



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

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Because of its proximity to town, Moosehorn provides a number of services to our community. Close by, residents can spend less time driving and more time taking advantage of all the refuge has to offer. I drive through the refuge at least once a week - some people drive through daily. It offers viewing of wildlife and scenery, even when you don't have time to stop. Locals fish, hunt, bike, hike, bird watch, and pick blueberries. There is an abundance of opportunities for photographers and naturalists. By being so close by, and making everything easily accessible, it is an asset to the community aside from the tourist revenue that it may bring in.—Survey comment from visitor to Moosehorn National Wildlife Refuge.



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

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Introduction

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

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

Organization of Results

These results are for Moosehorn 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 Moosehorn 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 Moosehorn National Wildlife Refuge

Moosehorn NWR is one of the northern-most national wildlife refuges in the Atlantic Flyway—a migratory route that follows the eastern coast of North America. It is located in the northeast corner of Maine close to the Canadian border. This refuge was established in 1937 with the primary purpose of providing breeding grounds for migratory birds, endangered species, and other wildlife, including declining woodcock and waterfowl. An additional purpose for Moosehorn NWR is to provide wildlife-related education programs as well as recreational opportunities to the public. The refuge is named for Moosehorn Stream, a waterway within its boundaries.

The refuge's landscape is rich and varied, with mixed hardwood forests such as aspen, maple, birch, spruce and fir dominating the upland; and grasslands, blueberry fields, fresh water ponds, bogs, lakes, marshes, and a rocky marine coastline. The refuge provides important feeding and nesting habitat for many bird species, including waterfowl, wading birds, shorebirds, upland game birds, songbirds, and birds of prey.

This 29,000-acre refuge consists of two divisions: the Baring Division, located southwest of Calais, and the Edmunds Division, located between Dennysville and Whiting. The Edmunds Division borders the tidal waters of Cobscook Bay, a popular area. Approximately one third of the refuge has been designated a National Wilderness Area where thousands of acres are managed to preserve their wild character for future generations.

Nearly 55,000 people come to visit Moosehorn NWR each year (based on 2008 RAPP database; U.S. Fish and Wildlife Service, written comm.). Activities for visitors include environmental education, use of the Visitor Center, waterfowl hunting, migratory bird hunting, upland game hunting, big game hunting, attending a guided tour, bicycling, cross country skiing, snowshoeing, fishing, driving an auto tour route, boating, wildlife observation, bird watching, photography, interpretation, and hiking. Local residents also enjoy the abundant blueberry picking in the summer months. Visitors especially enjoy the bird watching opportunities at Moosehorn NWR. Highlights include observing bald eagles feeding on fish in the streams and osprey pairs nesting on platforms along the marshes on Charlotte Road. In mid-May the refuge's forests are filled with the sweet song of countless migrating warblers. Twenty-four warbler species stay to nest. Figure 1 depicts a map of Moosehorn NWR. For more information, visit: <http://www.fws.gov/northeast/moosehorn/>.

