

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

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Montezuma National Wildlife Refuge is unique because it allows one to witness huge waterfowl migrations and the variety of birds can be viewed up close in one location.—Survey comment from visitor to Montezuma National Wildlife Refuge.



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

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

Methods

Selecting Participating Refuges

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

Developing the Survey Instrument

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

Contacting Visitors

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

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

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

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

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

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

Interpreting the Results

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

Herein, the sample of visitors who responded to the survey are referred to simply as "visitors." However, when interpreting the results for Montezuma 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 Montezuma National Wildlife Refuge

Montezuma NWR resides in the heart of the Finger Lakes Region in New York. Located between Rochester and Syracuse, this refuge is a major resting area to waterfowl and other water birds on one of the most active flight lines in the Atlantic Flyway. Established in 1938, this refuge consists of 7,068 acres encompassing varied habitats from marshes to forests and from shrubs to grasslands. The refuge protects 242 species of birds (including Bald Eagles which have resided on the refuge since 1986), 43 species of mammals, 15 species of reptiles and 16 species of amphibians.

With close to 140,000 visitors each year (based on 2008 RAPP database; U.S. Fish and Wildlife Service, 2011, written comm.), Montezuma NWR offers a variety of activities including waterfowl hunting, big game hunting, use of the Visitor Center, fishing, hiking, auto tour routes, wildlife observation, photography, environmental education, and interpretation. Figure 1 displays a map of the refuge. For more information, please visit <http://www.fws.gov/r5mnwr/>.

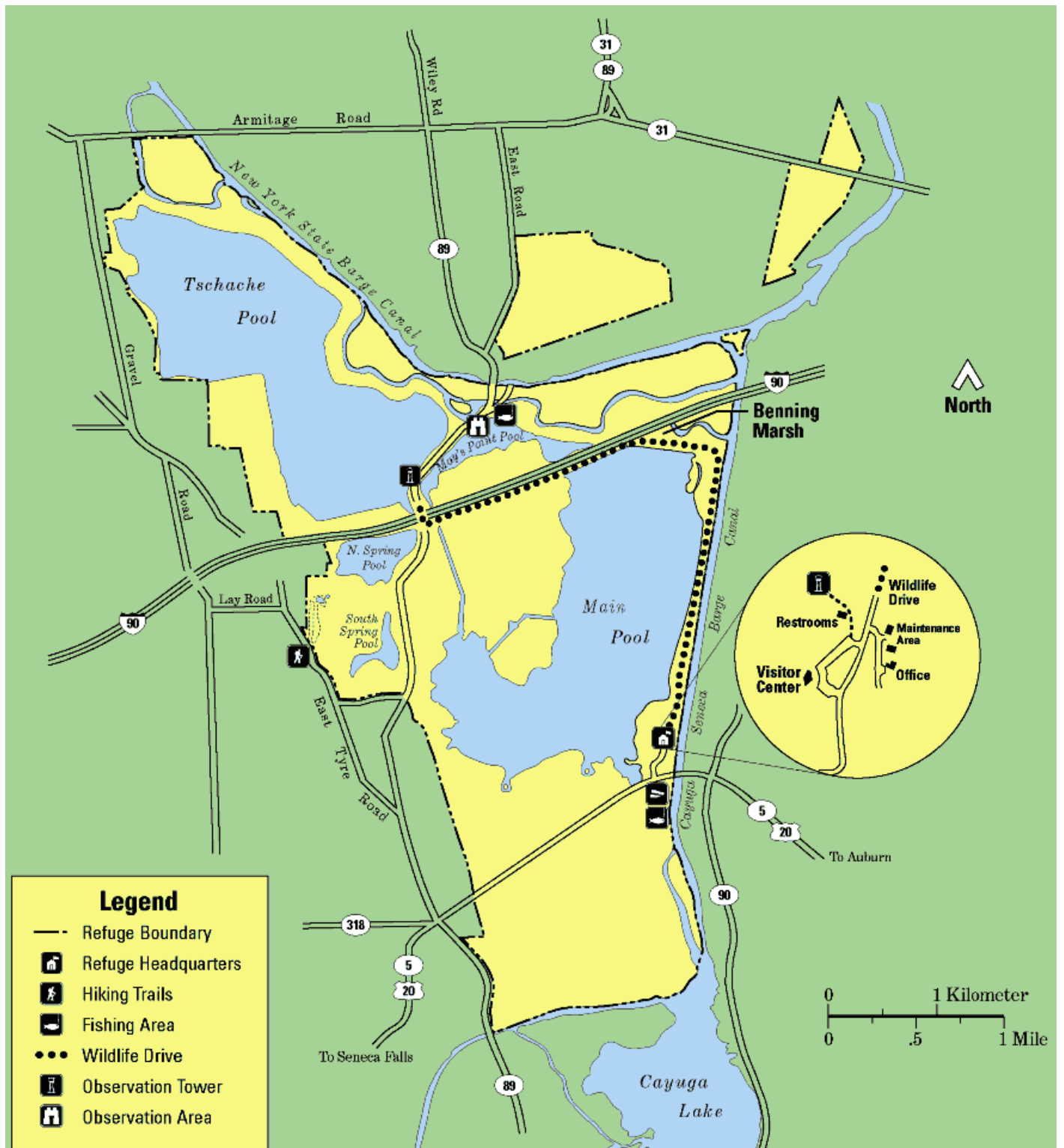


Figure 1. Map of Montezuma NWR, courtesy of U.S. Fish and Wildlife Service.

Sampling at Montezuma National Wildlife Refuge

A total of 267 visitors agreed to participate in the survey during the two sampling periods at the identified locations at Montezuma NWR (table 2). In all, 192 visitors completed the survey for a 77% response rate and $\pm 6\%$ margin of error at the 95% confidence level.¹

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

Sampling period	Dates	Locations	Total contacts	Undeliverable addresses	Completed surveys	Response rate
1	10/23/10 to 11/06/10	Visitor Center	138	4	91	68%
		Head of Wildlife Drive				
		Tschache Pool Parking Area				
		Hunter Check Station				
2	04/23/11 to 05/07/11	Visitor Center	129	13	101	87%
		Wildlife Drive at Seneca Spillway				
		Tschache Pool/May’s Point				
		Lock CS-1/Mud Lock				
Total			267	17	192	77%

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 Montezuma 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 (89%) and that the Refuge System has the mission of conserving, managing, and restoring fish, wildlife, plants and their habitat (95%). Positive responses to these questions concerning the management and mission

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).

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 (92%; 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. About half of the visitors to Montezuma NWR had been to at least one other National Wildlife Refuge in the past year (51%), with an average of 3 visits to other refuges during the past 12 months.

Visiting This Refuge

Some surveyed visitors (40%) had only been to Montezuma NWR once in the past 12 months, while most had been multiple times (60%). These repeat visitors went to the refuge an average of 8 times during that same 12-month period. Visitors used the refuge during only one season (50%), during multiple seasons (35%), and year-round (15%).

Most visitors first learned about the refuge from friends/relatives (51%), signs on the highway (45%), or refuge printed information (19%; fig. 2). Key information sources used by visitors to find their way to this refuge include previous knowledge (59%), signs on highways (42%), or maps from internet (for example, Google Maps; 16%; fig. 3).

About half of visitors (48%) lived in the local area (within 50 miles of the refuge), whereas the other half (52%) were nonlocal visitors. For most local visitors, Montezuma NWR was the primary purpose or sole destination of their trip (75%; table 3). For most nonlocal visitors, the refuge was one of many equally important reasons or destinations for trip (41%). Local visitors reported that they traveled an average of 33 miles to get to the refuge, while nonlocal visitors traveled an average of 173 miles. Figure 4 shows the residence of visitors travelling to the refuge. About 79% of visitors travelling to Montezuma NWR were from New York.

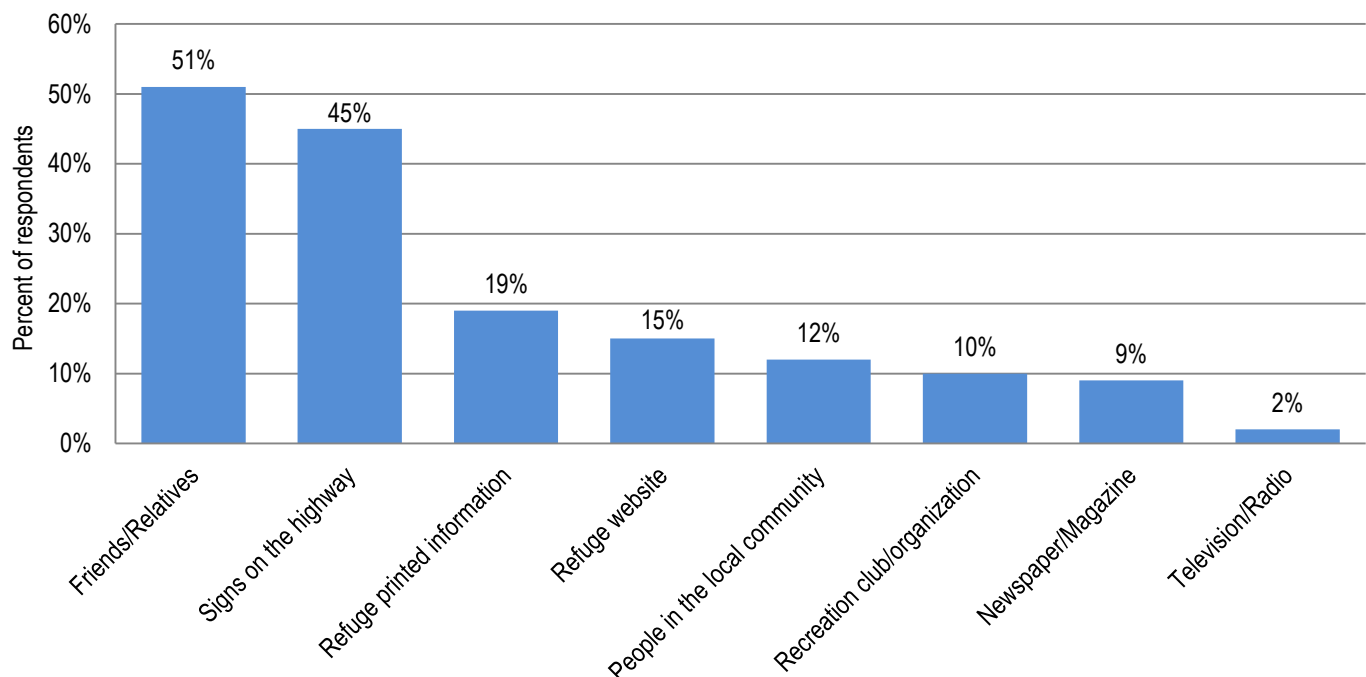


Figure 2. How visitors first learned or heard about Montezuma NWR (n = 187).

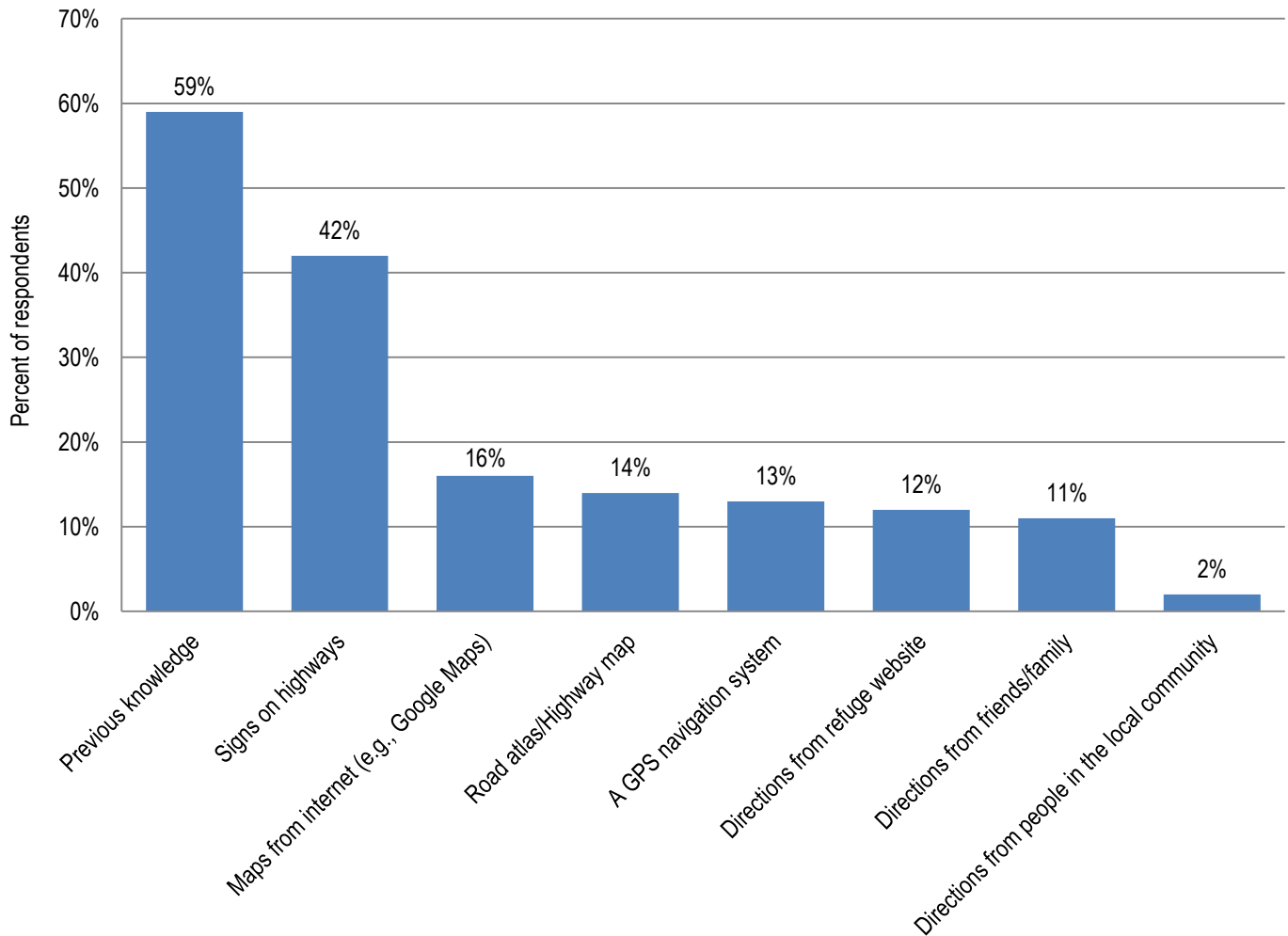


Figure 3. Resources used by visitors to find their way to Montezuma NWR during *this* visit (n = 190).

