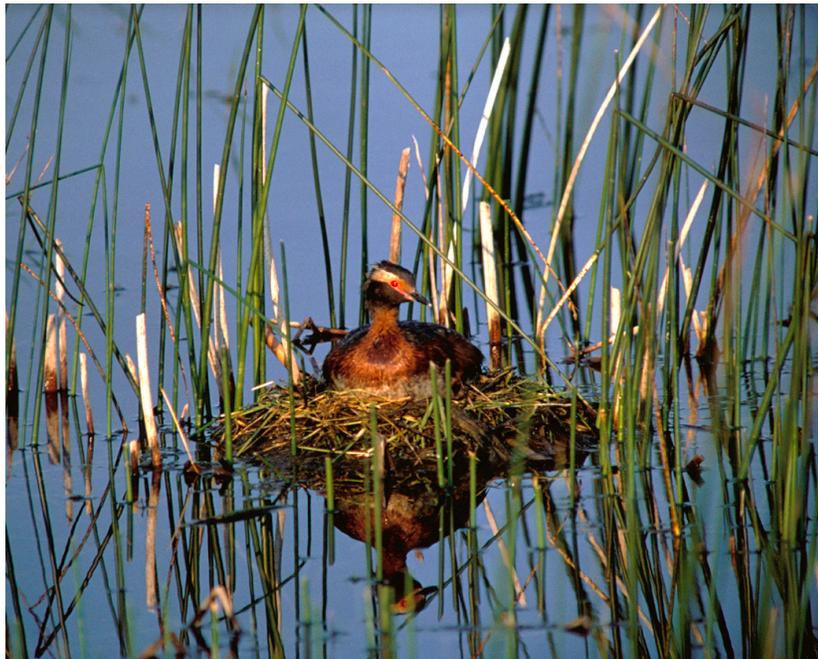


National Wildlife Refuge visitor survey 2010/2011: Individual Refuge Results for Malheur National Wildlife Refuge

By Natalie R. Sexton, Alia M. Dietsch, Andrew W. Don Carlos, Lynne Koontz, Adam N. Solomon and Holly M. Miller

I love this refuge. The experience is life affirming. Not only do we love the experience of being in the unique landscape and viewing the birds, we have loved getting to know some of the local people we connect with again each year, and meeting other travelers.. Some years we have gone twice. Each trip I learn something new (often from another visitor) or recognize a bird that I could not identify before. It is an opportunity to be with our friends in an environment we love and appreciate. It is so interesting to see the differences through the years... Are the owls nesting in the same place? Will the area be dry or wet? Will the number of birds returning be similar in number or will events (natural or not) over the last year affect their population? My life experience would be greatly diminished if I could not come here.—Survey comment from visitor to Malheur National Wildlife Refuge.



Horned Grebe at Malheur National Wildlife Refuge. Photo credit:
U.S. Fish and Wildlife Service.

Contents

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

Figures

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

Tables

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

Acknowledgments

This study was commissioned by the U.S. Fish and Wildlife Service Division of Visitor Services and Communications Headquarters Office, Arlington, Virginia. The study design and survey instrument were developed collaboratively with representatives from U.S. Fish and Wildlife Service and researchers from the PASA Branch, U.S. Geological Survey. For their support and input to the study, we would like to thank Kevin Kilcullen, Chief of Visitor Services; Steve Suder, National Transportation Coordinator ; Regional Office Visitor Services Chiefs and Transportation Coordinators; and the staff and any volunteers at Malheur NWR who assisted with the implementation of this surveying effort. The success of this effort is largely a result of their dedication to the refuge and its resources as well as to the people who come to explore these unique lands. We also would like to thank the following PASA team members for their hard work throughout the surveying effort, which has included (among *many* things) the arduous tasks of stuffing more than 20,000 envelopes, managing multiple databases, and preparing numerous reports: Shannon Conk, Halle Musfeldt, Phadrea Ponds, Gale Rastall, Margaret Swann, Emily Walenza, and Katie Walters.

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

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

Methods

Selecting Participating Refuges

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

Developing the Survey Instrument

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

Contacting Visitors

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

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

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

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

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

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

Interpreting the Results

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

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

Malheur National Wildlife Refuge is located in the sagebrush country of eastern Oregon. The Refuge was established by Theodore Roosevelt in 1908 as a preserve and breeding ground for native birds. The Refuge has since grown through a 65,000-acre purchase in 1935 and a 14,000-acre purchase in 1942, covering a total of 187,000 acres. Malheur NWR attracts a variety of visitors, from bird watchers, hikers and bicyclists, to anglers and hunters. Over 320 species of birds and 58 mammal species call the refuge home, providing hunters and birders with ample recreation opportunities. Flocks of waterfowl and sandhill cranes use Malheur NWR as a resting point and feeding ground during their migration along the Pacific Flyway in the spring and fall, providing a range of visitors with unique recreation experiences. Malheur NWR attracts 65,000 annual visitors (based on 2008 RAPP database; U.S. Fish and Wildlife Service, 2011, written comm.). Figure 1 depicts a map of Malheur NWR. For more information, go to <http://www.fws.gov/malheur/>.

Sampling at Malheur National Wildlife Refuge

A total of 315 visitors agreed to participate in the survey during the two sampling periods at the identified locations at Malheur NWR (table 2). In all, 276 visitors completed the survey for an 89% response rate and $\pm 5\%$ margin of error at the 95% confidence level.¹ The majority of the contacts were made at the Visitor Center (68%), whereas 20% were made at Krumbo Reservoir, 7% at Historic P Ranch, 3% along the Auto Tour Route, and 2% at the Historic Sod House Ranch. The refuge experienced flooding during sampling period 2 which may have affected participation in some activities on the refuge, such as use of the auto tour route.

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

Sampling period	Dates	Locations	Total contacts	Undeliverable addresses	Completed surveys	Response rate
1	8/28/10 to 09/11/10	Auto Tour Route, Center Patrol Road Historic Sod House Ranch Krumbo Reservoir Visitor Center/Refuge HQ	144	2	126	89%
2	05/21/11 to 06/04/11	Historic P Ranch Krumbo Reservoir Visitor Center/Refuge HQ	171	3	150	89%
Total			315	5	276	89%

Selected Survey Results

Visitor and Trip Characteristics

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

Familiarity with the Refuge System

While we did not ask visitors to identify the mission of the National Wildlife Refuge System or the U.S. Fish and Wildlife Service, visitors to Malheur 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 (92%) 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 (96%; see Appendix B for visitor comments on “What Makes National Wildlife Refuges Unique?”); however, reasons for why visitors find refuges unique are varied and may not directly correspond to their understanding of the mission of the Refuge System. Most visitors to Malheur NWR had been to at least one other National Wildlife Refuge in the past year (78%), with an average of 6 visits to other refuges during the past 12 months.

Visiting This Refuge

Most Surveyed visitors (72%) had only been to Malheur NWR once in the past 12 months, while others had been multiple times (28%). These repeat visitors went to the refuge an average of 3 times during that same 12-month period. Visitors used the refuge during only one season (79%) and during multiple seasons (21%).

Most visitors first learned about the refuge from friends/relatives (59%), refuge printed information (15%), or a recreation club/organization (13%; fig. 2). Key information sources used by visitors to find their way to this refuge include a road atlas/highway map (56%), previous knowledge (55%), or signs on highways (52%; fig. 3).

Few visitors (4%) lived in the local area (within 50 miles of the refuge), whereas 96% were nonlocal visitors. For most local visitors, Malheur NWR was the primary purpose or sole destination of trip (80%; table 3). For most nonlocal visitors, the refuge also was the primary purpose or sole destination of trip (50%). Local visitors (n = 10) reported that they traveled an average of 41 miles to get to the refuge, while nonlocal visitors (n = 266) traveled an average of 438 miles. ***It is important to note that summary statistics based on a small sample size (n < 30) may not provide a reliable representation of the population.*** Figure 4 shows the residence of visitors travelling to the refuge. About 60% of visitors travelling to Malheur NWR were from Oregon.

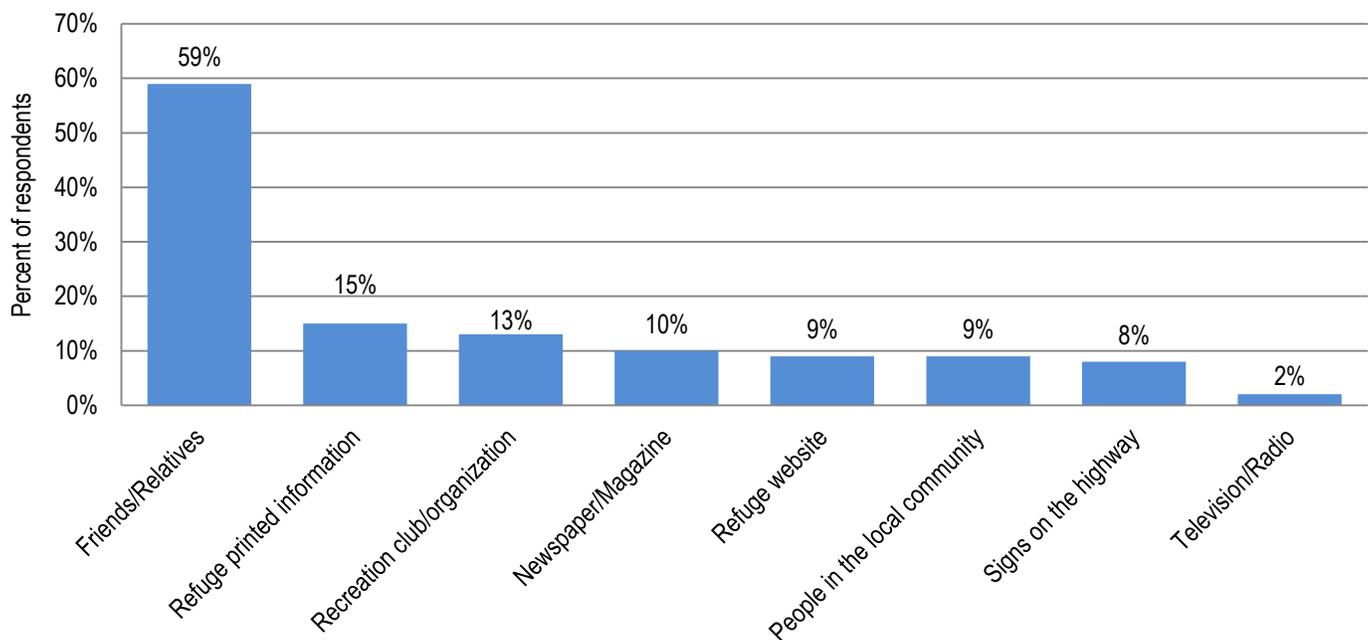


Figure 2. How visitors first learned or heard about Malheur NWR (n = 271).

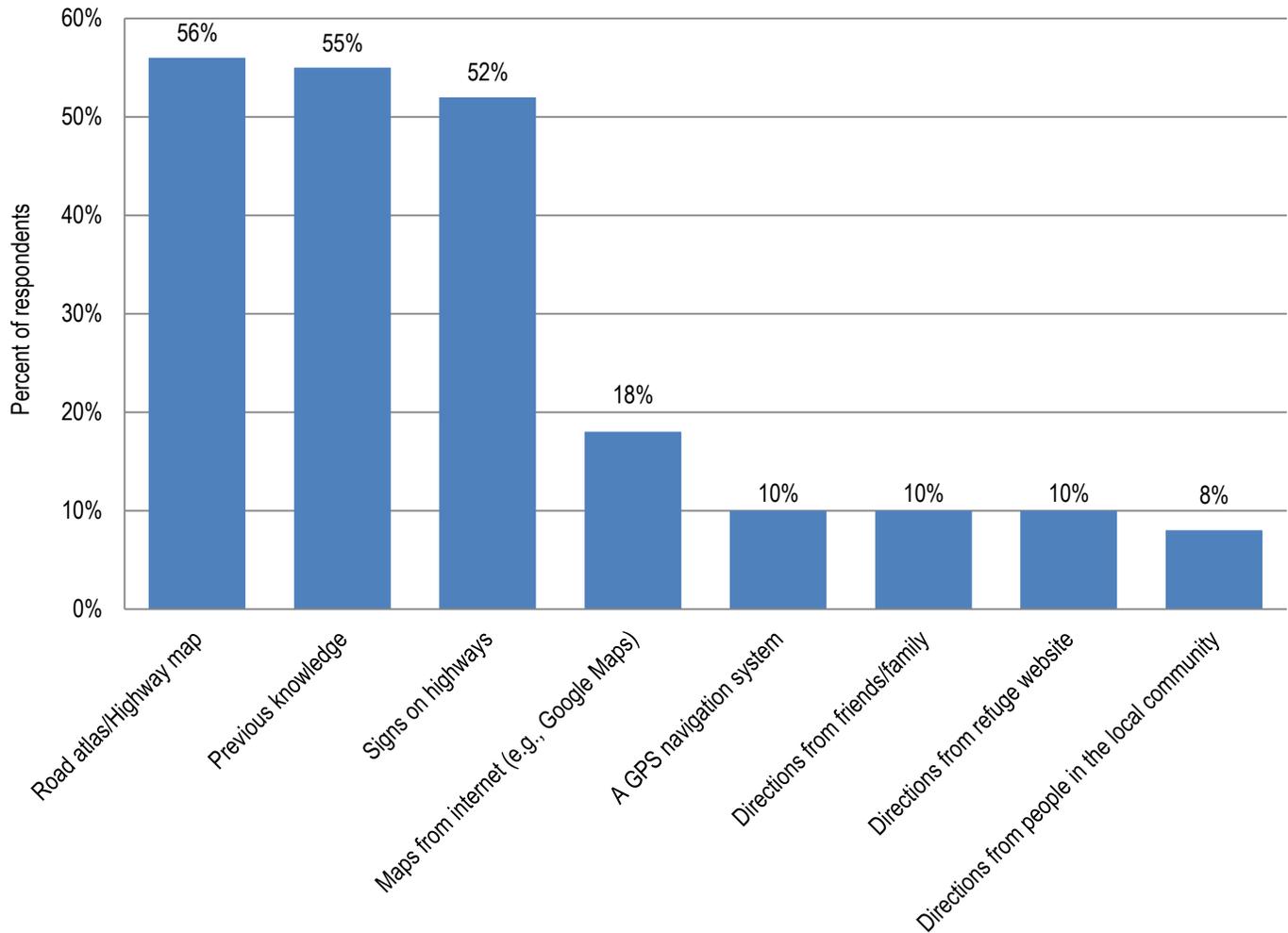


Figure 3. Resources used by visitors to find their way to Malheur NWR during *this* visit (n = 272).