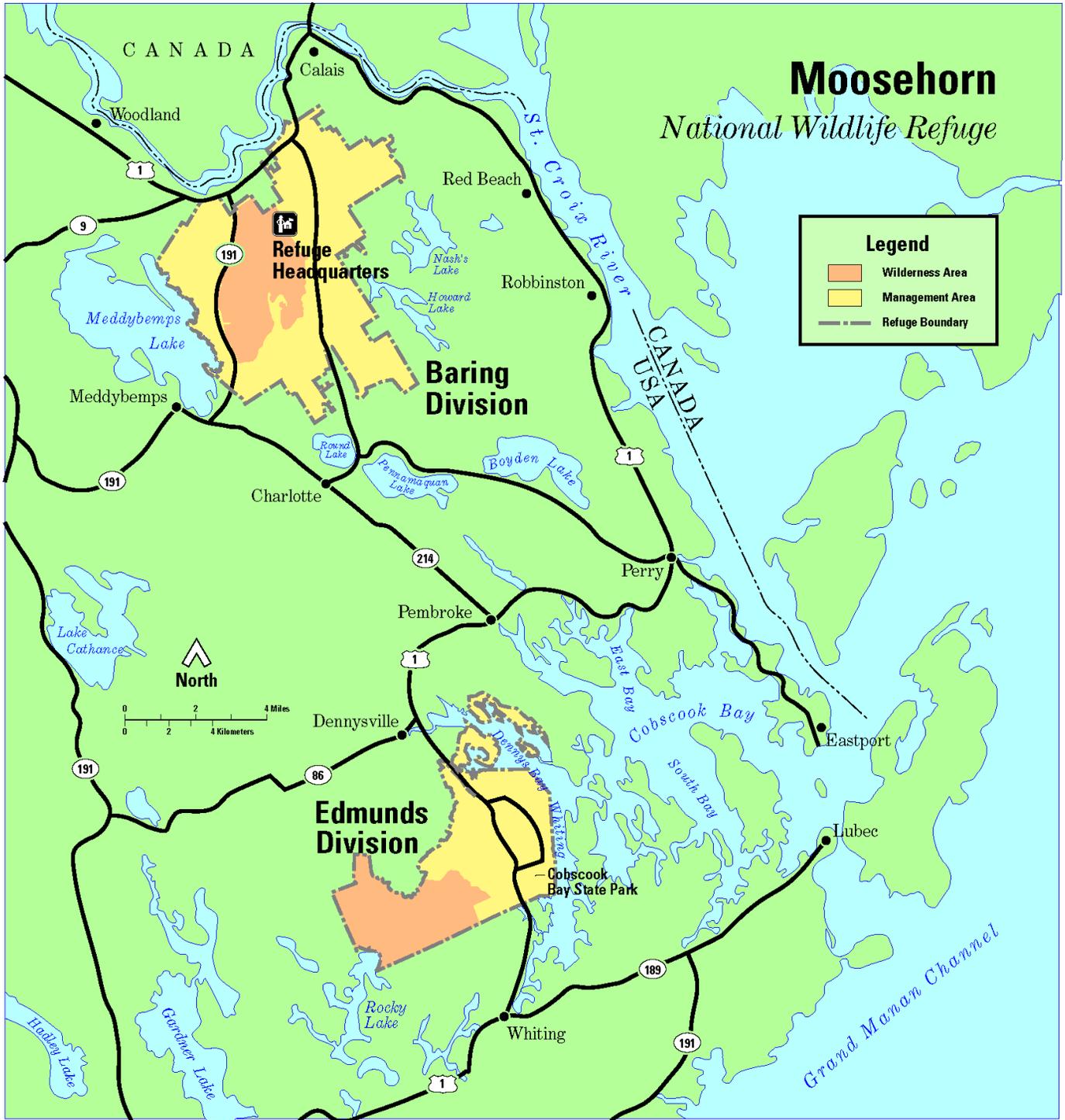


Figure 1. Map of Moosehorn NWR, courtesy of U.S. Fish and Wildlife Service.

Sampling at Moosehorn National Wildlife Refuge

A total of 319 visitors agreed to participate in the survey during the two sampling periods at the identified locations at Moosehorn NWR (table 2). In all, 225 visitors completed the survey for a 72% response rate and $\pm 5\%$ margin of error at the 95% confidence level.¹

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

Sampling period	Dates	Locations	Total contacts	Undeliverable addresses	Completed surveys	Response rate
1	07/17/10 to	Baring Division Visitor Contact Station/Trails	151	2	118	79%
	07/31/10	Edmunds Division Campground/Roads				
2	09/25/10 to	Baring Division Visitor Contact Station/Trails	168	6	107	66%
	10/09/10	Edmunds Division Campground/Roads				
Total			319	8	225	72%

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 Moosehorn NWR reported that before participating in the survey, they were aware of the role of the U.S. Fish and Wildlife Service in managing national wildlife refuges (88%) and that the Refuge System has the mission of conserving, managing, and restoring fish, wildlife, plants and their habitat (94%). Positive responses to these questions concerning the management and mission of the Refuge System do not indicate the degree to which these visitors understand the day-to-day management practices of individual refuges, only that visitors feel they have a basic knowledge of who manages refuges and why. Compared to other public lands, many visitors feel that refuges provide a unique recreation experience (83%; see Appendix B for visitor comments on “What Makes National Wildlife

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).

Refuges Unique?"); however, reasons for why visitors find refuges unique are varied and may not directly correspond to their understanding of the mission of the Refuge System. More than half of visitors to Moosehorn NWR had been to at least one other National Wildlife Refuge in the past year (55%), with an average of 4 visits to other refuges during the past 12 months.

Visiting This Refuge

Some surveyed visitors (42%) had only been to Moosehorn NWR once in the past 12 months, while others had been multiple times (58%). These repeat visitors went to the refuge an average of 20 times during that same 12-month period. Visitors used the refuge during only one season (57%), during multiple seasons (25%), and year-round (17%).

Most visitors first learned about the refuge from signs on the highway (44%), friends/relatives (35%), or people in the local community (23%; fig. 2). Key information sources used by visitors to find their way to this refuge include signs on highways (53%), previous knowledge (51%), or a road atlas/highway map (23%; fig. 3).

About half of visitors (51%) lived in the local area (within 50 miles of the refuge), whereas the other half (49%) were nonlocal visitors. For most local visitors, Moosehorn NWR was the primary purpose or sole destination of their trip (62%; table 3). For most nonlocal visitors, the refuge was an incidental or spur-of-the-moment stop on a trip taken for other purposes (44%). Local visitors reported that they traveled an average of 23 miles to get to the refuge, while nonlocal visitors traveled an average of 311 miles. Figure 4 shows the residence of visitors travelling to the refuge. About 60% of visitors travelling to Moosehorn NWR were from Maine.

