



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

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The new Visitor Center will enhance an excellent existing environmental education and nature interpretation program. The volunteers and staff were friendly, helpful, and knowledgeable.—Survey comment from visitor to Necedah National Wildlife Refuge.



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

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Introduction

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

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

Organization of Results

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

- **Introduction:** An overview of the Refuge System and the goals of the national surveying effort.
- **Methods:** The procedures for the national surveying effort, including selecting refuges, developing the survey instrument, contacting visitors, and guidance for interpreting the results.
- **Refuge Description:** A brief description of the refuge location, acreage, purpose, recreational activities, and visitation statistics, including a map (where available) and refuge website link.
- **Sampling at This Refuge:** The sampling periods, locations, and response rate for this refuge.
- **Selected Survey Results:** Key findings for this refuge, including:
 - Visitor and Trip Characteristics
 - Visitor Spending in the Local Communities
 - Visitors Opinions about This Refuge
 - Visitor Opinions about National Wildlife Refuge System Topics
- **Conclusion**
- **References**
- **Survey Frequencies (Appendix A):** A copy of 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 Necedah NWR, any potential spatial and temporal sampling limitations specific to this refuge need to be considered when generalizing the results to the total population of visitors. For example, a refuge that sampled during a special event (for example, birding festival) held during the spring may have contacted a higher percentage of visitors who traveled greater than 50 miles to get to the refuge than the actual number of these people who would have visited throughout the calendar year (that is, oversampling of nonlocals). In contrast, another refuge may not have enough nonlocal visitors in the sample to adequately represent the beliefs and opinions of that group type. If the sample for a specific group type (for example, nonlocals, hunters, those visitors who paid a fee) is too low ($n < 30$), a warning is included. Additionally, the term "*this* visit" is used to reference the visit on which people were contacted to participate in the survey, which may or may not have been their most recent refuge visit.

Refuge Description for Necedah National Wildlife Refuge

Ten thousand years ago, retreating glaciers left behind vast peat bogs and sand ridges, creating the area known as the great Central Wisconsin Swamp. In 1939, within the swamp, the Necedah National Wildlife Refuge was created. It is a rich mosaic habitat of large tracts of oak barrens, critical open water impoundments, sedge meadow, savanna, and pine-oak forest. The name "Necedah" comes from the Ho Chunk peoples who inhabited the area before the arrival of European settlers and means "Land of the Yellow Waters", a reference to the Yellow River. This 44,000 acre refuge is home to ringed boghaunter dragonflies, whooping cranes, trumpeter swans, badgers, red-headed woodpeckers, waterfowl and sandhill cranes. Also threatened, endangered and rare species such as the Karner blue butterfly, Blanding's turtle, and gray wolf inhabit the refuge. Necedah NWR was created to:

- provide breeding and migration habitat for birds,
- reintroduce and protect populations of the whooping cranes and the Karner blue butterflies,
- enhance biodiversity,
- offer opportunities to the public for outdoor recreation and environmental education, and
- restore the rare oak savanna habitat.

Almost 150,000 people visit Necedah NWR each year (based on 2008 RAPP database; U.S. Fish and Wildlife Service, 2011, written comm.) to take advantage of a variety of activities including waterfowl hunting, migratory bird hunting, upland game hunting, big game hunting, fishing, guided tours, hiking, snowshoeing, auto tour routes, motorized and nonmotorized boating, wildlife observation, bird watching, berry picking, photography, environmental education, and interpretation. Visitors can also enjoy the many programs Necedah NWR offers such as night hikes and youth waterfowl hunt and fishing day programs.

Figure 1 displays a map of the refuge. For more information, please visit:

<http://www.fws.gov/midwest/necedah/>.

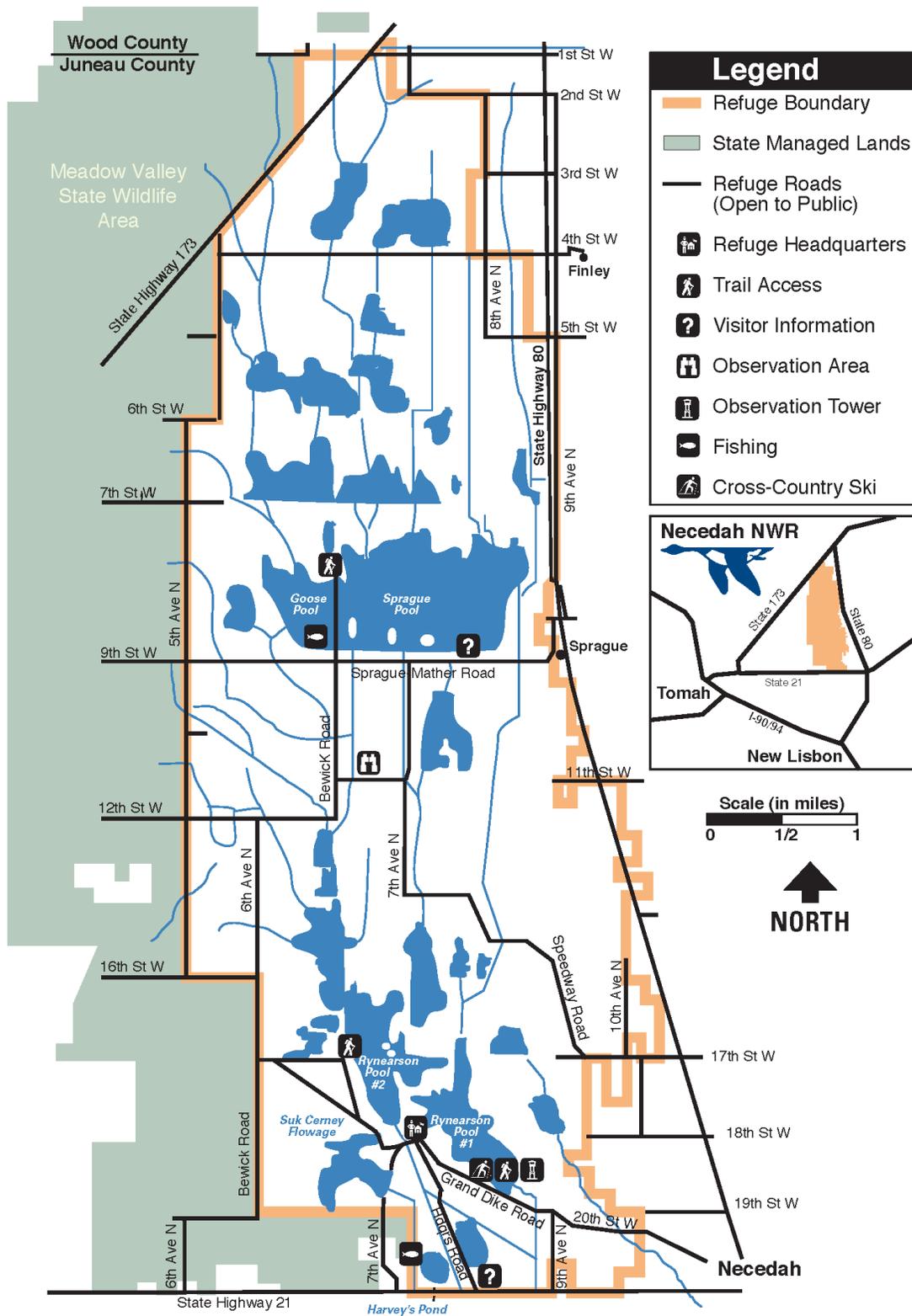


Figure 1. Map of Necedah NWR, courtesy of U.S. Fish and Wildlife Service.

Sampling at Necedah National Wildlife Refuge

A total of 156 visitors agreed to participate in the survey during the two sampling periods at the identified locations at Necedah NWR (table 2). In all, 139 visitors completed the survey for an 89% response rate and $\pm 7\%$ margin of error at the 95% confidence level.¹ Survey recruiters contacted hunters on-site at their vehicles. If no hunters were present, a survey recruitment card was left on their windshield along with the refuge's hunter packs. Visitors were directed to drop their contact information at either an information box near the Goose Pool entrance, or the refuge office. [Refuge, more here on sampling hunters?]

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

Sampling period	Dates	Locations	Total contacts	Undeliverable addresses	Completed surveys	Response rate
1	9/18/2010 to 10/2/2010	A. Goose and Sprague Pools B. Headquarters Building C. Observation Tower/Trail D. Harvey's Pond	110	0	96	87%
2	11/13/2010 to 11/27/2010	A. Headquarters Building B. Goose and Sprague Pools C. Auto-Tour Route/Observation Tower/Trail D. Hunter Count Patrol	46	0	43	94%
Total			156	0	139	89%

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 Necedah NWR reported that before participating in the survey, they were aware of the role of the U.S. Fish and Wildlife Service in managing national wildlife refuges

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).

(92%) and that the Refuge System has the mission of conserving, managing, and restoring fish, wildlife, plants and their habitat (97%). 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 (90%; 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. More than half of visitors to Necedah NWR had been to at least one other National Wildlife Refuge in the past year (58%), with an average of 5 visits to other refuges during the past 12 months.

Visiting This Refuge

About half of surveyed visitors (49%) had only been to Necedah NWR once in the past 12 months, while the other half had been multiple times (51%). These repeat visitors went to the refuge an average of 11 times during that same 12-month period. Visitors used the refuge during only one season (59%), during multiple seasons (28%), and year-round (13%).

Most visitors first learned about the refuge from friends/relatives (40%), refuge printed information (24%), or signs on the highway (19%; fig. 2). Key information sources used by visitors to find their way to this refuge include previous knowledge (53%), signs on highways (50%), or a road atlas/highway map (39%; fig. 3).

Some visitors (30%) lived in the local area (within 50 miles of the refuge), whereas 70% were nonlocal visitors. For most local visitors, Necedah NWR was the primary purpose or sole destination of their trip (80%; table 3). For most nonlocal visitors, the refuge was also the primary purpose or sole destination of their trip (63%). Local visitors reported that they traveled an average of 28 miles to get to the refuge, while nonlocal visitors traveled an average of 255 miles. Figure 4 shows the residence of visitors travelling to the refuge. About 71% of visitors travelling to Necedah NWR were from Wisconsin.

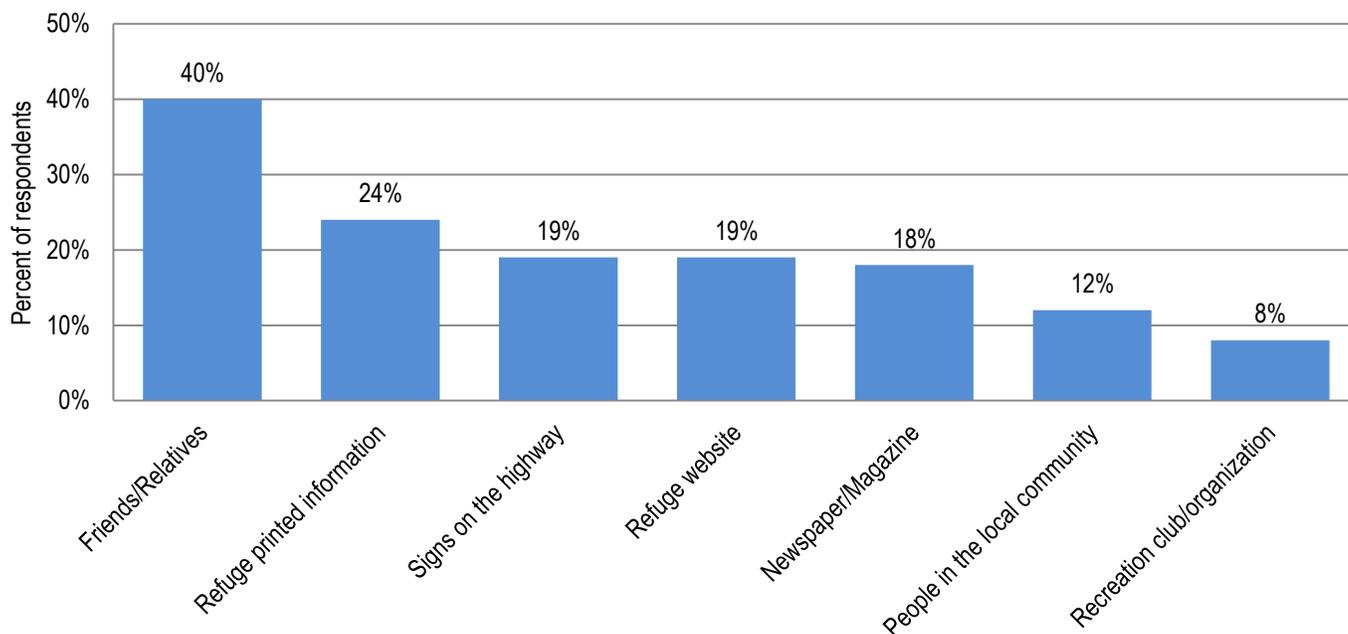


Figure 2. How visitors first learned or heard about Necedah NWR (n = 136).