Table 3. Influence of Montezuma 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	35%	41%	24%
Local	75%	17%	8%
Total	55%	29%	16%

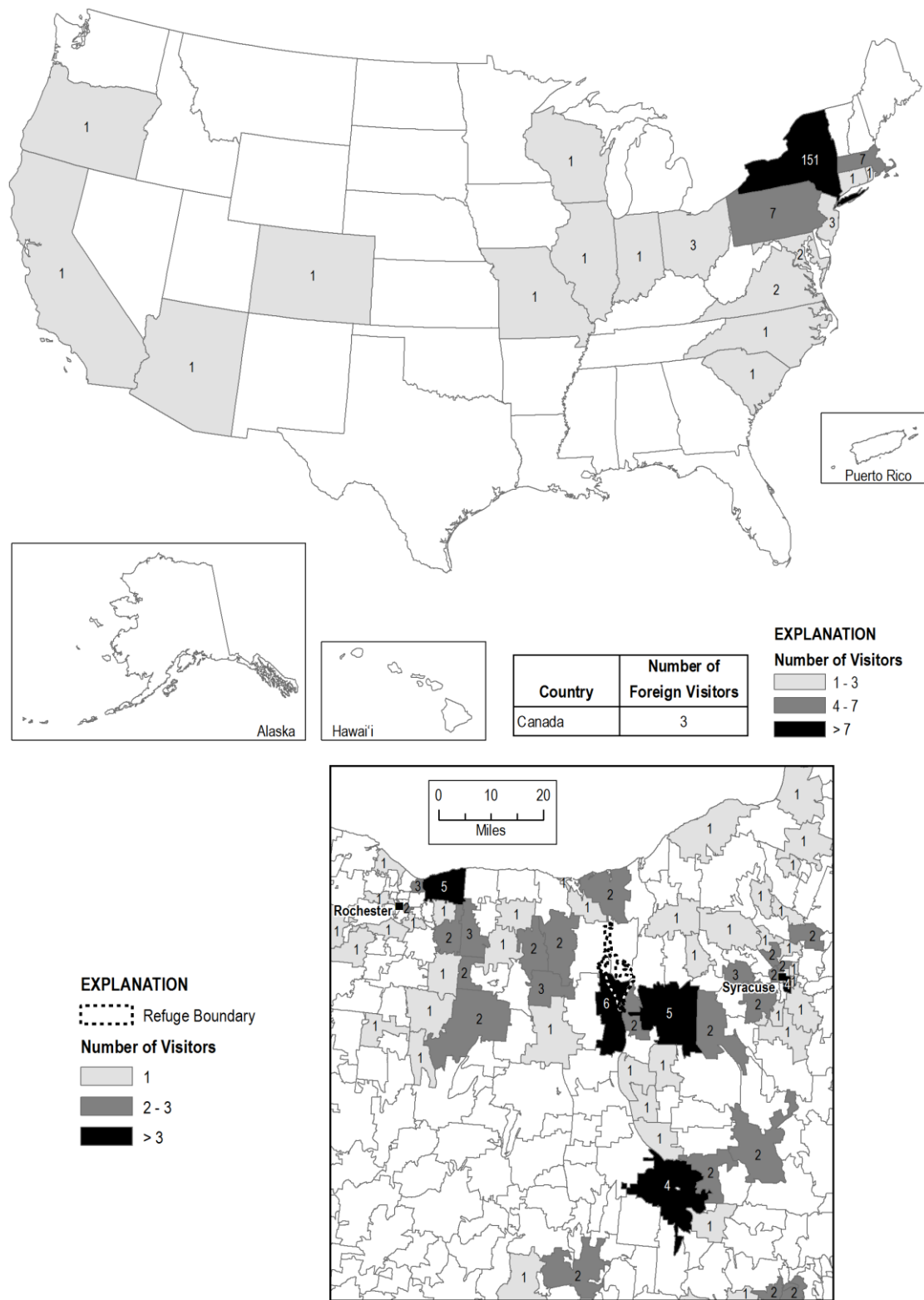


Figure 4. Number of visitors travelling to Montezuma NWR by residence. Top map shows residence by state and bottom map shows residence by zip codes near the refuge (n = 190).

Surveyed visitors reported that they spent an average of 4 hours at Montezuma NWR during one day there (a day visit is assumed to be 8 hours). However, the most frequently reported length of visit during one day was actually 2 hours (22%). The key modes of transportation used by visitors to travel around the refuge were private vehicle (96%) and walking/hiking (21%; fig. 5). Most visitors indicated they were part of a group on their visit to this refuge (65%), travelling primarily with family and friends (table 4).

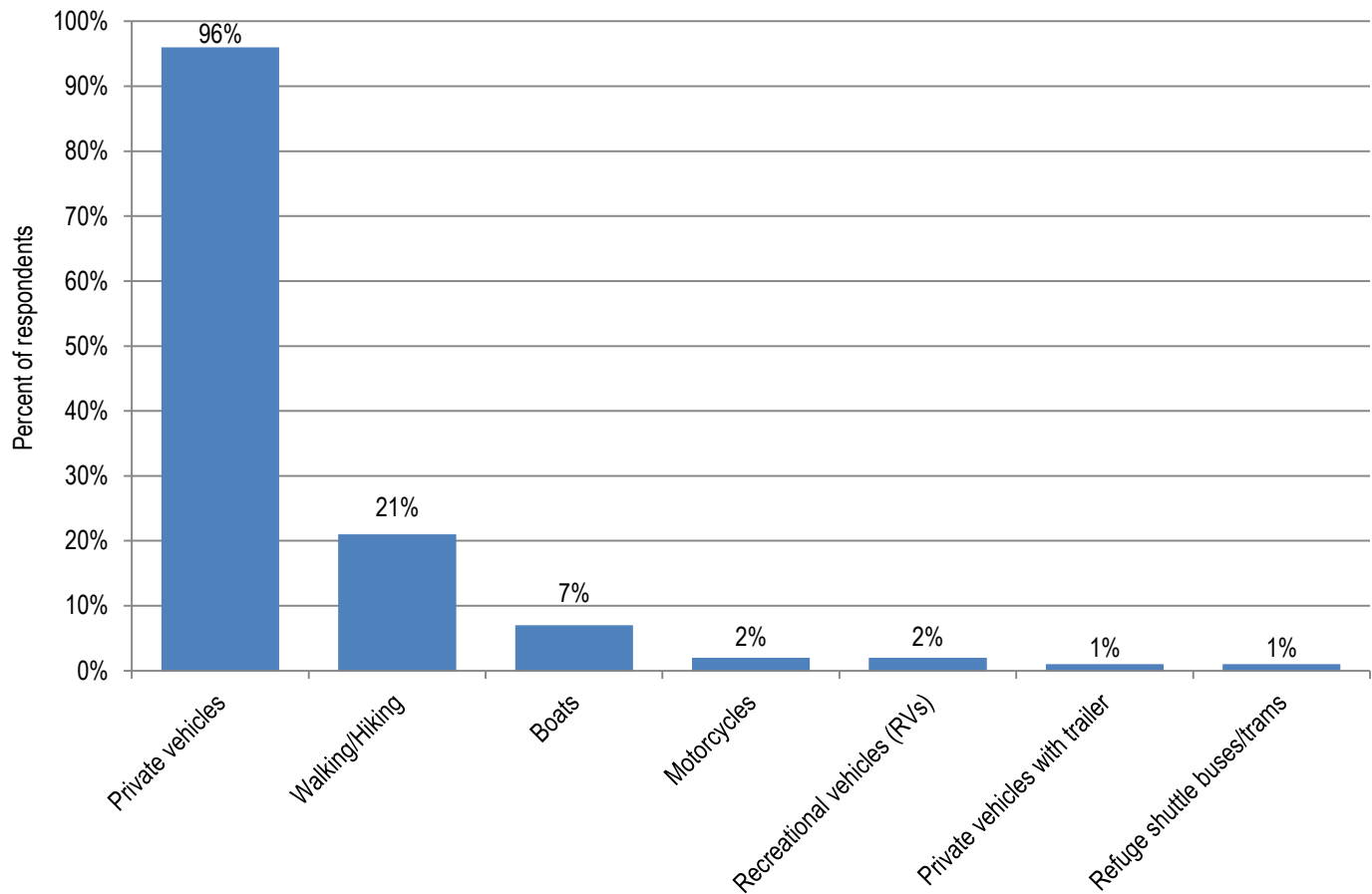


Figure 5. Modes of transportation used by visitors to Montezuma NWR during *this* visit (n = 190).

Table 4. Type and size of groups visiting Montezuma NWR (for those who indicated they were part of a group, n = 122).

Group type	Percent (of those traveling in a group)	Average group size		
		Number of adults	Number of children	Total group size
Family/Friends	88%	3	0	3
Commercial tour group	1%	9	0	9
Organized club/School group	9%	14	3	17
Other group type	2%	12	0	12

Surveyed visitors participated in a variety of refuge activities during the past 12 months (fig. 6); the top three activities reported were bird watching (82%), wildlife observation (69%), and auto tour route/driving (59%). The primary reasons for their most recent visit included bird watching (47%), hunting (15%), and wildlife observation (15%; fig. 7). The visitor center was used by 84% of visitors, mostly to view the exhibits (83%), ask information of staff/volunteers (80%), and stop to use the facilities (for example, get water, use restroom; 75%; fig. 8).

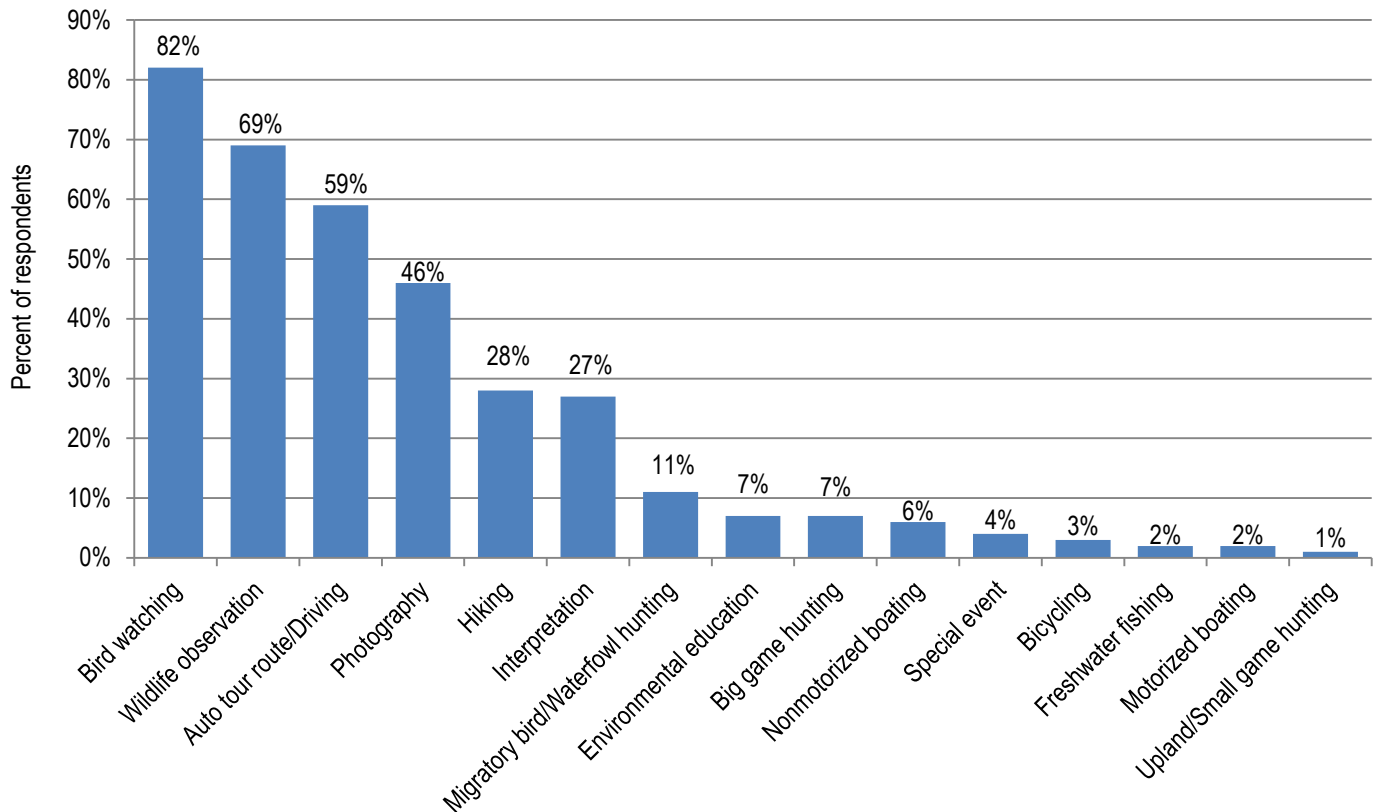


Figure 6. Activities in which visitors participated during the past 12 months at Montezuma NWR (n = 189). See Appendix B for a listing of “other” activities.

Visitor Characteristics

Nearly all (98%) surveyed visitors to Montezuma 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 54% male with an average age of 56 years and 46% female with an average age of 56 years. Visitors, on average, reported they had 16 years of formal education (college or technical school). The median level of income was \$75,000–\$99,000. See Appendix A for more demographic information. In comparison, the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation found that participants in wildlife watching and hunting on public land were 55% male and 45% female with an average age of 46 years, an average level of education of 14 years (associate degree or two years of college), and a median income of \$50,000–\$74,999 (Harris, 2011, personal communication). Compared to the U.S. population, these 2006 survey participants are more likely to be male, older, and have higher education and income levels (U.S. Department of the Interior and U.S. Department of Commerce, 2007).