Table 3. Influence of Malheur 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	50%	44%	6%
Local	80%	20%	0%
Total	51%	43%	6%

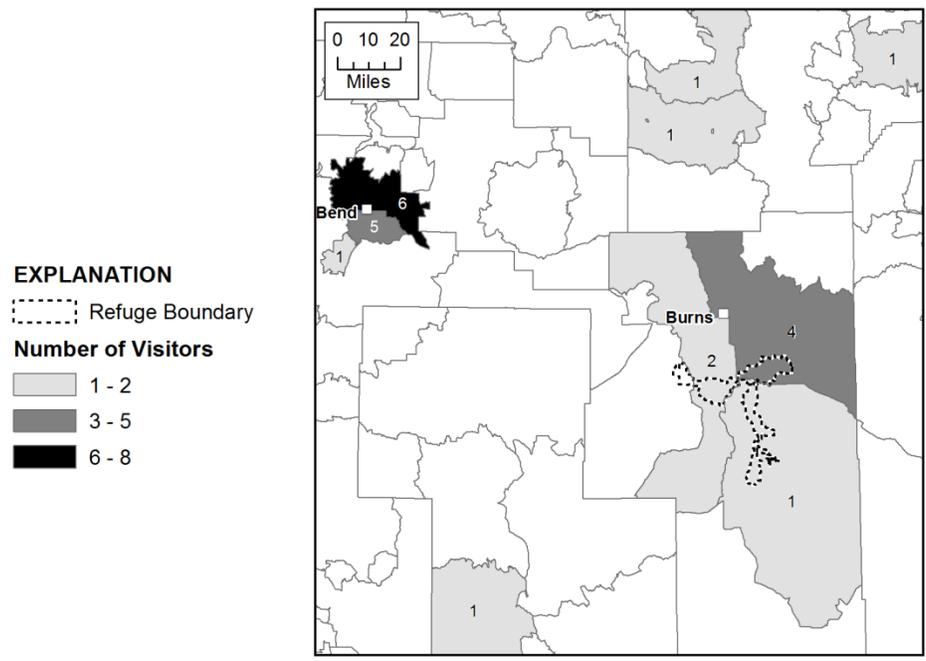
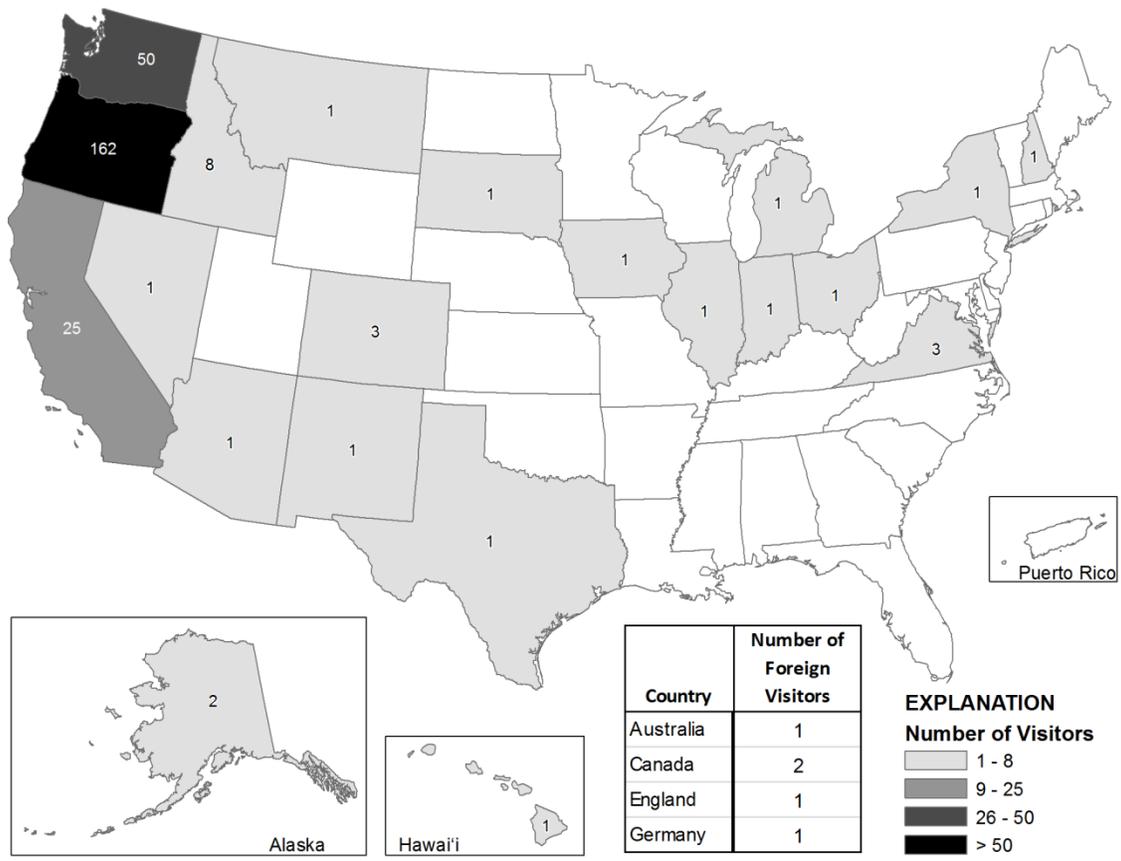


Figure 4. Number of visitors travelling to Malheur NWR by residence. Top map shows residence by state and bottom map shows residence by zip codes near the refuge (n = 276).

Surveyed visitors reported that they spent an average of 7 hours at Malheur NWR during one day there (a day visit is assumed to be 8 hours). However, the most frequently reported length of visit during one day was actually 8 hours (77%). The key modes of transportation used by visitors to travel around the refuge were private vehicle (83%) and walking/hiking (42%; fig. 5). Most visitors indicated they were part of a group on their visit to this refuge (74%), travelling primarily with family and friends (table 4).

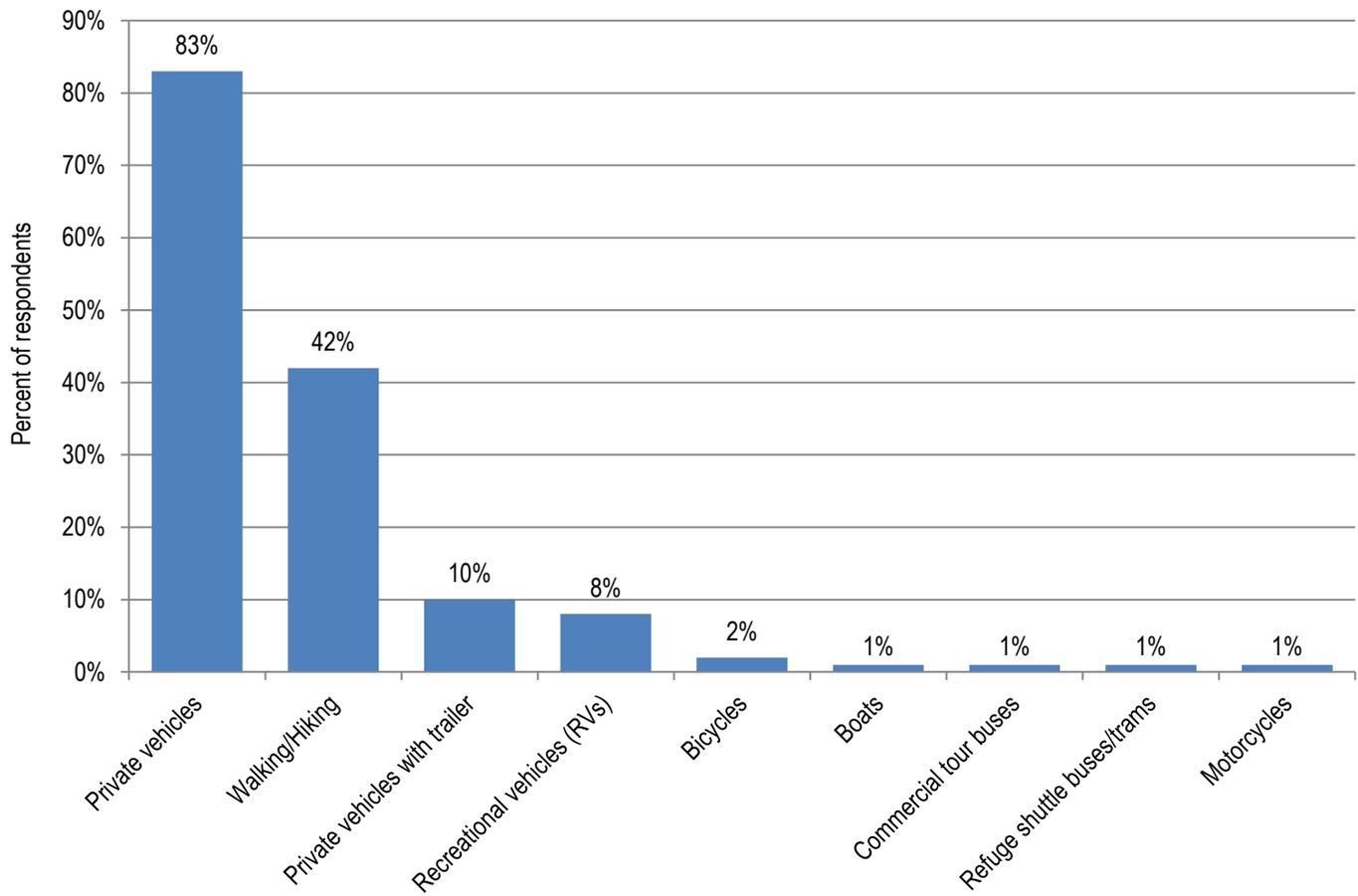


Figure 5. Modes of transportation used by visitors to Malheur NWR during *this* visit (n = 273).

Table 4. Type and size of groups visiting Malheur NWR (for those who indicated they were part of a group, n = 202).

Group type	Percent (of those traveling in a group)	Average group size		
		Number of adults	Number of children	Total group size
Family/Friends	85%	4	0	4
Commercial tour group	1%	10	0	10
Organized club/School group	11%	12	1	13
Other group type	2%	11	0	11

Surveyed visitors participated in a variety of refuge activities during the past 12 months (fig. 6); the top three activities reported were bird watching (93%), wildlife observation (87%), auto tour route/driving (61%) and photography (60%). The primary reasons for their most recent visit included bird watching (68%), wildlife observation (11%), and fishing (5%; fig. 7). The visitor center was used by 93% of visitors, mostly to visit the gift shop/bookstore (87%), stop to use the facilities (84%), and ask information of staff/volunteers (81%; fig. 8).

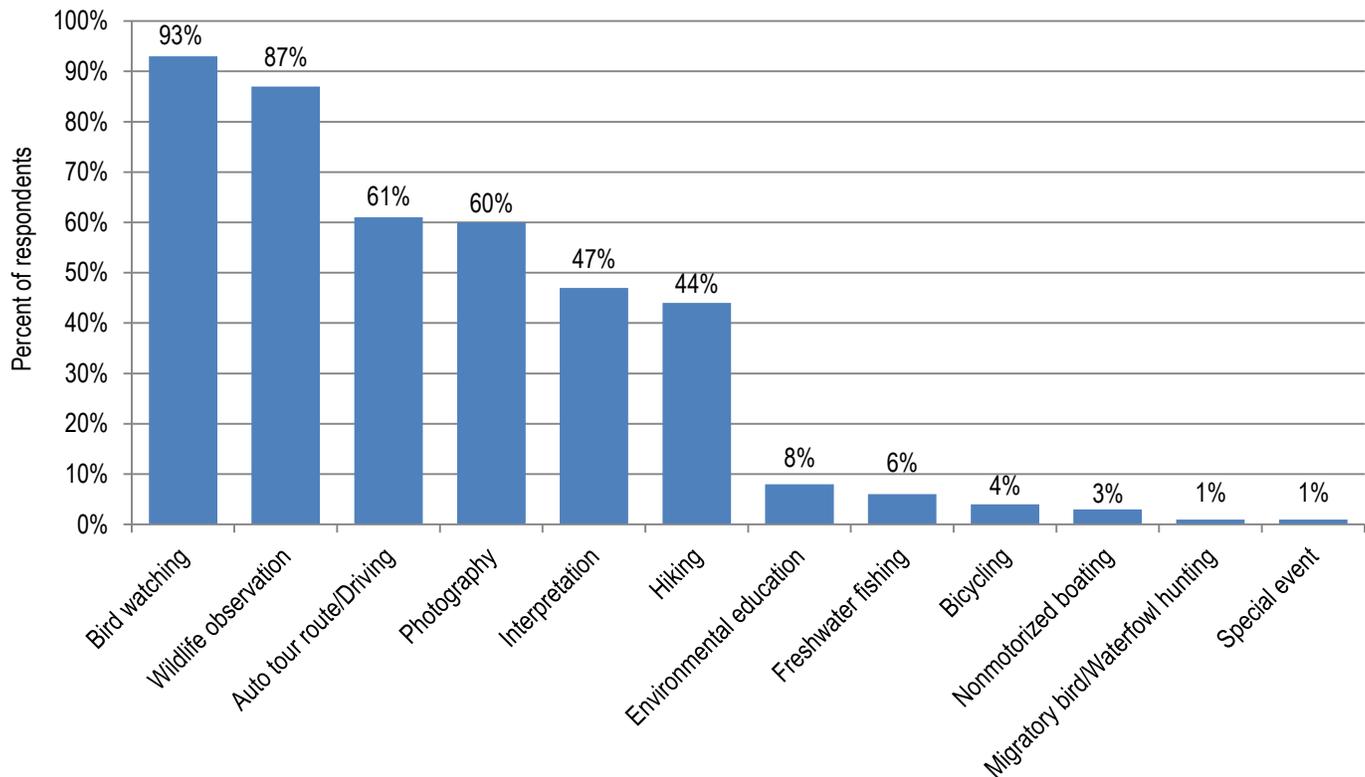


Figure 6. Activities in which visitors participated during the past 12 months at Malheur NWR (n = 271). See Appendix B for a listing of “other” activities.

Visitor Characteristics

Nearly all (98%) surveyed visitors to Malheur 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 53% male with an average age of 58 years and 47% female with an average age of 59 years. Visitors, on average, reported they had 17 years of formal education (graduate or professional 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).

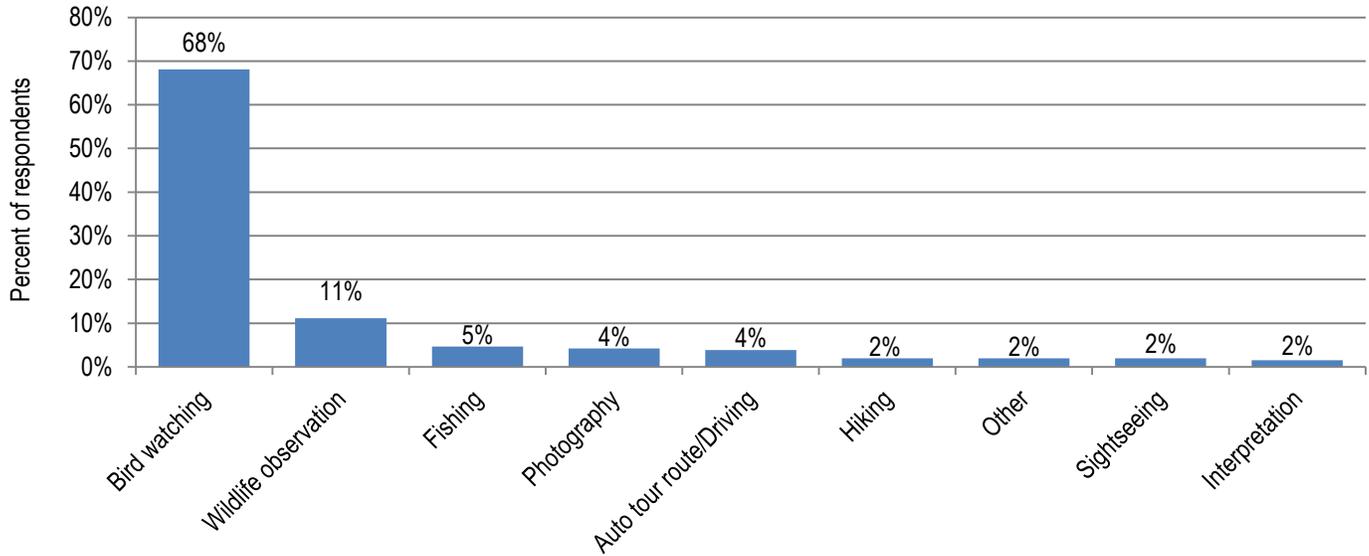


Figure 7. The primary activity in which visitors participated during *this* visit to Malheur NWR (n = 260). See Appendix B for a listing of “other” activities.

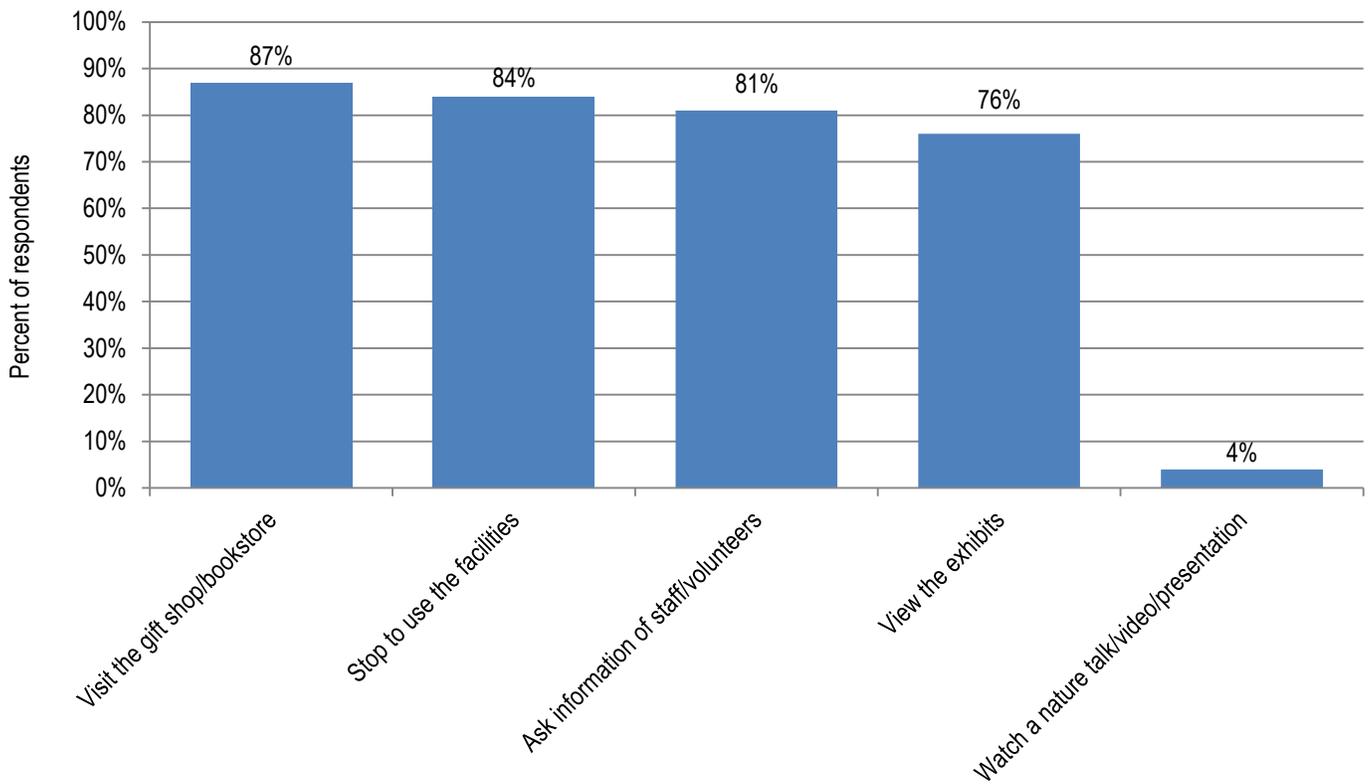


Figure 8. Use of the visitor center at Malheur NWR (for those visitors who indicated they used the visitor center, n = 253).