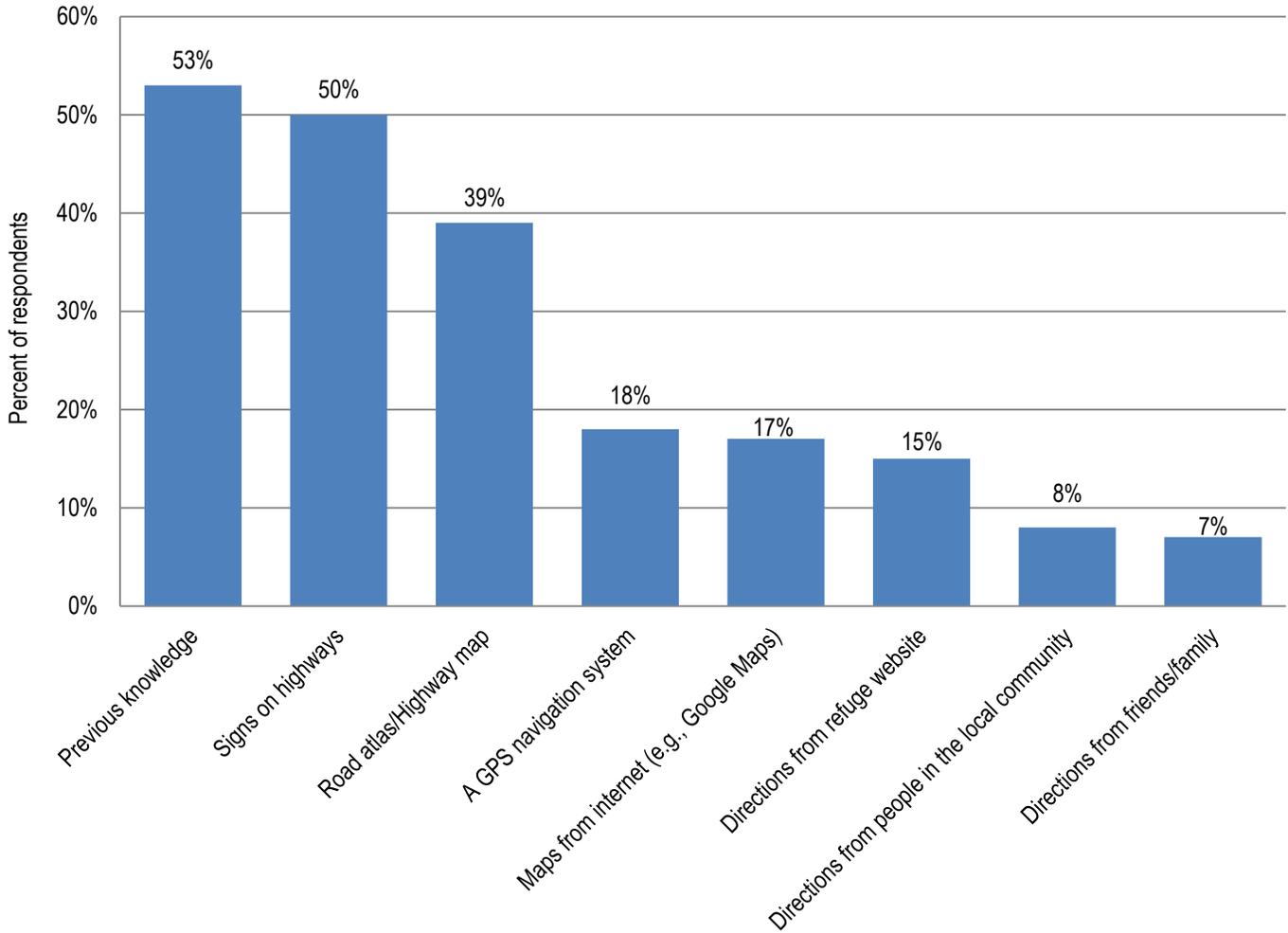


Figure 3. Resources used by visitors to find their way to Necedah NWR during *this* visit (n = 136).

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

Visitors	Visiting this refuge was...		
	the primary reason for trip	one of many equally important reasons for trip	an incidental stop
Nonlocal	63%	26%	11%
Local	80%	15%	5%
Total	67%	23%	10%

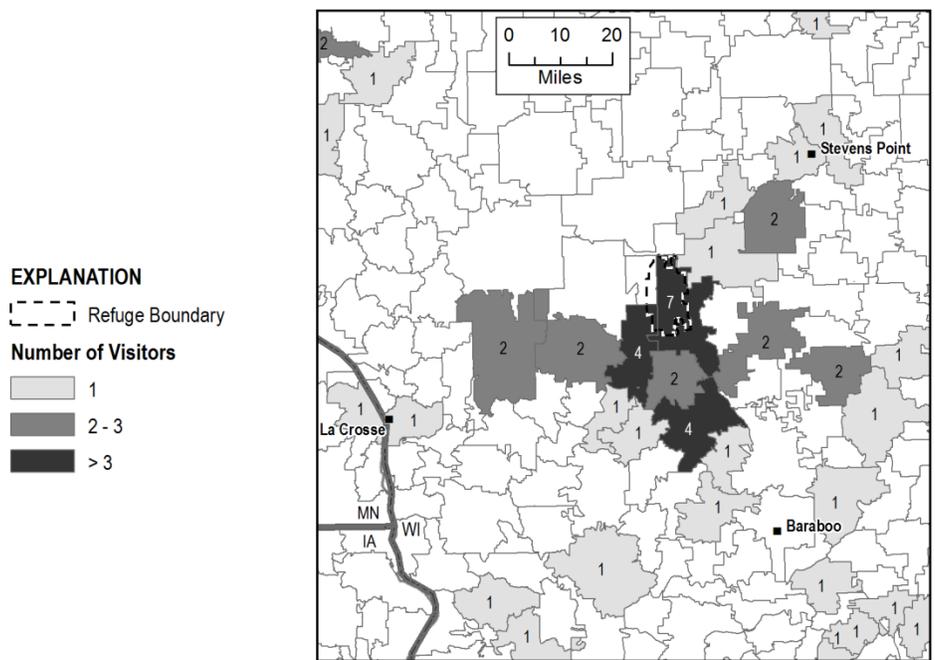
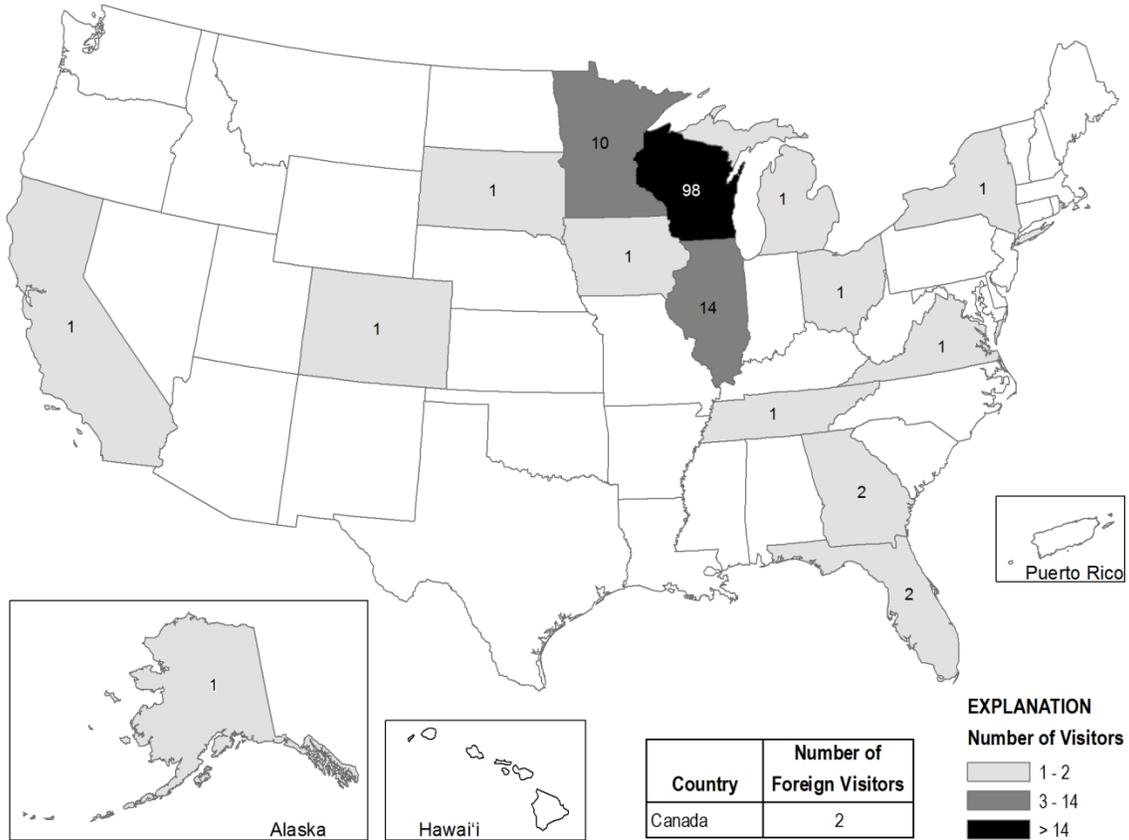


Figure 4. Number of visitors travelling to Necedah NWR by residence. Top map shows residence by state and bottom map shows residence by zip codes near the refuge (n = 138).

Surveyed visitors reported that they spent an average of 5 hours at Necedah NWR during one day there (a day visit is assumed to be 8 hours). However, the most frequently reported length of visit during one day was actually 8 hours (43%). The key modes of transportation used by visitors to travel around the refuge were private vehicle (93%), walking/hiking (37%), and refuge shuttle bus or tram (9%; fig. 5). Most visitors indicated they were part of a group on their visit to this refuge (64%), travelling primarily with family and friends (table 4).

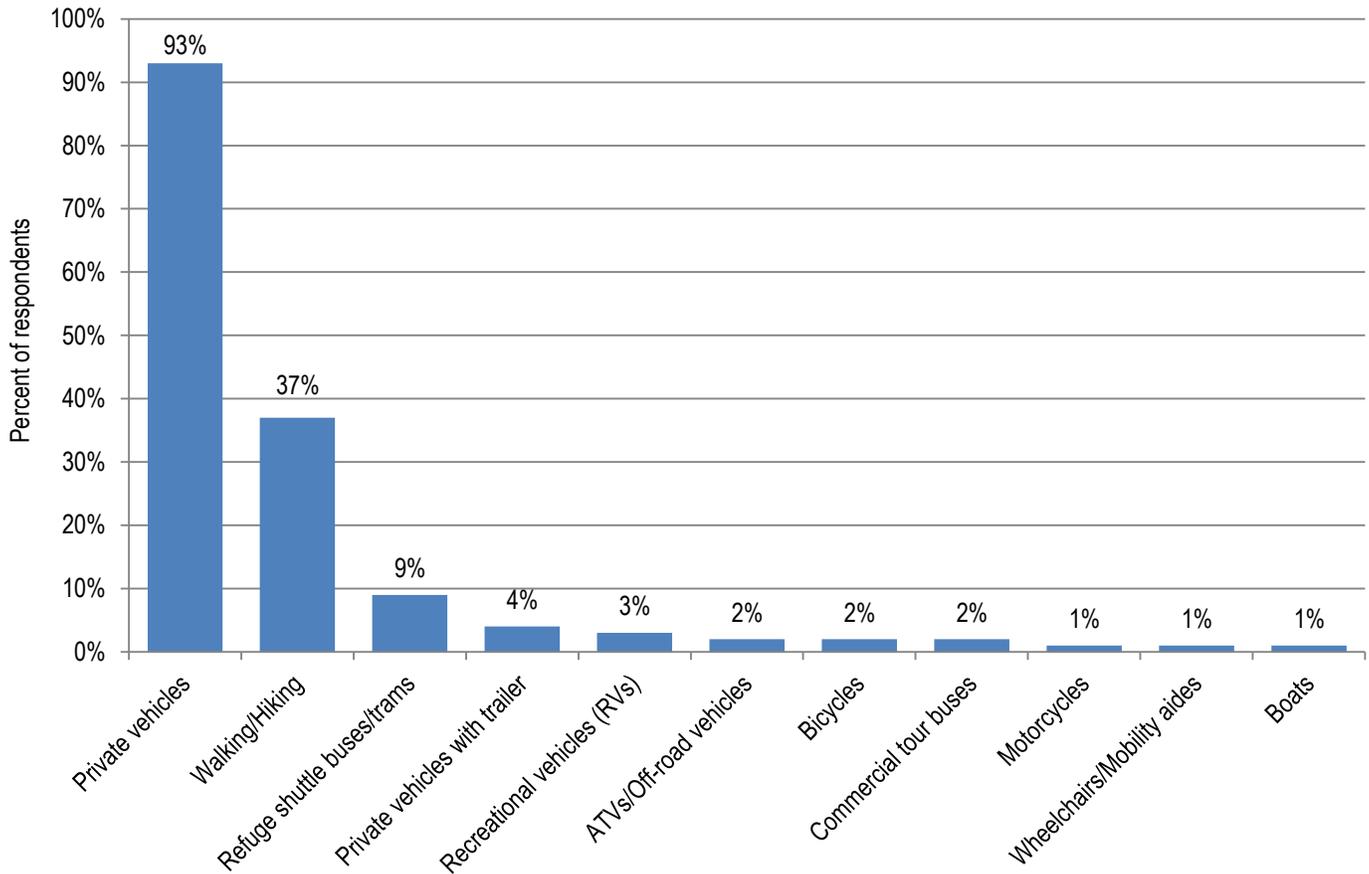


Figure 5. Modes of transportation used by visitors to Necedah NWR during *this* visit (n = 137).

Table 4. Type and size of groups visiting Necedah NWR (for those who indicated they were part of a group, n = 87).

Group type	Percent (of those traveling in a group)	Average group size		
		Number of adults	Number of children	Total group size
Family/Friends	79%	3	0	3
Commercial tour group	0%	0	0	0
Organized club/School group	7%	22	0	22
Other group type	14%	17	1	18

Surveyed visitors participated in a variety of refuge activities during the past 12 months (fig. 6); the top three activities reported were wildlife observation (77%), bird watching (74%), and auto tour route/driving (53%). The primary reasons for their most recent visit included bird watching (34%), special event (18%), hunting (11%), and wildlife observation (11%; fig. 7). The visitor center was used by 88% of visitors, mostly to ask information of staff/volunteers (85%), view the exhibits (68%), stop to use the facilities (for example, get water, use restrooms) (65%), and visit the gift shop/bookstore (65%; fig. 8).