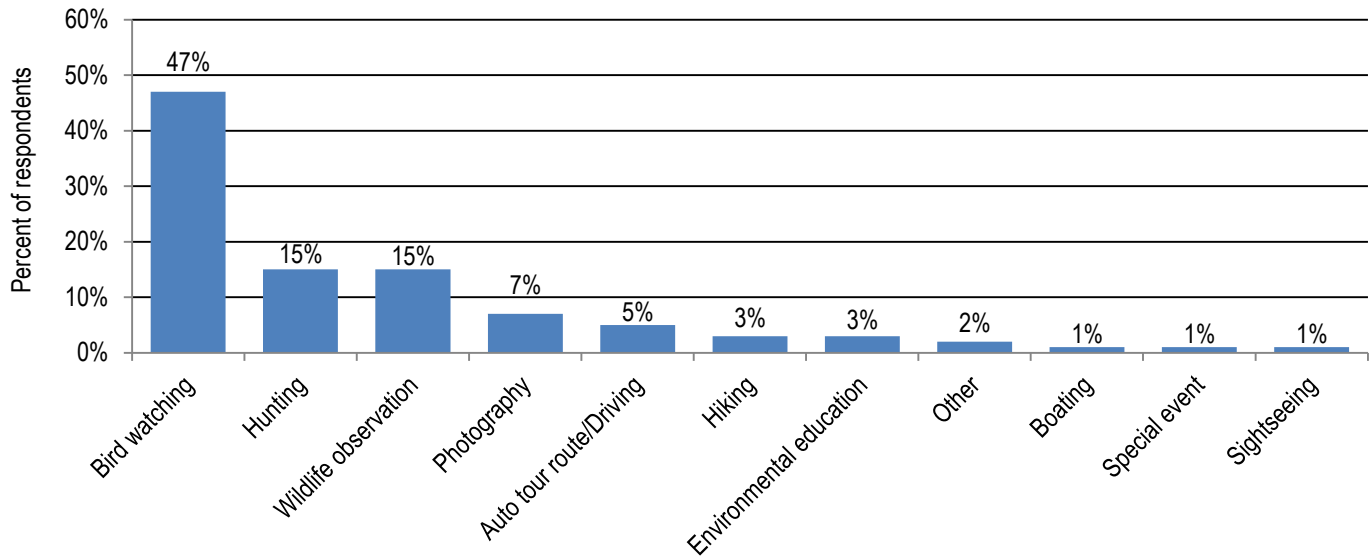


Figure 7. The primary activity in which visitors participated during *this* visit to Montezuma NWR (n = 175). See Appendix B for a listing of “other” activities.

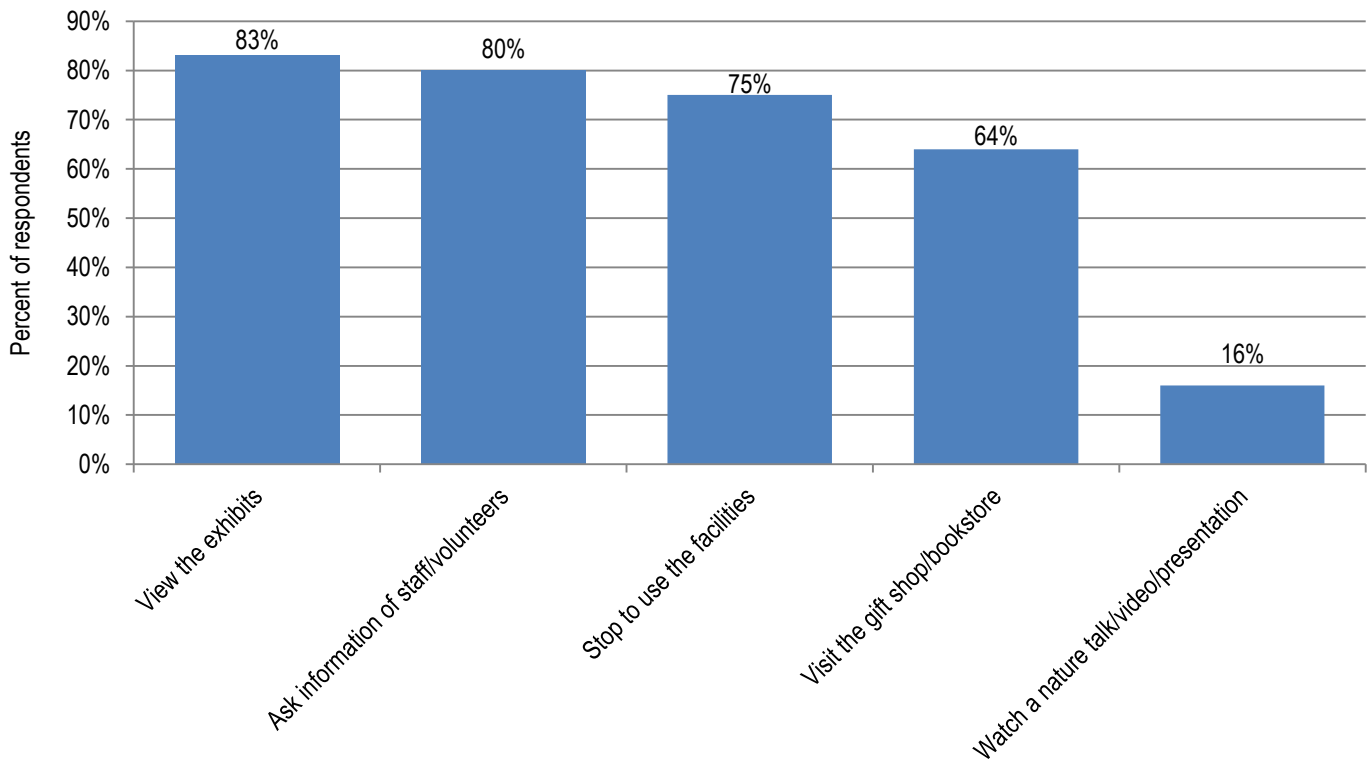


Figure 8. Use of the visitor center at Montezuma NWR (for those visitors who indicated they used the visitor center, n = 159).

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, 48% of surveyed visitors to Montezuma NWR indicated that they live within the local area. Nonlocal visitors (52%) stayed in the local area, on average, for 2 days. Table 5 shows summary statistics for local and nonlocal visitor expenditures in the local communities and at the refuge, with expenditures reported on a per person per day basis. During the two sampling periods, nonlocal visitors spent an average of \$77 per person per day and local visitors spent an average of \$37 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 Montezuma NWR expressed in dollars per person per day.

Visitors	n ¹	Median	Mean	Standard deviation	Minimum	Maximum
Nonlocal	79	\$56	\$77	\$75	\$0	\$370
Local	79	\$23	\$37	\$41	\$0	\$215

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 Montezuma NWR were as follows (fig. 9):

- 90% were satisfied with the recreational activities and opportunities,
- 94% 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
- 95% were satisfied with the refuge's job of conserving fish, wildlife and their habitats.

Although 15% of visitors (n = 28) indicated they paid a fee to enter Montezuma NWR, the refuge does not have an entrance fee. The refuge Friends' group does administer a fee for hunting spots. It may be that some visitors were referencing this fee when they answered this question.

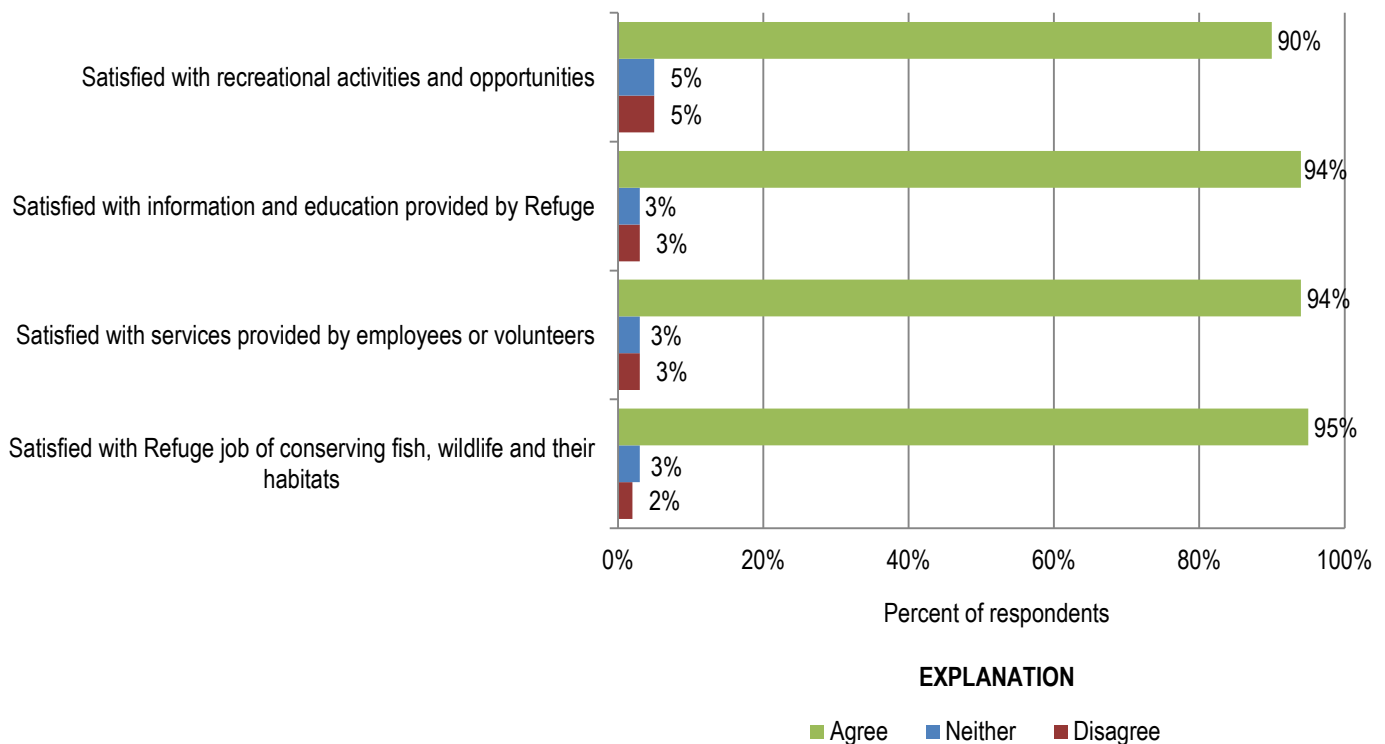


Figure 9. Overall satisfaction with Montezuma NWR during *this* visit (n ≥ 184).

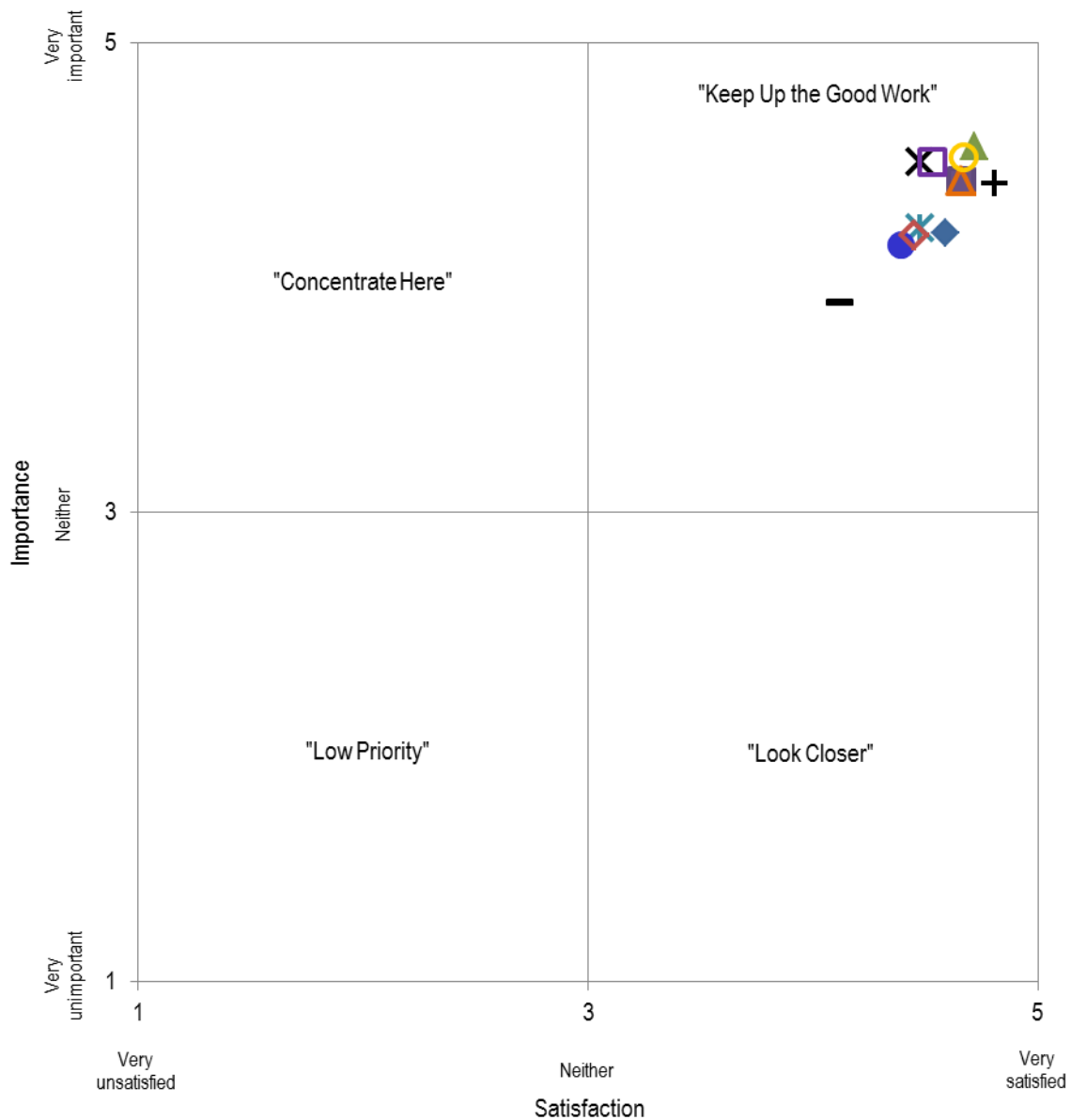
Importance/Satisfaction Ratings

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 Montezuma 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.