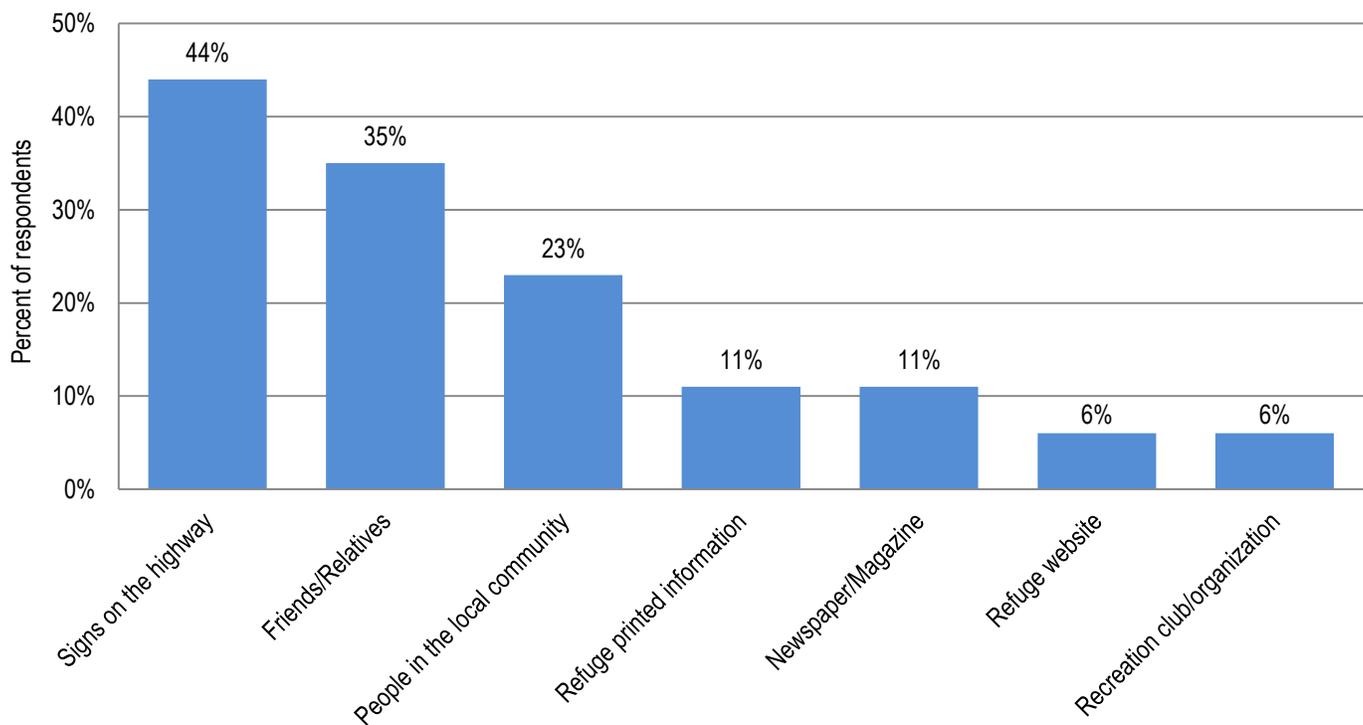


Figure 2. How visitors first learned or heard about Moosehorn NWR (n = 214).

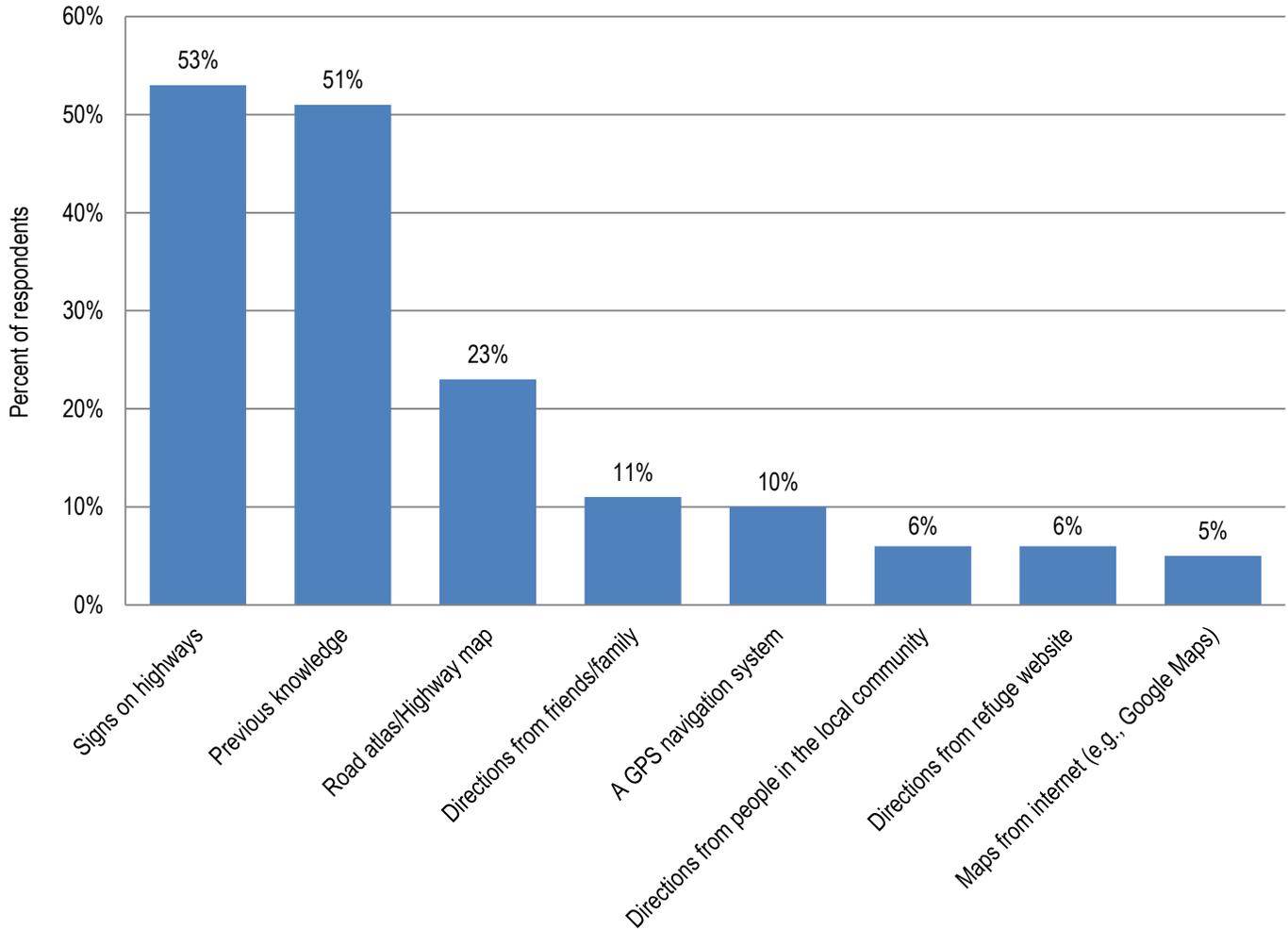


Figure 3. Resources used by visitors to find their way to Moosehorn NWR during *this* visit (n = 222).