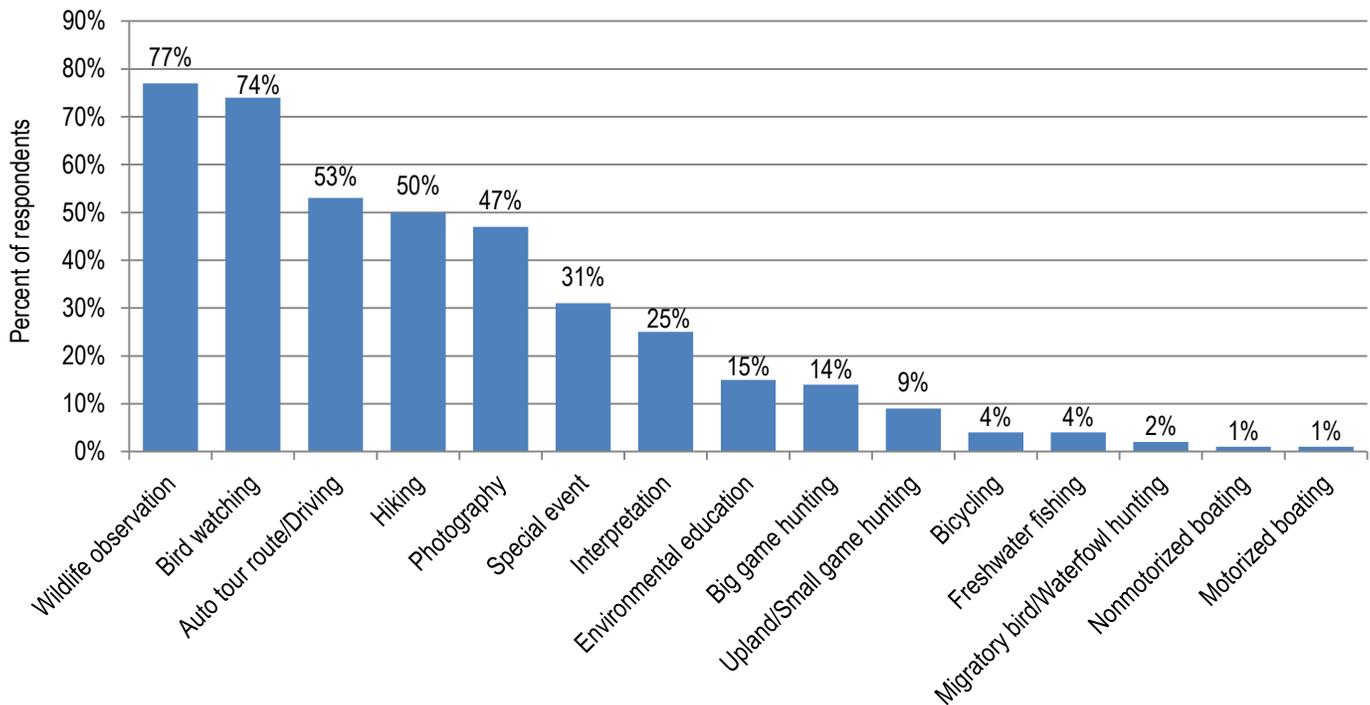


Figure 6. Activities in which visitors participated during the past 12 months at Necedah NWR (n = 137). See Appendix B for a listing of “other” activities.

Visitor Characteristics

Nearly all (99%) surveyed visitors to Necedah NWR indicated that they were citizens or permanent residents of the United States. Only those visitors 18 years or older were sampled. Visitors were a mix of 52% male with an average age of 60 years and 48% female with an average age of 58 years. Visitors, on average, reported they had 15 years of formal education (college or technical school). The median level of income was \$50,000–\$74,999. See Appendix A for more demographic information. In comparison, the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation found that participants in wildlife watching and hunting on public land were 55% male and 45% female with an average age of 46 years, an average level of education of 14 years (associate degree or two years of college), and a median income of \$50,000–\$74,999 (Harris, 2011, personal communication). Compared to the U.S. population, these 2006 survey participants are more likely to be male, older, and have higher education and income levels (U.S. Department of the Interior and U.S. Department of Commerce, 2007).

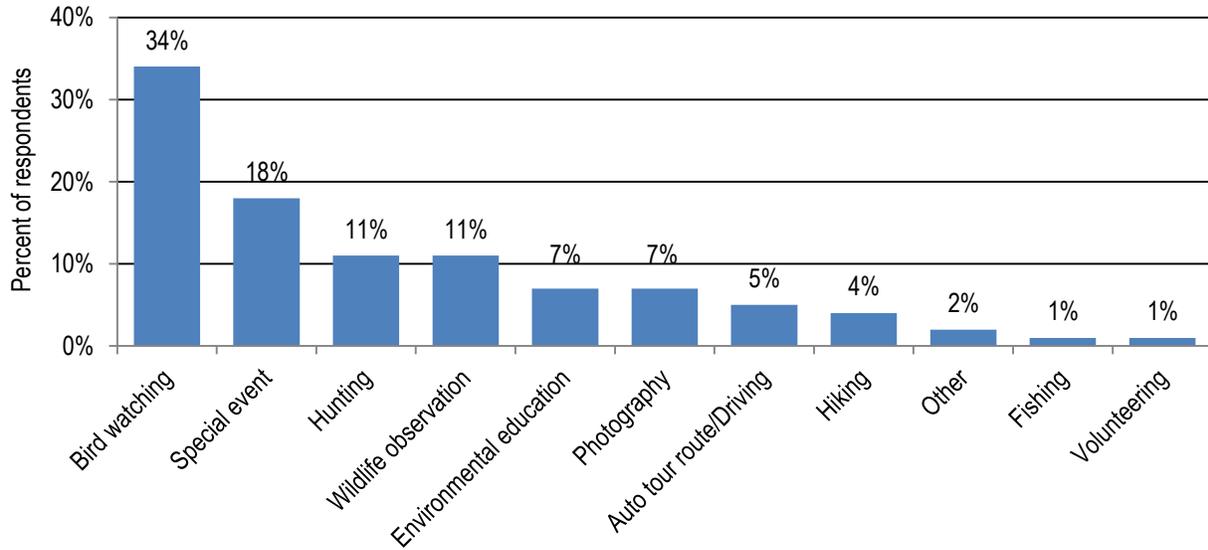


Figure 7. The primary activity in which visitors participated during *this* visit to Necedah NWR (n = 125). See Appendix B for a listing of “other” activities.

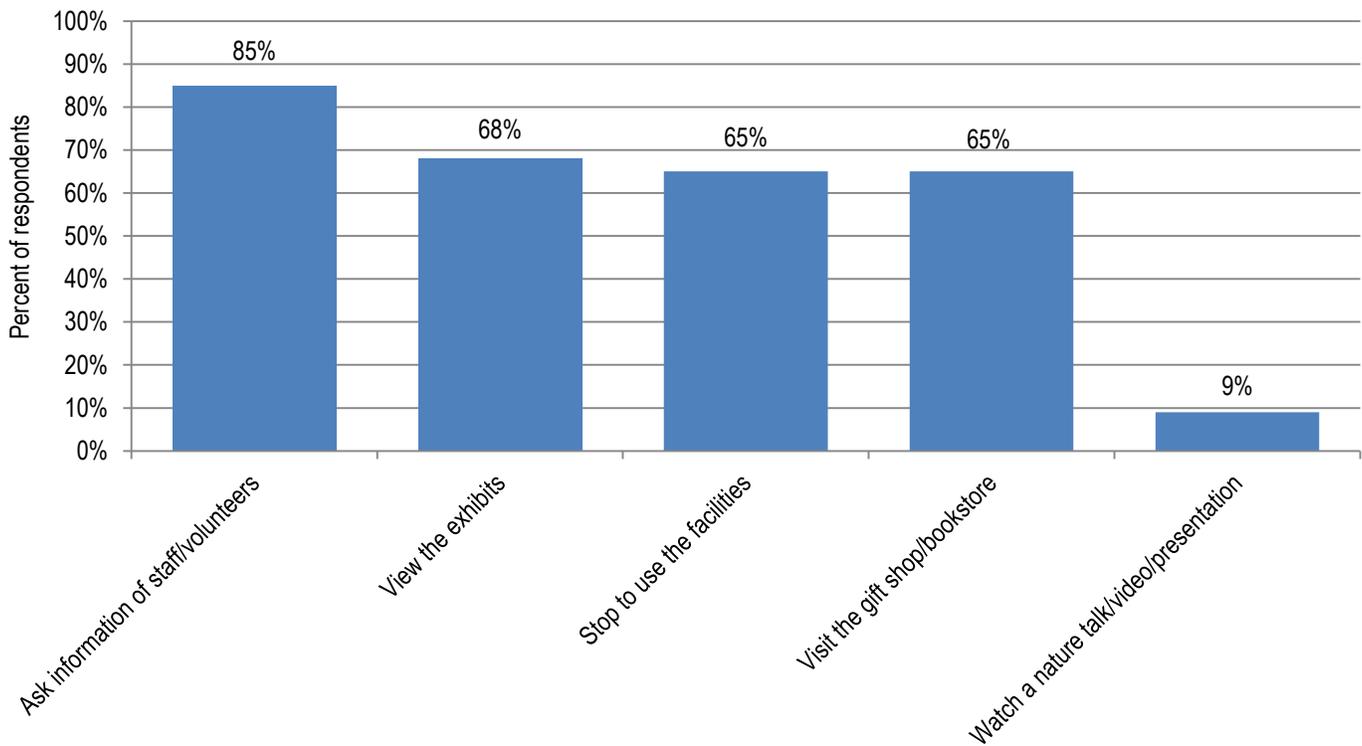


Figure 8. Use of the visitor center at Necedah NWR (for those visitors who indicated they used the visitor center, n = 120).

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, 30% of surveyed visitors to Necedah NWR indicated that they live within the local area. Nonlocal visitors (70%) stayed in the local area, on average, for 3 days. Table 5 shows summary statistics for local and nonlocal visitor expenditures in the local communities and at the refuge, with expenditures reported on a per person per day basis. During the two sampling periods, nonlocal visitors spent an average of \$55 per person per day and local visitors spent an average of \$20 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 Necedah NWR expressed in dollars per person per day.

Visitors	n ¹	Median	Mean	Standard deviation	Minimum	Maximum
Nonlocal	82	\$41	\$55	\$47	\$0	\$275
Local	34	\$9	\$20	\$27	\$0	\$128

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 Necedah NWR were as follows (fig. 9):

- 95% were satisfied with the recreational activities and opportunities,
- 93% were satisfied with the information and education about the refuge and its resources,
- 94% 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 11% of visitors (n = 15) indicated they paid a fee to enter the refuge, Necedah NWR does not have an entrance fee. It is not known why some visitors thought they had paid a fee to enter the refuge.

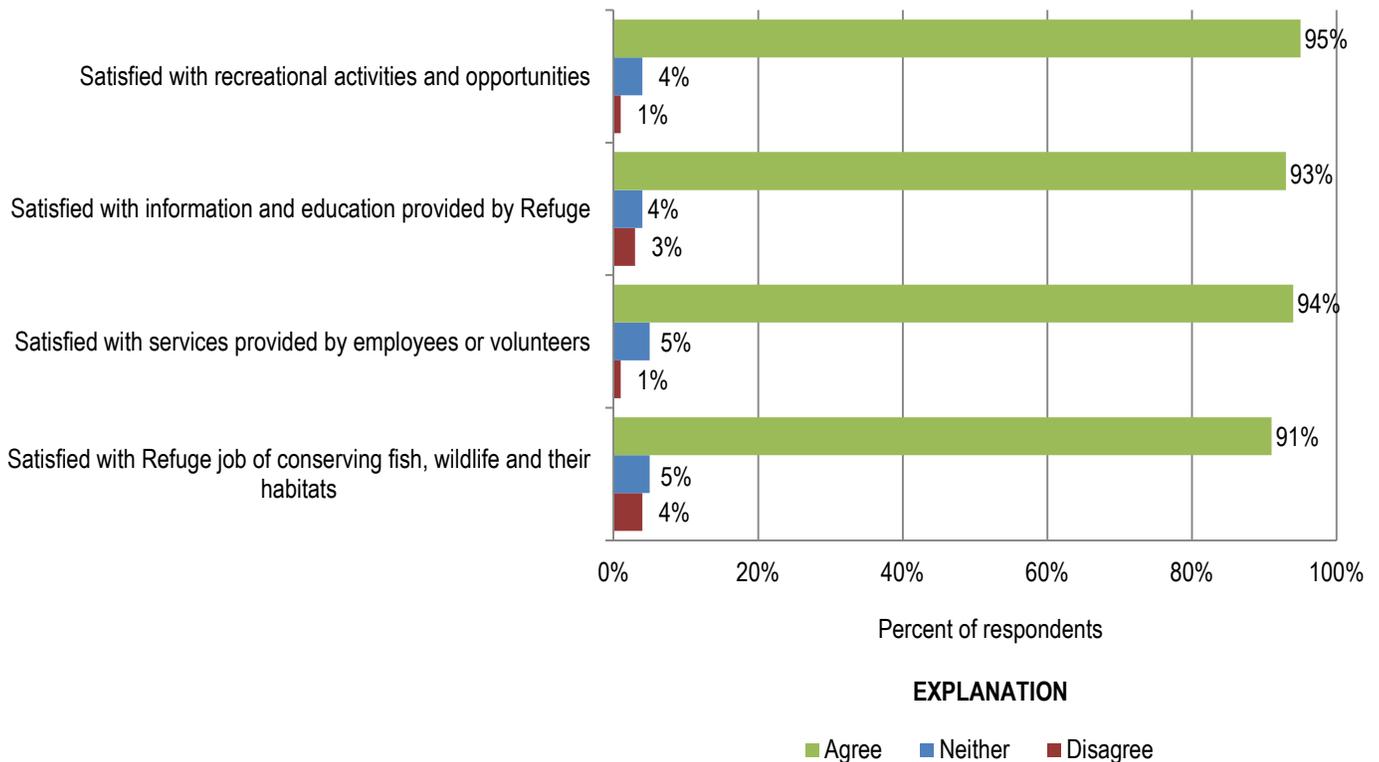


Figure 9. Overall satisfaction with Necedah NWR during *this* visit (n ≥ 133).