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, 4% of surveyed visitors to Malheur NWR indicated that they live within the local area. During the two sampling periods, nonlocal visitors (96%) stayed in the local area, on average, for 3 days. Table 5 shows summary statistics for local and nonlocal visitor expenditures in the local communities and at the refuge, with expenditures reported on a per person per day basis. ***It is important to note that summary statistics based on a small sample size ($n < 30$) may not provide a reliable representation of that population.*** Nonlocal visitors spent an average of \$65 per person per day and local visitors spent an average of \$60 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 Malheur NWR expressed in dollars per person per day.

Visitors	n ¹	Median	Mean	Standard deviation	Minimum	Maximum
Nonlocal	240	\$52	\$65	\$51	\$0	\$375
Local	9	\$44	\$60	\$53	\$8	\$155

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 Malheur NWR were as follows (fig. 9):

- 97% 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
- 92% were satisfied with the refuge's job of conserving fish, wildlife and their habitats.

Although 14% of visitors (n = 39) indicated that they paid a fee to enter the Malheur NWR, the refuge does not have an entrance fee. It may be that some visitors were referencing commercial guides or donations made to educational activities or the volunteer program when answering this question.

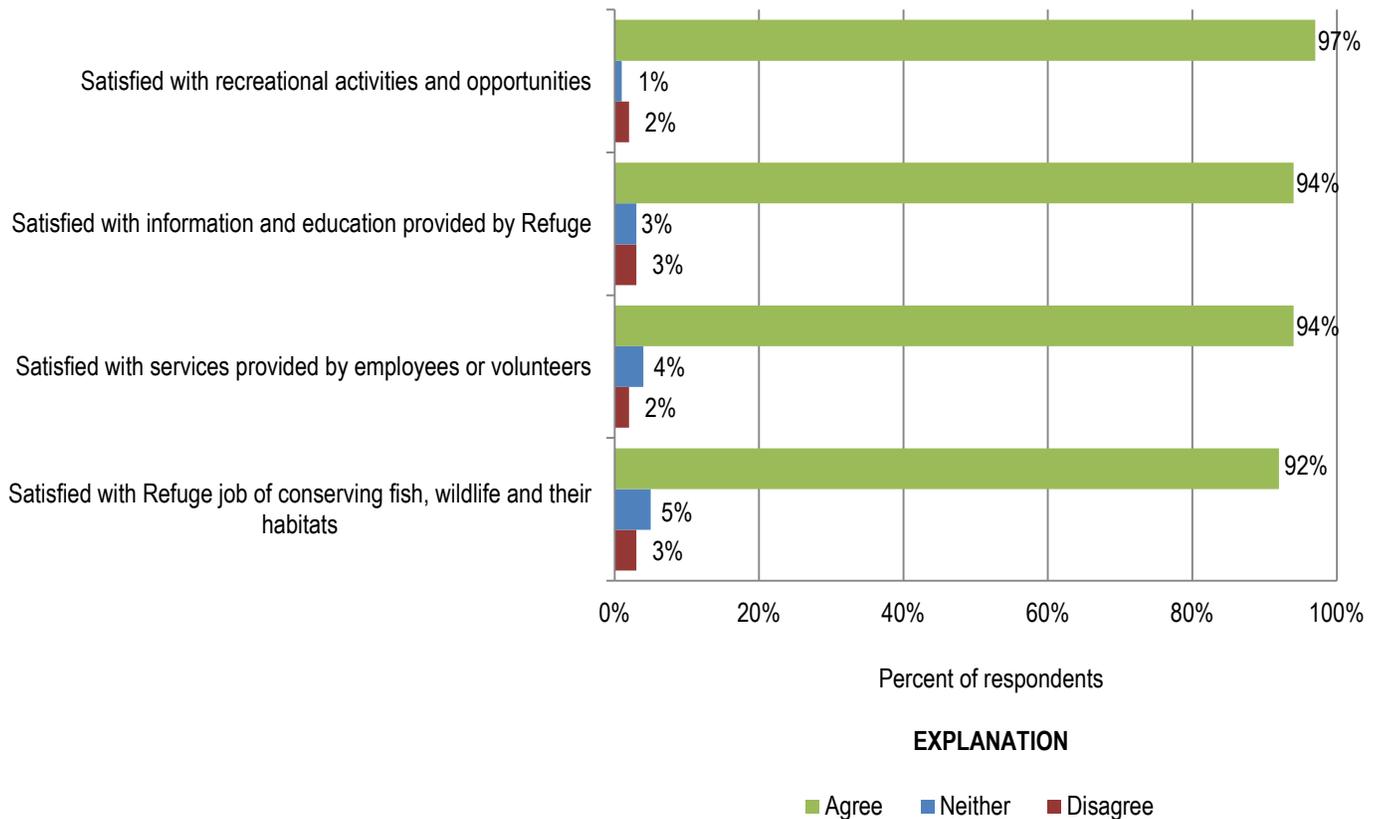


Figure 9. Overall satisfaction with Malheur NWR during this visit (n ≥ 269).

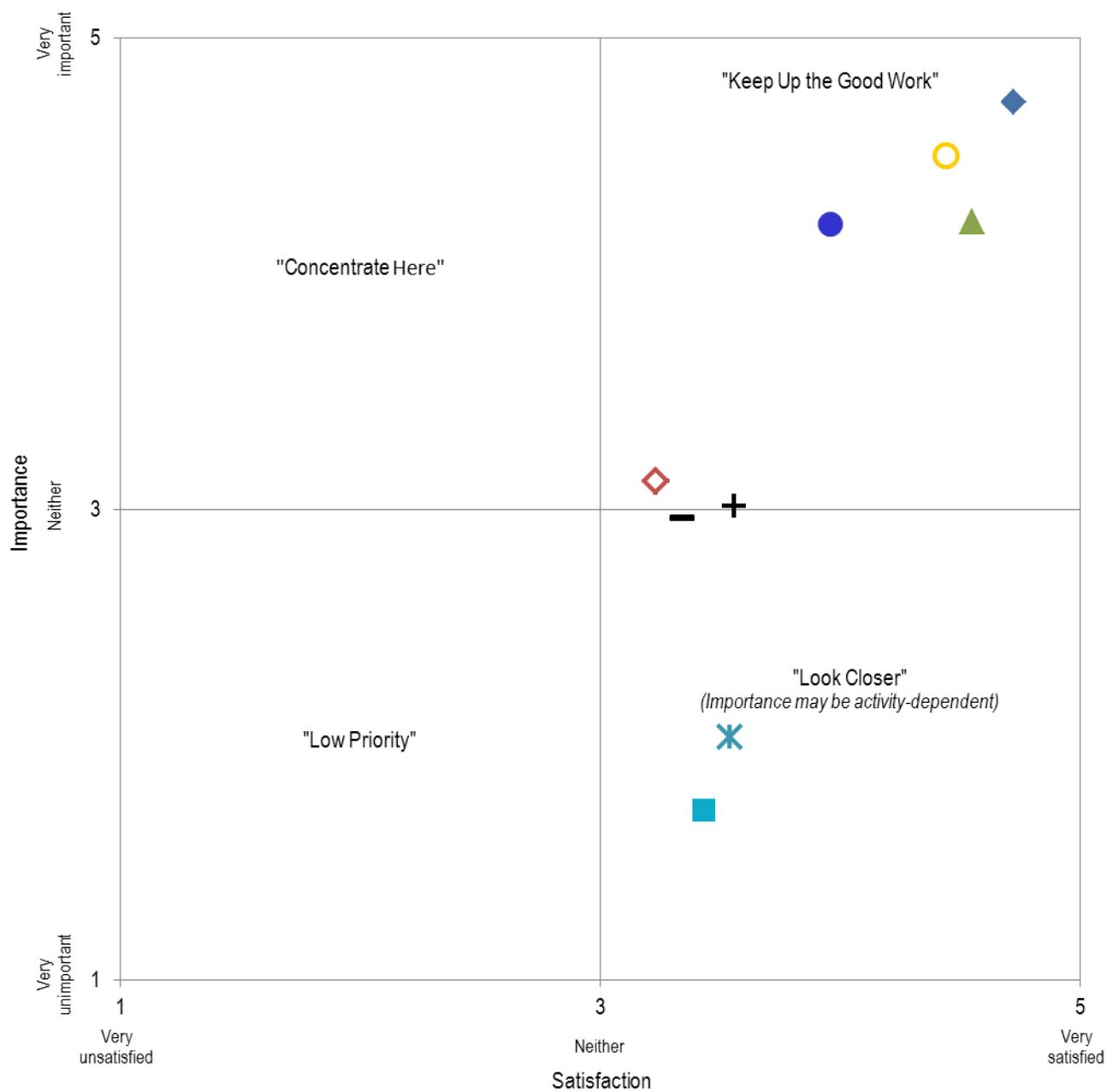
Importance/Satisfaction Ratings

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 Malheur 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.

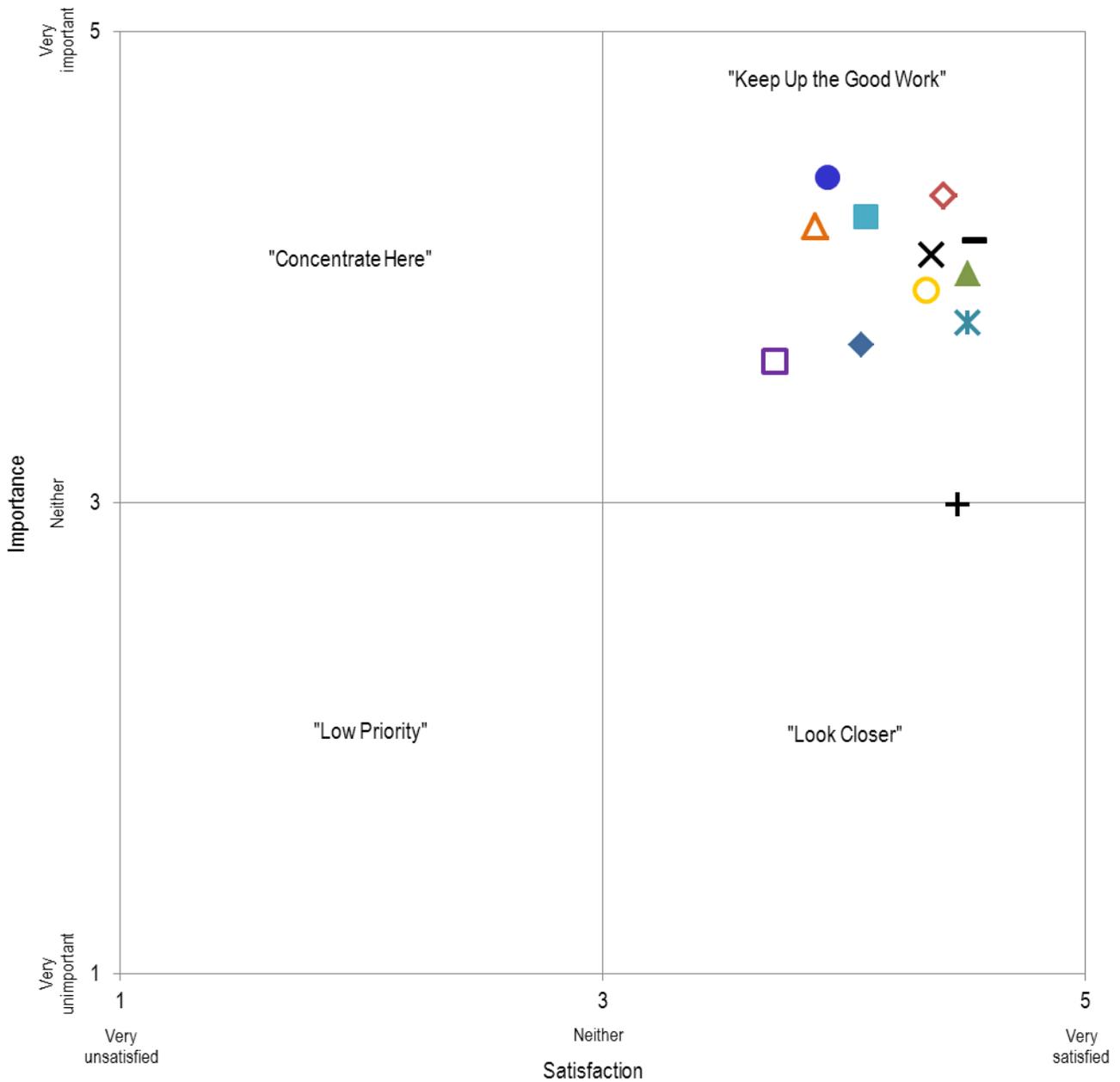
Figures 10-12 depict surveyed visitors' importance-satisfaction results for refuge services and facilities, recreational opportunities, and transportation-related features at Malheur NWR, respectively. All refuge services and facilities fell in the "Keep Up the Good Work" quadrant (fig. 10). Many refuge recreational opportunities fell in the "Keep Up the Good Work" quadrant except hunting, fishing, bicycling, and volunteering opportunities, which fell into the "Look Closer" quadrant (fig. 11). The average importance of X 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. Nearly all transportation-related features fell in the "Keep Up the Good Work" quadrant except condition of parking areas, which fell into the "Look Closer" quadrant (fig. 12).



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 Malheur NWR.



EXPLANATION

- ◆ Condition of roads
- ▲ 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 Malheur 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 Malheur 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 Malheur 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; and
- a bike share program.

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

When asked about using alternative transportation at Malheur NWR specifically, 38% of visitors indicated they were unsure whether it would enhance their experience; however, some visitors thought alternative transportation would enhance their experience (25%) and others thought it would not (37%).

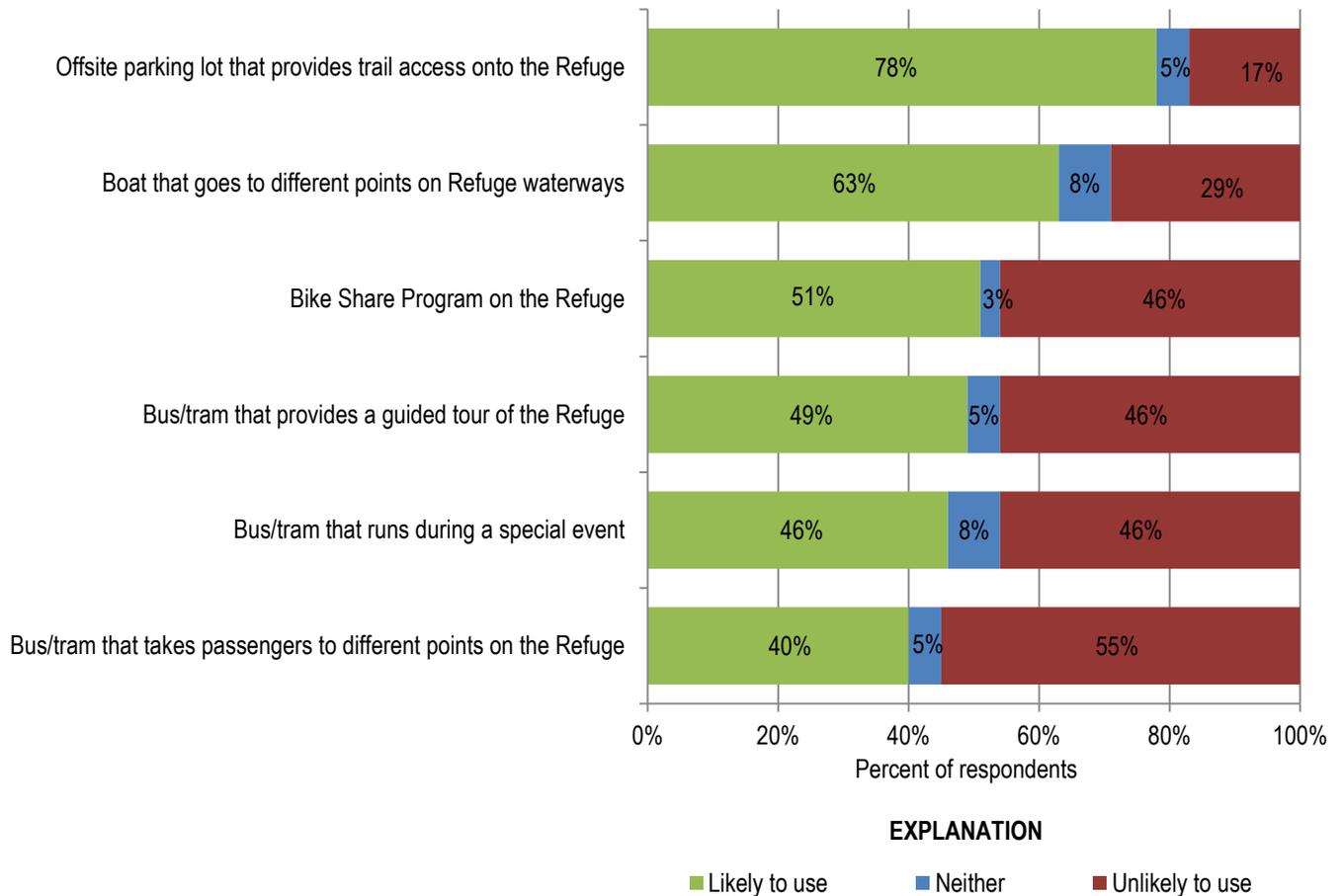


Figure 13. Visitors' likelihood of using alternative transportation options at national wildlife refuges in the future (n ≥ 261).