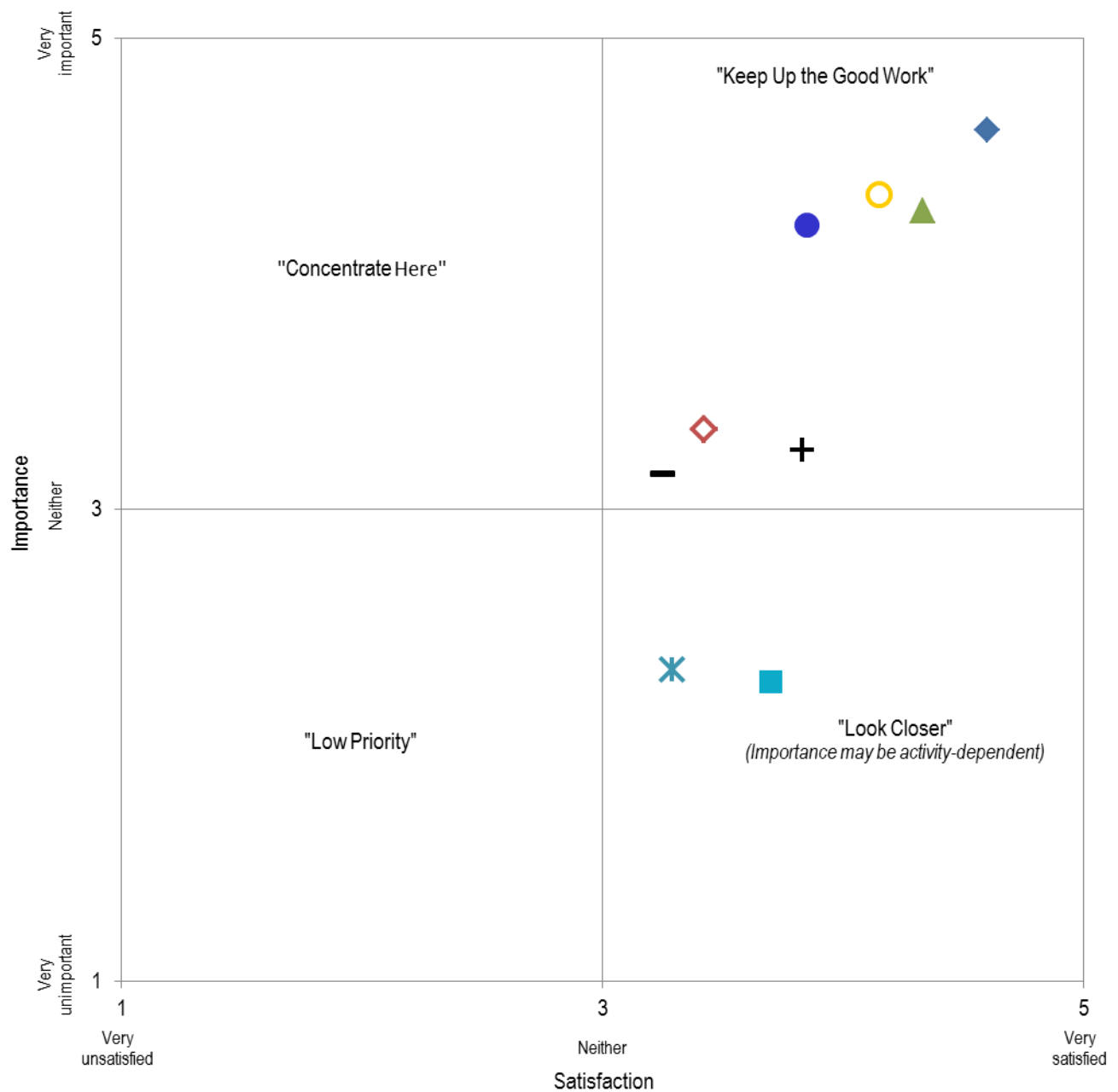
Figures 10-12 depict surveyed visitors' importance-satisfaction results for refuge services and facilities, recreational opportunities, and transportation-related features at Montezuma NWR, respectively. All refuge services and facilities fell in the "Keep Up the Good Work" quadrant (fig. 10). Most refuge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



EXPLANATION

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

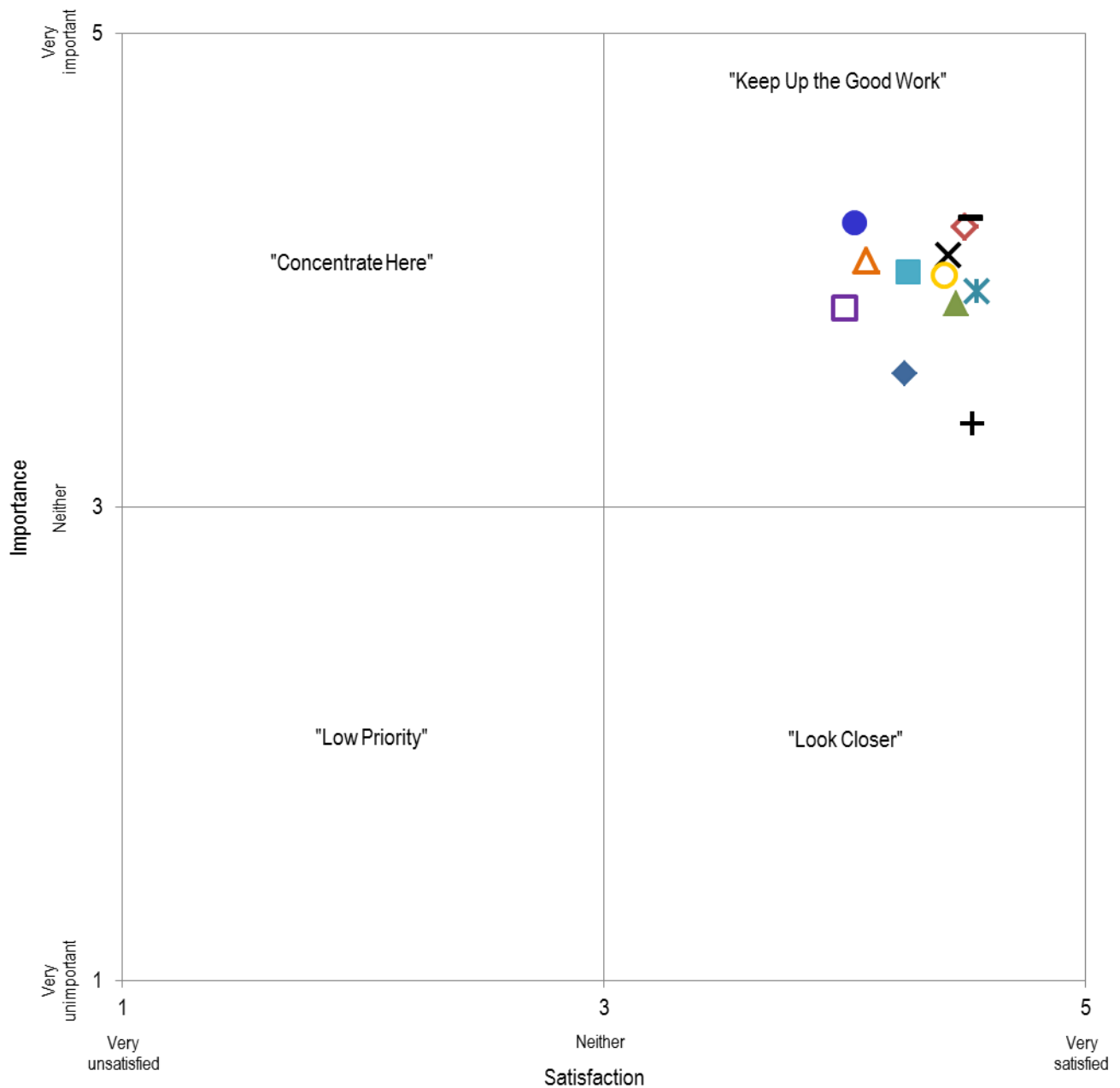
Figure 10. Importance-satisfaction ratings of services and facilities provided at Montezuma NWR.



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 Montezuma NWR.



EXPLANATION

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

Figure 12. Importance-satisfaction ratings of transportation-related features at Montezuma 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 Montezuma 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 Montezuma 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 provides a guided tour; and
- a bus/tram that runs during a special event.

When asked about using alternative transportation at Montezuma NWR specifically, 42% of visitors indicated they were unsure whether it would enhance their experience; however, some visitors thought alternative transportation would enhance their experience (30%) and others thought it would not (27%).

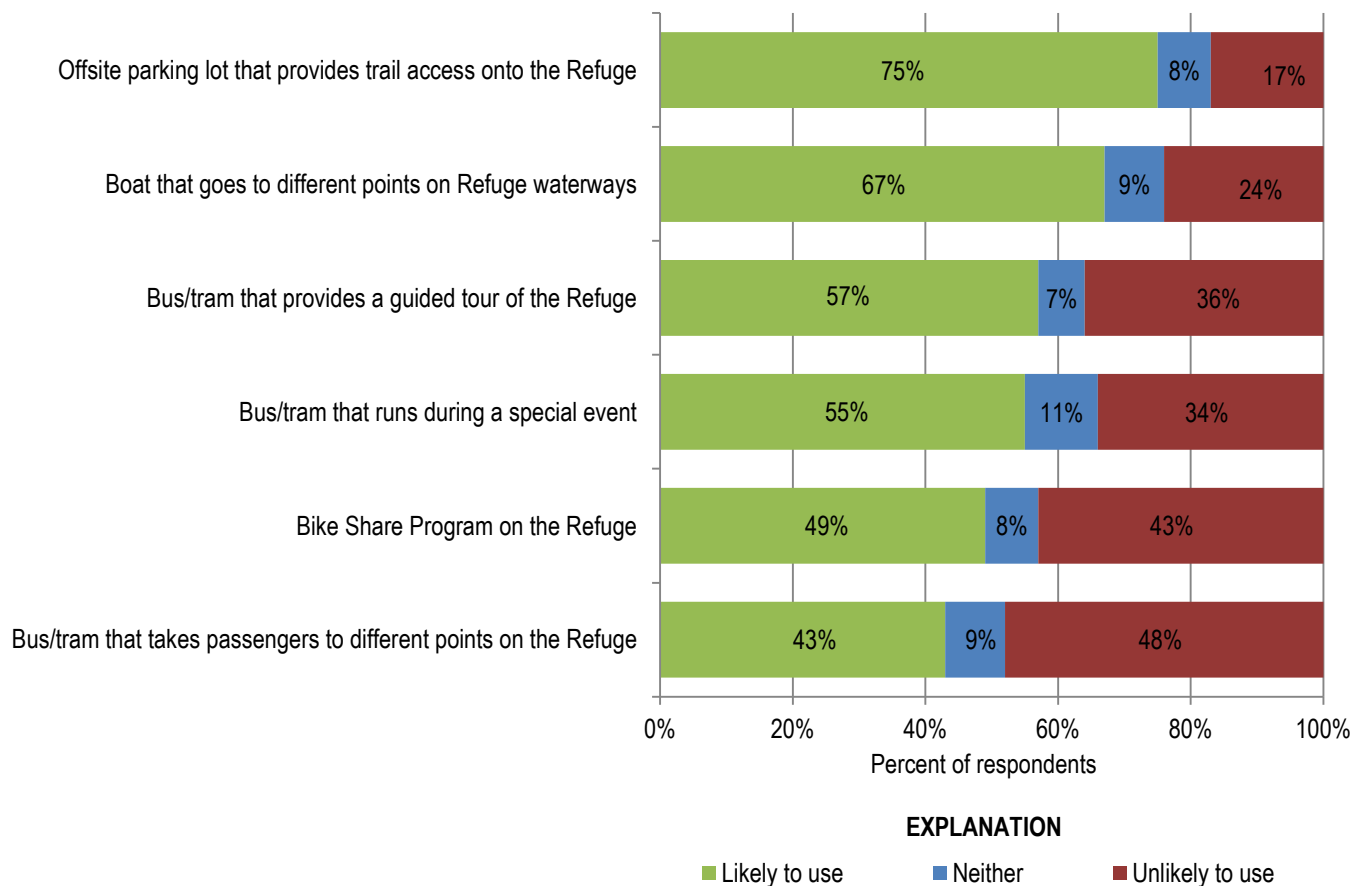


Figure 13. Visitors' likelihood of using alternative transportation options at national wildlife refuges in the future (n ≥ 184).

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 Montezuma 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;”
- “I take actions to alleviate the effects of climate change;” and
- “My experience would be enhanced if the Refuge provides information about how I can help address climate change effects.”