Table 3. Influence of Moosehorn 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	27%	29%	44%
Local	62%	19%	19%
Total	45%	24%	31%

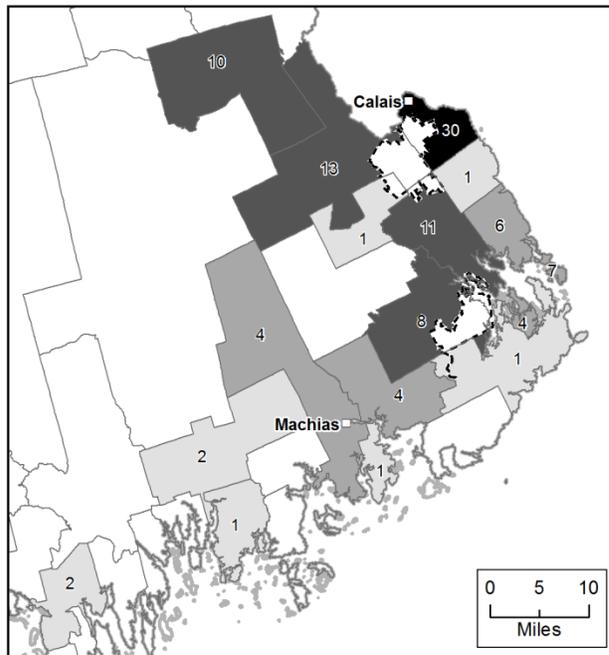
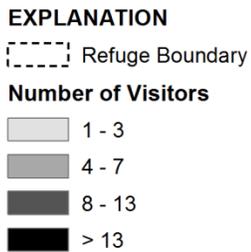
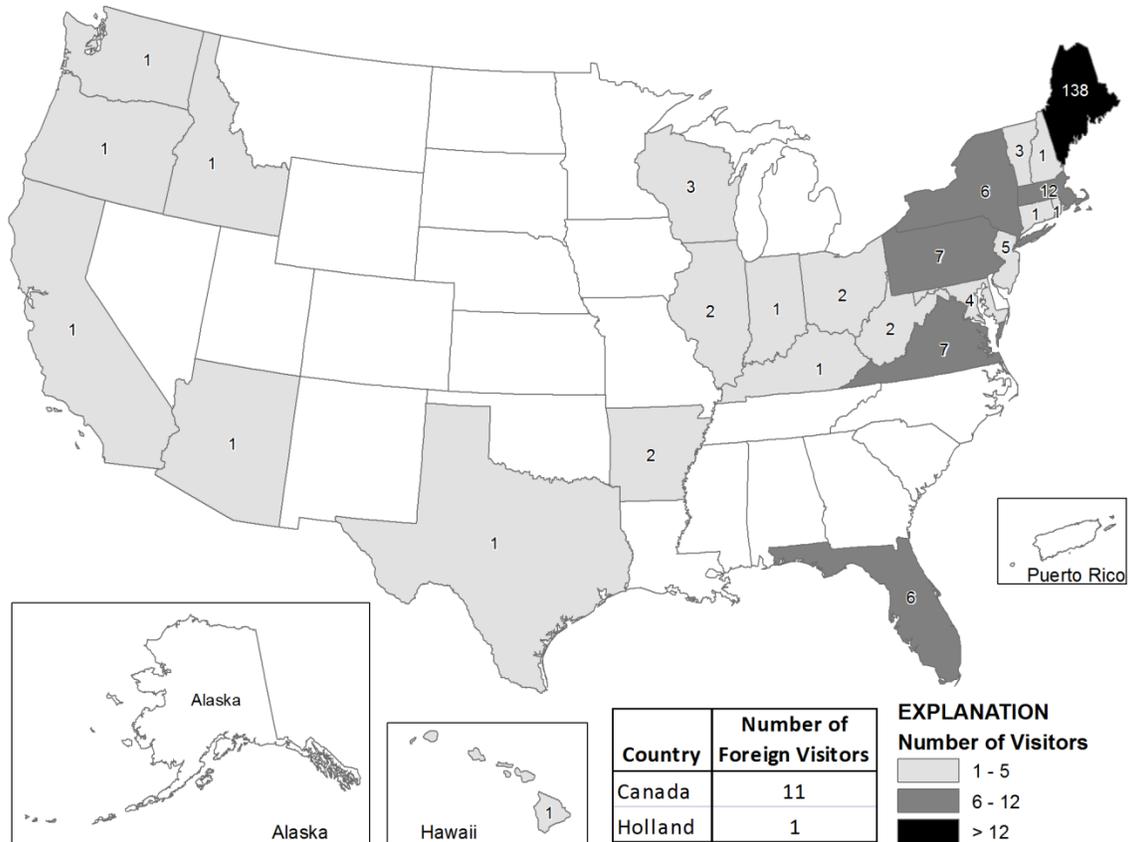


Figure 4. Number of visitors travelling to Moosehorn NWR by residence. Top map shows residence by state and bottom map shows residence by zip codes near the refuge (n = 222).

Surveyed visitors reported that they spent an average of 4 hours at Moosehorn 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 (25%). The key modes of transportation used by visitors to travel around the refuge were private vehicle (83%), and walking/hiking (42%; fig. 5). More than half of visitors indicated they were part of a group on their visit to this refuge (56%), travelling primarily with family and friends (table 4).