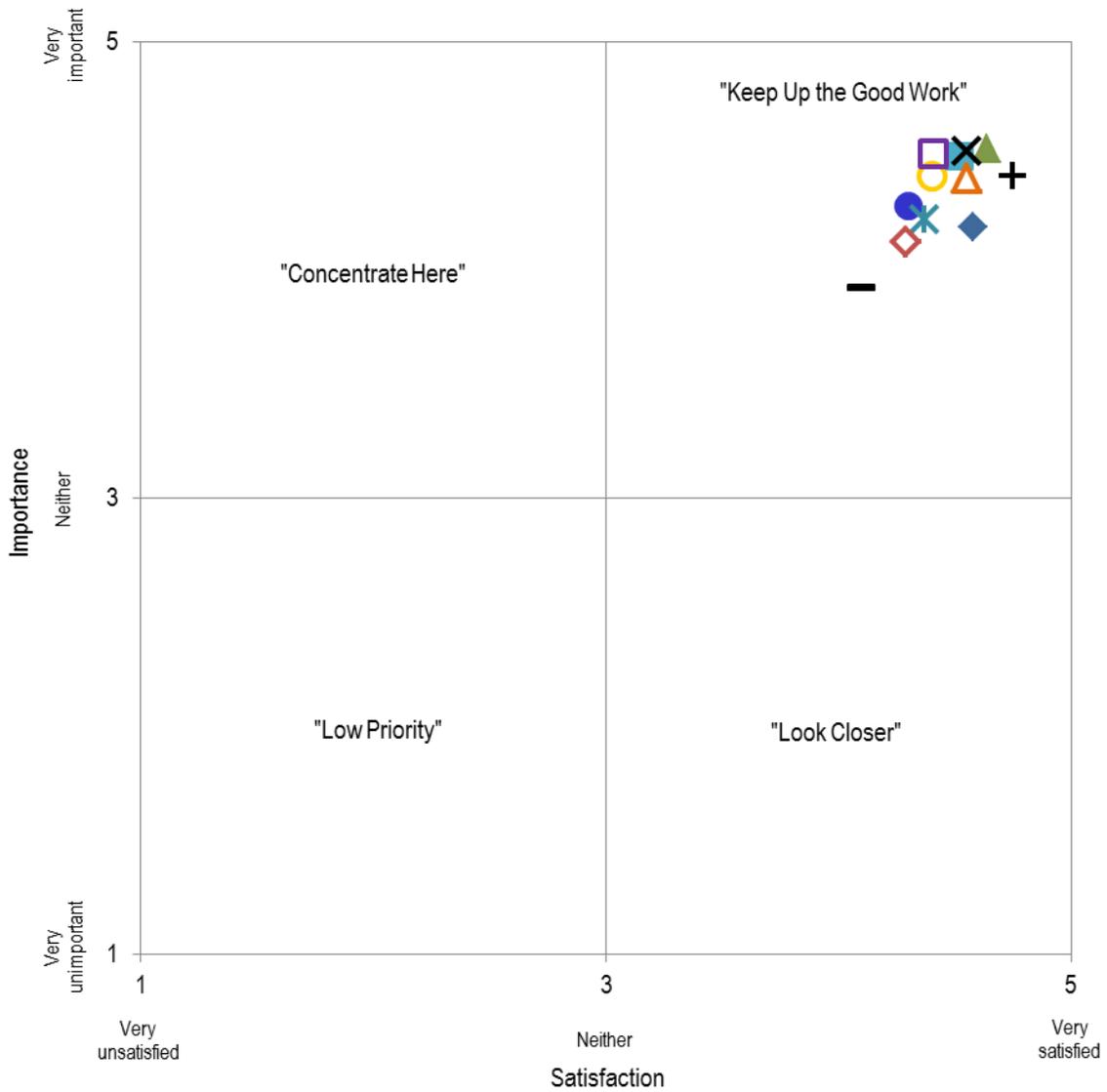
Importance/Satisfaction Ratings

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 Necedah NWR. This consideration is especially important when reviewing the attributes that fall into the "Look Closer" quadrant. In some cases, these attributes may represent specialized recreational activities in which a small subset of visitors participate (for example, hunting, kayaking) or facilities and services that only some visitors experience (for example, exhibits about the refuge). For these visitors, the average importance of (and potentially the satisfaction with) the attribute may be much higher than it would be for the overall population of visitors.

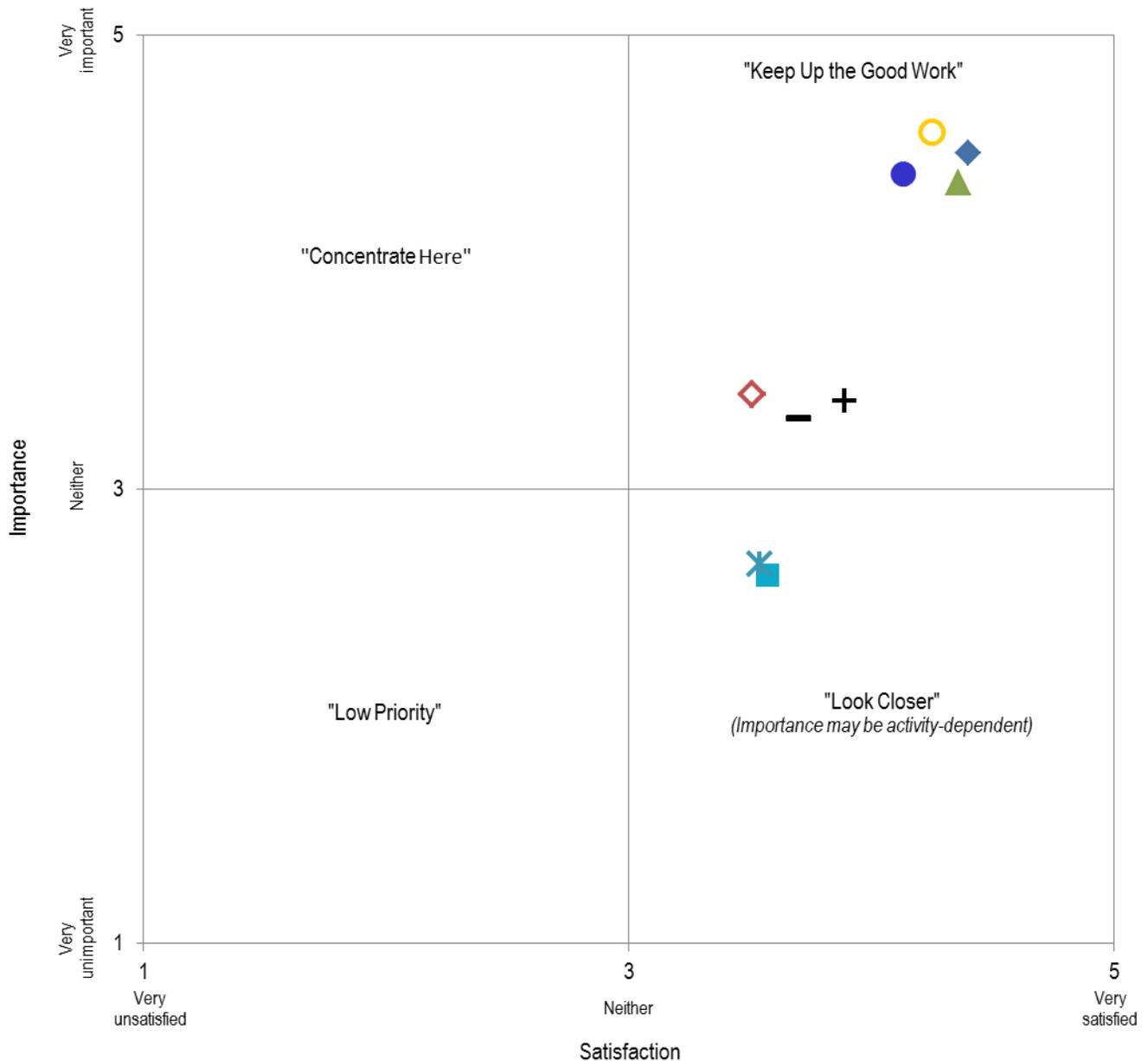
Figures 10-12 depict surveyed visitors' importance-satisfaction results for refuge services and facilities, recreational opportunities, and transportation-related features at Necedah NWR, respectively. All refuge services and facilities fell in the "Keep Up the Good Work" quadrant (fig. 10). Nearly all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



EXPLANATION

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

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



EXPLANATION

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

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

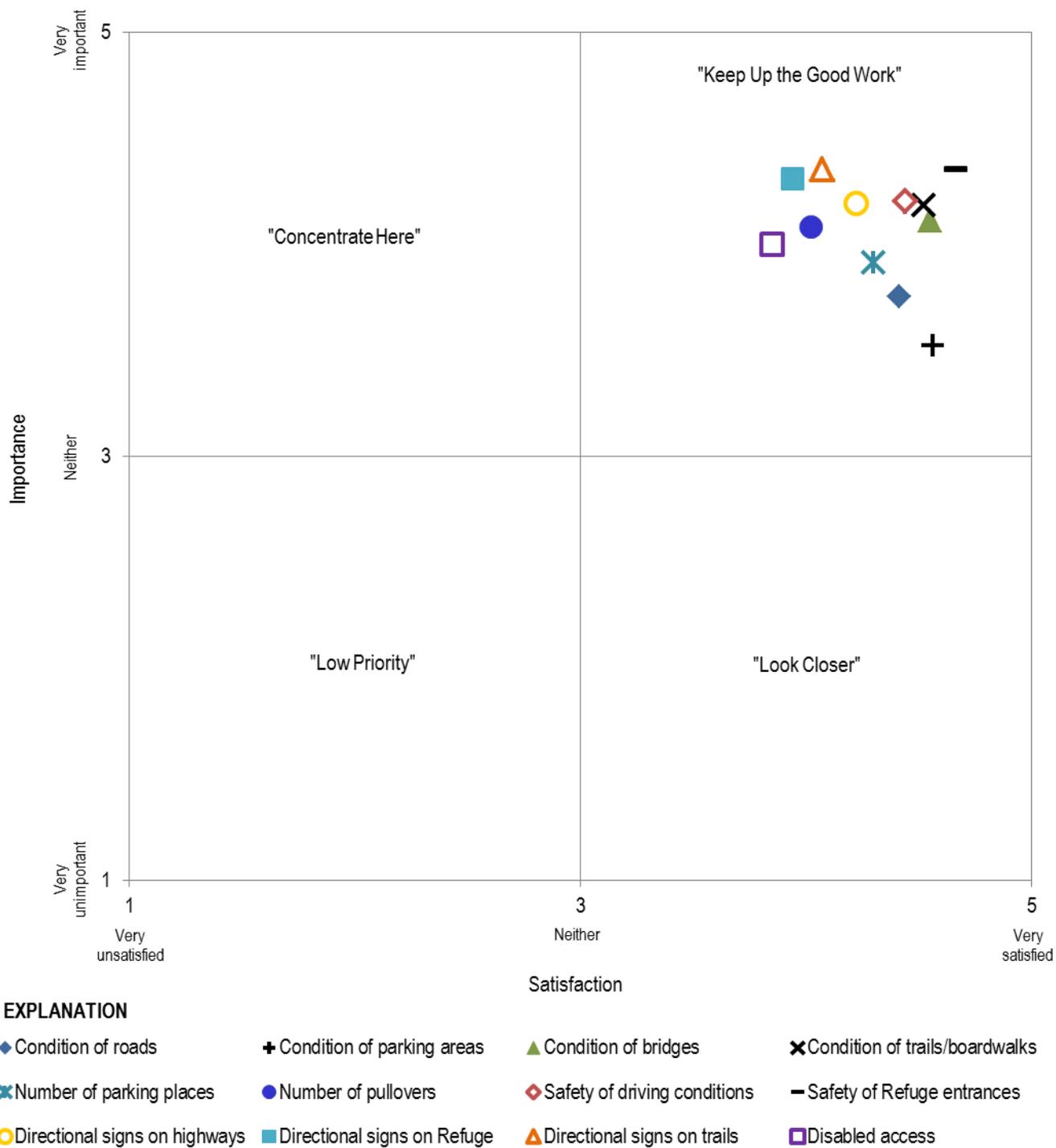


Figure 12. Importance-satisfaction ratings of transportation-related features at Necedah NWR.

Visitor Opinions about National Wildlife Refuge System Topics

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

Alternative Transportation and the National Wildlife Refuge System

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

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

- an offsite parking lot that provides trail access;
- a boat that goes to different points on Refuge waterways;
- a bus/tram that runs during a special event; 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 at national wildlife refuges in the future (fig. 13).

When asked about using alternative transportation at Necedah NWR specifically, 46% 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 (26%).