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 (e.g., 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 Malheur 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.”

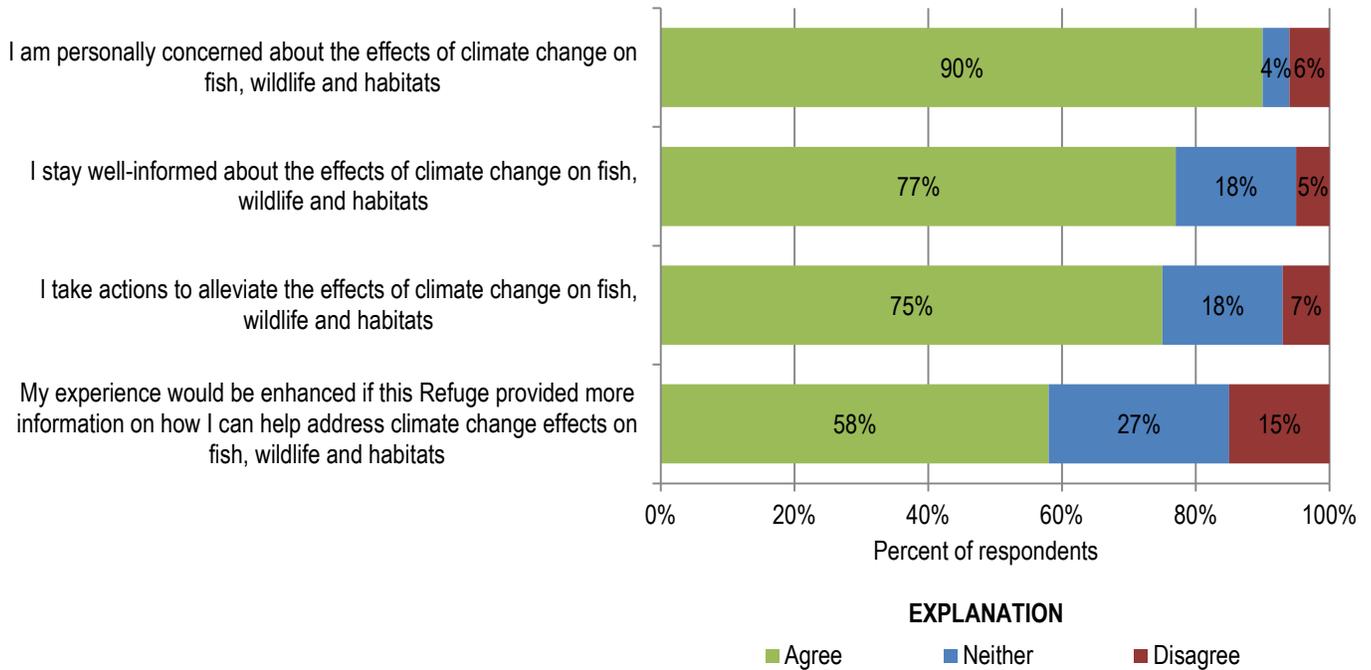


Figure 14. Visitors’ personal involvement with climate change related to fish, wildlife and their habitats (n ≥ 264).

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 Malheur 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;” or
- “There is too much scientific uncertainty to adequately understand climate change effects.”

Such information suggests that certain beliefs resonate with a greater number of visitors than other beliefs do. This information is important to note because the majority of visitors (58%) indicated that their experience would be enhanced if Malheur 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.

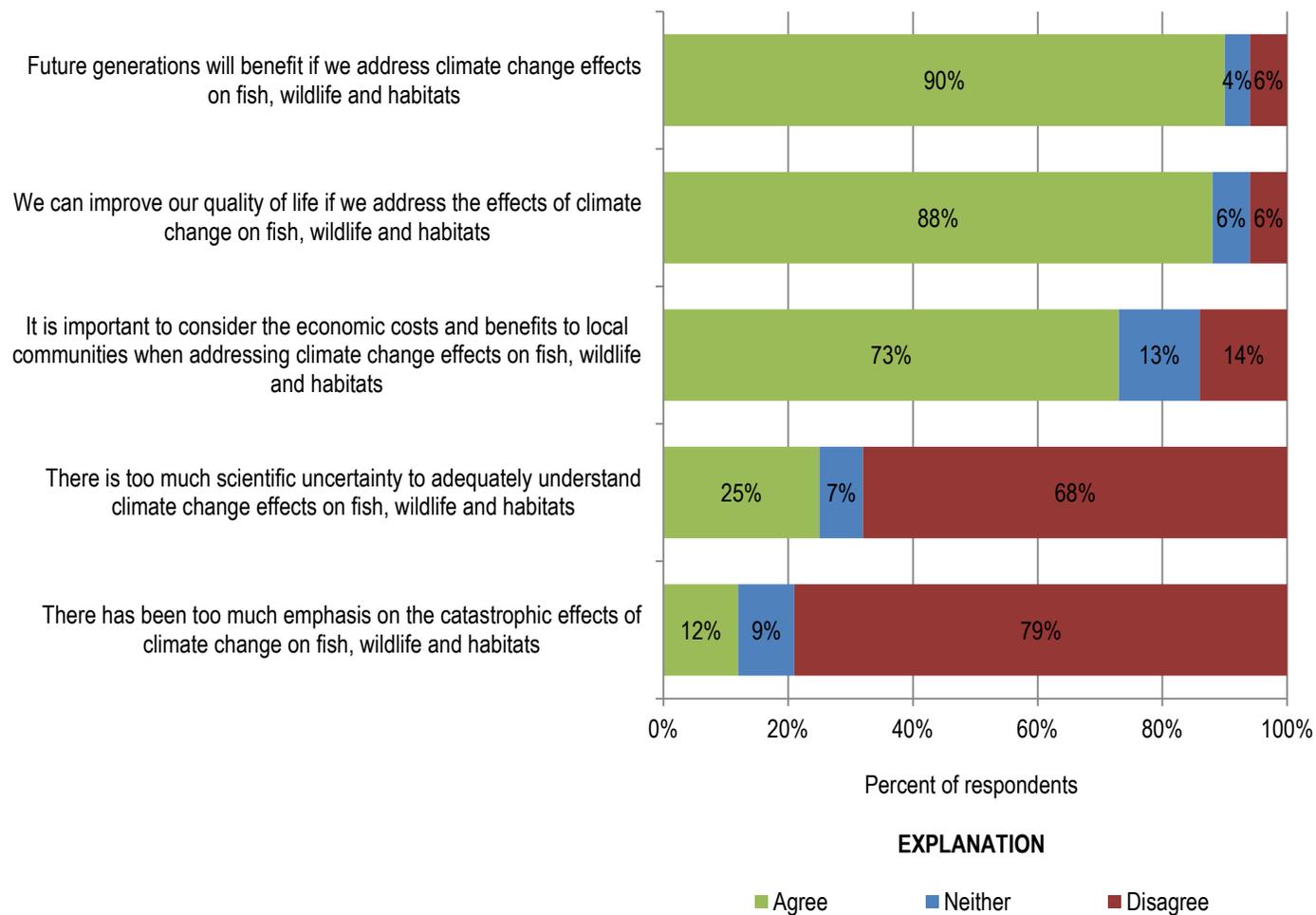


Figure 15. Visitors’ beliefs about the effects of climate change on fish, wildlife and their habitats (n ≥ 264).

Conclusion

These individual refuge results provide a summary of trip characteristics and experiences of a sample of visitors to Malheur 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.

References

- Bruyere, B.L., Rodriguez, D.A., and Vaske, J.J., 2002, Enhancing importance-performance analysis through segmentation: *Journal of Travel and Tourism Marketing*, v. 12, no. 1, p. 81-95.
- Carver, E., and Caudill, J., 2007, Banking on nature 2006: The economic benefits to local communities of National Wildlife Refuge visitation: U.S. Fish and Wildlife Service, Division of Economics, Washington, D.C., 372 p., accessed September 30, 2011, at http://www.fws.gov/refuges/about/msWord/BankingonNature_2006_11-23.doc.
- Clark, J.R., 2001, Mission and Goals (National Fish and Wildlife Service Director's Order #132–601 FW1), accessed November 18, 2011 at http://www.fws.gov/refuges/policiesandbudget/HR1420_missionGoals.html.
- Dillman, D.A., 2007, Mail and Internet surveys: The tailored design method. (2nd ed.): Hoboken, N.J., John Wiley and Sons, Inc., 523 p.
- Krechmer, D., Grimm, L., Hodge, D., Mendes, D., and Goetzke, F., 2001, Federal lands alternative transportation systems study – Volume 3 – Summary of national ATS needs: prepared for Federal Highway Administration, and Federal Transit Administration in association with National Park Service, Bureau of Land Management, and U.S. Fish and Wildlife Service, 80 p. (Also available at http://www.fta.dot.gov/documents/3039_study.pdf.)
- Leiserowitz, A, Maibach, E., and Roser-Renouf, C., 2008, Global warming's six Americas: An audience segmentation: New Haven, Conn., Yale University.
- Martilla, J.A., and James, J.C., 1977, Importance-performance analysis: *Journal of Marketing*, v. 41, p. 77–79.
- Nisbet, M.C., 2009, Communicating climate change: Why frames matter for public engagement: *Environment*, v. 51, p. 12-23.

- Salant, P., and Dillman, D.A., 1994, *How to conduct your own study*: New York, N.Y., John Wiley and Sons, Inc.
- Sexton, N.R., Dietsch, A.M., Don Carlos, A.W., Koontz, L., Solomon, A. and Miller, H., 2011, National wildlife refuge visitor survey 2010/2011: Individual refuge results: U.S. Geological Survey Data Series 643.
- Stynes, D.J., 2008, National Park visitor spending and payroll impacts, 2007: East Lansing, Mich., Michigan State University, Department of Community, Agriculture, Recreation and Resource Studies.
- Tarrant, M.A., and Smith, E.K., 2002, The use of a modified importance-performance framework to examine visitor satisfaction with attributes of outdoor recreation settings: *Managing Leisure*, v. 7, no. 2, p. 69–82.
- Uniack, T., 1999, *The citizen's wildlife refuge planning handbook: Charting the future of conservation on the National Wildlife Refuge near you*: Defenders of Wildlife, Washington, D.C., accessed April 2010 at http://www.defenders.org/resources/publications/programs_and_policy/habitat_conservation/federal_lands/citizen's_wildlife_refuge_planning_handbook.pdf.
- U.S. Department of the Interior, Fish and Wildlife Service and U.S. Department of Commerce, U.S. Census Bureau, 2007, 2006 National survey of fishing, hunting, and wildlife-associated recreation: U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C., 168 p.
- U.S. Fish and Wildlife Service, 2007, America's national wildlife refuges, Fact Sheet, last updated July 31, 2007.
- U.S. Fish and Wildlife Service, 2010, *Rising to the urgent challenge: Strategic plan for responding to accelerating climate change*: U.S. Fish and Wildlife Service, Division of Refuges, Washington, D.C., 32 p., accessed April 2011 at <http://www.fws.gov/home/climatechange/pdf/CCStrategicPlan.pdf>.
- Vaske, J.J., Beaman, J., Stanley R., and Grenier, M., 1996, Importance-performance and segmentation: Where do we go from here?: *in* Fesenmaier, D.R., O'Leary, J.T., and Uysal, M., eds., *Recent advances in tourism marketing research*: New York, The Haworth Press, Inc., p. 225-240.
- Wade, D.J. and Eagles, P.F.J., 2003, The use of importance-performance analysis and market segmentation for tourism management in parks and protected areas: An application to Tanzania's National Parks: *Journal of Ecotourism*, v. 2, no. 3, p. 196-212.

This page left intentionally blank.

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"/> 0% Big game hunting | <input type="checkbox"/> 44% Hiking | <input type="checkbox"/> 8% Environmental education (for example, classrooms or labs, tours) |
| <input type="checkbox"/> 0% Upland/Small-game hunting | <input type="checkbox"/> 4% Bicycling | |
| <input type="checkbox"/> 1% Migratory bird/Waterfowl hunting | <input type="checkbox"/> 61% Auto tour route/Driving | <input type="checkbox"/> 1% Special event (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 87% Wildlife observation | <input type="checkbox"/> 0% Motorized boating | |
| <input type="checkbox"/> 93% Bird watching | <input type="checkbox"/> 3% Nonmotorized boating (including canoes/kayaks) | <input type="checkbox"/> 4% Other (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 6% Freshwater fishing | | |
| <input type="checkbox"/> 0% Saltwater fishing | <input type="checkbox"/> 47% Interpretation (for example, exhibits, kiosks, videos) | <input type="checkbox"/> 1% Other (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 60% 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?

- 7% No
- 93% Yes → If yes, what did you do there? (Please mark **all that apply.**)
- | | |
|--|---|
| <input type="checkbox"/> 87% Visit the gift shop or bookstore | <input type="checkbox"/> 4% Watch a nature talk/video/presentation |
| <input type="checkbox"/> 76% View the exhibits | <input type="checkbox"/> 84% Stopped to use the facilities (for example, get water, use restroom) |
| <input type="checkbox"/> 81% Ask information of staff/volunteers | <input type="checkbox"/> 26% 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	
50%	80%	51%	It was the primary purpose or sole destination of my trip.
44%	20%	43%	It was one of many equally important reasons or destinations for my trip.
7%	0%	6%	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 439 number of miles

Local 41 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?

26% No (*skip to question #9*)

74% Yes → What **type of group** were you with on your visit? (*Please mark **only one.***)

85% Family and/or friends

11% 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.*)

 5 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.***)

59% Friends or relatives

9% Refuge website

8% Signs on highway

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

13% Recreation club or organization

2% Television or radio

9% People in the local community

10% Newspaper or magazine

15% Refuge printed information (brochure, map)

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

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

58% Spring
(March-May)

25% Summer
(June-August)

43% Fall
(September-November)

0% Winter
(December-February)

11. How many times have you visited...

...this Refuge (including this visit) in the last 12 months? 2 number of visits

...other National Wildlife Refuges in the last 12 months? 5 number of visits

SECTION 2. Transportation and access at this Refuge

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

- | | | | | | |
|------------------------------|---|-----------------------------|----------------------------------|------------------------------|---------------------------------------|
| <input type="checkbox"/> 83% | Private vehicle without a trailer | <input type="checkbox"/> 1% | Refuge shuttle bus or tram | <input type="checkbox"/> 2% | Bicycle |
| <input type="checkbox"/> 10% | Private vehicle with a trailer
(for boat, camper or other) | <input type="checkbox"/> 0% | Motorcycle | <input type="checkbox"/> 42% | Walk/Hike |
| <input type="checkbox"/> 1% | Commercial tour bus | <input type="checkbox"/> 0% | ATV or off-road vehicle | <input type="checkbox"/> 3% | Other (<i>please specify below</i>) |
| <input type="checkbox"/> 8% | Recreational vehicle (RV) | <input type="checkbox"/> 1% | 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"/> 52% | Signs on highways | <input type="checkbox"/> 10% | Directions from Refuge website |
| <input type="checkbox"/> 10% | A GPS navigation system | <input type="checkbox"/> 8% | Directions from people in community near this Refuge |
| <input type="checkbox"/> 56% | A road atlas or highway map | <input type="checkbox"/> 10% | Directions from friends or family |
| <input type="checkbox"/> 18% | Maps from the Internet (for example,
MapQuest or Google Maps) | <input type="checkbox"/> 55% | Previous knowledge/I have been to this Refuge before |
| | | <input type="checkbox"/> 5% | Other (<i>please specify</i>) <u>See Appendix B</u> |