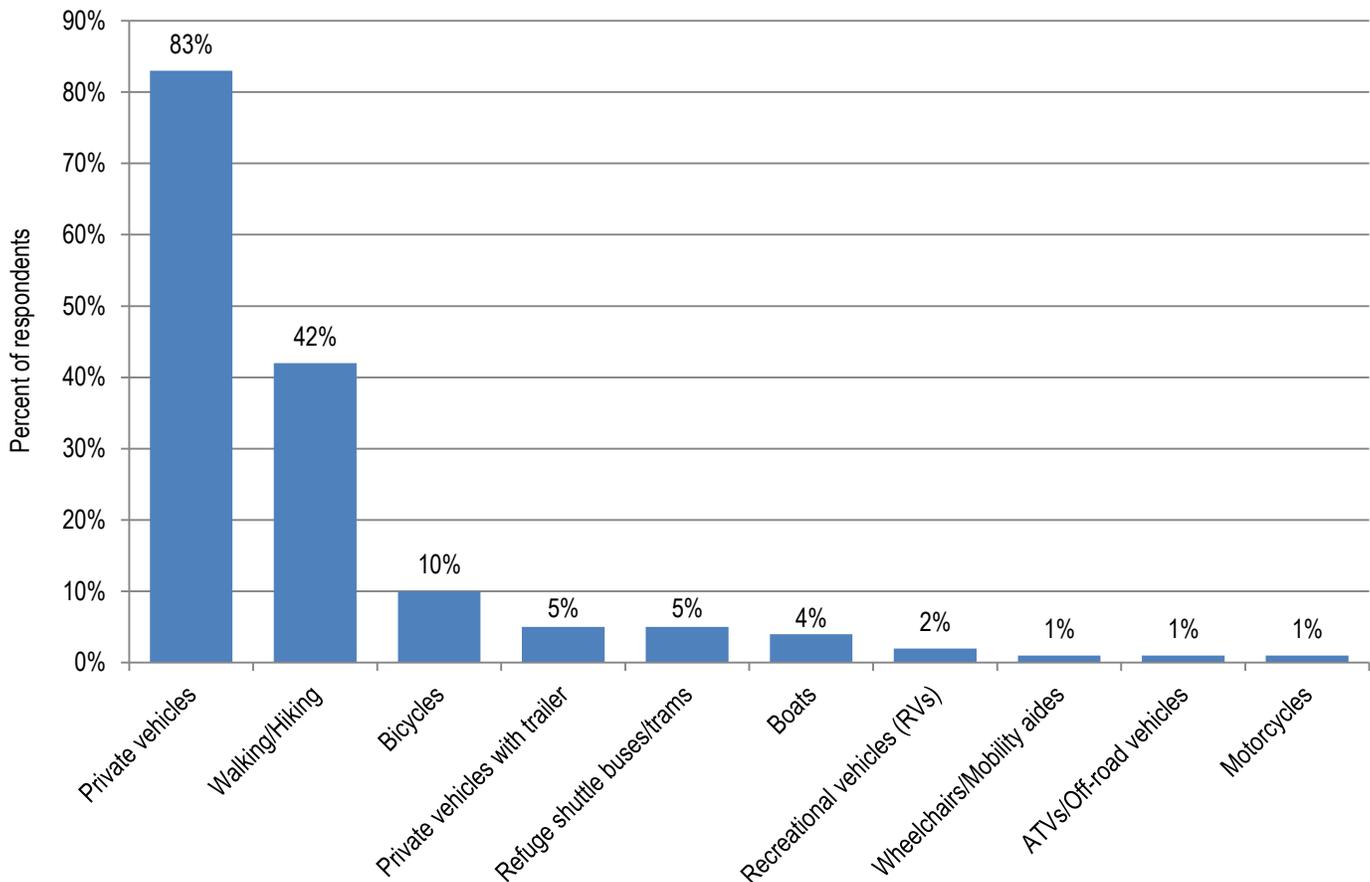


Figure 5. Modes of transportation used by visitors to Moosehorn NWR during *this* visit (n = 222).

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

Group type	Percent (of those traveling in a group)	Average group size		
		Number of adults	Number of children	Total group size
Family/Friends	82%	3	1	4
Commercial tour group	2%	13	0	13
Organized club/School group	10%	8	9	17
Other group type	7%	10	0	10

Surveyed visitors participated in a variety of refuge activities during the past 12 months (fig. 6); the top three activities reported were wildlife observation (61%), hiking (54%), and bird watching (51%). The primary reasons for their most recent visit included hiking (20%), wildlife observation (18%), and auto tour route/driving (12%; fig. 7). The visitor contact station was used by 50% of visitors, mostly to ask information of staff/volunteers (83%), stop to use the facilities (59%), and view the exhibits (44%; fig. 8).