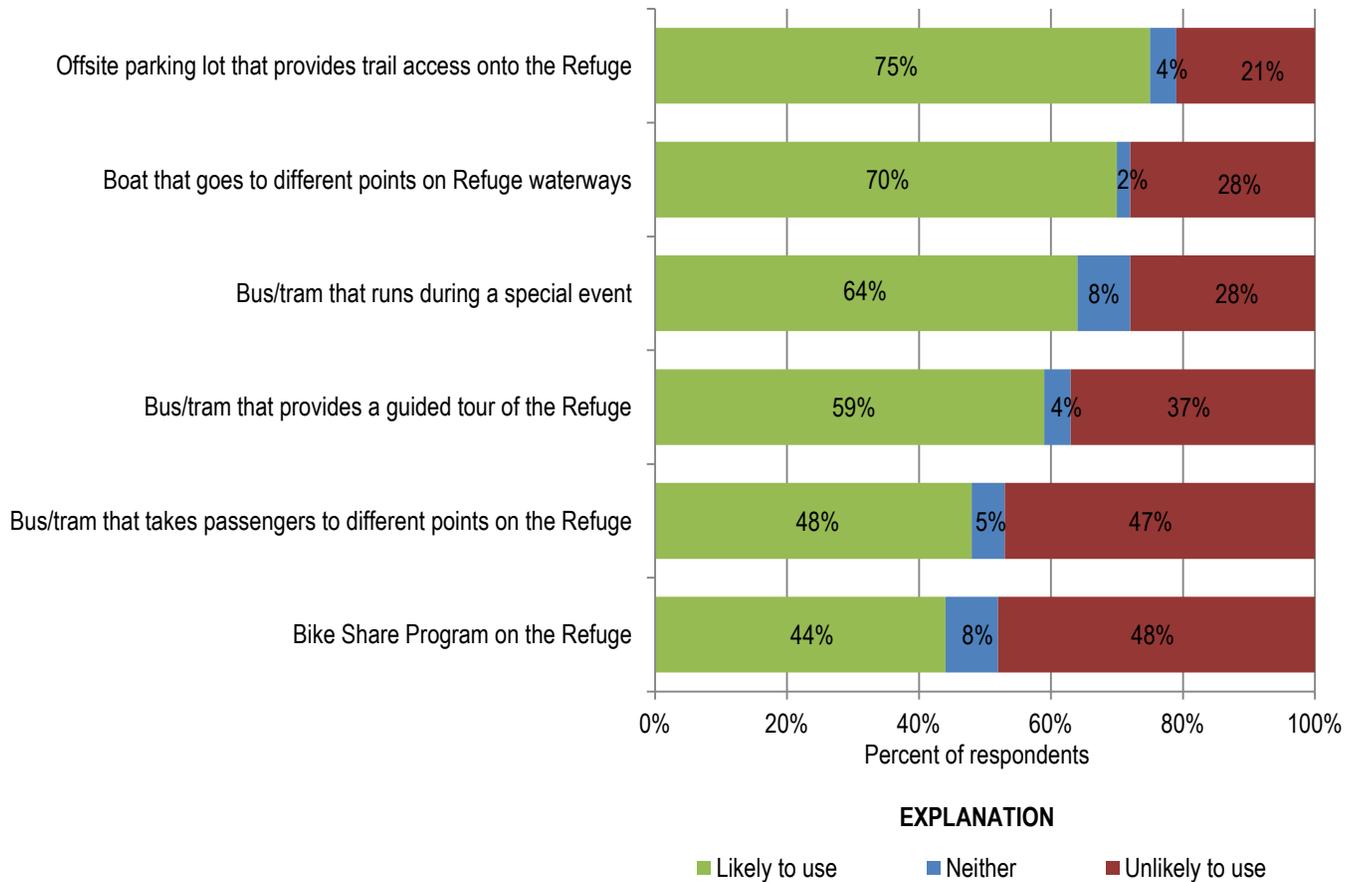


Figure 13. Visitors’ likelihood of using alternative transportation options at national wildlife refuges in the future (n ≥ 133).

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 Necedah NWR agreed with the following statements (fig. 14):

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

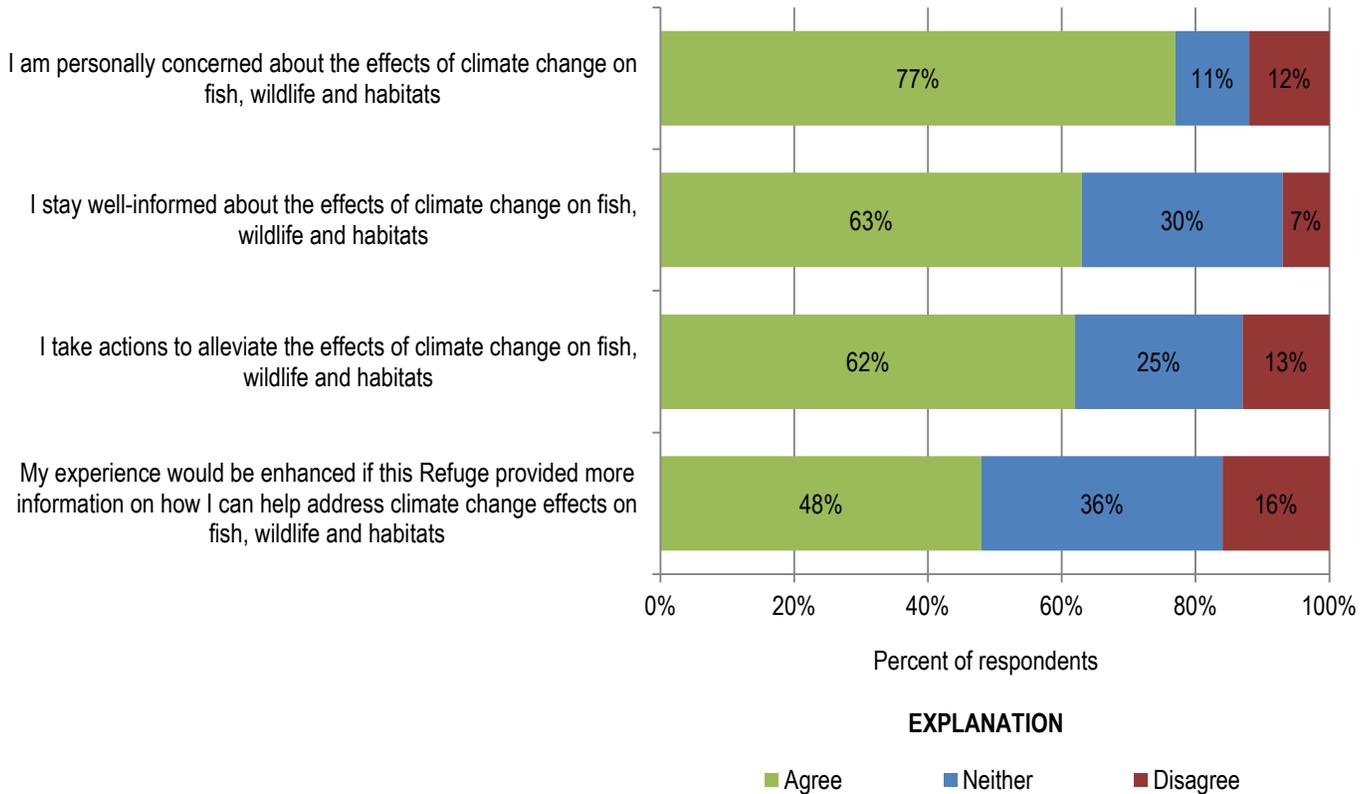


Figure 14. Visitors’ personal involvement with climate change related to fish, wildlife and their habitats (n ≥ 134).

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

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

The majority of visitors did *not* believe:

- “There has been too much emphasis on the catastrophic effects of climate change.”

Such information suggests that certain beliefs resonate with a greater number of visitors than other beliefs do. This information is important to note because some of the visitors (48%) indicated that their experience would be enhanced if Necedah NWR provided information about how they could help address the effects of climate change on fish, wildlife, and their habitats (fig. 14), and framing the information in a way that resonates most with visitors may result in a more engaged public who support strategies aimed at alleviating climate change pressures. Data will be analyzed further at the aggregate, or national level, to inform the development of a comprehensive communication strategy about climate change.

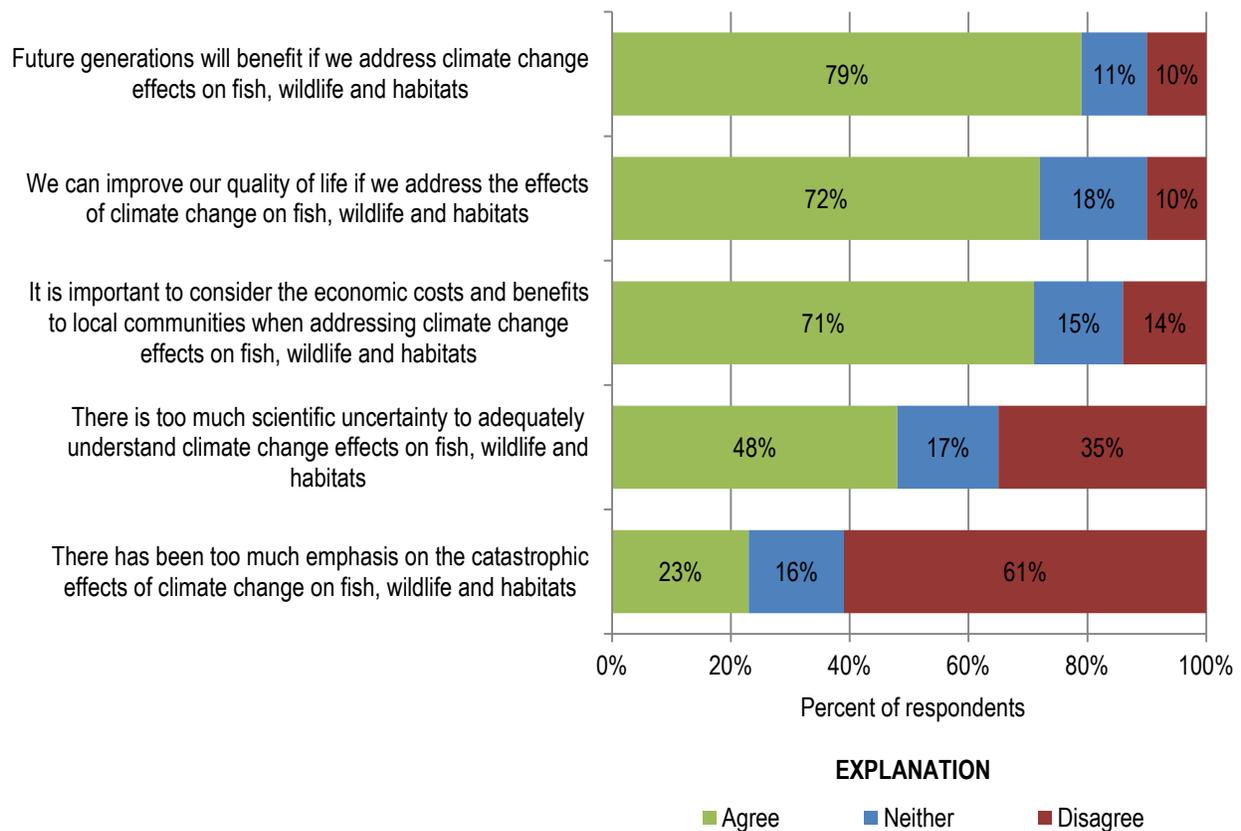


Figure 15. Visitors’ beliefs about the effects of climate change on fish, wildlife and their habitats (n ≥ 133).

Conclusion

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

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

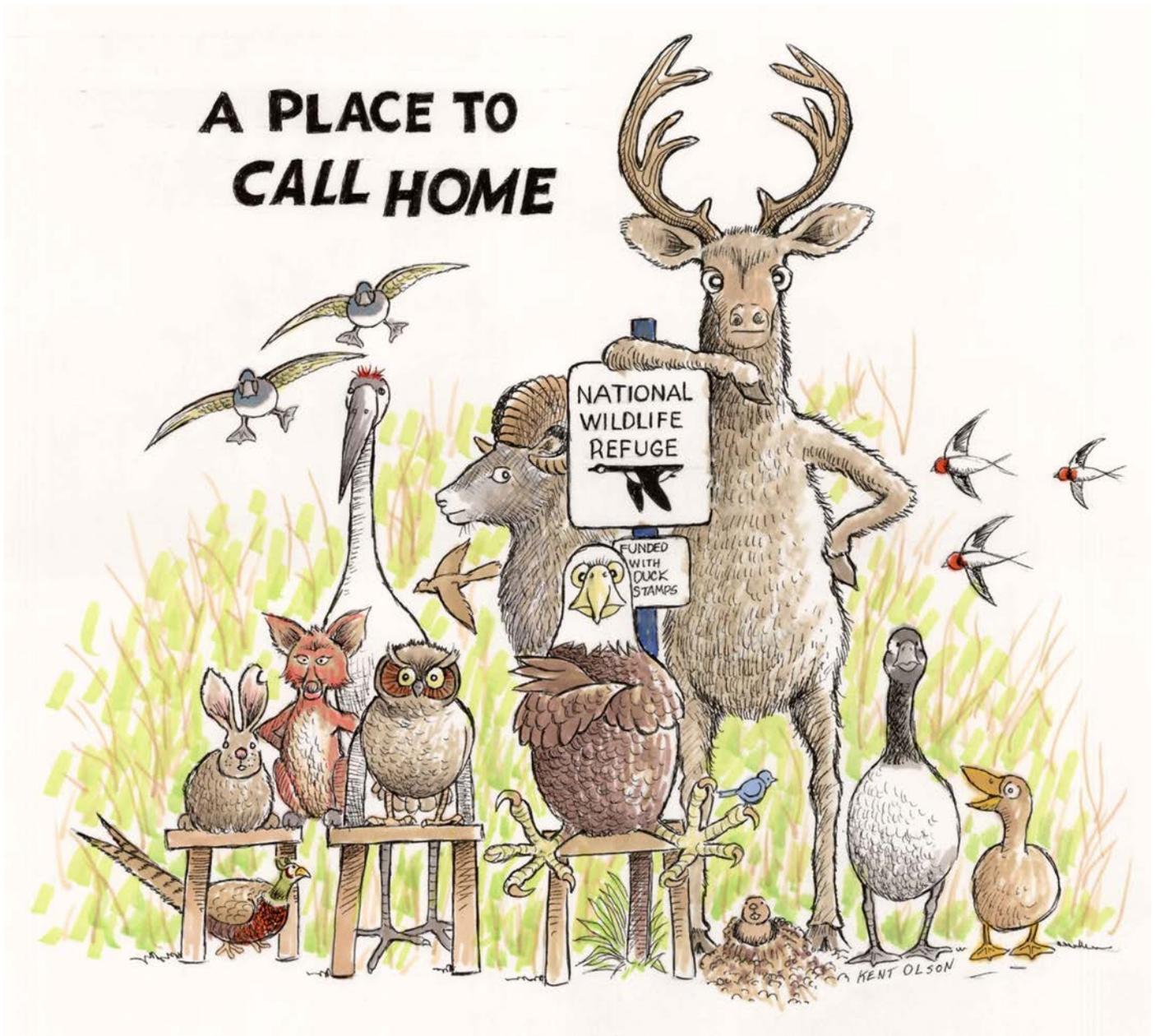
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National Wildlife Refuge Visitor Survey