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

How likely would you be to use...	Very Unlikely	Somewhat Unlikely	Neither	Somewhat Likely	Very Likely
...a bus or tram that takes passengers to different points on the Refuge (such as the Visitor Center)?	<input type="checkbox"/> 34%	<input type="checkbox"/> 21%	<input type="checkbox"/> 5%	<input type="checkbox"/> 28%	<input type="checkbox"/> 12%
...a bike that was offered through a Bike Share Program for use while on the Refuge?	<input type="checkbox"/> 33%	<input type="checkbox"/> 12%	<input type="checkbox"/> 3%	<input type="checkbox"/> 31%	<input type="checkbox"/> 20%
...a bus or tram that provides a guided tour of the Refuge with information about the Refuge and its resources?	<input type="checkbox"/> 30%	<input type="checkbox"/> 15%	<input type="checkbox"/> 5%	<input type="checkbox"/> 35%	<input type="checkbox"/> 15%
...a boat that goes to different points on Refuge waterways?	<input type="checkbox"/> 19%	<input type="checkbox"/> 9%	<input type="checkbox"/> 8%	<input type="checkbox"/> 41%	<input type="checkbox"/> 22%
...a bus or tram that runs during a special event (such as an evening tour of wildlife or weekend festival)?	<input type="checkbox"/> 28%	<input type="checkbox"/> 18%	<input type="checkbox"/> 8%	<input type="checkbox"/> 31%	<input type="checkbox"/> 15%
...an offsite parking lot that provides trail access for walking/hiking onto the Refuge?	<input type="checkbox"/> 10%	<input type="checkbox"/> 6%	<input type="checkbox"/> 5%	<input type="checkbox"/> 35%	<input type="checkbox"/> 44%
...some other alternative transportation option? (<i>please specify</i>) <u>See Appendix B</u>	<input type="checkbox"/> 17%	<input type="checkbox"/> 9%	<input type="checkbox"/> 0%	<input type="checkbox"/> 30%	<input type="checkbox"/> 43%

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

- 25% Yes 37% No 38% Not Sure

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

Importance						Satisfaction					
Circle one for each item.						Circle one for each item.					
Very Unimportant	Somewhat Unimportant	Neither	Somewhat Important	Very Important		Very Unsatisfied	Somewhat Unsatisfied	Neither	Somewhat Satisfied	Very Satisfied	Not Applicable
3%	16%	12%	50%	19%	Surface conditions of roads	3%	14%	5%	30%	48%	NA
15%	22%	17%	40%	6%	Surface conditions of parking areas	3%	0%	8%	24%	65%	NA
3%	11%	11%	36%	39%	Condition of bridges	1%	1%	10%	20%	67%	NA
2%	7%	8%	50%	33%	Condition of trails and boardwalks	0%	3%	9%	35%	52%	NA
5%	11%	9%	54%	21%	Number of places for parking	1%	2%	7%	24%	66%	NA
3%	2%	3%	39%	53%	Number of places to pull over along Refuge roads	2%	15%	8%	39%	36%	NA
2%	4%	6%	39%	49%	Safety of driving conditions on Refuge roads	0%	4%	8%	31%	57%	NA
1%	9%	8%	41%	41%	Safety of Refuge road entrances/exits	0%	1%	8%	25%	66%	NA
6%	9%	11%	39%	36%	Signs on highways directing you to the Refuge	1%	6%	8%	29%	56%	NA
4%	4%	4%	42%	45%	Signs directing you around the Refuge roads	2%	12%	6%	37%	44%	NA
2%	4%	12%	39%	43%	Signs directing you on trails	1%	12%	18%	35%	34%	NA
6%	9%	29%	33%	23%	Access for people with physical disabilities or who have difficulty walking	0%	7%	42%	24%	27%	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)?

4% Yes

96% No → How much time did you spend **in local communities** on this trip?
 4 number of hours OR 3 number of days

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

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

See Report for Results

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

 3 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
1%	1%	5%	2%	16%	5%	34%	2%	7%	8%	19%

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**.)*

5%	Far too low	18%	Too low	77%	About right	0%	Too high	0%	Far too high	86%	Did not pay a fee <i>(skip to Section 4)</i>
----	-------------	-----	---------	-----	-------------	----	----------	----	--------------	-----	---

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

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

0%	Strongly disagree	0%	Disagree	5%	Neither agree or disagree	36%	Agree	59%	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.	1%	1%	1%	26%	71%	NA
Overall, I am satisfied with the information and education provided by this Refuge about its resources.	0%	3%	3%	29%	65%	NA
Overall, I am satisfied with the services provided by employees or volunteers at this Refuge.	0%	2%	4%	25%	69%	NA
This Refuge does a good job of conserving fish, wildlife and their habitats.	1%	2%	6%	23%	68%	NA

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

Importance					Refuge Services, Facilities, and Activities	Satisfaction					
Circle one for each item.						Circle one for each item.					
Very Unimportant	Somewhat Unimportant	Neither	Somewhat Important	Very Important		Very Unsatisfied	Somewhat Unsatisfied	Neither	Somewhat Satisfied	Very Satisfied	Not Applicable
5%	11%	11%	47%	25%	Availability of employees or volunteers	1%	4%	6%	19%	70%	NA
5%	6%	5%	44%	39%	Courteous and welcoming employees or volunteers	1%	0%	4%	8%	87%	NA
3%	4%	3%	33%	56%	Knowledgeable employees or volunteers	1%	3%	4%	24%	68%	NA
2%	4%	2%	35%	56%	Printed information about this Refuge and its resources (for example, maps and brochures)	1%	2%	3%	23%	72%	NA
3%	8%	7%	52%	30%	Informational kiosks/displays about this Refuge and its resources	0%	2%	7%	31%	59%	NA
4%	11%	13%	44%	28%	Signs with rules/regulations for this Refuge	0%	2%	18%	31%	50%	NA
3%	9%	10%	53%	24%	Exhibits about this Refuge and its resources	0%	4%	10%	29%	56%	NA
6%	11%	24%	36%	22%	Environmental education programs or activities	2%	2%	37%	26%	33%	NA
3%	3%	4%	43%	48%	Visitor Center	0%	1%	2%	18%	79%	NA
3%	1%	5%	44%	48%	Convenient hours and days of operation	0%	1%	5%	22%	72%	NA
3%	2%	3%	37%	55%	Well-maintained restrooms	0%	1%	4%	16%	78%	NA
3%	7%	8%	44%	38%	Wildlife observation structures (decks, blinds)	1%	7%	14%	34%	43%	NA
2%	1%	2%	11%	84%	Bird-watching opportunities	0%	0%	2%	21%	76%	NA
1%	2%	2%	35%	60%	Opportunities to observe wildlife other than birds	0%	2%	8%	34%	56%	NA
4%	4%	6%	38%	48%	Opportunities to photograph wildlife and scenery	1%	1%	7%	26%	66%	NA
70%	3%	15%	7%	4%	Hunting opportunities	4%	1%	62%	14%	19%	NA
56%	10%	17%	10%	8%	Fishing opportunities	2%	3%	59%	13%	24%	NA
2%	3%	7%	47%	41%	Trail hiking opportunities	3%	8%	13%	43%	33%	NA
18%	15%	19%	36%	13%	Water trail opportunities for canoeing or kayaking	5%	11%	52%	20%	12%	NA
23%	13%	21%	30%	13%	Bicycling opportunities	3%	10%	53%	20%	15%	NA
20%	10%	35%	22%	14%	Volunteer opportunities	1%	3%	57%	17%	22%	NA

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

See Appendix B

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

1. Before you were contacted to participate in this survey, were you aware that National Wildlife Refuges...

...are managed by the U. S. Fish and Wildlife Service?

92%

Yes

8%

No

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

95%

Yes

5%

No

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

96%

Yes

4%

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.	2%	4%	4%	25%	66%
We can improve our quality of life if we address the effects of climate change on fish, wildlife and their habitats.	3%	3%	6%	27%	61%
There is too much scientific uncertainty to adequately understand how climate change will impact fish, wildlife and their habitats.	36%	32%	7%	17%	9%
I stay well-informed about the effects of climate change on fish, wildlife and their habitats.	0%	5%	18%	50%	26%
It is important to consider the economic costs and benefits to local communities when addressing the effects of climate change on fish, wildlife and their habitats.	2%	12%	13%	49%	23%
I take actions to alleviate the effects of climate change on fish, wildlife and their habitats.	1%	6%	17%	51%	24%
There has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and their habitats.	50%	29%	9%	7%	5%
Future generations will benefit if we address the effects of climate change on fish, wildlife and their habitats.	2%	4%	4%	25%	65%
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.	6%	9%	27%	43%	14%

SECTION 6. A Little about You

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

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

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

2. Are you? 53% Male 47% Female

3. In what year were you born? 1952 (YYYY)

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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
(elementary)					(junior high or middle school)			(high school)				(college or technical school)				(graduate or professional school)			
					0%			5%				39%				56%			

5. What ethnicity do you consider yourself? 0% Hispanic or Latino 100% Not Hispanic or Latino

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

- 2% American Indian or Alaska Native 0% Black or African American 99% White
 3% Asian 1% Native Hawaiian or Pacific Islander

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

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

- | | | |
|---|--|--|
| <input type="checkbox"/> 0% Less than \$10,000 | <input type="checkbox"/> 10% \$35,000 - \$49,999 | <input type="checkbox"/> 19% \$100,000 - \$149,999 |
| <input type="checkbox"/> 3% \$10,000 - \$24,999 | <input type="checkbox"/> 26% \$50,000 - \$74,999 | <input type="checkbox"/> 7% \$150,000 - \$199,999 |
| <input type="checkbox"/> 6% \$25,000 - \$34,999 | <input type="checkbox"/> 21% \$75,000 - \$99,999 | <input type="checkbox"/> 7% \$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.)?

15 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

This page left intentionally blank.

Appendix B: Visitor Comments to Open-Ended Survey Questions for Malheur 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
I led a birding group	1
Mist-netting at field station	1
Organized trip with Audubon	1

Other Activity	Frequency
Book buying	1
Camping	1
Drawing, painting	1
Getting away	1
Getting together with friends	1
Letter box search	1
Rock hounding	1
Sightseeing SE Oregon, visiting from Hawaii	1
Study of animal tracks	1
Visit historical places	1
Wildlife and Ecosystem Observation	1

2 nd Other Activity	Frequency
Being in nature	1
Cross-road	1
Labor Day long weekend	1

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

Other Miscellaneous Primary Activities	Frequency
Being in nature	1
Checking on a favorite refuge	1
Getting out of town	1
Nature enjoyment	1
Tourist visit	1
Went with daughter	1

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

Other Visitor Center Activity	Frequency
Ate a nice picnic lunch	1
Best bird watching in the refuge	1
Bird photography	1
Bird report list	1
Bird the grounds, read the bird list, and pick up a bird checklist.	1
Bird VC's grounds	1
Bird watch	2
Bird Watch	1
Bird Watch, had lunch at one of the picnic tables	1
Bird watched, hiked, enjoyed the view points, and picnicked our lunch.	1
Bird watching	3
Bird watching at visitor center	1
Bird watching, museum	1
Bird watching, picnic	1
Birded	1
Birded on the grounds of HQ	1
Birding	1

Birding at the Visitor Center	1
Checked bird sighting list	1
Checked list of bird sightings	1
Checked the board for recent bird sightings locally.	1
Enjoyed all the birds at the center: baby owls, young red tail hawks.	1
Get directions	1
Got Blue Goose passport cancellation	1
Had lunch	1
Look at list of birds seen recently	1
Looked at birds	1
Looked at the birds in the bushes and trees	1
Observe birds (owls, hawks)	1
One of best sites to view migratory birds and resident birds	1
Photograph birds	1
Photography record	1
Pick up maps/pamphlets	1
Picked up informational brochures	1
Picnic	3
Purchase souvenirs	1
Read sighting reports	1
Review list of recent bird sightings	1
See an owl family and other birds.	1
See birds near Visitors Center	1
See posted list of birds sighted and where they were	1
See posting of recent sightings.	1
Take pictures	1
Took out of state family (VA) to this site.	1
Tour of Sod house	1
View birds	1

Viewed the map	1
Walked around the visitor center grounds and relaxed on a park bench.	1
Watch birds	2
Watch birds at center	1
Watch birds at feeders	1
Watched baby owls	1
Watched Birds	1
Watched birds around the visitor's center	1
Watched birds on property	1
Watched birds on the centers grounds	1
Wildlife observation	1

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
Elderhostel Road Scholar	1
Non-profit tour group	1
The Nature Conservancy	1

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

Other Website	Frequency
Audubon	1
Audubon Society (years ago)	1
Birding websites	1
fws.gov	1
Google Earth	1
Google Earth, road atlas	1
I stumbled across it on the Whidbey Washington Audubon group website - they have a field trip there every year and it sounded really good	1
OBOL	1

Other Ways Heard about This Refuge	Frequency
AAA Maps	1
AAA Tour book	1
Bird groups	1
Birding Class	1
Birding reference books	1
Book	1
Book listing refuges	1
Book on Wildlife Refuges	1
Books	1
Classroom educator information	1
College	1
College class	1
College class field trip	1
College field trip	1
Coworker in 1996	1
Did field research there as a student at Portland State University	1
Elderhostel	1
Faculty from The Evergreen State College	1
Fish and Wildlife Professional Discovery	1
From teacher at UW	1
Guide book	2
Guide book; state map	1
Heard about it at the Tualatin Wildlife Refuge as well	1
History Books	1
Hunting Books	1
I learned about from maps and from birding information.	1
I work for the NWRS	1
Looked into birding areas	1

Looking at maps	1
Map	1
National birding publications	1
On state map/passing through on a previous trip somewhere else (this was the return)	1
Oregon Map	1
Other bird watchers	1
Other birders	1
Pac NW Audubon book	1
Photographers	1
Portland Community College course	1
Professor	1
Professor at my university	1
Saw it on a map	2
School field trip 1978	1
School visit	1
The Birder's Guide to Oregon by Jos Evanich Jr.	1
Tour group / leader	1
Travel guide	2
USFWS - Bend, OR	1
USGS and State maps	1
We saw that a bird tour visited the refuge & thought we would do the same	1
William Sullivan's 199 Hikes of Eastern Oregon	1
Word of mouth, on-line message board	1

Survey Section 2

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

Other Forms of Transportation	Frequency
10 passenger van and guides	1
2 vans rented by Audubon	1
7 passenger van	1
Camper	1
Elderhostel van	1
Float tube	1
Malheur Station van	1
We flew from our Ohio residence and rented a car in OR.	1

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

Other Ways Found This Refuge	Frequency
Book - "Birding Oregon"	1
Burns tourist brochure	1
County tourism guide	1
Google Earth and Accident	1
Guide - Audubon	1
Guidebook	1
Guides drove us.	1
I had a driver that does this trip annually.	1
Magazines/newspaper	1
Map from visitor's center	1
National Audubon Society Field Guide to the Pacific Northwest	1
Tour guide	1
Tour leaders	1

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

Other Transportation Option Likely to Use	Frequency
??? Offer something new, I'd try it. Airboat/hovercraft/snow-cat???	1
Any electric vehicle that can be used to transport people around	1
ATV and boat rental	1
Bus for birding options for a group on request to places off refuge (Diamond, Rittle Ranch, fields, etc.)	1
Canoe	1
Canoe / kayak	1
Horseback	1
If I was unable to get there by car, I would then choose whatever other option might be available to me.	1
It's a refuge, not a tourist trap.	1
Kayak	1
Kayak, slow zip-line	1
Loaner Canoe	1
Malheur-by car only	1
My car/motorcycle	1
Only with secure parking lots	1
Personal bike	1
Private car	1
Private Kayaking	1
Private Vehicle	1
Self-guided auto tour	1
Shuttle	1
Shuttle bus to specific site, like the leek	1
Small non motorized boats, like a kayak or canoe	1
Walker	1
We would love to use our kayaks in spring to view wildlife	1

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

Comments on Transportation-related Items at This Refuge (n = 63)

Because of floods the main track through the refuge was closed, but we accept that things like that happen. Access from other roads was good.

Because of heavy rains, some roads were closed. NOT your fault!

Because of the popularity of birding, there should be more safe pull outs, particularly along the highway.

Better / more boardwalks, more even roads, more educational signage.

Bicycling should be encouraged.

Bird watching works best from an individual car, van or bus without too many other people.

Currently, the condition of the roads is a little tough in cars, but it would be very difficult on bikes (a washboard road is miserable on a road bike). Also, I think the "culture" of the refuge access would need to change, perhaps making parts "bike only" or limited access.

Due to high water at Malheur NWR during my visit, (1st time) I was unable to access the Center Patrol Road. Therefore, I can't answer many questions.

Due to high water, the main road was closed.

Due to some flooding the Central Patrol Road was closed part of the time and not in the best condition. Another part of the road was closed for maintenance.

Each pull out area was very accessible for our truck and camper. We had lots of room to view the wildlife.

Extreme high water covered and closed main sections of refuge roads this spring for the first time since the 1980s.

High water limited access this year. I like the undeveloped nature of the refuge. I would not want paved roads and the ability for cars to move fast. More pullouts and hiking trails would be appreciated.

I actually thought the conditions of parking, roads and activities were very good and most adequate.

I am not sure if the Sod house was part of the refuge. If it was the signage could be clearer and the road smoothed out.

I believe there should be variety in the "ease of access" in getting to different areas of the refuge. This would allow those who are willing and able to find solitude in more remote spots.

I hope you don't consider tour buses! Birding is best done with few people, quietly. Bikes, though, would be helpful. Page Springs nature trail is great. And we walk around Benson Pond; otherwise, just on Central Patrol Road, since there are hardly any cars on it. I haven't felt any lack of places to walk.