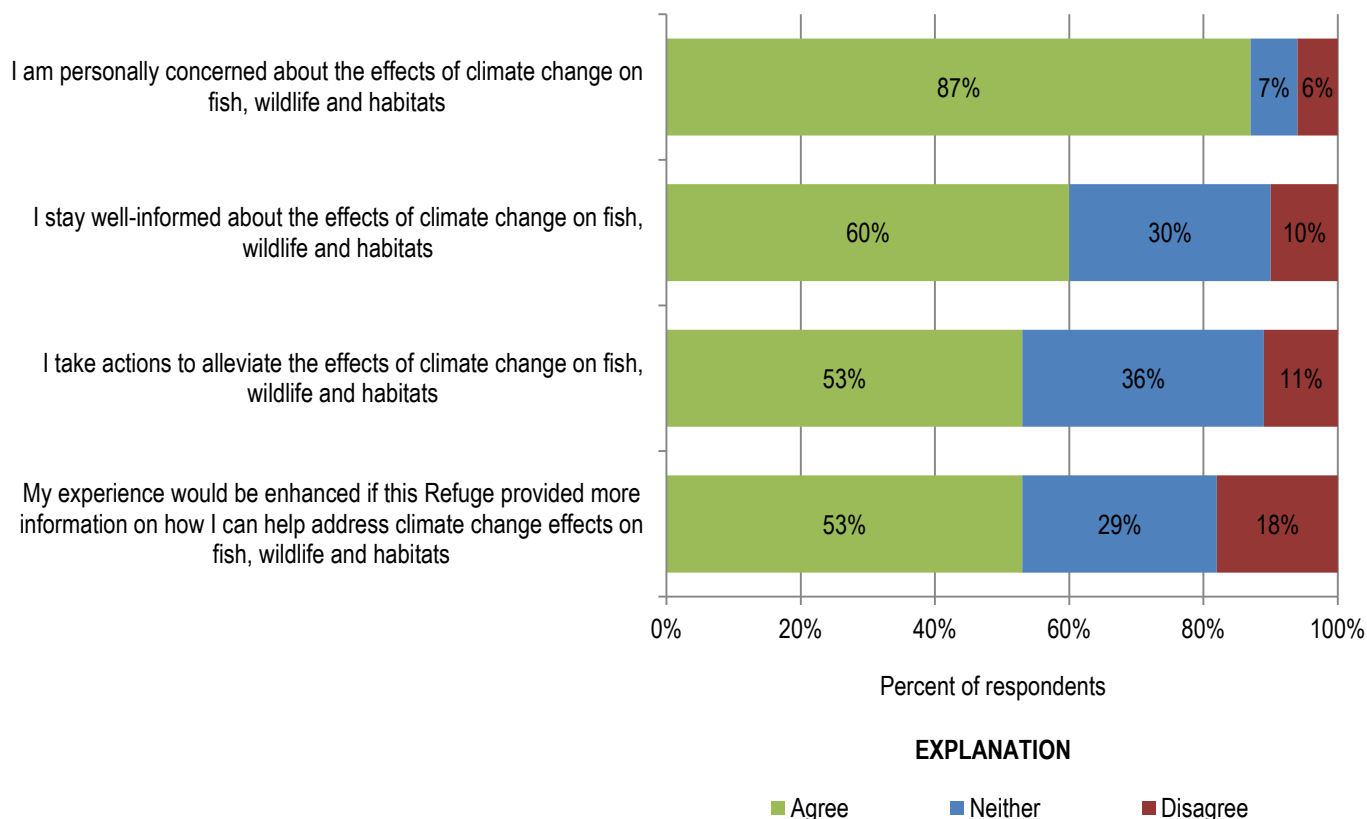


Figure 14. Visitors’ personal involvement with climate change related to fish, wildlife and their habitats (n ≥ 180).

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 Montezuma 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 the majority of visitors (52%) indicated that their experience would be enhanced if Montezuma 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.

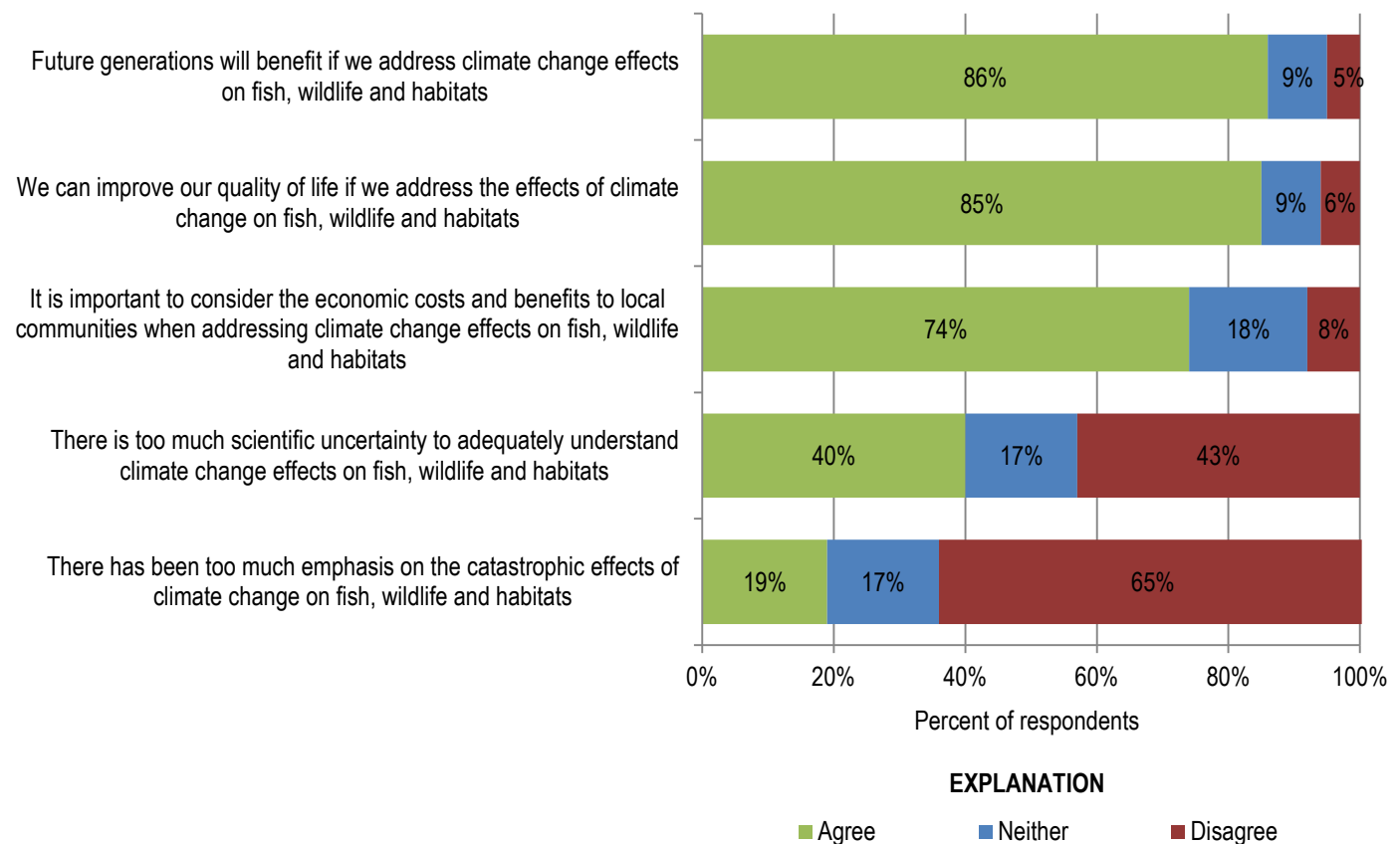


Figure 15. Visitors’ beliefs about the effects of climate change on fish, wildlife and their habitats (n ≥ 183).

Conclusion

These individual refuge results provide a summary of trip characteristics and experiences of a sample of visitors to Montezuma 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"/> 7% Big game hunting	<input type="checkbox"/> 28% Hiking	<input type="checkbox"/> 7% Environmental education (for example, classrooms or labs, tours)
<input type="checkbox"/> 1% Upland/Small-game hunting	<input type="checkbox"/> 3% Bicycling	
<input type="checkbox"/> 11% Migratory bird/Waterfowl hunting	<input type="checkbox"/> 59% Auto tour route/Driving	<input type="checkbox"/> 4% Special event (<i>please specify</i>) <u>See Appendix B</u>
<input type="checkbox"/> 69% Wildlife observation	<input type="checkbox"/> 2% Motorized boating	
<input type="checkbox"/> 82% Bird watching	<input type="checkbox"/> 6% Nonmotorized boating (including canoes/kayaks)	<input type="checkbox"/> 3% Other (<i>please specify</i>) <u>See Appendix B</u>
<input type="checkbox"/> 2% Freshwater fishing		
<input type="checkbox"/> 0% Saltwater fishing	<input type="checkbox"/> 27% Interpretation (for example, exhibits, kiosks, videos)	<input type="checkbox"/> 0% Other (<i>please specify</i>) <u>See Appendix B</u>
<input type="checkbox"/> 46% Photography		

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

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

<input type="checkbox"/> 16% No	
<input type="checkbox"/> 84% Yes → If yes, what did you do there? (Please mark <u>all that apply.</u>)	
<input type="checkbox"/> 64% Visit the gift shop or bookstore	<input type="checkbox"/> 16% Watch a nature talk/video/presentation
<input type="checkbox"/> 83% View the exhibits	<input type="checkbox"/> 75% Stopped to use the facilities (for example, get water, use restroom)
<input type="checkbox"/> 80% Ask information of staff/volunteers	<input type="checkbox"/> 9% 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**

35%

75%

55%

It was the primary purpose or sole destination of my trip.

41%

17%

29%

It was one of many equally important reasons or destinations for my trip.

24%

8%

16%

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 173 number of miles

Local 33 number of miles

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

See Report for Results

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

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

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

89% Family and/or friends

9% Organized club or school group

1% Commercial tour group

2% Other (*please specify*) See Appendix B

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

4 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.*)

51% Friends or relatives

15% Refuge website

45% Signs on highway

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

10% Recreation club or organization

2% Television or radio

12% People in the local community

9% Newspaper or magazine

19% Refuge printed information (brochure, map)

10% 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.*)

70% Spring
(March-May)

38% Summer
(June-August)

66% Fall
(September-November)

21% Winter
(December-February)

11. How many times have you visited...

...this Refuge (including this visit) in the last 12 months? 5 number of visits

...other National Wildlife Refuges in the last 12 months? 2 number of visits

SECTION 2. Transportation and access at this Refuge

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

<input type="checkbox"/> 96%	Private vehicle without a trailer	<input type="checkbox"/> 1%	Refuge shuttle bus or tram	<input type="checkbox"/> 0%	Bicycle
<input type="checkbox"/> 1%	Private vehicle with a trailer (for boat, camper or other)	<input type="checkbox"/> 2%	Motorcycle	<input type="checkbox"/> 21%	Walk/Hike
<input type="checkbox"/> 0%	Commercial tour bus	<input type="checkbox"/> 0%	ATV or off-road vehicle	<input type="checkbox"/> 1%	Other (<i>please specify below</i>)
<input type="checkbox"/> 2%	Recreational vehicle (RV)	<input type="checkbox"/> 7%	Boat	<u>See Appendix B</u>	
		<input type="checkbox"/> 0%	Wheelchair or other mobility aid		

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

<input type="checkbox"/> 42%	Signs on highways	<input type="checkbox"/> 12%	Directions from Refuge website
<input type="checkbox"/> 13%	A GPS navigation system	<input type="checkbox"/> 2%	Directions from people in community near this Refuge
<input type="checkbox"/> 14%	A road atlas or highway map	<input type="checkbox"/> 11%	Directions from friends or family
<input type="checkbox"/> 16%	Maps from the Internet (for example, MapQuest or Google Maps)	<input type="checkbox"/> 59%	Previous knowledge/I have been to this Refuge before
		<input type="checkbox"/> 3%	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"/> 33%	<input type="checkbox"/> 15%	<input type="checkbox"/> 9%	<input type="checkbox"/> 28%	<input type="checkbox"/> 14%
...a bike that was offered through a Bike Share Program for use while on the Refuge?	<input type="checkbox"/> 32%	<input type="checkbox"/> 10%	<input type="checkbox"/> 8%	<input type="checkbox"/> 30%	<input type="checkbox"/> 19%
...a bus or tram that provides a guided tour of the Refuge with information about the Refuge and its resources?	<input type="checkbox"/> 20%	<input type="checkbox"/> 15%	<input type="checkbox"/> 8%	<input type="checkbox"/> 35%	<input type="checkbox"/> 22%
...a boat that goes to different points on Refuge waterways?	<input type="checkbox"/> 17%	<input type="checkbox"/> 7%	<input type="checkbox"/> 9%	<input type="checkbox"/> 37%	<input type="checkbox"/> 30%
...a bus or tram that runs during a special event (such as an evening tour of wildlife or weekend festival)?	<input type="checkbox"/> 24%	<input type="checkbox"/> 10%	<input type="checkbox"/> 11%	<input type="checkbox"/> 36%	<input type="checkbox"/> 19%
...an offsite parking lot that provides trail access for walking/hiking onto the Refuge?	<input type="checkbox"/> 10%	<input type="checkbox"/> 7%	<input type="checkbox"/> 7%	<input type="checkbox"/> 37%	<input type="checkbox"/> 38%
...some other alternative transportation option? (<i>please specify</i>) <u>See Appendix B</u>	<input type="checkbox"/> 0%	<input type="checkbox"/> 5%	<input type="checkbox"/> 11%	<input type="checkbox"/> 32%	<input type="checkbox"/> 53%

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

☐ 30% Yes ☐ 27% No ☐ 42% Not Sure

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

Importance						Satisfaction					
Circle one for each item.						Circle one for each item.					
Very Unimportant	Somewhat Unimportant	Neither	Somewhat Important	Very Important		Very Unsatisfied	Somewhat Unsatisfied	Neither	Somewhat Satisfied	Very Satisfied	Not Applicable
6%	16%	13%	48%	17%	Surface conditions of roads	3%	8%	6%	29%	55%	NA
7%	20%	16%	46%	12%	Surface conditions of parking areas	4%	1%	5%	16%	73%	NA
6%	6%	19%	32%	36%	Condition of bridges	3%	1%	8%	22%	66%	NA
6%	3%	10%	41%	40%	Condition of trails and boardwalks	3%	3%	7%	24%	64%	NA
6%	4%	10%	52%	28%	Number of places for parking	2%	2%	6%	20%	70%	NA
3%	5%	5%	42%	45%	Number of places to pull over along Refuge roads	1%	12%	8%	40%	39%	NA
5%	5%	7%	36%	48%	Safety of driving conditions on Refuge roads	1%	5%	5%	23%	66%	NA
4%	2%	9%	38%	47%	Safety of Refuge road entrances/exits	1%	3%	5%	24%	67%	NA
4%	6%	13%	41%	36%	Signs on highways directing you to the Refuge	2%	4%	7%	26%	61%	NA
5%	3%	15%	43%	34%	Signs directing you around the Refuge roads	2%	4%	10%	34%	50%	NA
7%	3%	11%	37%	42%	Signs directing you on trails	1%	7%	17%	31%	44%	NA
6%	6%	19%	32%	35%	Access for people with physical disabilities or who have difficulty walking	0%	3%	30%	31%	36%	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)?

