presence.

The refuges I have visited encourage opportunity to observe wildlife in a natural habitat and mostly balance access with protection of resources.

The self-guided auto tour.

The wildlife access. The roads for the Anahuac and Brazoria brings people close to habitats.

The wildlife is right in front of you. I love looking at the alligators. I have had to drive around them on the road. That's exciting. I have some great pictures of gators.

Their uniqueness resides in the fact that they are managed for the wildlife and not the humans who visit. Please preserve this uniqueness!

Their vastness provides habitats for such a variety of birds migrating and plants.

There is a lot of wildlife: alligators, ducks, and birds, and you can fish in the lake.

There's a wild, undeveloped "natural" quality about this refuge, which I appreciate. The habitat is rare in that part of the country.

These great places are reserved (to our knowledge) for wildlife in their natural environment. Therefore to allow us to be able to wander to some degree and observe the birds and other wildlife is a great privilege and opportunity. Thank you!

They are a welcoming place to enjoy nature. I love to visit. This place helps me unwind from the busy city. I like feeling safe in my car, and if people are in a hurry they can go around.

They are cleaned, spacious, environmentally friendly, and are a treat to visit.

They are helping maintain and conserve things the way they were intended.

They are managed for the wildlife, and since my principle recreation is birding they provide a great place for viewing birds.

They are still wild and there are no stinking chemical plants or oil refineries nearby.

They are trash free, usually visited only by those who care. The natural environment and solitude is exceptional.

They are unique and allow us to view wildlife in their natural habitat.

They are unspoiled by man.

They are usually very large and therefore very wild and natural.

They are very important to protect wildlife.

They are very natural with little impact on the environment and areas. We can come see, photograph, and enjoy the natural environment.

They are very quiet and geared towards a protected place for wildlife to live on their own terms.

They give us a good place to observe the wildlife.

They're kept more natural so more wildlife can be enjoyed and preserved.

Unique in that it is focused on the wildlife and their (as close as possible) natural conditions vs. pleasing people as are the other types of parks. However, "people" pay the rent and I think they need to know what they're paying for and why it's so important.

Usually there are few other people around.

We enjoy getting out in the 'wild' and photographing birds and animals in nature. Only wildlife refuges seem to have sufficient protected land to attract a variety of species and enough natural habitat to ensure their future.

We like the fact that we can fish any time we want without spending a fortune.

Well it is a place where you can see the beauty of nature, birds, and wildlife, and you can enjoy the fishing.

What makes them unique is their ability to give access to undeveloped or natural areas.

When I first went to this refuge, there was hardly anything there and it was only open on the first weekend of the month. Now it has a lot to offer, including the visitor center, and is open every weekend.

While I'm not a tree hugger I do think that it is important that we take reasonable care of our planet. Refuges are a step in the right direction.

You can watch the real wildlife.

Your encounter with the nature. They are not as crowded as other public lands with the opportunity to see spectacular wildlife. However there it is bizarre to see plants and fabrics on the horizon.

San Bernard

Additional Comments (n = 29)

As a Texas Master Naturalist and a member of Friends of the Wildlife Refuge, I spend time volunteering in various programs and activities on the Upper Texas Coast. I have a great love for the refuges and respect for their stewardship of these wild places. Please keep them WILD!!!! No fancy kiosks, PLEASE!!

Climate change is not man made so I feel certain the wildlife there will continue to thrive. Keep up the good work being done there so that future generations can enjoy it.

Considering the regional problem with feral hogs and their abundance on this refuge, I think hunts should be established on the refuge to open this resource up to hunters on a periodic basis. They are obviously not native to the ecosystem and I think it would benefit hunters by providing additional hunting opportunities, benefit the local community through money spent by hunters, and benefit the native wildlife and refuge habitat in general.

Great place.

I appreciate the bird list that was provided at the kiosk near the entrance. I did not see a visitors center though. There was not even a sign about bathrooms near the entrance. Hmmmm.