PLEASE READ THIS FIRST:

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

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

SECTION 1. Your visit to this Refuge

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

- | | | |
|--|---|---|
| <input type="checkbox"/> 14% Big game hunting | <input type="checkbox"/> 50% Hiking | <input type="checkbox"/> 15% Environmental education (for example, classrooms or labs, tours) |
| <input type="checkbox"/> 9% Upland/Small-game hunting | <input type="checkbox"/> 4% Bicycling | |
| <input type="checkbox"/> 2% Migratory bird/Waterfowl hunting | <input type="checkbox"/> 53% Auto tour route/Driving | <input type="checkbox"/> 31% Special event (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 77% Wildlife observation | <input type="checkbox"/> 1% Motorized boating | |
| <input type="checkbox"/> 74% Bird watching | <input type="checkbox"/> 1% Nonmotorized boating (including canoes/kayaks) | <input type="checkbox"/> 10% Other (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 4% Freshwater fishing | | |
| <input type="checkbox"/> 0% Saltwater fishing | <input type="checkbox"/> 25% Interpretation (for example, exhibits, kiosks, videos) | <input type="checkbox"/> 2% Other (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 47% 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?

- 12% No
- 88% Yes → If yes, what did you do there? (Please mark **all that apply.**)
- | | |
|--|---|
| <input type="checkbox"/> 65% Visit the gift shop or bookstore | <input type="checkbox"/> 9% Watch a nature talk/video/presentation |
| <input type="checkbox"/> 68% View the exhibits | <input type="checkbox"/> 65% Stopped to use the facilities (for example, get water, use restroom) |
| <input type="checkbox"/> 85% Ask information of staff/volunteers | <input type="checkbox"/> 14% 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	
63%	80%	67%	It was the primary purpose or sole destination of my trip.
26%	15%	23%	It was one of many equally important reasons or destinations for my trip.
11%	5%	10%	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 255 number of miles

Local 28 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?

36% No (*skip to question #9*)

64% Yes → What **type of group** were you with on your visit? (*Please mark **only one.***)

79% Family and/or friends

7% Organized club or school group

0% Commercial tour group

14% Other (*please specify*) See Appendix B

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

6 number 18 years and over

0 number 17 years and under

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

40% Friends or relatives

19% Refuge website

19% Signs on highway

14% Other website (*please specify*) See Appendix B

8% Recreation club or organization

5% Television or radio

12% People in the local community

18% Newspaper or magazine

24% Refuge printed information (brochure, map)

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

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

28% Spring
(March-May)

36% Summer
(June-August)

96% Fall
(September-November)

18% Winter
(December-February)

11. How many times have you visited...

...this Refuge (including this visit) in the last 12 months? 6 number of visits

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

SECTION 2. Transportation and access at this Refuge

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

- | | | |
|---|--|---|
| <input type="checkbox"/> 93% Private vehicle without a trailer | <input type="checkbox"/> 9% Refuge shuttle bus or tram | <input type="checkbox"/> 2% Bicycle |
| <input type="checkbox"/> 4% Private vehicle with a trailer
(for boat, camper or other) | <input type="checkbox"/> 1% Motorcycle | <input type="checkbox"/> 37% Walk/Hike |
| <input type="checkbox"/> 2% Commercial tour bus | <input type="checkbox"/> 2% ATV or off-road vehicle | <input type="checkbox"/> 5% Other (<i>please specify below</i>) |
| <input type="checkbox"/> 3% Recreational vehicle (RV) | <input type="checkbox"/> 1% 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"/> 50% Signs on highways | <input type="checkbox"/> 15% Directions from Refuge website |
| <input type="checkbox"/> 18% A GPS navigation system | <input type="checkbox"/> 8% Directions from people in community near this Refuge |
| <input type="checkbox"/> 39% A road atlas or highway map | <input type="checkbox"/> 7% Directions from friends or family |
| <input type="checkbox"/> 17% Maps from the Internet (for example,
MapQuest or Google Maps) | <input type="checkbox"/> 53% Previous knowledge/I have been to this Refuge before |
| | <input type="checkbox"/> 2% 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"/> 34%	<input type="checkbox"/> 13%	<input type="checkbox"/> 5%	<input type="checkbox"/> 24%	<input type="checkbox"/> 24%
...a bike that was offered through a Bike Share Program for use while on the Refuge?	<input type="checkbox"/> 38%	<input type="checkbox"/> 10%	<input type="checkbox"/> 8%	<input type="checkbox"/> 32%	<input type="checkbox"/> 12%
...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"/> 10%	<input type="checkbox"/> 4%	<input type="checkbox"/> 27%	<input type="checkbox"/> 32%
...a boat that goes to different points on Refuge waterways?	<input type="checkbox"/> 20%	<input type="checkbox"/> 8%	<input type="checkbox"/> 2%	<input type="checkbox"/> 38%	<input type="checkbox"/> 32%
...a bus or tram that runs during a special event (such as an evening tour of wildlife or weekend festival)?	<input type="checkbox"/> 22%	<input type="checkbox"/> 6%	<input type="checkbox"/> 8%	<input type="checkbox"/> 30%	<input type="checkbox"/> 33%
...an offsite parking lot that provides trail access for walking/hiking onto the Refuge?	<input type="checkbox"/> 16%	<input type="checkbox"/> 5%	<input type="checkbox"/> 4%	<input type="checkbox"/> 32%	<input type="checkbox"/> 43%
...some other alternative transportation option? (<i>please specify</i>) <u>See Appendix B</u>	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 9%	<input type="checkbox"/> 91%

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

- 28% Yes 26% No 46% 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%	14%	11%	48%	24%	Surface conditions of roads	1%	5%	5%	33%	57%	NA
5%	17%	16%	47%	16%	Surface conditions of parking areas	2%	1%	5%	23%	69%	NA
4%	5%	7%	43%	40%	Condition of bridges	2%	0%	6%	25%	67%	NA
3%	6%	5%	42%	44%	Condition of trails and boardwalks	2%	2%	3%	27%	65%	NA
4%	6%	12%	52%	26%	Number of places for parking	2%	6%	6%	29%	56%	NA
5%	5%	8%	44%	39%	Number of places to pull over along Refuge roads	2%	9%	7%	47%	34%	NA
5%	4%	5%	41%	46%	Safety of driving conditions on Refuge roads	3%	1%	7%	27%	62%	NA
2%	2%	8%	35%	53%	Safety of Refuge road entrances/exits	0%	2%	4%	21%	73%	NA
5%	3%	6%	42%	44%	Signs on highways directing you to the Refuge	2%	8%	7%	32%	51%	NA
4%	2%	5%	40%	50%	Signs directing you around the Refuge roads	4%	8%	12%	43%	34%	NA
2%	2%	6%	39%	51%	Signs directing you on trails	4%	5%	13%	36%	42%	NA
4%	2%	25%	30%	40%	Access for people with physical disabilities or who have difficulty walking	0%	6%	34%	29%	31%	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)?

30% Yes

70% No → How much time did you spend **in local communities** on this trip?

 3 number of hours OR 4 number of days

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

Categories	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
3%	11%	12%	9%	16%	7%	20%	4%	5%	5%	8%

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	0%	Too low	100%	About right	0%	Too high	0%	Far too high	89%	Did not pay a fee (skip to Section 4)
----	-------------	----	---------	------	-------------	----	----------	----	--------------	-----	--

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

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

0%	Strongly disagree	0%	Disagree	20%	Neither agree or disagree	60%	Agree	20%	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.	0%	2%	4%	47%	48%	NA
Overall, I am satisfied with the information and education provided by this Refuge about its resources.	0%	3%	4%	44%	49%	NA
Overall, I am satisfied with the services provided by employees or volunteers at this Refuge.	0%	1%	5%	33%	61%	NA
This Refuge does a good job of conserving fish, wildlife and their habitats.	1%	2%	5%	27%	64%	NA

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

Importance					Refuge Services, Facilities, and Activities	Satisfaction					
Circle one for each item.						Circle one for each item.					
Very Unimportant	Somewhat Unimportant	Neither	Somewhat Important	Very Important		Very Unsatisfied	Somewhat Unsatisfied	Neither	Somewhat Satisfied	Very Satisfied	Not Applicable
4%	2%	5%	49%	40%	Availability of employees or volunteers	1%	2%	6%	23%	69%	NA
4%	2%	2%	36%	57%	Courteous and welcoming employees or volunteers	0%	1%	5%	13%	81%	NA
5%	1%	1%	24%	70%	Knowledgeable employees or volunteers	1%	2%	2%	22%	73%	NA
2%	39%	0%	0%	59%	Printed information about this Refuge and its resources (for example, maps and brochures)	1%	3%	3%	26%	67%	NA
2%	2%	8%	51%	38%	Informational kiosks/displays about this Refuge and its resources	1%	2%	8%	37%	52%	NA
2%	2%	8%	42%	46%	Signs with rules/regulations for this Refuge	1%	3%	10%	37%	49%	NA
2%	2%	9%	57%	31%	Exhibits about this Refuge and its resources	1%	4%	8%	39%	48%	NA
4%	2%	22%	41%	31%	Environmental education programs or activities	0%	2%	29%	25%	43%	NA
3%	1%	2%	39%	55%	Visitor Center	1%	6%	5%	27%	60%	NA
2%	2%	2%	32%	62%	Convenient hours and days of operation	0%	5%	3%	27%	65%	NA
2%	1%	5%	39%	53%	Well-maintained restrooms	1%	2%	8%	21%	69%	NA
2%	2%	4%	26%	66%	Wildlife observation structures (decks, blinds)	1%	4%	5%	32%	57%	NA
2%	2%	6%	23%	66%	Bird-watching opportunities	2%	3%	10%	24%	61%	NA
1%	1%	2%	34%	63%	Opportunities to observe wildlife other than birds	1%	7%	6%	38%	48%	NA
3%	3%	10%	24%	60%	Opportunities to photograph wildlife and scenery	2%	3%	10%	28%	58%	NA
38%	9%	26%	10%	18%	Hunting opportunities	3%	5%	49%	19%	24%	NA
31%	13%	26%	17%	13%	Fishing opportunities	0%	4%	56%	22%	18%	NA
2%	2%	7%	35%	54%	Trail hiking opportunities	2%	5%	9%	46%	38%	NA
13%	5%	25%	43%	14%	Water trail opportunities for canoeing or kayaking	0%	8%	49%	28%	15%	NA
10%	8%	33%	39%	10%	Bicycling opportunities	0%	3%	48%	23%	25%	NA
14%	8%	27%	28%	23%	Volunteer opportunities	0%	4%	37%	25%	34%	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?

92%

Yes

8%

No

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

97%

Yes

3%

No

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

90% Yes

10% 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%	5%	11%	29%	48%
We can improve our quality of life if we address the effects of climate change on fish, wildlife and their habitats.	7%	4%	18%	27%	45%
There is too much scientific uncertainty to adequately understand how climate change will impact fish, wildlife and their habitats.	19%	16%	17%	34%	14%
I stay well-informed about the effects of climate change on fish, wildlife and their habitats.	1%	6%	30%	45%	18%
It is important to consider the economic costs and benefits to local communities when addressing the effects of climate change on fish, wildlife and their habitats.	2%	12%	15%	48%	23%
I take actions to alleviate the effects of climate change on fish, wildlife and their habitats.	2%	11%	25%	43%	19%
There has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and their habitats.	32%	29%	16%	14%	9%
Future generations will benefit if we address the effects of climate change on fish, wildlife and their habitats.	5%	5%	11%	31%	48%
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.	5%	10%	36%	31%	18%

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? 52% Male 48% Female

3. In what year were you born? 1952 (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%			18%				48%				34%			

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

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

- 2% American Indian or Alaska Native 1% Black or African American 99% White
 1% Asian 1% 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"/> 3% Less than \$10,000 | <input type="checkbox"/> 19% \$35,000 - \$49,999 | <input type="checkbox"/> 15% \$100,000 - \$149,999 |
| <input type="checkbox"/> 8% \$10,000 - \$24,999 | <input type="checkbox"/> 24% \$50,000 - \$74,999 | <input type="checkbox"/> 3% \$150,000 - \$199,999 |
| <input type="checkbox"/> 5% \$25,000 - \$34,999 | <input type="checkbox"/> 19% \$75,000 - \$99,999 | <input type="checkbox"/> 4% \$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.)?