☐ 48% Yes

☐ 52% No → How much time did you spend **in local communities** on this trip?

 2 number of hours OR 3 number of days

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

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

See Report for Results

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
<input type="checkbox"/> 6%	<input type="checkbox"/> 20%	<input type="checkbox"/> 34%	<input type="checkbox"/> 8%	<input type="checkbox"/> 15%	<input type="checkbox"/> 1%	<input type="checkbox"/> 11%	<input type="checkbox"/> 1%	<input type="checkbox"/> 2%	<input type="checkbox"/> 1%	<input type="checkbox"/> 3%

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**.)*

☐ 11% Far too low ☐ 18% Too low ☐ 71% About right ☐ 0% Too high ☐ 0% Far too high ☐ 85% 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 ☐ 4% Disagree ☐ 4% Neither agree or disagree ☐ 43% Agree ☐ 50% Strongly agree

SECTION 4. Your experience at this Refuge

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

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Not Applicable
Overall, I am satisfied with the recreational activities and opportunities provided by this Refuge.	<input type="checkbox"/> 2%	<input type="checkbox"/> 4%	<input type="checkbox"/> 4%	<input type="checkbox"/> 40%	<input type="checkbox"/> 51%	NA
Overall, I am satisfied with the information and education provided by this Refuge about its resources.	<input type="checkbox"/> 2%	<input type="checkbox"/> 1%	<input type="checkbox"/> 4%	<input type="checkbox"/> 37%	<input type="checkbox"/> 56%	NA
Overall, I am satisfied with the services provided by employees or volunteers at this Refuge.	<input type="checkbox"/> 2%	<input type="checkbox"/> 1%	<input type="checkbox"/> 3%	<input type="checkbox"/> 26%	<input type="checkbox"/> 68%	NA
This Refuge does a good job of conserving fish, wildlife and their habitats.	<input type="checkbox"/> 1%	<input type="checkbox"/> 1%	<input type="checkbox"/> 4%	<input type="checkbox"/> 23%	<input type="checkbox"/> 72%	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 <i>Circle one for each item.</i>					Refuge Services, Facilities, and Activities	Satisfaction <i>Circle one for each item.</i>					
Very Unimportant	Somewhat Unimportant	Neither	Somewhat Important	Very Important		Very Unsatisfied	Somewhat Unsatisfied	Neither	Somewhat Satisfied	Very Satisfied	Not Applicable
2%	3%	7%	48%	40%	Availability of employees or volunteers	1%	3%	7%	15%	74%	NA
2%	2%	6%	33%	57%	Courteous and welcoming employees or volunteers	1%	0%	3%	8%	87%	NA
1%	3%	2%	26%	67%	Knowledgeable employees or volunteers	2%	1%	3%	12%	82%	NA
2%	2%	3%	40%	53%	Printed information about this Refuge and its resources (for example, maps and brochures)	1%	0%	3%	24%	72%	NA
1%	3%	6%	55%	35%	Informational kiosks/displays about this Refuge and its resources	1%	1%	7%	33%	59%	NA
2%	4%	13%	39%	42%	Signs with rules/regulations for this Refuge	1%	2%	13%	24%	60%	NA
0%	4%	7%	55%	34%	Exhibits about this Refuge and its resources	1%	0%	12%	30%	58%	NA
2%	5%	25%	37%	31%	Environmental education programs or activities	2%	1%	27%	25%	45%	NA
1%	2%	5%	31%	61%	Visitor Center	1%	1%	5%	16%	77%	NA
2%	2%	4%	31%	61%	Convenient hours and days of operation	1%	2%	7%	26%	63%	NA
2%	3%	6%	30%	60%	Well-maintained restrooms	1%	0%	8%	14%	77%	NA
1%	1%	5%	33%	60%	Wildlife observation structures (decks, blinds)	1%	0%	6%	32%	61%	NA
2%	1%	3%	25%	70%	Bird-watching opportunities	1%	1%	4%	26%	68%	NA
1%	1%	9%	41%	48%	Opportunities to observe wildlife other than birds	2%	4%	15%	35%	44%	NA
2%	5%	11%	29%	53%	Opportunities to photograph wildlife and scenery	1%	2%	15%	30%	53%	NA
55%	6%	14%	7%	18%	Hunting opportunities	4%	2%	44%	21%	29%	NA
45%	11%	23%	11%	10%	Fishing opportunities	5%	5%	63%	9%	18%	NA
3%	2%	9%	44%	42%	Trail hiking opportunities	2%	10%	20%	38%	30%	NA
16%	7%	23%	35%	20%	Water trail opportunities for canoeing or kayaking	3%	13%	45%	19%	21%	NA
19%	8%	26%	35%	13%	Bicycling opportunities	8%	10%	48%	17%	17%	NA
13%	10%	33%	25%	19%	Volunteer opportunities	1%	0%	49%	15%	35%	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?

89%

Yes

11%

No

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

95%

Yes

5%

No

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

92%

Yes

8%

No

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

See Appendix B

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.	1%	5%	7%	37%	50%
We can improve our quality of life if we address the effects of climate change on fish, wildlife and their habitats.	2%	4%	9%	36%	49%
There is too much scientific uncertainty to adequately understand how climate change will impact fish, wildlife and their habitats.	20%	23%	17%	31%	9%
I stay well-informed about the effects of climate change on fish, wildlife and their habitats.	1%	10%	30%	47%	13%
It is important to consider the economic costs and benefits to local communities when addressing the effects of climate change on fish, wildlife and their habitats.	3%	5%	19%	57%	16%
I take actions to alleviate the effects of climate change on fish, wildlife and their habitats.	3%	8%	36%	34%	19%
There has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and their habitats.	33%	32%	17%	14%	5%
Future generations will benefit if we address the effects of climate change on fish, wildlife and their habitats.	2%	4%	8%	38%	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.	4%	14%	30%	42%	11%

SECTION 6. A Little about You

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

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

98% Yes 2% No → If not, what is your home country? See Figure 4 in Report

2. Are you? 54% Male 46% Female

3. In what year were you born? 1955 (YYYY)

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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
(elementary)					(junior high or middle school)			(high school)				(college or technical school)				(graduate or professional school)			
					0%			12%				53%				35%			

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.**)*

<input type="checkbox"/> 2% American Indian or Alaska Native	<input type="checkbox"/> 0% Black or African American	<input type="checkbox"/> 99% White
<input type="checkbox"/> 1% Asian	<input type="checkbox"/> 0% Native Hawaiian or Pacific Islander	

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

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

<input type="checkbox"/> 1% Less than \$10,000	<input type="checkbox"/> 13% \$35,000 - \$49,999	<input type="checkbox"/> 17% \$100,000 - \$149,999
<input type="checkbox"/> 4% \$10,000 - \$24,999	<input type="checkbox"/> 31% \$50,000 - \$74,999	<input type="checkbox"/> 7% \$150,000 - \$199,999
<input type="checkbox"/> 6% \$25,000 - \$34,999	<input type="checkbox"/> 18% \$75,000 - \$99,999	<input type="checkbox"/> 2% \$200,000 or more

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

20 number of trips

Thank you for completing the survey.

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

See Appendix B for Comments

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Appendix B: Visitor Comments to Open-Ended Survey Questions for Montezuma 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
Field Trip (SUNY ESF course)	1
Local artists displaying warblers they have painted.	1
MARSH Workdays	1
Montezuma Muck Race, monthly bird programs	1
NYS Waterfowl Identification course	1
School Trip	1
Waterfowl ID Course	1
Wetland Symposium	1
Total	8

Other Activity	Frequency
Carp near bridge in cluster	1
Duck banding, tree planting	1
Nature	1
Relaxation/Renewal	1
Traveling in area	1
Total	5

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
Art Exhibit	1
First visit	1
Just to see it	1
Travel	1
Total	4

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

Other Visitor Center Activity	Frequency
Ate a picnic lunch.	1
Ate lunch and did water colors on the porch.	1
Bird watching from deck of Visitor Center.	1
Checked list of recent observations.	1
Find out what species are present here.	1
Gain information about local nesting Bald Eagles.	1
Info about different birds at the site.	1
Look at bird lists and observation by staff.	1
Looked through telescope at eagle's nest.	1
Participate in a Waterfowl ID course.	1
See the live feeding of a baby osprey.	1
To sign in and obtain day pass.	1
Use the Visitor Center's observation platform.	1

Waterfowl ID Course	1
Total	14

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
I led a nonprofit sponsored tour.	1
NYS Enviro-thon Advisor Group	1
Total	2

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

Other Website	Frequency
National park service website	
Total	1

Other Ways Heard about This Refuge	Frequency
AAA tour book	2
Atlas of New York (published by DeLorme).	1
Employee	1
Finger Lakes travel publication	1
Former employee	1
Former refuge manager Gene Hocutt (course instructor)	1
Hunting	1
Map	1

Map of area	1
Moon Guidebook for New York	1
Other visitors to Sapsucker Woods, Ithaca, New York	1
Road Map	1
State map indicator	1
Took a class at Cornell Lab of Ornithology.	1
Travel guidebook	1
Travel guidebook Frommer's	1
Travel guidebook Frommer's/Foder's	1
Total	18

Survey Section 2

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

Other Forms of Transportation	Frequency
Two SUNY ESF vehicles	1
Total	1

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

Other Ways Found This Refuge	Frequency
College Excursion Van	1
Driven by group leader.	1
Driver	1
I was driven there by the school that made the arrangements.	1
iPhone Map	1
Total	5

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

Other Transportation Option Likely to Use	Frequency
4-wheeler ATV	1
Air boat rides	1
Anything that would permit access to points not generally visited.	1
Bicycle	2
Bus to the refuge (I have no vehicle), but not one that travels about within the refuge (it could disturb wildlife).	1
Canoe	1
Fan boat	1
Handicap transport	1
Helicopter	1
Horses	1
Kayak	2
More ATV trails	1
Private car	2
Segway	2
Wheelchair paths	1
Total	19

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

Comments on Transportation-related Items at This Refuge (n = 27)

At Montezuma NWR, there should be bigger signs before entering the wildlife drive telling people to stay in their vehicles along the auto loop. It is so disruptive to see people walking along the road!

Better trail signage and maps would be helpful.

Circuit Road is not in the best condition. We tend to avoid that part, although we would like to make more use of it.

Had a great time.

Handicap access is very important and is needed by us.

Have never had any problems accessing, driving, parking, pulling car over for photos or just looking, hiking or anything. I think transportation-related items are handled well at Montezuma NWR.

I always prefer going by foot, though handicapped folk should be allowed extra access opportunities.

I believe natural areas should be accessible to all people. However, I am not opposed to trails which are harder to access to serve hikers and adventurous visitors in addition to handicap accessible trails. I'm a naturalist with a bad knee, so having the option of both easy, accessible trails and more rugged ones for those who can handle them both seem promising. I hope that refuges and state parks alike can be designed with an approximately equal mix of the two trail types to serve the interests of the widest array of visitors.

I have not experienced negative transportation issues at Montezuma, the primary Refuge I visit. I'm sure that those areas along Lake Erie during spring migration are different, and I look forward to experiencing these refuge areas and might have more of an expanded view.

I love that this refuge is close to my home.

I started to use the audio guide, but it was more distracting than helpful.

I was an advisor in this year's NYS Enviro-thon. Keuka College picked up all the costs.

It would be great if the refuge had an hourly trolley/transportation system that traveled around the refuge with an expert who can identify wildlife within the refuge. This would greatly increase the quality of each visit.

Keep people inside their cars. Use trains during peak waterfowl and shorebird migration periods, and expand volunteer corps to interpreters.

Montezuma is a great resource for many outdoor activities. There needs to be a conscious effort by the refuge management to have a scheduled draw down of the water in Tschache pool. This will provide the adequate cover and food for the migrating waterfowl. The lack of a draw down in the last two years has had a negative impact on the number of birds we see.

Most visitors use their personal vehicles. Traffic does not warrant refuge vehicles.

My father isn't in the best of health and has a very hard time getting around. He has asked about getting a pass for driving on the roads and has been denied, and has asked about a 4 wheeler and a BICYCLE and was told NO, because BICYCLES disturb the flight patterns of the birds. He has also been told to hunt the handicapped hunting platform. We have been coming to the refuge for a very long time and to be told that my father, who can't get around very well, is being denied of such a simple request is kind of a slap in the face. As the trappers and the refuge staff are allowed access to all roads with a vehicle. He's not asking for the world, just for an easier way to get to his desired hunting area.

Some areas are not easily accessible during big game hunting seasons - especially for an aging hunter population. I would suggest simply cutting grass trails through overgrown areas once each year. It would make walking to areas much easier and help with participation.

The bridge in the back far corner of Tschache Pool where there is apparatus to control carp getting into it from the canal was covered in dead leaves and wasn't in very good condition. Just because the general public doesn't get to go out there doesn't mean you don't have to maintain the infrastructure. It would be cheaper to seal the wood and take care of it every year than have to replace the whole thing in the next few years. The "Hocutt's Corral" viewing deck wasn't quite as bad, but also needs to be maintained more carefully. In this economy, you have to take care of what you have because you might not be able to replace it. And then the birders will be tramping through the bushes again!

The mud on the dirt roads and in the parking lots was difficult. The bridges should be safe, not fancy. I love the one-way road at the refuge. A

few more wide spaces in the road to pull off would have been nice, but I was able to make it work.

The refuge trail was closed due to nesting ospreys. Although disappointed, we understand perfectly and agree that protection of wildlife is priority #1.

The road could be wider so that if I were to stop, someone could more easily go around.

The signs to get off the state thruway would have been better an exit earlier and the signs we followed after we exited as directed were terrible. So, we pulled out an old map, but it was hard to tell if we were going right.

We had hoped to go hiking, but the recent rainstorms had left the trails flooded. We drove more through the refuge than we had intended. It was a weekday, so the refuge wasn't crowded and it was quiet so that we could see more wildlife. We feel that more roads or more pull-offs would increase traffic and drive away wildlife. Isn't that the paradox for wildlife refuges? Trying to find the balance between a real refuge for the animals and birds versus allowing humans to see the animals and birds?

We visited on a weekday in May. There were very few people there, so the limited parking and pull-over spaces were adequate for us. Due to record breaking rainfall previous to our visit, some roads were impassable and we were not able to hike the paths, but we realize that was extraordinary circumstances.