I like to take own vehicle and operate at my own convenience.

I probably didn't look closely enough at the refuge brochure, but I was shocked when I had to exit the refuge (I had entered at French Glen) because the auto tour route dead-ended. Then I wasn't sure how best to get back to the tour route, so I just drove all the way up the main highway to the visitor center and ended up not doing the other part of the tour route.

I would like to have the mile markers on Center Patrol Road reinstated. It was a great help in returning to sightings.

Intersections on the refuge road along the river were confusing, even when consulting the refuge map.

It would be nice to reestablish the Blitzen Canoe Trail. A nice parking area in the tree grove just north of the Krumbo turn off -- maybe just a parking area and viewing site would be sufficient.

It's not well developed, but that's good, because it attracts people who want a back-country experience.

Main Center Road was closed due to flooding, thus these questions are NA for that road.

Malheur is best via car and is so big - no other reasonable means (except bus, motorcycle, etc.) would be much fun. It's a great place but not walker friendly except in a few places.

More car access and more trails.

Most of the central patrol road was closed due to high water which was an unexpected disappointment. On our second day they opened the south portion. Yea! Possibly, a more helpful visitor center volunteer could have directed us to alternative parking/walking situations.

Most of the good birding areas, especially along the central patrol road, are car-based. It would be nice if a few hiking opportunities were interspersed through that area.

Much of the area was flooding during our visit (late May) and some roads were closed.

My dissatisfaction for this last visit has to do with the fact that the central patrol road was closed due to flooding. This made it difficult to get to the places we normally bird, especially for me since I was recovering from foot and ankle surgery and could not walk far. I realize that this was an unusual and hopefully temporary occurrence.

My visit was at the end of May 2011 - the central road was closed due to flooding, so it was not 'normal'. Signage was good and my friend who drove had a jeep so our driving around was easier because of that. We heard we missed some of the wonderful experience without the central road, but we enjoyed Malheur Refuge.

Not many access roads available other than the main tour loop.

One road was washed out due to high water. I hope it is repaired soon.

Patrol road was closed, so we couldn't drive most of the refuge roads.

Refuges are for wildlife - not everything needs to be accessible to motorized vehicles or people especially if they disturb wildlife.

Road signs are important, but so is a good map, which is available. More walking trails would be nice, especially if they are loops. Some of the most interesting areas are off the refuge, however.

Road through the refuge was flooded during the time we were there. Very few hiking trails.

Road/trail maintenance is all well and good, but don't overdo it. I feel that much of that money should be spent on more important things like conservation and public education. Parks and refuges need some rugged, untouched areas. It's a major turn-off to arrive at a refuge or park and find nothing but immaculately paved trails. Keep the wild as it is --- wild.

Roads at Malheur were closed due to recent high water on the "CPR" road, so we were not able to view and travel as much as we'd liked to. One portion of the road was opened the 2nd day, but had it not been, the trip would have been very disappointing since the sheer distance from one place to another necessitates a car or transportation other than walking/hiking.

Roads were rougher than expected; resulted in some anxiety because of our low-riding sedan. Parking and access were great but there were no crowds due to the time of year.

Some signage from the main roads to areas of Malheur could be better. For instance coming from the Headquarters, there's no sign that indicates that you can get to the Diamond Valley and the Round Barn by going left.

The Center Patrol Road was often difficult to bicycle on. It was by far the most difficult portion of our 250 mile tour.

The guide books said the roads were not paved but were in good condition. If I had known how bad they were going to be I would not have taken my car. Maybe a sign saying something like this, road is 20 miles of washboard surface. Also I thought the roads were very badly marked. We almost didn't see the visitor center.

The refuge has added a lot of new interpretive signage along the refuge roads in recent years, which I consider unnecessary, undesirable, and condescending. Visitors to Malheur NWR are capable of figuring out where birds and wildlife are without signs everywhere to tell people where to look. The signs just create unnecessary visual clutter.

The refuge is just fine the way it is. There is no need to modernize, upgrade, pave, etc., any more of the refuge. All of those things detract from the very thing we travel there to enjoy - the remoteness and the natural state of the spaces.

The road was flooded, so it's not a good time to say anything about it; the road was unavailable.

The roads were badly wash-boarded.

The trees and brush were so high you could not see anything. It was a waste of time; once we got back out on state roads we were able to take pictures again. Lake access was not even an option - how can you have a reserve named after a lake but not have access to the lake? I will not return or speak well of this place! The money you put into the visitor center should go where people might have positive experiences and the ability to see something. Hourly Boat access to the lake would add %1000 to seeing something.

There could be walking trails on existing roads that aren't open to public driving.

These questions were difficult to answer since center road was again under water!

This is a problem in all of Oregon for some reason, but washboard gravel roads. Need to have better grading techniques. When we were at Malheur, the individual doing the grading had spots that were awful, maybe they weren't finished...?

This is a very remote refuge. It could have better highway signage, and more trails would be nice.

This year, due to heavy rains and snowfall, unusual flooding occurred in the refuge, which closed some roads and sites. Viewing and bird watching were prevented in approximately half of the refuge, however we were able to take advantage of off refuge sites for our bird watching.

Transportation is not an issue for us.

Unfortunate that important central road was closed due to flooding during my visit. Most road had insufficient pullouts for wildlife viewing when encountered.

Washboard roads can be unpleasant.

We did not know about the various places to observe wildlife around the area until we started driving around and saw that they were numbered. It would have been nice to leave info at the nearby campgrounds.

We got a flat tire on your auto tour route. No complaints though - I'd rather have a flat tire than a paved road.

We had our own vans and leader to take us around the refuge, therefore I was unaware of any other transportation made available by the refuge.

We planned on driving the Central Patrol Road but gave up because the washboard from the North end was so bad. We could not envision potentially driving 40 miles on that kind of road.

Would like more places for birders to pull over safely.

Would love to see transportation rentals available for access to more of the refuge and feel it would enhance the experience.

Would prefer more walking opportunities.

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 = 89)

All the employees I interacted with were incredibly knowledgeable, which was fantastic. I also found useful the list of bird sightings in the Visitor Center, and the willingness of employees to share their knowledge of bird and sighting locations.

All volunteer and employees were very knowledgeable and helpful.

Although the volunteer this trip was very nice and friendly and as helpful as possible, this is a bird refuge and the reason for visiting... really wish volunteers were knowledgeable about the birds here.

As part of a big tour of Oregon from the UK, the refuge was an important destination. We had a great time there.

Beautiful.

Been going to Malheur for 14 years now, the only gripe I have is that the outhouses are old and falling apart!

Birding is my priority so whatever you do to support that, is great (e.g. blinds, information, docents, whatever...).

Birding is number one.

Employees are so helpful and nice!!

Enjoyed Malheur!

Enjoyed the lady volunteer at Malheur Lake Center and the gentlemen at the Sod House Ranch. Both were very friendly and informative. Both a perfect 10. Learned a whole lot of history at the ranch.

Excellent volunteers at gift shop and Sod house.

Exhibit room containing taxidermy was not well ventilated and had a foul aroma.

Friendly and knowledgeable volunteers at the Visitors Center. Visitors Center was by far the best spot to view non-waterfowl species. A lot of fun finding different species in the cottonwood trees around the center. Enjoyed time spent at the Visitors Center.

Great volunteers at HQ - thank you! One thing that would be helpful - more info. on alternate areas for birding during periods of high water, when many refuge tour areas are unavailable.

Have more access to restricted areas that are now closed to the public.

Headquarters were very nice. Well maintained and incredible for bird watching.

I am satisfied with conditions as is, except I would like more hiking opportunities. I have not considered bicycling or kayaking, but I see the possibilities.

I am very happy that we had the opportunity to visit Malheur. It was a fantastic visit with LOTS of birds everywhere! We enjoyed our visit tremendously. I hope we will have an opportunity to return there soon.

I appreciate the positive changes on the MNWR in the past 15 years or so. I remember the days of negative attitudes/philosophy about public recreation/access/use of the refuge -- I hope those who support/pay taxes will continue to enjoy a positive experience. Thanks.

I especially appreciated the research/education facilities that were associated with the Refuge. Staff at Visitor Center were very helpful and informative.

I have been visiting this refuge for 38 years. I do not like the improvements, like signs, kiosks, landscaping, etc. Those things detract from the natural experience. I don't want to see a visitor center, or too many smiling, friendly employees.

I just feel like there should be more activities available for visitors to fully enjoy all that there is to see.

I prefer the lack of development and the solitude it provides.

I really love the museum at the headquarters.

I think most visitors are self-motivated to provide their own activities, but boating to approach some of the wildlife is not provided and would be a plus, if it did not disturb the wildlife. The services are basic and they are fine. A little icing on the cake may make a difference to some.

I was disappointed we could not get directly to Malheur Lake, but understand the necessity to protect the wildlife.

I was impressed with the friendliness of staff and with their readiness to be informative.

I was with a group most of the time, but I would have taken trails in free time; however, I did not see any hiking trails. Also, I expected to see lakes and really did not, which was a disappointment.

I would like expanded volunteer opportunities at Malheur National Refuge.

I would like to see one or two places on the refuge where people could stop for a picnic bench.

I would like to volunteer at a later date but haven't explored opportunities.

It made the most out of a spot and location that would have been neglected (=the power of knowledge).

It would be good for staff at the Visitor Center to be knowledgeable birders who can answer people's questions about ID, natural history, what's happening with current migrations, and where the best local birding places are at the time. Many years they have been not at all knowledgeable and are thus wasting a great chance to educate the public. We rely mainly on the Malheur Field Station for local birding info. All refuges but especially this one should provide more environmental education (i.e., naturalists leading small groups out in the field and showing them things--the building of "environmental education centers" is just wasteful). A lot of people's experience could be enhanced by some basic instruction on how to bird and some basic info on what kinds of birds can be seen at the particular time of year and where. Since many people come with no or very low-quality binoculars, binocular rentals would be good. Maybe instruction could be done cooperatively with the Malheur Field Station, or the Refuge could publicize the classes and groups offered by the Field Station. Headquarters needs more understory cover for birds and has needed it ever since all those Russian olives were removed. I understand the desire to remove non-native species, but they need to be replaced by something, preferably plantings that provide more food for birds (e.g., berries) and nesting habitat. I understand the desire to maintain open and manicured grounds, but the purpose of the

Refuge is bird sanctuary, and most birds shun open and manicured landscapes.

It would be nice to have some boardwalks put in some of the wetland areas.

It's just a very special place and I feel privileged at being able to go there about every other year.

Just an amazing place!

Knowledgeable and friendly staff. Beautiful setting, couldn't ask for more!

Love the museum with the birds and egg displays.

Mainly the refuges exist as wildlife refuges; allowing the public to view is very nice, but secondary.

Malheur is a wonderful place; always happy with the facilities, the volunteers and the birds!

Malheur is so remote that the few people who live in the area need paying jobs--not volunteer ops. Spring 2011 was accompanied by extensive flooding over much of Malheur--many of the usual routes were closed. It didn't matter, as Malheur is extravagantly beautiful.

Malheur is unique (size, surroundings, high desert) and so far from a large population center!

Malheur NWR field station is very run down. All the buildings need repair so I think they charge too much for housing there and should raise funds to improve the buildings or charge less.

MNWR is a great place. Find out how to invest more money out of Congress to take care of it properly.

More grazing needs to be done to control the huge weed problem.

More hard science availability would be good. Biologist, geologist, etc. recorded DVD presentations (or live) access to scientific papers, citations, etc.

More information and volunteers about birding. Maintain fish habitat to encourage bird migration. Recycle juniper wood.

My 11th annual trip to Malheur this year! I'm so proud of the refuge and love every inch of it!

My wife would like to see more plants (trees, desert plants, marsh plants) labeled.

Need to involve local school groups in restoration, data collection projects -- other community groups too.

Nice to see some redo of signs and structures, glad some money is being spent to keep facilities up.

Not much (any) access other than main tour route. Outstanding refuge otherwise.

Not sure if the refuge allows canoeing? We love the size of Malheur. We love how low-key it is. Thankful to have it exist!

One of our favorite places to visit. We intend to go more often.

Our only interaction (on this visit) was with a Refuge employee who was both friendly and knowledgeable, answering our questions about crayfish "chimneys", and even the crayfish species that had made them.

Outstanding employees.

Please don't allow camping at Krumbo Reservoir even though it would be nice in a perfect world. My experience is that it leads to garbage and litter and destruction of natural habitat.

Recommend some photo blinds.

Restrooms need updating.

Restrooms were great, volunteer staff was very helpful. They had even created some van tours to take people around since the Center Patrol Road was closed, although we did not do this.

Staff on duty were extremely helpful, courteous, and knowledgeable.

Sue at the Visitor Center and Tom at the Sod House Ranch were outstanding. They were very knowledgeable and enthusiastic about their job. Tom obviously had studied up on the history of the area and had a very entertaining way to convey all this information. We learned a lot.

The administrator decided to close the Central Patrol Road over the busiest weekend of the year at the refuge. Bad call. The flooding clearly had peaked and there were a lot of unhappy visitors.

The knowledge of the volunteer at the Headquarters was great this time. Sometimes in past years they haven't known much and haven't seemed interested in learning about the area.

The Malheur National Wildlife Refuge is a stunningly beautiful site. I've been going there since I was a child 30 years ago and plan to go every time I visit Burns, OR throughout my life. The Volunteers are generally quite friendly and knowledgeable and I appreciate the museum's historical perspective very much.

The materials available at the visitor's center and the person who staffed it were excellent but I was very disappointed with the information I was able to gather pre-trip trying to use the Internet and local travel areas. No real information was available. The "official site" doesn't have maps, descriptions, hours or any information about entry fees or facilities.

The tour guide at the Sod house was excellent. Page Spring campground was excellent.

The trees and brush were so high you could not see anything. Once we got back out on state roads, we were able to take pictures again. Lake access was not even an option - how can you have a reserve named after a lake but not have access to the lake itself? I will not return nor speak positively of this place! The money you put into the visitor center should go where people might have positive experiences and the ability to see something. Hourly Boat access to the lake would add %1000 chance to see something. Sorry, but it is a castle in a hunting area - build up Heart Mountain and/or the Klamath Marsh on Silver Lake Highway or make something at the Christmas Valley dune area.

The visitor center and information provided there is pretty limited. I understand this facility is a very remote refuge and maybe not be where the FWS wants to invest in these facilities.

The visitor center was well staffed and had good souvenirs. Nice clean restrooms and picnic space.

The volunteers and local conservation groups were excellent, very knowledgeable and friendly. The staff at the Visitors Center were rude and unfriendly.

The volunteers at the Visitors Center are all always lovely. It is a wonderful, clean, and engaging center.

The volunteers who staffed the visitor center this year were more knowledgeable about birds and birding and told me where to look for certain species. They have never before been this helpful. I have been visiting this Refuge for 15 years and this was the first time the volunteers actually helped me find the birds! Thank you for being more helpful. Sometimes on NWR I feel as if I am the enemy. Most NWR staff know very, very little about bird species on their refuges. This year, I have been pleasantly surprised at two refuges, Malheur in Oregon and Anahuac in Texas. I hope the NWR system is changing! Thank you. [Signed] from Eugene, OR

There was a hiking trail shown on the map. We could not find it. It was very disappointing after driving so far.

This is a double edged sword for Malheur. On the one hand, it would be nice to have a few more trails and more observation areas, and on the other, I would hate to see the refuge become more 'touristy'. I love the undeveloped nature of the refuge and that there is an effort made to keep disturbance of wildlife at a minimum. I would hate to see bicycle trails, or canoeing or kayaking trails for that reason.

Time precluded hunting, fishing, water trail. I believe this are important for keeping the broad public involved in USFWS refuges, purposes and support.

Two of the groups I led stayed at the Field Station - invaluable!

Very courteous and knowledgeable employees and volunteers. Very nice visitors center.

Visiting from Australia.

We enjoyed our visit. We did not know about the refuge beforehand. During our stay at French Glen Hotel, we were encouraged to go.

We had a wonderful time.

We have been going here for about 10 years and love it - remote, few people, wonderful volunteers.

We love that it's open to hunting! Thank you!

We love the whole facility, including the Field Station where we camped for the three nights. Duncan and Lila are wonderful caretakers of the place. They are beyond committed to the welfare of the refuge. Just like everyone who works at the Wildlife Center. Great staff!!!

We regret that access is more limited. Years ago, more areas were open to walking. Roads were better this last trip. People are always nice and mostly informed or will ask.

We stayed at Malheur Field Station and had a birding guide (Duncan) for two days. It was a great birding opportunity and he was marvelous. Our actual contact with personnel at the visitor center was minimal.

We would have appreciated a daily weather report to be posted as I have seen these at other refuges. This would have given us some idea of how to plan our day. Otherwise, this refuge is great and we enjoyed our visit. Thanks for all you do with all your refuges.

We would have liked more and longer trails.

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 = 223)

A different type of geography and wildlife.

A necessary and safe place for both migratory and year round birds and waterfowl. Plus a safe access for birding and outdoor activities.