I don't believe in global warming or any belief which supports there is a drastic climate change. I do, however, affirm there are warming and cooling cycles that are part of the natural environment. I also believe that nature is far more resilient than many believe.

I enjoyed the outdoor experience.

I have lived within half a mile of the refuge for more than 30 years. When this property was donated to the National Wildlife Refuge to protect the property as an extension of the hardwood cotton lands, the project was welcomed. Since that time the property has not been protected. The growth of non-native species has totally taken over the once protected acreage. Non-native wildlife species, such as hogs, are reproducing without check and creating problems for neighboring property owners. The hardwoods, once slated for protection, are competing place-ability with tallow trees, ivy vines, and other non-native species. In addition, the entrance to this park requires traveling through a restricted neighborhood, although an adjacent highway would be accomplished without much expense. As a member of our local city council I resent the use of our roads without the financial support to maintain them. The previous owners of this property did more to preserve the better land hardwoods. I am saddened with each visit. If you would like to contact me, my number is (phone number).

I love nature!

I love the artwork on survey front!

I love the refuges and I visit them in every state that we visit. They are wonderful places.

I may have answered some questions incorrectly by choosing not satisfied. I was very satisfied, and plan to visit this area frequently. Thanks

I really enjoyed it. I plan to do more there.

Install trash cans in the boat ramp area. I would like night fishing available. I would like lights at the boat ramp. Thank you for installing a floating pier. I would like camping areas. I would like a water source for cleaning at the boat ramp. Offer permits for night fishing at the refuge.

It is a beautiful refuge and is vitally important to migratory birds.

Keep up the good work.

Love the San Bernard NWR!

More advertising , more family events.

More education on the value of lawful hunting and how they have been and continue to be, invaluable. Non hunters do not seem aware of the value of hunters to the wildlife. For the record, I do both. I hunt and observe only (bird watching.) The state of Texas does a superb job of balancing the needs of all groups. I would love to see a more balanced approach to all groups on the federal level. There is much room for improvement in this regard. Overall, I am proud of the jobs both state and USFWS have done. P.S. The section on climate change seemed slanted to me. How can the USFWS change the climate? I am far more concerned about pollution, loss of habitat and poachers, and the drug people who have been such a problem. If the resources available to the USFWS to function are limited you need to concentrate on the above areas where you can really do some good.

Probably need more volunteers for keeping some trails mowed more often. Generally we feel blessed to have San Bernard Refuge so close as we love it. Great boardwalks when mosquitoes aren't bad!

The USFWS is the LAST CHANCE migratory birds have. You'll need to get some cajones and STOP feral cats and other impediments to our songbirds, especially. The rednecks would support you! (signature and phone number)

There is no climate change. Weather changes over the centuries like it always has. Temperatures go up and down; it's nature.

Watering stations or drips, feeding stationed, and blinds all help enable more people to view the birds and other wildlife.

We had a great time!

We have visited many NWRs over the USA. We have always been eager to visit a different one and have never been disappointed with what we have seen. They have been and will continue to be an important part of our lives.

We originally planned on going to a neighboring refuge, but the gate Map Quest sent us to was padlocked and there was no sign directing us to an open gate for visitors. We thought we'd give this refuge a shot since we'd driven so far. We have since found out the other refuge is open all year round and we could have gotten in had we only known about the gate on the other side.

We travel 4-6 months per year. The answer to the previous question is an indication of how many individual outdoor and nature activities that we specifically seek out during those trips.

We visit wildlife refuges, national parks, and monuments frequently both here and throughout the world. Many of our trips are multiple weeks. We want to see our natural world and we believe that it should be protected so that future generations can also see it. In addition, it is naive to believe that without a robust and healthy environment man can continue to survive.

Why are you asking about climate change? I thought the job of the refuges were to preserve habitat and in this way preserve wildlife. Climate is climate so what does that have to do with the job of the US Fish & Wildlife Service?