14 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 Necedah National Wildlife Refuge

Survey Section 1

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

Special Event	Frequency
2010 Whooping Crane Festival	1
ATV route driving	1
Crane fest tour of refuge	1
Crane Festival	4
Friends Meeting	1
Necedah Whooping Crane & Wildlife Festival	1
Night hike	2
Night hike & breakfast with birds	1
Night Hike and Spaghetti Dinner	1
Operation Migration	1
Operation migration blind tour	1
Resident Poet and Writer Program	1
To see the class of 2010 whooping crane chicks leave for their trip to Florida	1
Volunteer	1
Whooping Crane Blind Tour	1
Whooping Crane Festival	17
Whooping Crane Festival, Necedah, WI	1
Whooping Crane Migration - Operation Migration	1
Whooping crane observation	1

Whooping crane training and leaving on migration	1
Total	40

Other Activity	Frequency
Birds behind the blinds	1
Firewood gathering	1
Meeting for new bird blinds	1
Night hike	2
Nocturnal Walk	1
Official Beginning of this year's 10-10-10 Whooping Crane Migration	1
Operation Migration	1
Senior Pass	1
Taking college students to visit refuge	1
Tracking Whooping Cranes	1
Trapping	1
Visiting Operation Migration	1
Whooping crane observation and meetings	1
WSO Convention Site Trip	1
Total	15

2 nd Other Activity	Frequency
Breakfast with birds	1
Night Hike	1
Nighttime Hike -- Sounds of the Night	1

Viewing flyover of whooping crane chicks	1
Total	4

Question 2: "Which of the activities above was the primary purpose of your visit to this Refuge?"
Primary activities are categorized in the main report; the table below lists the "other" miscellaneous primary activities listed by survey respondents.

Other Miscellaneous Primary Activities	Frequency
Friends Meeting	1
To get a Senior Pass card	1
Total	2

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

Other Visitor Center Activity	Frequency
Asked for refuge maps.	1
Buy Gift	1
Give information on sightings.	1
Guided walk	1
Introduced granddaughter to wildlife.	1
Learn more about the new Visitor Center	1
Meetings	1
Obtain maps and seek detail on recent observations.	1
Talk to staff	1
To get a Senior Pass card	1
To get Disabled Hunting Permit	1

To see a list of recently reported birds	1
Took the kids to the craft room	1
Tour of New Facility	2
Tour of new visitor center.	1
Visit Nature Center	1
Total	17

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

Other Group Type	Frequency
Bird blind planning group, with Mr. Peterson	1
Hunting Party	1
Night Hike and Dinner	1
Open to the Public - Night Hike	1
Operation Migration	3
Operation Migration, Inc	1
Organized Crane Festival events & flyovers	1
Photo Group	1
Whooping crane chat room group	1
Whooping Crane Partners	1
Total	12

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

Other Website	Frequency
AOL Travel	1
Crane Foundation visit	1
Discover Wisconsin	1
Friends of NWR	1
International Crane Center	1
International Crane Foundation	2
Journey North	1
Operation Migration	5
Operation Migration, Inc	1
operationmigration.org	2
Researched whooping cranes	1
www.operationmigration.org	2
Total	19

Other Ways Heard about This Refuge	Frequency
Adams County with 2010 Visitors Guide	1
Crane Foundation, in Baraboo	1
Deer Hunting	1
Delorme Atlas	1
Field station course	1
From visiting Crane Foundation at Baraboo, WI. They mentioned Necedah.	1
Heard via Operation Migration	1

I learned of this refuge through Operation Migration.	1
Information on Whooping Cranes and the annual festival obtained at the International Crane Foundation outside of Baraboo, WI.	1
International Crane Foundation	2
Internet/School project	1
Maps	1
Operation Migration	2
Operation Migration, Inc	1
Operation migration; Wisconsin DNR	1
Outdoor Wisconsin Book	1
School	1
State Map	1
Video about sandhill cranes	1
Visited the site with a field ornithology class	1
We look up refuges when we come to an area; we researched on our own.	1
Wildlife refuge indicator on state map	1
Wisconsin Society for Ornithology	1
Wisconsin visitor center	1
Worked at YCC in 1976	1
Total	27

Survey Section 2

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

Other Forms of Transportation	Frequency
Airplane/Ultralight	1
Bestow from Crane Festival	1
Chevy truck	1
Local School Bus Tour from Necedah Fairground	1
School bus	1
State vehicle	1
Tour bus for fundraiser	1
Total	7

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

Other Ways Found This Refuge	Frequency
DeLorme Street Atlas Software	1
Operation Migration, Inc website	1
Telephone Call for Directions	1
Total	3

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

Other Transportation Option Likely to Use	Frequency
ATV	1
Canoe	1

Car	1
Ferry	1
Kayak/Canoe Tour	1
Motor Scooter	1
My Car	1
Snowshoe or Cross Country Ski	1
To view areas not open to the public	1
Ultra light Plane (Just a dream)	1
We travel with bikes which we use if "bike trails/lanes" are available.	1
Total	11

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

Comments on Transportation-related Items at This Refuge (n = 15)

Flooded roadways, impassible. Could rebuild with drainage so they don't flood as often.

Keep roads as they are to keep flow slow to see more wildlife.

Not many trails, I would like to see more.

Noticeable deterioration and overall poor condition of the gravel-dirt roadways within the Refuge over the last few years.

Primary entrance was well marked. Secondary entrances to other areas with parking for hiking trails were poorly marked, especially entering along the eastern side of the refuge.

Road signs inside refuge -- should have more.

Roads in the refuge were wet, but that was due to unusually heavy rains. I would prefer to keep the roads as they are to prevent more casual traffic through sensitive areas.

Since the addition of the turning lane on the major highway leading to the refuge, highway conditions have become much safer. I really appreciate this.

The condition of the roads in the Refuge should be posted on the web site. We checked the web site the evening before and nothing was on it about the closed roads due to high water. Our purpose of the trip was to watch the

whooping cranes training for migration. We started on the east side of the Refuge, but could not get to any place to see the birds. By the time we went north of the refuge then south on the west side to a viewing site, the birds were finished flying. We know you can't control the rain and water, but please let your visitors know what roads are open and which are closed to save frustration. The birds we saw were magnificent!

The only comment that I would like to make is that with many of the roads being either dirt or gravel, they quickly become muddy and at times impassible after frequent and heavy rains. As a result, some parts of the refuge that you would like to visit are often off limits for long periods of time (many days or even weeks).

The refuge was very difficult to navigate. The lack of proper signage made getting around the refuge difficult.

There was a lot of flooding on the roads in Necedah - luckily a ranger helped us so we avoided the worst.

This is a very rural refuge with little traffic during the times I have visited. I do not expect, nor do I wish to see paved roads on this refuge or other refuges, so long as roads are safe. The new hiking trails which replace the old "Pair Ponds" trail should be marked better. The brochure showing these trails should be corrected. However, I know these trails are new, and I realize there has been much flooding this past summer.

This refuge is expanding its facilities and all features are not in place.

Transportation is not a problem for me.

Survey Section 4

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

Comments on Services, Facilities, and Activities at This Refuge (n = 46)

A new Visitor Center is opening this coming spring. It looks to be a beautiful facility.

As I am neither a hunter nor a fisherman, neither activity is of high importance to me.

Can't wait to visit the new Visitor Center in the spring.

Found the facilities adequate and accessible.

Good facilities, friendly, knowledgeable staff. Very pleasing trip. Keep up the good work.

I appreciate the opportunity to see Whooping Cranes in the wild and consider your efforts in their conservation very important!

I believe that most of my concerns about the facilities and activities at the Necedah National Wildlife Refuge will be addressed when the new Visitor Center opens in the spring of 2011.

I disagree with the cutting of trees and brushes on trails since they are birds' habitat until we cut them. Nothing but the wind will occupy the area.

I look forward to seeing the new visitor center on my next visit.

I met three employees - extremely friendly, courteous, and helpful. First time I visited the Visitor Center - very nice. I am confused by the amount of savannah in the refuge. I am not sure what amount of wildlife uses it, although I am sure there is a good reason - looks like a lot of work.

I was disappointed that we were unable to get into the area where there is actual work going on with cranes.

I was heartbroken that Operation Migration's ultralight airplanes were not allowed to fly by the observation tower anymore! The new site is just not the same!! Necedah is all about Whooping Cranes and this was a bad idea on someone's part!!

I wish they would keep Operation Migration on this refuge. That is the main reason that we go to this refuge.

I'd like the visitor's center to be open on weekends if possible.

Is the US Fish and Wildlife Service part of the US Interior Department like the National Park Service? Is there collaboration between the two?

It has happened on several occasions where we've asked a question and the answer would be "I don't know, I'm just a volunteer."

Live too far away to volunteer otherwise I would certainly consider.

Looking forward to the opening of the new Visitor Center.

My wife and I are looking forward to the completion of the new Visitor Center.

Necedah NWR will be getting a new visitor center which I am very happy about.

Necedah Wildlife Refuge provided excellent services and help.

Need more access to roads that cars can travel on for elderly and handicapped people.

New facilities are being built here now. I do not know how they will stack up, but am confident they will.

New visitor center will enhance an excellent existing environmental education, nature interpretation program. Volunteers and staff were friendly, helpful, and knowledgeable.

Not sure how much more butterfly habitat the refuge needs. It seems other wildlife suffer to make more butterflies.

Over 25 years ago there was a pit toilet available at all times, but more recently the only restroom available is in the Visitor Center which has limited hours.

Please add extra bathrooms at different points in the refuge. Even one vault toilet for each gender close to Goose and Sprague Pond would be great. It takes a long time to traverse the refuge to the one and only restroom area and it made it frustrating.

Roads need more signs for direction.

Staff members were very nice and helpful.

The new Visitor Center will be a great asset (2011).

The observation tower could use some enlarging. Some weekends you're tucked in like sardines which makes it difficult for photos.

The ranger on duty was very helpful and enthusiastic.

The rangers we talked to were very helpful.

There is a new visitor center opening in the spring that looks fabulous from the outside; the current visitor center was well maintained and provided adequate info and was very friendly

These are very good. I would like to volunteer but I live too far away.

They are opening a new center in the spring of 2011. I can't wait until it is done. I believe there will be more trails when the center is done. So even though they do not have much parking now, I believe it will be expanded in the spring.

This is a great wildlife refuge; I've brought my grandchildren and others especially to see the whooping cranes as well as other birds & wildlife.

This refuge could use more restrooms on different roads, even if they are somewhat primitive.

Volunteers who asked me to do this survey were very helpful and knowledgeable. I was interested in the Whooping Crane Ultra-light Migration Program.

We are looking forward to the new Visitor Center opening next year.

We are really looking forward to visiting the new Visitor Center when it opens.

We had a very unsatisfactory tour with [tour guide name]. He seemed to belittle our interest in cranes. He also obviously considers them and the Operation Migration program on the refuge to be a bother and hindrance to his own plans for the refuge.

We heard that the old Visitor Center was being torn down. It was very disheartening to hear that none of the buildings were being saved or recycled. It would be nice to see some of the building saved.

We hiked with several dogs and would have liked to see some waste receptacles for our "doggy bags."

We will be back in the Spring to see the new Visitor Center and new opportunities.

We're able to see hundreds of sand hills and even some Whooping Cranes in an environment where they are comfortable and without fear.

Survey Section 5

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

Comments on What Makes Refuges Unique? (n = 105)

1. They conduct more intense "active" management of specific species. 2. Many focus more on migrating waterfowl. 3. They cater more to watching wildlife. 4. They often rehabilitate degraded habitat to productive use. 5. They are often less crowded than National Parks.

A knowledgeable staff adds greatly to experience. Kids learning opportunities were great.

A natural setting to enjoy wild life.

A refuge allows me to hike on protected lands to view wildlife at my own pace. They provide a chance to get out into nature and explore. I like to take nature photographs and I'm a nature-book author, so having refuges is important to me.

A refuge offers a large number and variety of wildlife or waterfowl in a given area.

Ability to actually search out animals/birds and enjoy them and photograph them in a natural environment.

Accessibility to wildlife areas.

Again, the idea of how the whooping cranes are raised, trained to follow the ultralight and the migration. It is great knowing that birds that were becoming extinct are recovering in numbers. Thank you.

Amazing to see so much open land and how well it's maintained.

As I enter the refuge, there is a serenity of being in/on the refuge. It appears to me to be a "world of its own." The countless opportunities available on the refuge are great.

Being able to watch and take pictures of all the different birds and wildlife.

Being able to watch wildlife and do hiking. Excellent for photography.

Comprehensive management.

Each has a diverse, ecologically important part of the biosphere to manage and protect.

Extensive board walks for viewing birds. Well maintained visitor center with very knowledgeable and friendly volunteers. Interesting displays. Not too many birds when I visited, but I was a few weeks early for the migration.

Few wild areas left in the state that are not privately owned or leased.

Gave us the opportunity to observe and hear wildlife in their natural habitat. The spaghetti dinner was excellent, and combined with the night hike, was a unique and rewarding experience.

Great area to hunt and fish.

Greater concentration of wetland habitats and species.

Habitat changes so quickly you never know what you will run into. I live by Oshkosh, my son lives in Eau Claire. We like to meet at Necedah to grouse hunt and enjoy it very much. I also used to hunt turkey there in the spring. First time for us to hunt deer there, and I must say after 10 hours of scouting on Friday before opening did not see much sign - rubs, scraps, tracks, trails, etc. Opening day we had other hunters move within 30 yards of each of us - not your fault. Heard very little shooting. What deer we did see, 2 (1 spike, 1 doe), were small. Deer we did see and shot at the end of the day were also small. Suggest no doe shooting, and six point or bigger for a few years - let the heard grow up.

Hiking trails and observation decks, education programs, auto tours, educational materials i.e. handouts, posters, etc.