Amazing birding and wildlife, great scenery--lots to see, even in the snow. I will be back when Center Road is open.

As compared to BLM lands or other federal properties, a refuge should be a people friendly, even inviting, educational opportunity - a "last best place" to be appreciated.

At a refuge, the focus is on wildlife and preserving critical habitat. This is not true for Forest Service and BLM land, nor is this true for State Parks.

Auto tour roads for viewing and photography; preservation of habitat. Do NOT like hunting or multiple uses.

Because the emphasis is on accessibility and encouraging conservation.

Because the refuges I visit are located on major flyways, the opportunity to see a wide variety of species and for extending hiking provides a unique experience.

Biodiversity and birdlife.

Bird diversity in an unique setting (high desert marsh).

Bird watching on dirt roads from a car.

Birding oasis, rugged western way of life, landscape, history, and timelessness.

Concentration of wildlife, conservation.

critically important wildlife and bird habitat provide unique experiences that you cannot have elsewhere i.e. parks

Density and diversity of wildlife.

Each refuge has unique resources of public interest. The trick is to allow/promote a proper balance between protection and public enjoyment. This refuge is doing better - cooperation with adjacent private land owners and sister agency BLM is critical for obtaining the right "balance."

Emphasis on wildlife and their habitats.

Even though the "water" is managed to maintain the marsh, etc., it still felt natural. The area feels more pristine without a lot of commercial stuff. I enjoyed having a sense of big country and a good, safe place for birds and wildlife.

Excellent management and conservation.

Fantastic bird life.

Fantastic migratory bird life, unavailable at others.

Focus is on wildlife. Not playgrounds and hotels like many national parks.

For photographers being close up is important. I think it's easier to do in a NWR.

Good access to a wide variety of habitats, with their unique animals and plants.

Good scenery. A variety of terrain to experience.

Great birding!

Great viewing!

Habitat preservation, species preservation; the only place that species other than humans have precedence.

Helping to preserve wildlife and habitat.

I appreciate the balance of interests that Refuges manage.

I appreciate the emphasis on wildlife and habitat preservation.

I appreciate the focus on learning more about fish, birds, and wildlife as compared to just hiking trails (which I also enjoy).

I appreciate the minimal amount of human encroachment.

I believe that they cater to a more specific group like bird watchers but also appeal to the general public.

I enjoyed viewing sites and the history of the Malheur site - i.e. Peter French and history, volunteers at P Ranch, Sod House Ranch, Round Barn, and Riddle Brothers Ranch. Also Steens Mountain history and viewing sites.

I have been visiting this refuge yearly for 8 years and have been impressed by its growth and beauty. I'll keep coming back.

I have visited quite a few NWRs and find that most do a good job of providing for birders as well as hunters which I very much appreciate.

I like that their primary mission is the above, and people visitation is secondary. Please keep it that way. However, making them accessible does add to our support of them, and we get to enjoy places that don't have many visitors.

I like the concept of a place that is NOT overdeveloped!

I like the focus on preservation instead of visitor experience. It is important to help visitors enjoy wild lands, but in many other situations this becomes the dominant focus at the expense of wildness.

I like the freedom and non-structured roaming of BLM lands (i.e. hiking) but I think it is valuable to have 'hotspots' where tourists can be informed and learn/be educated about the outdoors with a center, a guide (individual) and maps/books/etc. (Tourist = from novice to expert, i.e.: birdwatcher, geology).

I love looking at wildlife, particularly birds.

I love the outdoors and wildlife. They are better protected in the refuge environment for the most part to be able to continue in a natural habitat state.

I love the quiet and uncrowded areas.

I love wildlife refuges. It gives people a chance to observe nature and learn about taking care of our environment. It also is a way to get young people interested in conserving and taking care of our environment.

I think it provides a safe haven for birds and wildlife.

In comparing them to the State Parks I regularly visit, I find them to be much more educational.

In this particular instance, it is an opportunity to view migratory birds and resident birds feeding, breeding, raising young in their natural habitat. In particular I really appreciated the informational exhibits and panels describing their presence in this refuge and their migratory routes, distances traveled and other locals where they live. It is amazing really that a little song bird travels from the tip of south America to breed in north America.

Inland waterway for migrations.

Interpretive and observational opportunities.

It allows for hunting/fishing and wildlife observation. Basically a good balance of conservation.

It allows us to enjoy the beauty of the natural surroundings without all the pitfalls of unmanaged public lands - littering, vandalism, etc.

It is a destination refuge. Is it far away and therefore very special and unique. I am a birder and I noticed all the great horned owls. It is sad they are so invasive. I worry about them killing other owls, but what can one do? It's native.

It is important and wonderful to have the acreage set aside so that people can discover how beautiful the

undisturbed land is and how it becomes a magnet for flora and fauna. If only we had more of these places! They are a delight to visit!

It is part of the Pacific Flyway for birds. We need to protect these areas. They provide unique opportunities to see migrating birds. I love the place. Thank you.

It preserves a very unique habitat.

It provides a real wild zone where one can see how wildlife exists without man contaminating the area. They also keep the rich from buying the land and building golf courses.

It provides resources to better understand the high points, purpose, and protections necessary for wildlife habitats.

It's combination of habitats and varied ecosystems, which makes it a unique place to view large varieties of wildlife.

It's important for me to observe wildlife in its natural habitat--to find places that are still wild--minimally developed.

It's size! The fact that it is on the migratory route and has not been industrialized. We love that the unpaved central patrol road allows us to drive slow and pull over when we want. Unfortunately, high water or the fear of high water had closed most of the road when we were there.

Kept raw and natural to the environment.

Lands are set aside for wildlife different from other public lands which may be used to extract resources.

Local, pertinent info available. Much more so than BLM land and most National Forest areas. Concentration of wildlife in suitable habitat more so than most BLM and National Forest areas.

Location and availability of water in this area.

Location and they represent the only remaining large tracks of ecosystems left intact.

Location, location, location.

Low key and devoted to the birds more than the tourists, which is a good thing.

Low touch viewing and photo opportunities.

Maintained trails making it possible to observe wildlife, kiosks and centers with displays and information about area and wildlife, abundance of protected wildlife and place for them to thrive.

Malheur is the place to go for bird migration.

Malheur was huge and empty, yet had extraordinary bird populations and opportunities to see them. It helped that one in our group had been there many times and knew when and where to look.

Malheur Wildlife Refuge is unique because of its diversity of bird species and because of its place in Oregon's history, such as the Sod House Ranch, P Ranch, and CCC buildings.

Many less people, managed more for wildlife than scenery.

Miles of unencumbered, open, high desert area of sky, sage, juniper, and birds. Area teems with Oregon's history.

More control of ATVs, dogs, and loud noises.

More isolation, less people around.

More of a concerted effort to protect wildlife by maintaining habitat.

Most other areas preserve mountains and parks. NWRs preserve wetlands.

Most refuges are involved with wetlands that take special management and protection and the balance of that to involve accessibility to the native wildlife and their nesting and feeding activities is a unique responsibility and service to the public.

Most refuges make an effort to keep disturbance of wildlife at a minimum and try to enhance their habitat. For someone truly interested in seeing nature and wildlife at its most natural state, refuges are becoming the only opportunity to do this. I will always have an issue with allowing hunting on refuges, even though I know hunters contribute much to the support of them. It seems an oxymoron to call it a "refuge" when those birds and animals who come there for refuge are hunted, and when many hunters do not follow regulations.

Most wildlife refuges offer a concentration of critters either by themselves (same kind) or in greater diversity (as in mammals, birds, fish, etc.).

No, except that it often lets you easily see a place of concentrated wildlife (often birds) which you may or may not know where to look for otherwise (for instance, you may not know where in a National Forest or BLM land to look for such critters).

Not for profit, and the primary aim is education and conservation. People who enjoy their jobs. More animals probably because they're protected.

Open space, quiet, birds.

Opportunities to continually sharpen your birding, photography skills or just having a safe haven to go visit nature.

Opportunities to observe wildlife in its natural habitat.

Opportunities to see birds in their own habitat.

Opportunity to observe conservation and habitat management, view birds and wildlife in natural habitat.

Opportunity to spend time observing animals of interest; birds in my case. Hiking access to key areas are desirable if they are not disruptive to the wildlife.

Opportunity to view birds and wildlife is better.

Ordinarily, water. Hence, waterfowl and higher populations of riparian and littoral birds.

Other public lands are multi use. They do not have the concentration of animals.

Pelicans, size and depth of lake, also geology and history.

People who go there often know exactly what they expect to see.

Pioneered concern for lead shot contaminant pollution problems for uptake and adverse effects to birds should get extended for chronic accumulative effects to birds as well as for the overall biotic assemblage. This issue should get much better presented as a feature at this refuge. Lead poisoning of birds is a huge limiting factor to population recovery and health of the ecology here.

Preservation of land for wildlife.

Primary purpose is for fish and wildlife and understand that public access is limited seasonally or geographically to protect plants and animals. My preferred means of experiencing wildlife refuges is on foot, and I'd like to see increased opportunities for foot access that is consistent with protection of refuge resources.

Priorities favor wildlife over human issues.

Pristine state of nature.

Protection for species. I am opposed to hunting.

Provides an opportunity to view birds and other forms of wildlife that one usually cannot see in a non-refuge situation.

Providing unique habitat for the sole purpose of supporting wildlife survival and propagation.

Putting wildlife and habitats before human development and resource extinction. Keep the cattle out!

refuge are compact and define quite specific wildlife and/or fish important habitats. Other agencies have fish, wildlife, plants and their habitats missions but on a broad landscape scale. The Service has a wonderful opportunity to maximize and concentrate useful f/w/p and their habitats information to the broad public of a diverse country.

Refuges across the U.S. succeed at making wildlife very accessible for local AND out of state tourists. This accessibility is because most are in the low elevations (making it fairly close to human development for access AND managing the wetland areas or just setting aside land where it's sorely needed. Although in the multiple choice I said the fee was just about right, my answer does not imply that I think it's not worth more. I just feel the greatest revenue needs to come from federal (and some state) taxes.

Refuges are unique as they offer wildlife a safe and protected environment to breed and raise young. Refuges are areas that are set aside for wildlife and cannot be intruded upon by man. We like the fact that we can visit, but do not disturb.

Refuges are unique because of their mission to preserve our wildlife heritage. That is not the reason for other public lands.

Refuges focus on wildlife conservation; visitor services are secondary. So maybe there aren't as many fancy Visitor Centers, but there are great opportunities for wildlife observation.

Refuges generally offer outstanding wildlife viewing opportunities, and while not as remote and backpackable as wilderness areas, they are ideal for day hiking.

Refuges have a greater focus on wildlife conservation than most other public lands. Refuges specifically work to provide opportunities for the public enjoyment of wildlife and outdoor recreation, while ensuring that these recreation activities are compatible with the conservation of the wildlife.

Refuges have no commercial enterprises, no billboards, no advertisements - just clean beautiful scenery.

Refuges offer us the opportunity to observe wildlife unmolested in their natural habitat and to briefly experience the well-being that results from total immersion in nature.

Refuges often feature good birding (and other wildlife viewing) opportunities. Often they restrict grazing to at least some degree, particularly near water--a matter of enormous importance in arid regions like eastern Oregon. Many (I'm not counting Malheur here) seem to be set up primarily for the benefit of hunters, who have far more access to them than birders do, and seem to primarily target the well-being of particular hunted species (e.g., geese and ducks).

Refuges provide a unique opportunity for visitors to see much wildlife that is not otherwise easily accessible. We have visited many NWRs over the years.

Refuges provide an opportunity to interact with nature that is impossible in private lands. Birds and animals can live most of the year without tremendous interference from man.

Refuges provide opportunities for multiple use of fish and wildlife under conservation regulations that are independent of the inconsistencies of state by state regulations.

Refuges provide unique safety & protection for the creatures that inhabit them. For us to be able to walk among them in the wild is a wondrous event.

Remote / natural state.

Seeing wildlife in the context of their feeding, migration, etc. provides insight not easily gained otherwise.

Since bird watching was my primary reason to visit, this refuge is unique in that it is a major migratory route for hundreds of birds not seen in other places. And the geography is unlike places west of the Cascades in Oregon.

Size, birds, unusual passing through.

Solitude, interaction with nature, enjoyment of the natural beauty.

Still "rustic" -- not overly urbanized. Quiet -- not opportunities available for rowdiness.

That they are unique, special places, set aside under good management for the benefit of the place first and the visitor second.

That's a strange question. I value natural lands and wildlife regardless of which agency happens to be managing them. I do think the FWS does a particularly good job with balancing conservation and recreation, without caving in to recreational interests.

The ability to view wildlife, especially birds.

The availability of wildlife for viewing. The information about the variety of wildlife present in the area.

The bird watching opportunities.

The birding opportunities at Malheur. There could be less focus on cattle grazing.

The birds.

The chance to see wildlife close and with natural behavior. Also experience a protected environment.

The concentration and proximity of wildlife, particularly birds, is much greater than on other public lands.

The concentration of waterfowl and other bird species in the refuge. You don't get that in on BLM land or even in most National Parks. I would never think of going specifically to BLM land or a National Park to watch migrating birds.

The concentration of wildlife make them very attractive for photographers and your knowledgeable volunteers and staff increase the value of the experience.

The conservation efforts and the dedication of all that work and volunteer to maintain the whole Malheur refuge. IT wouldn't be what it is without the wonderful volunteers and staff. We tell as many people of this wonderful place!!!

The emphasis on managing the resource for the benefit of particular species.

The emphasis on wildlife and its importance.

The fact that habitat conservation and management for both non-game and hunters makes NWRs unique from other public lands.

The fact that there are strict rules and regulations in place to protect wildlife and migrating wildlife. I like that hours are limited and that no camping is allowed or that it is very limited. No camping at MNWR but there is at others.

The feeling that my tax dollars are helping protect wildlife.

The focus is much more on wildlife than sites / sights.

The geology, birds, antelope, mustangs (we didn't see great horned sheep but were happy to know they were nearby), historical ranches, and sites.

The habitat seems to be better managed -- there seems to be more wildlife/fish as compared to other public lands.

The history of the area and the preservation of the various ranches.

The key is preserving and promoting wildlife and the key is that they should remain more untouched than our National Parks! Lower traffic (people) enhances the wildlife's ability to remain there!

The lack of commercial enterprise makes a refuge a true nature experience. I appreciate the need to prepare for a trip to a refuge, rather than taking a wad of cash and buying whatever you need. Keep it simple, please.

The mission of having a safe place for wildlife.

The number and variety of birds to see.

The number of birds was great.

The ones especially with auto tour routes are a wonderful opportunity for individuals like myself that would have difficulty walking and standing waiting for shuttles to view and photograph wildlife.

The opportunities for bird watching are generally the best available. They are also wonderful places to get away from urban areas and be outdoors and away from crowds.

The opportunities for witnessing migrations of birds, nesting habits, other wildlife and plant species and to know that this is a conservation land management of native flora and fauna.

The opportunity to see abundant wildlife fairly close. All wildlife was accessible to our group, including children, without undue effort or expense.

The opportunity to see wildlife in a natural protected habitat with little human impact on the environment.

The quiet, the calm, the knowledge that work is being done to conserve and protect wildlife, and the opportunity to observe wildlife.....

The Refuge system provides islands of habitat in an increasingly fragmented landscape that provides food and shelter for the benefit of migrating and local wildlife and birds. This affords opportunities for the public to enjoy wildlife and birds in our increasingly urbanized world.

The refuges make it possible to view many kinds of wildlife that are hard to find in other habitats.

The sheer beauty is beyond description. I treasure the quiet and THE BIRDS. I very much appreciate the fact that ranchers and environmentalists seem to have a workable relationship which benefits all -- a great model on so many levels.

The spring migration to the Malheur wetlands offers great birding and opportunities to see birds that are not normally found in Oregon.

The unique watershed characteristics and the sheer quantities of bird life available for observation make this unlike any other wildlife refuge I've visited in the U.S.

The variety of birds and the opportunity to view them.

The vast amount of beautiful wildlife that the refuge has to offer and the unique experience it provides for the public to see the endless amount of nature and wildlife the area has to offer.

The whole Blitzen Valley and Pete French's Property is worth preserving forever.

The wildlife viewing opportunities, especially for birds.

The wildlife was extremely accessible.

The wonderful birds!! And the incredible vistas.

The wonderful opportunities for birding and hiking.

Their devotion to maintaining an undisturbed natural state.

Their individual habitat is species specific- hence the refuge at that location.

Their primary focus on wildlife rather than human needs.

There seems to be more information onsite, brochures, kiosks, and personnel available at refuges than just public land that is often not signed, and often not recognized for the potential it may have. Good job!

There was a refreshing lack of commercialism and a focus on preservation of this wonderful natural resource. Thank you.

There would be no waterfowl without the NWRs. They play a vital role in conserving many species of bird, animals, plant, scenery, etc.

They allow many recreational opportunities.

They are "wilder" and more natural than many areas. One feels that she / he is seeing animals where they belong.

They are 5 areas for wildlife to exist as nature intended, and for places for humans to enjoy. America needs more. Too bad our government did not fund it like the military!

They are a vital part of the lives of US citizens and visitors to the country -- we should be a model for the rest of the world.