Brazoria

Additional Comments (n = 37)

Brazoria is one of my favorite refuges because of the beauty of the setting, the abundance of wildlife, the nice visitor center, and the friendly and helpful staff (when the visitor center is open.) I also enjoy frequent visits to San Bernard, Anahuac, and Atwater's Prairie Chicken Refuges.

Climate change is not due to human involvement. To think humans can change something as powerful as the planet earth's climate regulations is pretentious at best. We affect the livability of our immediate surroundings i.e., clean water and air, and the nature that depends on those resources. For that reason I try to limit my impact on the environment, not climate change.

Comment from last page: I believe strongly in conservation and preserving the environment. I see climate change as a political effort to manipulate people and to re-distribute resources. The data is certainly unsettled and the political efforts of the US, the UN, and others speak for themselves. I am glad to utilize my resources to preserve refuges or to clean up pollution, but recently the political attempts to scare people into making decisions are based on bad science.

Great place.

I feel that wildlife refuges are extremely important to our present and future. We should do everything possible to open and maintain these great places to experience our wildlife and nature areas.

I love the paved parking lot, clean restrooms, observation deck, bridge, and walking trails. I would like to see volunteers manning the visitor center. We have yet to visit the refuge at a time when the visitor center was actually open.

I really like it the way it is and it would be hard to improve on it except maybe to insure there is water in the ponds for the ducks.

I think the 'climate' discussion would have more effect if it was kept on the local level. There are factories that change the local environmental climate where we can make more of an impact. The refuge was great and I do enjoy going there and will be visiting this one and others a number of times.

I was very impressed with the restroom facilities.

I was very interested in your questions concerning climate change and its impacts on the refuge. In the 1970's I was involved in evaluating (for an EIS) and locating historic and prehistoric cultural resources close to the refuge. I was an archeologist for the state at the time. One site in particular, a prehistoric Native American site, had a stratified midden indicating an occupation in excess of 2,500 years ago. What was interesting was that the climate change occurring during the occupation was clearly indicated in the amounts and kinds of marine life located in the various strata present in the site. While no excavations were conducted, it was clear that a very concise record of the changing sea level and associated changes in salinity were recorded. Had more thorough investigation been possible, I'm confident we would now have a better idea of what to expect in the present. Unfortunately the site was destroyed by the Corps of Engineers in the late 70's. I don't know if any cultural resource assessments have been conducted at Big Slough. If you are interested in having this done or in some other aspect of the archeology of the refuge I would be happy to volunteer my time and expertise to assist you. Feel free to contact me at my home address, [address given] Sincerely [signed] P.S. I really love Big Slough and all of the other refuges in the region. Keep up the good work.

I would like to see ATV four wheelers only at the hunting area. I like hunting with my sons (duck) and I'm 43 years old; walking is getting tough for me. We enjoy hunting on this site, waterfowl hunting is great, but starting to work on me. If we could have access with a four wheeler it would greatly be appreciated. I wish I could volunteer on site for the right to have a four wheeler. I would help out on land clearing, planting, etc., build a fence or whatever was needed. Thanks (signature) Please call me when you have a plan (phone number)

I've always found the refuges I visited to be well kept and clean. I would like to see better lighting and more restroom facilities. Shower facilities along with tent sites on RV parking and camping would be great. I would also like information on other refuges and their locations. (signature) P.S. This survey reached you late due to the return envelope sent the first time was already sealed and unusable.

In my fifty something years I was not aware of the refuges. I first became aware of the refuges when I was on a fishing trip on the San Bernard River last year in 2010. From what I have been able to observe they are valuable resources to children to obtain knowledge.

It is a wonderful resource for the local school district for their "Hands on Science" curriculum. We teach all 3rd graders, 7th graders, and many visiting groups from other schools.

It's a great birding site.

Keep up the good work.

Need more educational information on the web site! There's a place on the left side of the page for Wildlife and Habitat but there's nothing in it. I would love to have information about specific habitat/vegetation in advance of a visit so I could specifically look for certain species. Actually, I'm finding it hard to even find a field book of plants/grasses for this part of the planet. More online education please.