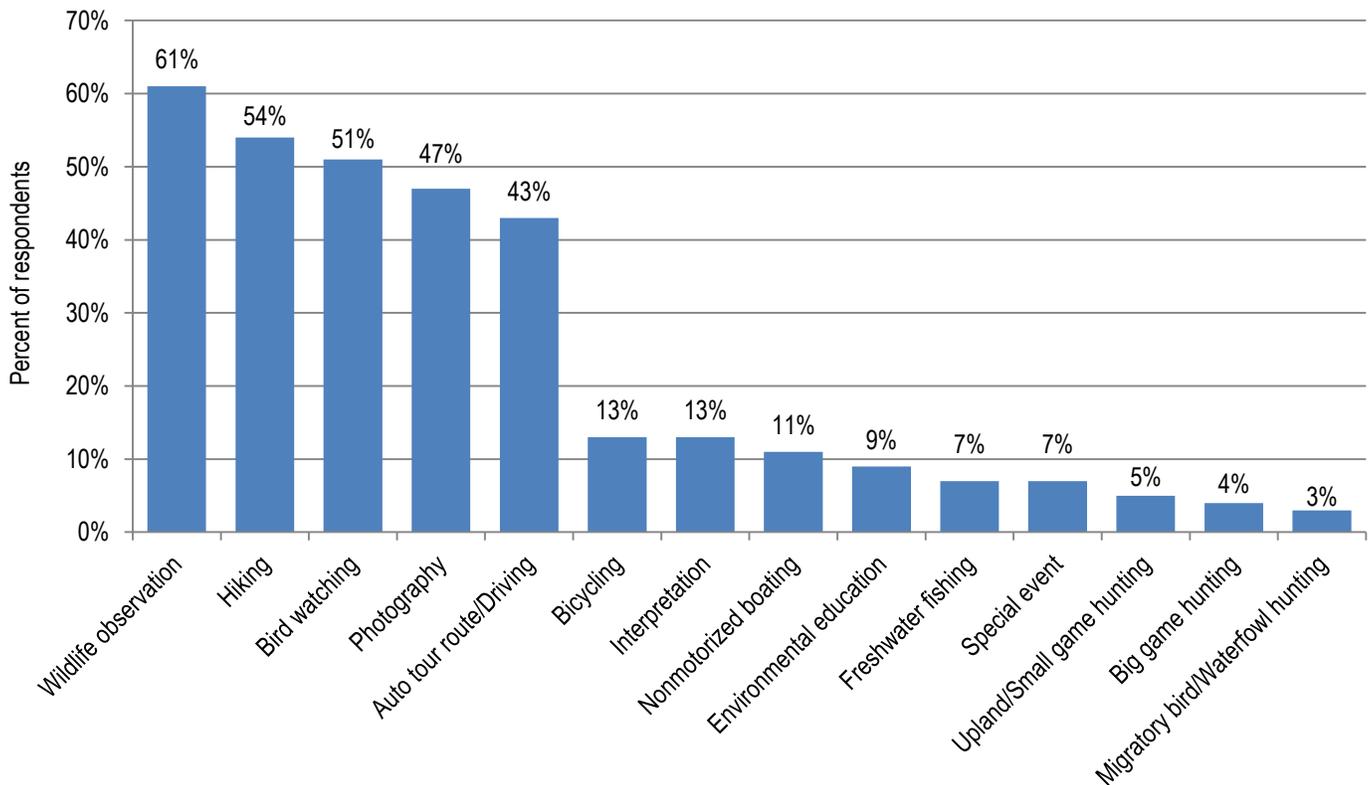


Figure 6. Activities in which visitors participated during the past 12 months at Moosehorn NWR (n = 220). See Appendix B for a listing of “other” activities.

Visitor Characteristics

Nearly all (94%) surveyed visitors to Moosehorn 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 47% male with an average age of 57 years and 53% female with an average age of 53 years. Visitors, on average, reported they had 16 years of formal education (college or technical school). The median level of income was \$50,000–\$74,999. See Appendix A for more demographic information. In comparison, the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation found that participants in wildlife watching and hunting on public land were 55% male and 45% female with an average age of 46 years, an average level of education of 14 years (associate degree or two years of college), and a median income of \$50,000–\$74,999 (Harris, 2011, personal communication). Compared to the U.S. population, these 2006 survey participants are more likely to be male, older, and have higher education and income levels (U.S. Department of Interior and U.S. Department of Commerce, 2007).

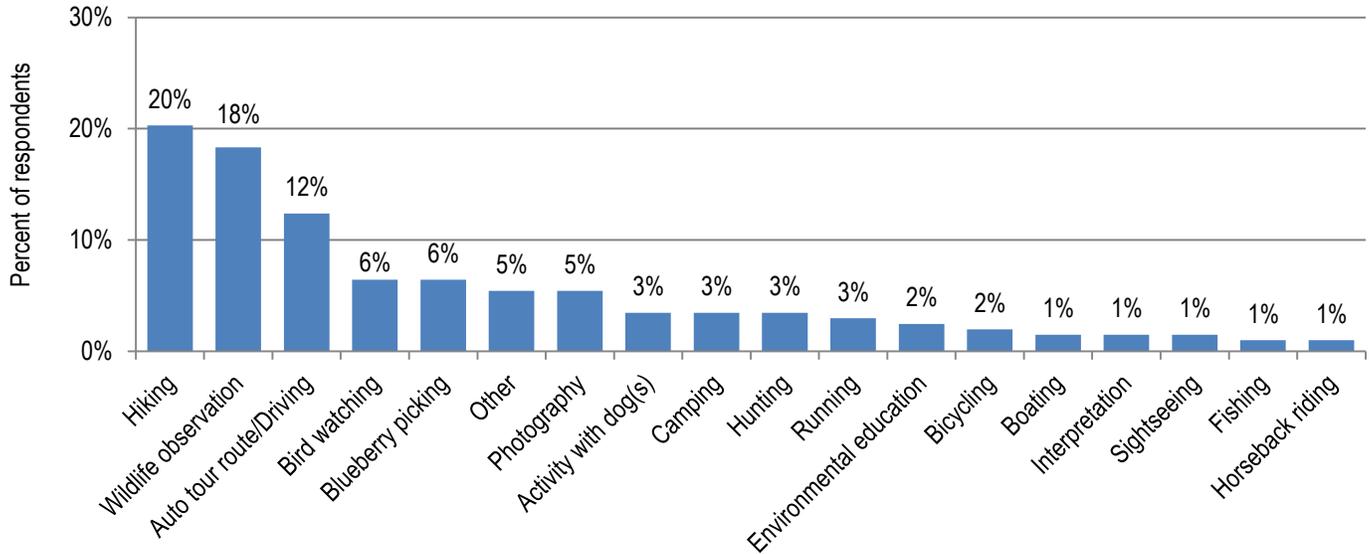


Figure 7. The primary activity in which visitors participated during *this* visit to Moosehorn NWR (n = 202). See Appendix B for a listing of “other” activities.