They are always located in areas where wildlife is abundant and opportunities to see them are excellent.

They are always well kept and watched over by good people.

They are certainly more controlled for nature with less emphasis on people--as BLM, Forest Service, etc. are for people / profit and recreation.

They are more likely to let you observe the wildlife up close.

They are needed as a "refuge" for many types of animal life.

They are pretty much left as nature intended. The wildlife is abundant. The opportunity for viewing the wildlife is enhanced through decks or blinds. Also, signs and information from the visitor center or kiosks helps guide you to the best places for viewing wildlife.

They are really concerned about protecting wildlife and habitats for wildlife. However, I think it is weird that ANY hunting is allowed in any wildlife refuges.

They are usually wonderful habitats for animals of all kinds. We love the hunting opportunities many of them provide.

They are well maintained, usually have plenty of information and knowledgeable staff, and as they are always in a significant area, it is very easy to see birds and wildlife up close and personal. Thanks.

They offer enhancement to and for wildlife/birds.

They offer more natural wildlife and bird environments.

They provide a unique opportunity for observing wildlife.

They provide a wonderful opportunity for us to see up close wildlife in its natural habitat. The geographical remoteness and the lack of traffic, buildings, people, etc. makes the experience unique and memorable.

They provide habitat and protection of wildlife so that many species of birds, mammals, etc. can thrive and be observed by individuals who appreciate these animals and plants in natural settings.

They provide large open areas with a variety of birds that you don't see in other types of parks.

They provide unique opportunities in both space and time. Without them these opportunities do not exist for people like my wife and I.

They seem to be more wild, larger, and have fewer people than areas like National Parks. Even though there are so many problems like invasive species, it is important to preserve as much land as we can to protect wildlife.

They try to keep the habitat as natural as possible without a lot of human evidence in the midst of population all around. It would be perfect if you could only tour around in non-polluting vehicles.

They're just so beautiful and full of life.

Tremendous bird habitat.

Unique scenery and remote location, lack of crowds.

Unlike BLM or Forest Service sites, refuges provide concentrated wildlife viewing opportunities and interpretive displays. The preservation aspect, combined with the non-commercial usage of the refuge also tends to improve the quality of the experience.

Unspoiled - lack of too many stores, etc. (Unlike National Parks where there seems to be more concern to make money.)

Usually a wide variety of birds. Usually well maintained.

Varied geography, a lot of them all around the country, usually much less crowded than national parks. Often located in out of the way but interesting areas. A lot of good birding.

Variety of habitat, geological features, birds, wildlife, ranching. Remoteness, beauty, peacefulness, history.

Variety of species.

Visitors, birds, and wildlife. Scenery, nature's sounds and silence, sky-scape is relatively unpolluted, and staff/volunteers.

Volunteers, information available, driving routes with info, bird watching.

Waterfowl and birds concentrated to improve viewing.

We enjoyed the long road with numerous opportunities to stop and see waterfowl. Road was a bit too bumpy though.

We like to gather the information on our own...in our own direction. Refuges like the one we visited (Malheur) make it easy to go at our own pace. We were never disappointed with the ease at which we were able to observe wildlife, or a beautiful sunrise or sunset...without the huge crowds found at places like National Parks, which are great in their own way...but usually much less serene and private feeling.

We treasure the emphasis on maintaining the natural environment, protecting plant and animal habitats, educating visitors, the usually peaceful atmosphere, most fellow visitors we meet, generally educated and dedicated staff, and the lack of "concessions" and distractions.

Well maintained, large area, offers many viewing opportunities, beautiful and serene.

Wildlife / bird viewing and preservation.

Wildlife habitat for birds, essential open space for migrating waterfowl, quiet, solitude for people and native species. Plants so essential for ecosystems and future generations.

Wildlife opportunities, visitor center, tour/history, bird watching.

Wildlife refuges are overall less developed, quieter, more rustic than many other parks and campgrounds. Their primary focus is the wildlife, not the visitors.

Wildlife there knows it's safe and viewing is better with wider range of wildlife.

Wildlife viewing opportunities and exposure to different habitats.

Wildlife viewing opportunities, particularly birding.

Wildlife!

Wonderful birding opportunity.

You can get a close look at the birds or whatever you are wishing to learn more about.

You know the life of the environment is kept as natural and well-maintained as possible and still allow us to interact.

Additional Comments (n = 120)

(of those trips, many were short, several-hour jaunts to a nearby preserve, etc). Malheur was utterly fantastic and a place to spend more time. Overall, I think it would benefit from having more hiking and biking opportunities as ways to slow down and really appreciate the birds, wildlife, and landscape without stop-and-go driving.

(Recreation trips in previous question include day hikes.)

Been going to French Glen many times. The old hot spring on private property in the old days was nice - too bad it had to be destroyed. Sorry to see the store downtown in disrepair and going to close. The French Glen Hotel is owned by the state of Oregon. Too bad the legislators and the governor couldn't spend a little money to save the store. I thought it was really good the winter you were trapping coyotes on the refuge to try and save some bird eggs. Maybe soon you can trap a few wolves too as they are moving into Oregon. How about you shoot some of our seals in Oregon that are eating our fish in all our bays and Columbia River. Lewis and Clark wrote that the salmon were so thick that the mighty Columbia was flowing uphill.

I am a full time RVer - my life for the last four year has been an outdoor recreation trip to NWRs, National Parks, BLM lands and National Forests :)

I am a professional birding guide retired from an office job. I bring tour groups from Ashland to Malheur annually.

I can not support a place like this because it does not support me as a photographer. The money spent to keep this place up could be better spent on places that support Oregonians who want to experience the wild, not spent on a Visitor Center with no real Oregonian usability.

I don't understand why hunting and fishing is allowed in a National Wildlife Refuge. Why can't there be one place where the birds and animals can go without being harassed and killed. I understand there needs to be economic benefits to the community - but hunting could still occur on the edges and outskirts thereby benefiting private landowners. It just doesn't seem right to kill animals and birds in a wildlife refuge.

I had a great time. We saw over 80 bird species. The weather was pretty bad, but it didn't matter; the birding was exciting.

I have been visiting the refuge since the mid 1990's. It is an amazing and very special place even though it is now more popular and more people visit. It still feels quaint and a hidden gem. There are many environmental "battles" that I am sure the refuge faces (for example, the camp issue, climate change, invasive species, the possible windmills that will be going up). I feel for the people trying to make Malheur a "better" refuge. I know I will keep visiting and enjoying it though. Thanks (signature)

I have no idea the number of trips -- we are outdoors regularly and don't like that the question made me choose a number!

I have visited Malheur NWR approximately 40 times since my first here in 1974. It is one of my favorite places to bird in North America.

I have visited Malheur Wildlife Refuge annually for 10 years. In these 10 years I have seen a tremendous decrease in the migratory birds and natural wildlife such as deer, coyote, raccoons, bobcats, and rabbits. The marsh lands have been very low (except for this year). Also I have noticed some improvements at the headquarters (new deck and benches).

I love the Visitor Center and wildlife personnel who can help me find new and special places and things on the refuge. Also they help protect sites from vandalism.

I love this refuge. The experience is life affirming. Not only do we love the experience of being in the unique landscape and viewing the birds, we have loved getting to know some of the local people we connect with again each year, and meeting other travelers. And I have been making this trip annually with my husband and another couple (best friends) for at least 10 years. Some years we have gone twice. Each trip I learn something new (often from another visitor) or recognize a bird that I did could not identify before. It is an opportunity to be with our friends in an environment we love and appreciate. It is so interesting to see the differences through the years... Are the owls nesting in the same place? Will the area be dry or wet? Will the number of birds returning be similar in number or will events (natural or not) over the last year affect their population? My life experience would be greatly diminished if I could not come here.

I loved to learn about the history of the area and the people that came and developed the land, i.e. Peter French and Glen, Riddle Brothers, homesteaders.

I marked volunteer opportunities in section 4 as very unsatisfactory. Last year we visited the refuge in the fall. They staff a historic place on the refuge with volunteers. Last year they were short of volunteers and had to close the facilities early. I sent information that I would volunteer to help the place open this year. Their response to me was poor and unprofessional.

I take people to refuges as a teacher and biologist so "Thank you" for all of your great conservation work. The earth would not be the same without wildlife refuges. They provide solace for me and for wildlife in this busy, overpopulated planet. They provide sustenance for the soul and for the continuation of our natural world. They provide a great place to bring children to understand and experience the natural world away from the digital world.

I visit Malheur, Ankeny Hill, Finley and Basket Slough regularly. Please keep up the great work and having such wonderful places for the public to visit year round! - [Signed]

I visit this refuge yearly if possible; it is a wonderful place to view and photograph wildlife.

I volunteer to test the water in the Pudding River which runs into the Willamette and believe we can aid fish with cooler streams, but I do not believe in climate change. I believe God takes care of that.

I would like to come back in the Spring for more bird watching.

I'm glad we went with Audubon leaders. We would never have found our way around by ourselves!

improve "Center Patrol" road, more walking and bicycling emphasis.

Interesting survey - my first, probably a good idea!

It is difficult to answer many of these questions when the entire center road is under water and viewing is confined to the peripheral roads. Signage on the refuge is virtually non-existent.

It was a very enjoyable experience.

It was well maintained and totally enjoyable.

It would be very useful if the official web site for this refuge included more information about logistics and conditions including the map available at the visitor's center so one could better plan the time and equipment needed for a comprehensive visit.

It's a magical place and well worth preserving.

It's a shame there are so few places to stay near the refuge. Those trailers at the field station were the pits. My main complaint was the roads.

It's a wonderful refuge. Keep up the good work. My only concern is that you should avoid over-developing the Malheur refuge. The reason my family and I love this refuge is that it is an escape from crowds, development, and the urban life. Keep the refuge a relaxed and rural place. Keep the focus on the wildlife and minimize the evidence of human activity. Please avoid creating too many parking lots, signs, and visitor centers. We don't want this refuge to become a heavily-developed or commercial place.

Just a thought concerning climate change, the earth has been warming up since the end of the last Ice Age, with many different factors assisting it.

Keep cost down - make wild lands accessible to all. No user fees. These are wonderful places and need to continue to exist with focus on wildlife.

Keep up the good work of caring for the refuge!

Keep up the good work.

Loved the experience at Malheur. Will come back again.

Malheur could tell visitors more about the success or lack of success on birding populations there. I'd like to know what they are doing to enhance the habitat for the species that use the refuge.

Malheur is one of Oregon's crown jewels, please take good care of it!

Malheur is unique. It is remote so less people tend to visit. Proximity to Frenchglen is very beneficial. It's great to see how much local community in Burns has embraced the birding community compared to 30 years ago. I would like to see more opportunities for Oregon youth to visit Malheur and take part in educational field trips, including overnight stays at the field station. Thanks for the opportunity to take part in this survey.

Malheur Refuge is a very special place. One of the reasons I enjoy it so much is that relatively few people are present (or were present) when I was there, once in October and once in May. There are many other refuges which might actually benefit from having a bus or tram, but neither Malheur or Antelope would. On the contrary, I believe molding those places to large numbers of people at one time would greatly detract from their value as refuges for the wildlife.

Malheur Wildlife Refuge is a most remarkable gift. We visit every year during bird migration. My husband is an avid birder, and I love to walk and hike.

Many of the roads of this refuge were flooded during our visit, but the visit was still very rewarding.

Many of your questions seem inappropriate for an evaluation of the refuge.

My wife and I camp and backpack on our several trips to the Malheur NWR. We have not used our camping gear because of the weather and mosquitoes. However, more camping opportunities might attract more people.

My wife and I have been going to Malheur since 1974. I was a science teacher at Snohomish HS in Snohomish, WA. I had a bird-watching club for years and along with my wife and friends brought groups there during spring breaks and once in early June. For many years we brought our 2 kids and I spent some spring breaks with my family and with my son in the mid 80's. My wife and I have gone back many times with friends and on our own. It is a very special place to me, my wife and my kids! My wife and I would like to volunteer there someday (months) in the future. Thanks for the opportunity to participate in this survey! Also, my compliments to the employees and volunteers at Malheur, they are doing a monumental job! Sincerely,
[Signed]

National Treasure!

No additional comments about the refuge but interesting that the survey asks about climate change. I feel population is the greater issue and one prime factor of the acceleration rate of the climate change issues.

Part of a several day visit to that part of Oregon. Also visited the Steens Mts., Round Barn, Volcano area, Catlow Valley.

Photography blinds would be a plus.

Please don't make Malheur Wildlife Refuge too civilized!

Refuges are essential to our life as a nation.

So grateful for the Refuge system. Support providing needed increase in funding.

Thank you for your wonderful service. (Drawing of a tree with an owl and a heart.)

Thank you very much for the ongoing care for this very special place.

Thank you!

Thanks for asking and taking time for this.

Thanks for being interested in what your public thinks.

Thanks for providing such a wonderful place to visit and to discover! It is magnificent!

The addition of the history and evolution of the local areas culture that lead to the establishment of the refuge is always very useful and of interest. Good job Service!!

The taxidermy exhibit of birds is falling into a level of degradation which is most unfortunate as the examples enable visitors to view closely and learn about the birds that are observable at the refuge.

The very biggest issue with climate change and quality of life is human overpopulation. Look to deforestation and pollution in those areas of the world. All the other conversation is just stop gap.

The volunteers were great! We enjoyed our visit very much!

The western United States is a unique and wonderful place of outdoors that the localities don't seem to fully acknowledge. Please inform them. I've been retired 10 years and my avocation is to fly somewhere in the west, rent a cheap car and drive out to all the sites, museums, and hike. I keep physically fit, love the

landscape, and read books on geology and fossils. I've written a magazine article on "a map to the insects" and as an amateur hope to define other topics.

This includes hiking and birding on weekends.

This is a wonderful refuge and we will visit it again at various times of the year to take full advantage of the great habitat that has been created and so well maintained. Thank you very much!

This was a wonderful refuge. I saw it when water levels were low and want to come back in the spring to see what it is like with high water. It was wonderful to take the drive around the refuge and see the variety of habitat.

This was our first visit to Malheur NWR. It was a fall visit during the fall migration period. The visit lived up to all our expectations. We are anxious for a spring visit next year too.

Two in our group have been visiting Malheur WR at least once every year for about 30 years. One in our group has been visiting for about 20 years. One in our group has been visiting Malheur WR every year for about 40 years. She used to come there with her parents when she was a kid.

Unless you count time spent at Black Butte Resort -- then the trips would be 7.

Very glad the volunteer suggested going to the Sod House for another guided walk.

We are animal trackers (primarily in Anza-Borrego Desert State Park in California), so make rather specialized use of a Refuge or other relatively wild place: studying and photographing the tracks and signs left by the local wildlife.

We are volunteers at a wildlife refuge in Tualatin. We highly support refuges and national parks in general.

We love the Malheur Wildlife Refuge. It is one of our favorite places in Oregon!

We love this refuge. The visitor center is small but very useful, the grounds are a delight and many birds use the grounds as a stop over on their migrations, which makes this a special place. The whole area is full of wildlife and birds. This has been our third trip and we hope there will be many more.

We never spent a dime on accommodations, courtesy of the BLM free dispersed camping policy. We drove through a crowded Page Springs campground one night, found only one tiny spot open, and then drove a few miles and camped on a ridge top on BLM land. Way better. I appreciated the low-key atmosphere of Malheur - the gravel road keeps the weekenders and RVers away, making for a more relaxed birding and vacation experience.

We really enjoyed our trip. I will return to this refuge in the future.

We saw lots of birds and had a great time at the reserve. Thanks.

We stayed in Burns during our most recent visit. It was great seeing the "Welcome Birders" signs at area businesses. Perhaps you could do a weekly "current sightings" e-mail to local businesses, which they could print & post for customers - build more refuge & local area cooperation.

We strongly support the NWR system and hope there will be more NWR lands added to the system.

We will be back next year. It was more than I can do in just a few days. The opportunities for exploring are endless. Thanks for a great time!!!

Why the emphasis on Spanish / Latino?

With regard to your questions about global warming...I think we may take local action to protect our fish and wildlife on the ground, more shade, more water availability, etc. I don't believe we can say what the CORRECT TEMPERATURE is for the earth. There have been temperature changes throughout the history of earth and I believe we are crazy if we think we can change our life activities to reduce CO2 enough to reduce

the earth's temperature. We love the Malheur Refuge and will continue to visit it at least annually. We have been happy to see the effort to get rid of some of the juniper which has been taking over the desert areas.

Wonderful visit and fantastic refuge. Page Springs campground is the place to stay and enjoy the refuge, absolutely immaculately cared for. My last visit to the refuge was 30 years ago and it seems that there are more hiking trails, which are much appreciated. I'm a huge fan of the refuge system.

Would like to see more native plants around the HQ that provide food/shelter for birds.

You should know that I work for the NWRS and I worked on a detail at a nearby refuge (and stayed in refuge housing)for 30 days. So I took the opportunity to visit the Malheur refuge on my own time while I was in the area. So I was not a "typical" visitor. The Volunteer who asked me to volunteer to fill out the survey knew all this and said I should feel free to take the survey anyway.