You need more advertising about Esker Brook Trail. I'm constantly telling people about it; most don't even know about it.

You're not allowed to get out of your car except at two observation points, which is okay.

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 = 53)

A program with guides leading hikes through areas of the refuge not normally seen by driving would be tremendous. Personally, I would be willing to pay for such a program. Also, one of the walking areas is still closed after what seems to be an extended period of time. I wonder if this project will ever be completed. We used to see more birds, prior to the re-configuration of the main pond area. It remains to be seen if the work will result in enhanced opportunities for viewing wildlife. Thank you.

As a handicapped person, it is great to be able to view things from the car. Wheelchair movement is possible, but hindered by loose stone (gravel) paths.

As mentioned, I prefer hiking over driving. This refuge is mostly available to cars only.

Being a bird photographer, especially waterfowl during the fall migration, it would be helpful at Montezuma if brush along the sides of the auto loop could be trimmed down. I realize during the spring migration and into nesting season that this would not be a good idea.

Double the amount for the waterfowl entrance (\$10-\$20) and reduce the groups to 15 from 20; it has been getting very crowded the last few years.

For the last two years there has been so much work on the Montezuma National Wildlife Refuge that the people have been pushed away from the birds. I know that the US Fish and Wildlife Service is taking care of the lands, but I am hoping that after two years, next year the visitors will be allowed closer to the birds, perhaps at Tschache Pool, or perhaps bringing the water back to the main pool. I love the refuge, but would like

to be closer to the herons like we were a couple years ago.

Forty-five years ago, I hunted ducks at this refuge. I would like to do that again.

Good Visitor Center, very pleasant and very helpful (dedicated and knowledgeable) staff person; all in all, we enjoyed our visit even though the trail was closed. Parking was easy, although there were a couple of rough spots on the road which needed fixing. Our main purpose was to see Niagara Falls and then visit Montezuma on the way back to Brockton, MA.

Great friends group.

I always enjoy Montezuma NWR. I am a photographer and when visiting, prefer staying as alone as possible to ensure the least disruption of whatever wildlife I am interested in seeing. I would prefer the NWR staying as rustic as it is currently. :)

I always have a great experience. Staff is tremendous; they are extremely helpful and it seems they love their jobs and the refuge!

I have visited Montezuma many times and I am always eager for the next visit.

I have visited with my 5th grade classes for at least a decade. Employees and volunteers are always helpful with information. Several times when it was rainy, they let the class eat inside the Visitor Center!

I live too far away to volunteer my time.

I love Montezuma! My only dissatisfaction is that it allows hunting in some areas; I wish hunting was banned.

I really enjoyed visiting the refuge.

I thoroughly enjoyed my day at Montezuma National Wildlife Refuge.

I was very pleased to find this refuge. I was on business from Chicago. I had a fabulous visit there and saw lots of wildlife, birds, and turtles.

I wish the restrooms were open more often, even when the Visitor Center may not be.

I wish the Visitor Center was opened more and had longer hours. It closes at 3:00 PM.

I would like to get out of the vehicle along the wildlife drive.

I would like to see better indoor exhibits in the Visitor Center and more hiking trails, if at all possible. Also, I like the auto drive a lot and would like to see more pull-offs.

I've been there many times and I rarely see employees. I also wish they would offer more recreational opportunities such as tours, boating, and fishing.

It seems that a lot of time, money, and energy are used to enhance the bird watching and trail walking. There are not many new things being done to enhance waterfowl hunting, like opening new areas or planting food at the hunting pool but planting food at bird watching sites. Hunters pay a \$20 fee to visit.

It would have enhanced my experience had we seen any wildlife. It was the wrong season and time of day I guess.

Keep up the good work!

Need to clear (open) water that is closer to other areas. Those areas in the main pool have filled in with aquatic plants.

Need to have ponds and wetlands to see the birds. The marsh needs to be more open so you can see things.

Needs more habitat management at Tschache Pool to improve waterfowl hunting and migratory birds' food needs.

Please permit students to perform research on refuges (tracking populations, land use) and to participate in wildlife management activities (e.g., duck banding, wood boxes).

Return to archery only for deer.

Same as last. Importance of scheduled draw downs!

Staff is very professional, patient, helpful, knowledgeable and courteous - a job well done. Waterfowl hunting opportunities are first class; excellent visitor facility and trail system.

Staff was very courteous and knowledgeable.

The area around the Visitor Center has the most opportunities for wildlife viewing, photography, walking and education. Much of the refuge is farther away, across the NYS Thruway or only accessible by county roads. Signage, parking, and wildlife viewing in those areas are extremely limited. We were disappointed that one of the largest marshes had only 1 viewing area.

The employee at the Visitor Center was extremely friendly, knowledgeable and very anxious to share general information as well as the latest "goings-on" at the refuge. On a dreary cold May day, she made our visit very informative and even exciting.

The employees and volunteers at Montezuma National Wildlife Refuge are always helpful in sharing information and giving directions if needed. They have a web-cam of particular birds' nests and all sorts of resources to help you learn about the wildlife (like books, CDs, and photographs of birds, plants, and other wildlife). They also have binoculars and someone with a "spotting scope" is available to help you.

The employees are always very nice and very helpful.

The facilities were excellent and volunteers were friendly and helpful.

The hunting area is separate from the Visitor Center. Both areas are well maintained and staffed. While the primary reason for visiting the refuge is for waterfowl hunting, we have also visited the Visitor Center, used the trails, etc.

The most recent Montezuma NWR "Birds" brochure (2008) has the Pied-billed Grebe listed under "Loons" instead of with the "Grebes." Just because I was satisfied with most of what was there, does not mean I don't think it could improve - there is always room for improvement. The wildlife observation structures could be better maintained as already noted.

The personnel are always accommodating and helpful.

The refuge is constantly in flux. The refuge was a lot better 10 years ago. They're constantly changing the landscape, which makes for poor bird watching. Let nature do its job - she is better at it.

The staff in the Visitor Center was not only extremely polite, but very informed as well. They were able to answer all of my questions, and were funny also. Very welcoming. If it wasn't for the staff, we wouldn't have known about the driving tour of the refuge or any of the other little places to stop along the way. I will definitely be back with my kids, as it was a very enjoyable experience. I have told a lot of my friends about it, so hopefully more visitors will arrive.

There are not enough staff present to address the needs of every visitor, though the staff was very welcoming and knowledgeable.

Too little money, too many needs - and this refuge has more than most!

Very helpful and informative volunteers at the Visitor Center.

Visitor Center staff was very pleasant and able to answer all our questions.

Water levels were very high and had flooded trails to no fault of the refuge.

We did not get out of the car, as it was cold out.

We enjoy watching the live activity of osprey in their nest. Cameras capture feeding activity, etc.

Well maintained and our guide was well informed.

Wish the auto tour drive was open later in the fall and earlier in the spring. This would allow the observation of migrating birds. When we first started visiting Montezuma, they would plow the auto tour route in the winter.

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 = 143)

A good place to learn about our environment.

A low-key visit with emphasis on finding your own way to enjoy the wildlife on offer.

Ability to see birds/animals in natural habitats.

Access to areas and close to home.

All refuges that I have visited over my 70 year lifetime display remarkable birding opportunities and settings of natural beauty (increasingly special as human habitation ever expands). Yes, refuges provide a "quality of life" value and recreational outlet.

Allow close-up observation of wildlife.

At refuges, the focus is on wildlife and conserving key habitat for them.

Available information: printed, video, knowledge of staff. Seasonal specifics regarding wildlife and habitat, and displays.

Being able to observe birds, wildlife, etc. in their natural habitats makes refuges unique.

Besides zoos, they are the only place I know of where you can see a number of native animals in their natural habitat. In the last month, I was in refuges in Colorado, North Dakota, South Dakota and New York. I was very impressed with each.

Better maintained and managed for public use. Availability of staff to assist visitors.

Better viewing of migratory birds.

Conservation and maintenance of natural habitat; land reclamation; restoration of natural habitat.

Dedication to non-human forms of life.

Designated area to rehab habitat, and possibly less foot traffic.

During hunting season, there is limited, managed access.

Easy access for viewing wildlife and plants. They are places where one can visit our special environment.

Emphasis on conservation and management within natural habitats.

Emphasis on opportunities to view wildlife.

Federal programs make them unique.

Focus on viewing nature as opposed to other recreational activities.

Great for adults and kids to see small wildlife and exhibits.

Greater preservation and care. It also feels like a safer place to be than other parks for both people and wildlife due to enforcement.

Handy to the public, availability of Visitor Center to showcase what can be found there, and no entrance/use fees (that I know of, anyway)!!!

Having made approximately 28 trips to Montezuma since 2004, we have discovered how important and productive having a well-maintained area of land is for wildlife. The diversity of life we see each visit still amazes us. I think the saying "If you build it, they will come" sums it up!

Having video cameras on nest sites. Also, having raised platforms with spotting scopes is very useful.

Hunting is minimal.

I am a duck hunter. Over the last four years, I've seen fewer and fewer ducks at the hunting area because no food was planted. After the \$20 hunt you can drive to the main pool where shallow areas have food planted and see 3000-4000 ducks of all kinds. It is a pleasure to see them, but it would also be nice to get a shot or two at some of the special ducks here. The hunters outside the refuge do tremendously better than the hunters at the refuge. It doesn't make any sense to me.

I enjoy the hunting opportunities very much!

I enjoy the waterfowl experience. If you're able to reserve a spot, it's an enjoyable outing without being overcrowded.

I enjoyed the swampland and the bird watching it affords. The highways passing through the refuge were a hindrance - polluting, noisy, and scaring away the birds. Plants and vegetation should separate the park from the highways so that it filters the pollution and noise, affording a peaceful habitat for the birds and animals. The drive through road was very dusty and could use some work. Also, it would be nice to have more pull over spots and observation decks. The trail was not a great experience; nothing to see and we just got muddy.

I had no idea the scope of wildlife that are natural to the area where I live. Because of the refuge, not only did I get to see some in their natural habitat, but I became more informed towards the type of wildlife that are in our region. It was a great experience. Much different than visiting a state park.

I have never had the opportunity to see such a variety of birds (counted 31 different kinds).

I have only been to one refuge. In general, any open piece of natural land is different from much of the land humans often see (whether it be urban and suburban areas, agricultural land, malls and outlets, amusement parks, and so forth). I enjoy getting out of the city into more pastoral and natural land, and would someday like to take visits into the wilderness as well. Refuges are even more remote than state parks in the sense that there is no hum of a vending machine and crowded trail ways, so visitors that want to observe wildlife in peace can get away at a refuge. Refuges serving as sanctuaries for wildlife are invaluable.

I know of no other location or destination where the place does great work for wildlife in the wild and provides so much opportunity for humans to observe. I would like to see even more NWRs.

I like refuges because they don't have signs of human interference. You can enjoy nature and see wildlife without interrupting it. Hiking trails are nice, but it just reminds you that lots of people have trampled the earth before you. I wish there was a way to be outside more at Montezuma, rather than just driving around, but I also understand the necessity of not allowing people to just go all over the land. It's hard sometimes to hold back and allow the wildlife to have primary use of the land, but it is for the better.

I like seeing all the birds.

It gives animals a shelter from danger and also provides a natural viewing environment.

It is a great place to witness the spring and fall migration of waterfowl. I also enjoy seeing the young of the breeding birds.

It is a safe haven for wildlife and an excellent opportunity for city folk to participate in the wonderful outdoors.

It is dedicated primarily to the birds and marsh restorations, which is critically important in western New York.

It's like visiting an environmental classroom; they have active conservation going on and everything that is being done has a reason.

It's nice to show it off to our visitors since we only live 5 miles away.

It's set up for the birds and other wildlife. You get to see the birds migrating through.

It's the first time for my family to watch the eagles nest.

Its use of biological controls for invasive species.

Just knowing that the land is preserved for future generations makes refuges unique.

Knowing that the staff and volunteers are focused on maximizing the opportunities for birds and other wildlife to visit or live on the lands safely, and on caring for the habitat with that in mind. Having fellow visitors who are there for the specific opportunity to view wildlife.

Large area, a lot of friendly environments for different types of birds.

Left in the most natural state possible without many people.

Location, location, and location are the three main reasons refuges are something unique. Discover something unique, then protect it.

Low cost access to nature. Often there is unique habitat at NWRs.

Many birds to see!

Many educational opportunities. Refuges allow people to converse and receive information and knowledge.

Migration times result in huge numbers of birds at this refuge.

Montezuma NWR in particular offers some of the best waterfowl hunting around, which could be further enhanced by periodic draw downs of Tschache pool in addition to muskrat/cattail management.

Montezuma NWR is unique because it allows one to watch huge waterfowl migrations and the variety of birds can be viewed up close and in one location.

Montezuma NWR is unique because it is very different from the Pacific Flyway.

More knowledgeable employees and much more organized.

More protection afforded to wildlife under the Federal government, and there are knowledgeable and well-trained staff available for assistance.

Multiple uses.

Naturalness. One can expect less people than at national parks.

Normally secluded; it's like a separate land you can go to.

Not overly developed and more naturally maintained.

Openness to public observation and enjoyment while protecting the resource.

Opportunities to see animals in a habitat specifically maintained for them.

Opportunity for bird watching for those interested.

Opportunity for hunting and observing a tremendous amount of wildlife.

Opportunity to see a wide variety of wildlife.

Private and personal moments with nature.

Recreation, particularly for educating the younger generations, needn't always be about play. It is important for everyone to have an appreciation for natural beauty and the creatures we share our planet with, particularly those so dependent upon us to take care of them.

Refuges are a place where we can take our grandchildren to see all kinds of birds.

Refuges are home to much more concentrated bird populations and sighting opportunities with excellent lists of what species (birds and otherwise) one might expect to see and when. Knowledgeable volunteers provide outstanding information.

Refuges conserve natural habitats better than state programs.

Refuges have a large variety of birds.

Refuges offer people the chance to safely observe wildlife and the migratory process, the ability to learn about the wildlife, and they positively conserve habitat and species.

Refuges provide habitat for variety of species, opportunities for public viewing, and has people who know what you've seen and are happy to

help you figure it out if not.