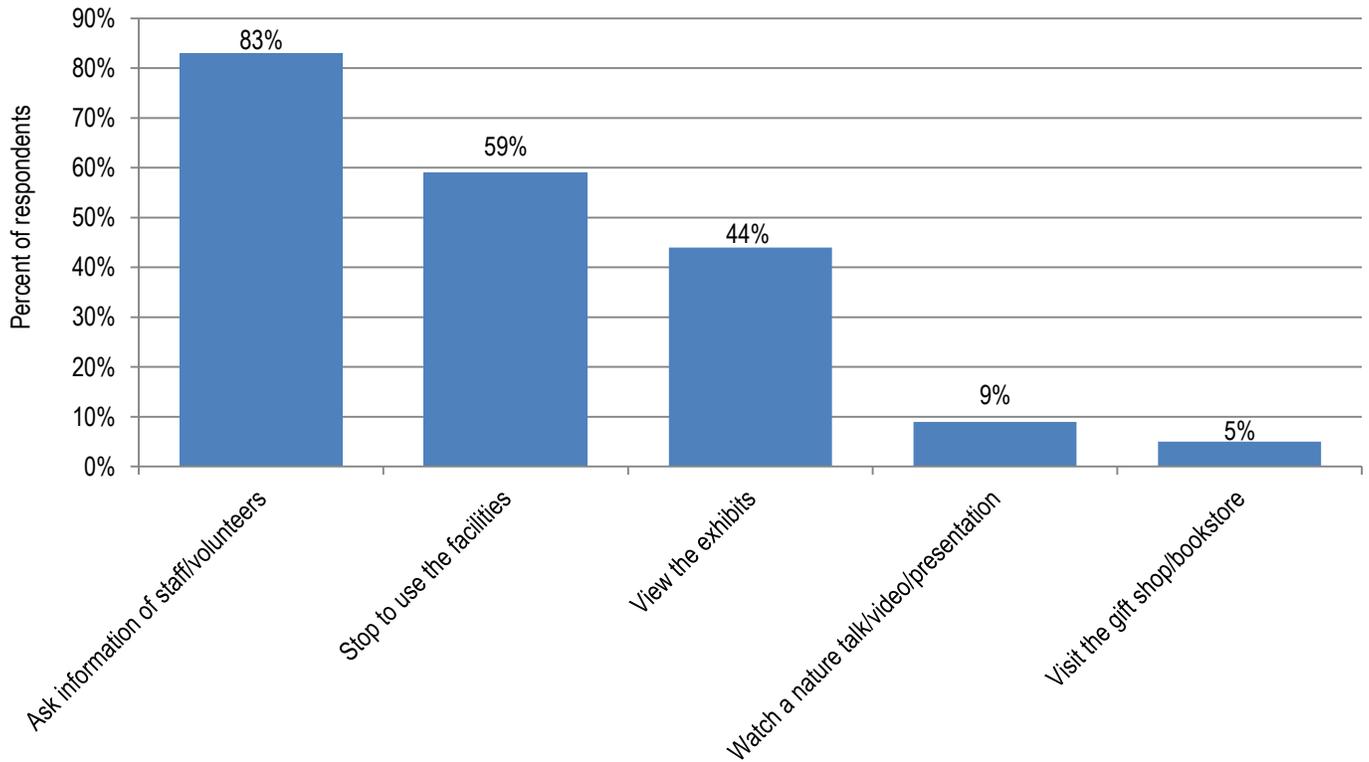


Figure 8. Use of the visitor center at Moosehorn NWR (for those visitors who indicated they used the visitor center, n = 111).

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, 51% of surveyed visitors to Moosehorn NWR indicated that they live within the local area. Nonlocal visitors (49%) stayed in the local area, on average, for 4 days. Table 5 shows summary statistics for local and nonlocal visitor expenditures in the local communities and at the refuge, with expenditures reported on a per person per day basis. During the two sampling periods, nonlocal visitors spent an average of \$94 per person per day and local visitors spent an average of \$49 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 Moosehorn NWR expressed in dollars per person per day.

Visitors	n ¹	Median	Mean	Standard deviation	Minimum	Maximum
Nonlocal	91	\$37	\$65	\$94	\$0	\$725
Local	72	\$15	\$49	\$74	\$0	\$356

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 Moosehorn NWR were as follows (fig. 9):

- 92% were satisfied with the recreational activities and opportunities,
- 91% were satisfied with the information and education about the refuge and its resources,
- 93% were satisfied with the services provided by employees or volunteers, and
- 91% were satisfied with the refuge's job of conserving fish, wildlife and their habitats.

Although 9% of visitors indicated they had paid a fee to enter the refuge, Moosehorn NWR does not charge a fee. It may be that these visitors also visited Cobscook Bay State Park (who does charge a fee for day use and camping).