Nice refuge, good facilities. We watch for sand hill cranes, wood storks and shore birds.

Please keep it as is and continue your conservation efforts.

Thank you for saving land for our wildlife. We are losing land too fast. I hope we can save more coastal and inland coastal properties. Thank you all for what you do. (signature)

Thank you!

Thank you! I can't wait to come back in the winter and see the geese.

The Gulf Coast Refuges are truly protected lands with minimal access and limited activities. We attract people from all over the world. The visitors are knowledgeable and "entertain" themselves. We need more regular education programs for children who do not have a "sense" of nature.

The paper version of this survey asked for comments (not necessarily restricted to a visit), so I shall do so here. Your section on climate change: if the term is properly defined it would refer to the natural variations in climate, cooler or hotter, dryer or wetter, etc., but I suspect your definition of "climate change" reflects the politically distorted subliminal meaning of "global warming," or more precisely global warming predominantly induced by anthropogenic forcing, especially non-water greenhouse gases (CAGW). My answers thus reflect this distorted meaning. There is no empirical evidence to demonstrate that the current warming trend is outside of the natural variations of climate over the last several thousand years. Indeed the warming is consistent with recovery from the little ice age. (And yes, I am quite familiar with the details of the IPCC's TAR4.) Indeed, proxy evidence shows the Medieval Warm Period to have been at least as warm as present, and the Roman Warm Period and Holocene were likely to be warmer. What should FWS do in response to natural variation? Not much. Wildlife adapts. Is AGW real? Most certainly, as reflected by land use change effects, and FWS appropriately does actively engage in preserving or restoring natural habitat, but this anthropogenic impact is small and not global. In contrast, the warming impact of increased CAGW has not been discerned from the background of natural variation. The climate system is chaotic with many poorly understood factors such as cloud cover and precipitation coming into play. The FWS position on "climate change" has been disappointing and politically biased. It would bode well for FWS to return to a science-based response to this natural phenomena, and not chase the windmill of CO2 "pollution". Indeed naturalists should celebrate the benefits of CO2 fertilization of the biosphere. (signature)

The pier is really nasty!

The refuge is great, but it needs to be advertised more in a wildlife book. A lot of people do not know where the refuge is. We just happened to drive by and saw the sign "Brazoria County Wildlife Refuge." It is a very nice facility. The Anahuac Wildlife Refuge is advertised on the main highway with a sign. Thanks (signature)

The refuges on the Texas coast need to stop the practice of controlled burns. Area industries have worked hard to improve the quality of air and water over the past 40 years. The wildlife refuge has no right to foul our air with these controlled burns.

The trips were day trips for birding.

This year I brought my sons down from San Antonio. They loved it a lot. Thank you. (signature)

Too many conflicting stories and info about climate change... Is it just related to earth cycles? I think the section should be addressed about pollution in general. I love national parks and their wildlife, they're the best thing about the USA besides being free! (signature)

We are nature lovers and sailors. We prefer to be in a natural setting away from crowds of people. The natural world has its ups and downs. Our visit here was during an unseasonably dry period. Most lakes and ponds were dry and dusty. Next year may be very wet. It's just the nature of things. We still enjoyed our visit.

We enjoy this refuge very much during the winter and spring, when birds are migrating.

We love our refuge!!

We love this refuge. We love its remoteness, its bird diversity, and the fact that it hasn't been subjected to excessive development in the adjacent areas, like Aransas and so many other refuges.

We usually visit this refuge on Sundays and have for the past 10 years. The visitors center has been open on only one of those visits.

We very much enjoyed our trip to Brazoria NWR and will definitely return. We also have visited San Bernard and we visit our local Atwater Prairie Chicken NWR several times a month. We love them all.

Wonderful place. Please consider me very supportive of continued and/or additional funding for the refuge system.