Since its primary purpose is to observe wildlife (birds), you don't have to deal with hoards of people who are there for other reasons.

Since my primary goal in visiting any public lands is photo documentation of the scenery, flora, and fauna of that particular area, refuges such as Montezuma fulfill all that I seek by concentrating everything into such an accessible area.

Small areas in the midst of farm and countryside where we may "escape." Important places for fish and fowl to give birth, grow, and prosper.

So many areas to observe the birds of our area and such opportunities to photograph nature at its best. Well maintained with knowledgeable volunteers to guide you to where you want to go and what you want to see.

State lands typically have a focus other than conservation.

The ability to control and manipulate the waterfowl area in its habitat.

The ability to drive through the refuge with the car used as a "portable blind" allowed us to get closer to birds and other wildlife than approaching on foot.

The ability to observe wildlife at any time during the year. Ability of the staff to maintain and manage the refuge for the benefits of wildlife, especially during the migrating and mating seasons.

The ability to see a concentrated amount of wildlife in their natural habitats; the conservation aspect of refuges that protect the viability of vulnerable populations of all animal types (birds/ mammals/ amphibians/ reptiles, etc.).

The ability to see a variety of birds.

The abundance of different animal species, birds in particular, is spectacular.

The amount and variety of wildlife and the opportunities to view them.

The amount of wildlife!

The beauty of life in its natural, healthy environment that is being preserved for all living plants and wildlife.

The deer population makes it a fun place to bow hunt, not so much gun hunt. I'm not a fan of gun hunting on the refuge. Many years ago, it was bow hunting only and it was fantastic. Since the introduction of gun hunting to the refuge, I have seen a significant decline in the population of the deer.

The ditching system, which provides water to attract wildlife, has proven to be a tremendous plan and the lack of a need for mixed-use facilities, such as at National Parks, makes it much more of a true wildlife sighting experience.

The emphasis on conservation and the entire layout of this Refuge made it a unique experience for me. The staff person was so knowledgeable, approachable, and enthusiastic that this, too, enhanced our experience.

The experience at a NWR is usually wilder than at a NPS facility and that is good. It's a way to see what the wildlands are like (well, sort of, given that very little land is truly wild anymore).

The fact that you can drive through the refuge and see many sources of wildlife without ever leaving the car.

The focus of refuges is wildlife and the environment. That focus in and of itself is unique compared to say BLM or USFS lands or National Parks.

The greatest story never told!

The habitat is unique and the employees are surprisingly welcoming and informative. I was not prepared for the degree to which I was made to feel welcome and appreciated.

The high quality of the outdoor experience is, from my perspective, unmatched in our geographical area.

The knowledge of the employees helps you get more out of the refuge.

The land is less developed/more primitive.

The land is reserved for wildlife with minimal invasion by humans. That is the best!!!! It is designed for people to be able to learn about, observe, and enjoy nature with minimal impact on nature. I am very grateful for that. Because of the conservation work done there, I can see wildlife which I cannot see in my home area.

The lands at the Montezuma National Wildlife Refuge are managed much better for the support of wildlife than the surrounding New York State Dept. of Environmental Conservation lands.

The large amount of different birds including eagles and osprey. I like watching the carp in the springtime, too!

The large number of birds.

The large number of migratory birds that can be observed.

The opportunities to see waterfowl as well as raptors and passerines migrate.

The opportunity to observe and document yearly what is migrating, and in what numbers, is important to my husband and I. We enjoy this opportunity to relax in a non-threatening environment and just observe nature. It is very calming. We take the opportunity to learn from trained, educated personnel at the refuge. These trips will help us to recognize how threatened these species are in our communities and how you are offering them a safe haven.

The opportunity to observe and photograph wildlife and birds in their natural habitats.

The opportunity to see wildlife live in a natural environment.

The opportunity to view the wildlife in their natural habitat.

The quality of information and direction of management, plus the knowledge and awareness of the staff is superior in my mind.

The refuge has many different and diverse areas, ponds, woods, canals, open fields, muck land, and crop fields. It's a natural place for all animals!

The sheer number of migratory waterfowl that use the refuge.

The variety of waterfowl at Montezuma NWR is larger than that found at any other public land/area in the state.

The water and variety of birds that migrate through make refuges unique.

The willingness of the staff to share information about wildlife.

There are fewer hunters present, perhaps because of regulations.

There are many different locations throughout the country with multiple species and habitats.

They are "wild." The animals and birds are completely "natural" and infinitely interesting as a result. They are (usually) very calm, and very quiet, and very real.

They are maintaining a very important part of our natural environment at a time when financial demands and exploitation are culturally on the rise. Wetlands are especially important, as they would easily fall to draining and development without government protection.

They are not a zoo, and they are always a "work in progress." It's just a wonderful place to relax and enjoy the outdoors. I love my tax money going to the refuges!

They are on protected land. I live near Montezuma National Monument (Arizona), so I was amused by the name of the refuge in New York.

They enable visitors to observe nature in its natural state.

They give you the ability to see animals in their natural surroundings.

They offer educational opportunities for learning about birds, wildlife, and plants. The Visitor Centers are well equipped and have resources that people would not normally have access to. I think "field trips" to the refuges would greatly help school children of all ages learn more about wildlife and the environment. It would be a practical experience they would learn from (instead of just book experience). Refuges and schools should collaborate to make this possible.

They provide a more natural environment to enjoy wildlife, as compared to parks that have a higher degree of manipulation by man.

They provide a safe habitat for wildlife.

They provide accessibility to areas (that are open to the public) to view wildlife, hike, and enjoy the outdoors.

They provide opportunities to see wildlife that are usually difficult to see.

They provide permanent habitat for important species, not only local, but migratory species as well. It is a place free from wildlife harassment such as trapping.

They provide special opportunities to observe wildlife of all types.

They truly are a refuge, especially during the migration season. The animals, particularly birds, make their life and mine complete. They are vital to both of us!

They're usually free to visit, and offer a chance to see wildlife in a completely natural habitat. Refuges are usually an excellent opportunity to teach about humans and wildlife sharing this planet, and they're a great experience for all ages.

Unique location specific for interacting with wildlife.

Unique wildlife and a chance to get up close and personal.

Unique wildlife; in the case of Montezuma NWR, migrating waterfowl make it unique.

Waterfowl habitat is world class; the number of migratory birds is in the tens of thousands. It is a very unique habitat for shorebirds and waterfowl and my grandson loves the eagles. Thanks for the job well done at Montezuma!!

We enjoy wildlife and mostly the birds, not as campers, but as trail hikers with binoculars. We are senior citizens who know what it used to be like to see and hear birds all day long. We subscribe to certain magazines, donate to select wildlife causes, and consider your work extremely important.

We kayak in the nearby rivers, canals, and/or lake. We enjoy a stop at the Visitor Center before or after our outing to find out what is going on with migration, etc.

When speaking with employees, they know where the eagle nests are, even if they are not on the refuge and what types of wildlife during that season can be seen.

Where else can you watch bald eagles nesting with 2 eaglets, falcons, cranes, and osprey? Just being able to watch the eagles in their nest through a scope was well worth the trip.

Additional Comments (n = 42)

A great resource and a fun place to visit.

As previously stated, some additional programs at Montezuma would be great. Scheduled hikes with a naturalist to areas not normally open to the public, particularly to locations where some lesser observed species could provide a small income stream.

Canoeing/kayaking in the lake part of the refuge would be nice. Instead, there was an industrial ship yard. The refuge would be a better experience if it was more well preserved!

Forty-five years ago, I lived in central New York and I hunted ducks at this refuge. I returned to live within 20 miles of the refuge. It's still about the same experience like old memories of good times past.

Great refuge. We really enjoyed our visit!

I am a 48 year old male that would love to work at this refuge. I am an avid outdoors man. I think with proper training, I could be a huge asset to the refuge. (Name and address were provided)

I am a senior at Hobart College, with a major in Environmental Studies, and a minor in Geology. I am not only concerned about the environment and the affects of humans on the environment, but I am also an avid hunter and outdoors man. I really appreciate the ability to take advantage of the hunting and other activities at the refuge and hope many more people take advantage of it as well.

I am not convinced that climate changes are not cyclical; we need more years to make a positive judgment. That being said, I am sure that we are not helping the environment. We need to clean up our act and the technology is there. The entire human race has to compromise where we are versus where we should be on the environment. In the US (we are certainly a wasteful, spoiled people) we need to start with recycling and make the move to efficient, cleaner technology. (signature)

I can't say enough about the staff, volunteers, and facilities. This is a hidden gem (almost 50 acres). Thank you to everyone involved at Montezuma!

I have been to Montezuma NWR several times over the years. It is always a great experience. The staff is very helpful when we are there and have promptly responded to questions when I have contacted them via email.

I like the gift store. I wish I lived closer in order to participate in the lectures and other environmental activities. I always look forward to spring to visit Montezuma and to check up on the bald eagle population and nesting sites. I always stop when visiting Rochester or the Waterloo Outlet Mall.

I love the Montezuma National Wildlife Refuge. I enjoy watching the birds, as well as learning about and photographing them. I enjoy seeing the

deer, foxes, and coyotes, too. I would like to see the Visitor Center be able to sell snacks and beverages, as I drive a long way to get there. The clean bathrooms are a must for me after a long drive. :)

I spend a lot of time at this refuge and it gives me a great amount of pleasure.

I think that the refuge should be returned to bow hunting only. Also, people such as my father, who have a very hard time getting around, should be permitted to use a bicycle or other means of transportation to get back to their hunting destinations.

I would like to see more live video of eagles and ospreys.

I would like to see more waterfowl opportunities, especially enhancing the hunt areas as much as the bird watching areas. I don't mind sharing this special place with bird watchers, but my tax dollars keep this place going. Some bird watchers think that only they should be allowed here and that, as a hunter, I have no right to be there or to be able to hunt. I guess I'm tired of everyone saying that they have rights, but hunters and fishermen are nothing but killers and slobs.

I would like to see some opportunity to hunt small game in some capacity. I feel a season after the deer season, on a sign-in basis, would be a great opportunity. There are a lot of rabbits and squirrels on many of the refuge pieces.

Montezuma National Wildlife Refuge is a very enjoyable place to visit and waterfowl hunt. I would like to see them drain Tschache Pool to promote new uses - growth for food and cover. Thanks!

Montezuma National Wildlife Refuge is a wonderful place and has a lot of potential. It's heading in the right direction. There needs to be a balance of the wildlife's needs and the opportunity for people to see the birds and wildlife. I hope the area keeps expanding to the original size of the swamp. There needs to be more coordination between Montezuma and the other wildlife refuges in the area.

Montezuma National Wildlife Refuge needs bike trails and the auto tour route needs to be reopened to bicycles.

More bicycle options obviously means more wildlife disruptions (movement, voices, etc.). Thanks for trying to sort this out.

My mother and I visit somewhat regularly to bird watch, but also enjoy the rare appearances of other creatures - we watched two foxes on one visit, which seemed quite unconcerned about our presence. That was a real treat. Although the Refuge attempts to exclude carp from entering the Main Pool and other marshy pools at Montezuma NWR, it's fascinating to watch them there, too. Having spent the last 32 years in dry southern Colorado, it is a wonder to me (and my husband) to see the watery habitats in upstate New York, and to be able to watch all the many types of birds, animals, and fish that inhabit them. Montezuma NWR is only 16 miles from our home, and we enjoy visiting it very much.

My visit to this refuge would probably not have been as awesome if Gene Hocutt hadn't been with us. :)

Open up small game hunting: turkey, squirrels, and grouse.

Recently purchased what I call a "good" camera and have spent many hours of enjoyment taking photographs in the Montezuma National Wildlife Refuge. Such a wonderful place to enjoy the beauty and tranquility of nature!

Sixty days of fishing, hunting and wildlife viewing, most of which are day trips. I hunt Montezuma 12 times a year and I love Montezuma, a treasure for the birds and greatly enhances NY state. Other trips include going to the Cape area for bluefish, Quebec for snow geese, NJ for striper fishing, SC for redfish, Arkansas for ducks, etc.

Staff does a terrific job; keep up the great work. It would be valuable to connect the NWR system with public schools via curricula and field trips.

Thank you for having refuges for people like us.

The attendant at the Visitor Center was very knowledgeable and very, very friendly. She made the visit fun and I took advantage of more options because she offered them.

The biggest selling point for my house/property was it bounds NWR land. I trust it shall be a great selling point should I move.

The distance from the birds makes viewing them very difficult, even with a scope.

The staff and volunteers are always very helpful, answering our questions about birds we've seen while kayaking. A pleasant experience.

This is the third time I have visited this refuge. The only season I have yet to visit is in the winter. It's a very nice refuge.

This was my first visit to a refuge where I could actually explore and hike around. Other trips were simply driving through. The trails were partially underwater due to heavy rain during the visit. I hope to return in the future to better experience the hiking.

This was my first visit to Montezuma and I plan to return in the late summer/fall, staying overnight in the area. I enjoyed being able to 'road-bird' safely, and seeing Sandhill Cranes was a thrill!

Tschache Pool drastically needs a drawdown of the water. I understand the reason as to why it hasn't happened, which exemplifies why sharing knowledge can be so valuable.

We are fortunate; we live between two refuges in New York and visit them often, especially at migration times.

We go to the Montezuma National Wildlife Refuge on Thursdays because of a wonderful volunteer, Chuck Gibson. You will find him at the Visitor Center out on the viewing platform where he sets up his scope for visitors to look through. He will point out special birds, ducks and eagles that are present. He has checked out the whole refuge and lists all the species seen that day. Chuck will tell you how to get around the refuge and where the best species can be seen. You'll end up finding Sandhill Cranes on a back road, Snow Geese in a muck field, and Blue Herons all over the place. The Montezuma National Wildlife Refuge is a wonderful place to visit. (date, husband and wife signature)

We were driving across the state on a road trip, and this refuge was one of our planned stops.

We'll be back!

When we went on the road from the Visitor Center, we had no idea where we would end up. We came upon a main road that did not have a sign indicating route number or destination going right or left. Luckily, I am a little familiar with the area and we found our way back to 5 and 20 (and the winery). Better signs would be a plus.

Wonderful experience. Will definitely be back.