I believe the refuges are trying to get our land back to the way it used to be. I believe the US Fish and Wildlife Service is doing a good job of preserving, conserving, and managing our wildlife areas in the state of Wisconsin.

I like that there is a big tack of public for people to use.

I liked how the refuge is recreating the wetland habitats for the Whooping Cranes and barrens for sand hills.

I see refuges as important for protecting wildlife and their habitats, while also offering hunting and fishing opportunities in many cases.

I value the opportunity to see wildlife including plants as the North American landscape was prior to European settlement.

I've been to WI State Parks recently and enjoy them, but this refuge is nice because there is no camping and it is focused on conservation and wildlife viewing/bird watching.

In Refuges, the emphasis on restoring/safeguarding wildlife and their habitat seems to take priority over purely economic, human-centric concerns/comforts. We realize that there needs to be a balance between environmental and economic concerns, but in many of the "lands of many uses" public areas we've visited in the past, the balance seems tipped in favor of human economic interests. We like to think that at refuges, wildlife and their habitat takes precedent, making them very special and rare areas in our world.

In this visit, the opportunity to see whooping cranes in the wild, as well as Operation Migration chick training. OM, crane fest, and bird watching were the primary purpose for our visit. I would travel again to see whoopers/OM.

It conserves our wildlife.

It gives people a chance to see animals and birds in their natural habitat.

It has felt like these areas are truly set aside and protected for the well-being of the non-human creatures who venture here. Given how very little we have respected the other residents of this planet this makes these areas extremely precious.

It is an opportunity to learn about local fish and wildlife and how they influence our environments.

It is very well run.

It provides a natural home for wildlifeas it is not a zoo where the animals are held captive. It is untouched by civilization and a beautiful area where animals are protected from manmade development and for us "humans" to enjoy by only observing.

It's the wilderness and the habitat that enables huge amounts of birds and animals to thrive. Migration route stopover.

Lovely!

Large amounts of undisturbed and/or rehabilitated wild lands that serve as a home for wildlife of all kinds, fun visual enjoyment.

Large expanses of tracks of wildlife lands and preservation of wetlands, marshes, swamps, wet meadows, wet woodlands, etc.

Large protected areas and the focus on endangered species.

Low development, wild areas, great birds, plants, and other wildlife opportunities.

Mission and opportunities for interested, respectful visitors to integrate with the environment, if even for a moment. Thanks!

My wife and I plus many of our friends have been drawn, particularly to the Necedah National Wildlife Refuge by Operation Migration and team efforts to reestablish a migrating flock of Whooping Cranes in central Wisconsin. If Operation Migration were located elsewhere, I doubt that we would make anywhere near the number of trips to Necedah. I also believe the Operation Migration Program, by bringing attention to Necedah National Wildlife Refuge, helped to make funds available for the new Visitor Center.

New Visitor Center to open soon looks fabulous - can't wait for the grand opening.

NNWR is unique because of the Whooping Crane Program.

Not over visited, lots of space to not trip over other people. You're able to walk or sit in an area without others continually disturbing our viewing or the wildlife.

Open to public for hunting and fishing.

Peaceful, uninhabited feeling...not over-run with tourists.

People Knowledge - Maps.

Preserves wildlife for future generations.

Preserving land to have a "safe haven" for wildlife. Educating people, especially children, on the importance of protecting and preserving land and natural resources. Also teaching people about global warming and how it affects not only people, but also our precious wildlife.

Preserving the environment and natural habitat.

Primarily conservation as opposed to recreation or grazing or forestry.

Protected public land for all to enjoy. Anyone may use this resource without the fear of trespassing.

Protected.

Protection for all natural things, a wild place to visit, it is spiritual for me.

Protects and preserves natural areas plus whatever resides within them.

Provides a sanctuary for all wildlife in the region.

Quantity of migratory birds, unique plant and endangered organisms.

Refuges are our primary destination sites because they attract wildlife and normally have few human beings. The scenery is wonderful and refreshing and the bird watching is excellent. We have many favorites and always are on the lookout for new ones. They are extremely important to us.

Refuges are unique in that there are usually many different opportunities and ways of observing nature in the Refuges. They also provide a good example of what our land stewardship should be in this country.

Refuges' center focus is on providing special habitats for wildlife while being able to facilitate people to encounter wildlife and its habitat. Refuges seem to have concentrated populations of wildlife and focus on ways to let people experience wildlife.

Refuges provide a place for people today and future generations to participate in outdoor activities.

Refuges provide an opportunity to experience native geological/natural wildlife features without the hustle and bustle of National Parks or even State Parks. You can really "get away from it all".

Reintroduction of endangered species and biomes.

Seeing things you would not see in a bigger city.

That you are working to get the refuge to its original state.

The animals and birds are more protected here; the areas are in a more natural state.

The chance to watch the migrating birds in their natural surroundings.

The controlled mix of restricted wildlife habit and the availability of public use for hunting and fishing.

The emphasis on conservation of all organisms (plants as well as animals), good stewardship, and management.

The endangered Whooping Crane is there.

The goal to restore original habitat and wildlife - nature, plant and wildlife.

The isolation, conservation, and wildlife protection that exists on most refuges.

The learning opportunities and recreational activities put on by the refuge.

The native landscape, availability of opportunity and places designated for wildlife observation and photography, and the variety of animals and fauna.

The natural habit is unmatched and seeing wild animals in their natural habitat is awesome.

The NWRs I've visited have all provided wonderful bird-watching opportunities, with excellent species (thanks to the mission of refuges, to conserve and manage vulnerable species).

The opportunity to see Whooping Cranes!

The public hunting space it provides is most important and essential as private properties for hunting are becoming less available.

The refuges are less commercial and lend themselves to more reflective activities than some other parks, etc.

The restoration aspect of the refuge.

The Whooping Cranes are there.

The wild experience provided by the refuge.

There is more offered in the areas of education.

They allow experiencing wildlife in their natural settings of large size, not just a small display in a zoo. We've found both national and state (WI) wildlife refuges to be very similar.

They allow hunting and fishing which some managed state lands do not.

They are among the last places that are not managed to death!

They attempt to bring the environment back to a more natural state.

They make you feel welcomed and right at home. They seem to enjoy what they're doing, and bring their knowledge and insight, helping us and bringing us any resources they can provide.

They meet their mission of conserving wildlife while making it possible for people to observe.

They preserve our natural heritage, protect wildlife, and promote understanding of the environment, and still offer recreational opportunities for the outdoorsman.

They provide habitat for threatened and endangered wildlife and, in some cases, as at Necedah NWR, an opportunity to view this wildlife. To me this is more important than all other features such as hunting and fishing opportunities, which can be found elsewhere. Environmental education programs and activities, I think, should be made a top priority in addition to habitat preservation for sensitive species.

Vast expanses of land, wildlife experiences, ambience and majestic panoramic horizons, the spiritual and echoes of the past that you feel.

View Cranes training for flight.

We believe the Refuge's mission of saving and enhancing our wildlife is very important. Recreation has to be secondary to your primary mission.

We have the need of protecting many species under tremendous environmental pressure. Without these refuges, and more of them, future generations are going to have only sparrows to observe, assuming they too can survive.

We MUST provide a habitat for wildlife and plants.

We observed Whooping Cranes, very exciting. They were beautiful, good job.

Well maintained and controlled.

Whooping Crane effort.

Whooping Cranes are the rarest bird on our continent. Necedah has Operation Migration training Whooping Crane chicks the migration route to Florida. What an awesome unique draw for this refuge!

Wildlife and nature available to enjoy at very low cost.

Wildlife conservation, habitat restoration, restoration of Whooping Cranes, volunteer opportunities, friends group.

With the ability to have larger areas to protect the wildlife that live there, Refuges are more enjoyable to visit and view.

You have a Visitor Center for any questions that need to be answered.

Additional Comments (n = 28)

1. Great job on the Red-headed Woodpecker management. 2. Stop putting antennas on the Whooping Crane legs - they have a hard time walking in the tall sedge, grass, and cattail areas. 3. I would rather see "selective cutting" of trees than "clear cutting." Not many bird species in a clear cut area for a few years, now just brush species. 4. More of longer hiking trails would make for a longer birding trip. 5. The steps on the observation tower might be getting old and need replacing or chemically treated for preservation. Metal grating might be a solution.

I am 89 years old. I have been deer hunting on this refuge (sporadically) since 1945. I thoroughly enjoy this area, all its nature, beauty and wildlife. It is very much a part of my life, but I don't think I will return for deer hunting! Keep up the good work! P.S. This refuge was quite a bit different in 1945.

I first visited this refuge (Necedah) over 50 years ago to bow hunt deer, a time when few women did such things. My husband and I moved near the refuge in 1983 as it was his favorite hunting spot. He died in 1994 and his ashes are scattered there. It is a special place to me and the family, and our son still hunts there. Another benefit is that we have an occasional visit from one or more of the wolves. We make the refuge their home, near our property. I think the Whooping Crane Project has made this remote place popular. (Name Signed)

I have been visiting the refuge for more than 40 years. It is vitally important to keep it wild.

I have been visiting this refuge for 20 years. Unfortunately, I live in a state with little public land, and no NWR for almost 100 miles. Every time I visit Necedah NWR, I am reminded of what I am missing.

I have hunted (primarily deer) in Necedah for 33 years. A lot of good memories - the refuge is dear to my heart. Glad to hear that some predators (wolves/bear) have been using the refuge. Very excited about the whooping crane program!

I love Necedah Refuge, keep up the good work. Add more signs for direction in the refuge. Thank you. (Name Signed)

I think Necedah NWR is rising to meet challenges presented to them on a day to day basis. Unfortunately, I feel that they are inhibited by the bureaucracy of the service, especially when it comes to the Whooping Crane Reintroduction Project. I feel it is the fundamental purpose of all NWR's to protect and manage all native plants/animals/habitats. I feel that the Whooping Crane Project has driven Necedah NWR into an arena of single-species management that goes against their sole purpose. It is also distressing to me to see the lack of valuable research coming from this refuge. There is so much more they could be doing scientifically but aren't because they are hindered by "the powers that be" (which, in their case, isn't necessarily the government but their various partners on the project and the public

also).

I'm disappointed that one can no longer watch the whooping crane chick training from the tower, but at least it's still open to the public to view the daily life of the adult cranes & other wildlife. I hope there will be boardwalk trails in the future.

It is sad to see the way the habitat and wildlife is being destroyed by very poor management.

It was pure joy to see Whoopers in the wild, as well as seeing chicks flight-training with Operation Migration ultralights. Thank you for giving me an opportunity to see both. I hope you will continue to support OM in the effort to preserve this remarkable species. I cannot express in words what a thrill it was to see the cranes in person. I have been a supporter of OM for many years and this was my first--and hopefully not last--trip to your gorgeous refuge to see cranes and other wildlife. Beautiful place, great people! Truly a special place. Thank you again for supporting Operation Migration and their truly remarkable efforts to preserve Whooping Cranes. There should be more folks like them!

Maximizing hunting opportunities at this and other refuges is essential and I believe a priority.

My wife and I enjoyed the spaghetti dinner and night hike very much and plan to go again next year if it is held. If you could keep me up on your mailing list and notify me it would really be appreciated as we only heard about it in the Adams County Electronic Co-op Newsletter.

Necedah NWR is a very special refuge because of the Whooping Cranes and Red-Headed Woodpeckers. It's large and has many different habitats. We always look forward to visiting and find the staff very helpful and willing to talk.

On the last morning of this year's visit, we stood in the pouring rain (hence no cameras, SIGH) on the observation tower and got to see a wild-reared Whooping Crane chick foraging, and then flying, with its parents. The efforts of many people and organizations must be thanked for this but, in particular, thanks to this refuge for providing a summer home for these magnificent birds and with it a chance for their continued survival.

Great personnel at Necedah Wildlife Refuge!!!!!!

Thank you very much for providing national refuges. Please continue. We would like to visit many more refuges.

The Necedah Wildlife Refuge is wonderful. My second visit was in conjunction with the fall Whooping Crane Celebration. "Behind the scene" tours were offered- our guide was exceptional. We also saw the presentation about the ultra-lights, which was just great!

The refuge is a very pleasant area to visit. There are a lot of wildlife and birds. But the one thing is that the refuge and the DNR should work harder to get some kind of halt on the wolf situation. They have already started killing and harming wildlife, farm animals and people's pets and hunting. The refuge has a lot of wolves. All animals have their place, but need to be managed. Thank you, I enjoy the refuge. (Name Signed)

Very excellent time. We saw 40 different kinds of birds and 6 animal types. We always see something new every time we come. We love to do it twice a year during the migration times. Thanks.

We do most of our hiking in Necedah in the fall and most of their trails are closed to hunting. Other areas allow both hiking and hunting at the same time.

We enjoyed the Whooping Crane Festival. We will most likely return to participate in it again.

We had a good time. Had some great photo opportunities of the swans and geese. We enjoyed talking to the rangers when we were there.

We loved our visit ...specifically to see the Whooping Cranes. We will be back... and have recommended this refuge to several of our friends.

We really enjoyed our visit, particularly the opportunity to see/photograph whooping cranes and sandhill cranes. The bus tour of the Refuge during Cranefest was an unexpected treat and our tour guide was very informative and engaging. We hope the Refuge will be able to continue restoring its wetlands and supporting Operation Migration's efforts in aid of the whooping crane.

We very much enjoyed the opportunity to see the rare Whooping Cranes, Trumpeter Swans, and also the Sandhill Cranes. Thank you!

Weather and timing prohibited us from viewing the flight of the Whooping Cranes which was the main purpose of our visit. Our campground was quite a drive away but the area is great. Thank you. I do not feel our income is anyone's business but our own. Thank you for this opportunity to air my views.