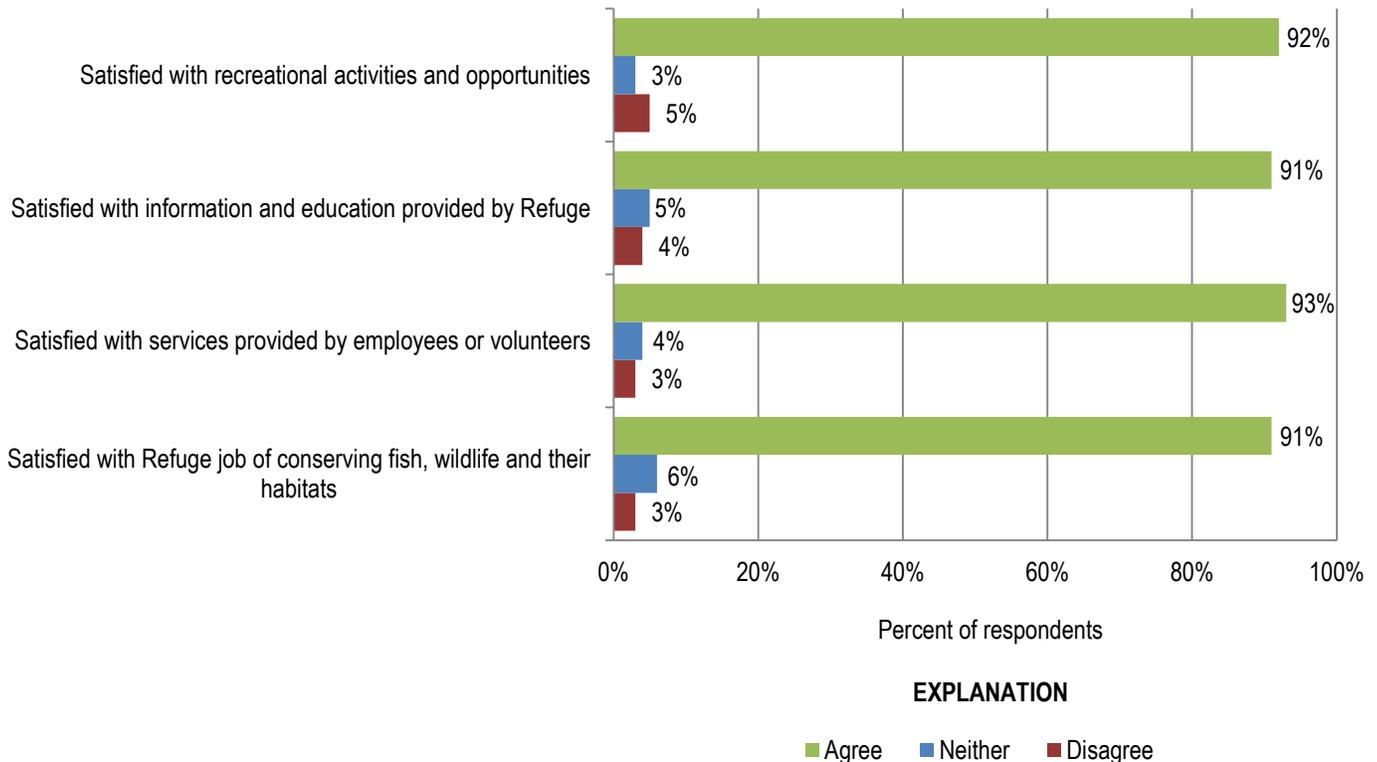


Figure 9. Overall satisfaction with Moosehorn NWR during *this* visit (n ≥ 206).

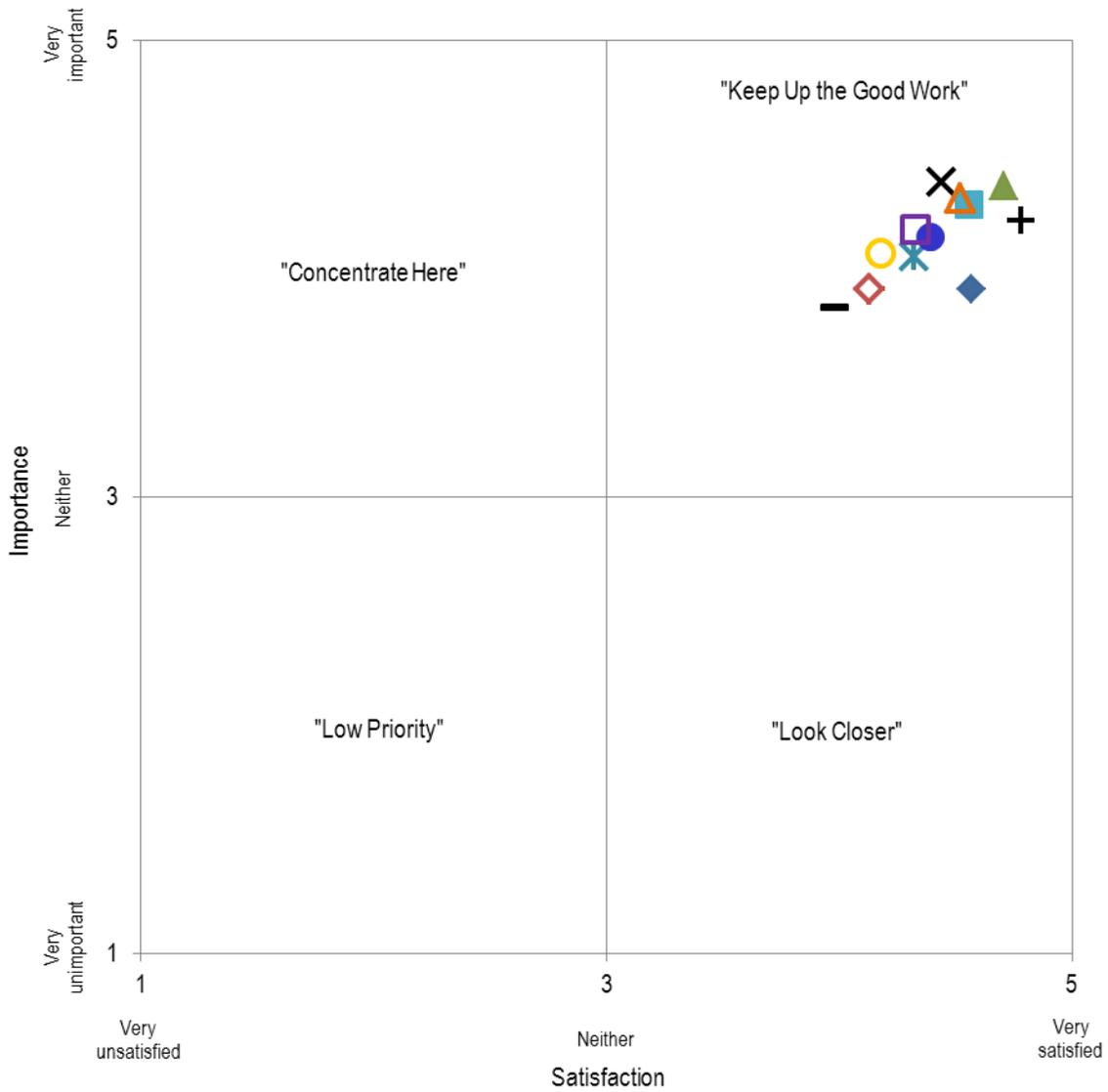
Importance/Satisfaction Ratings

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 Moosehorn 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.

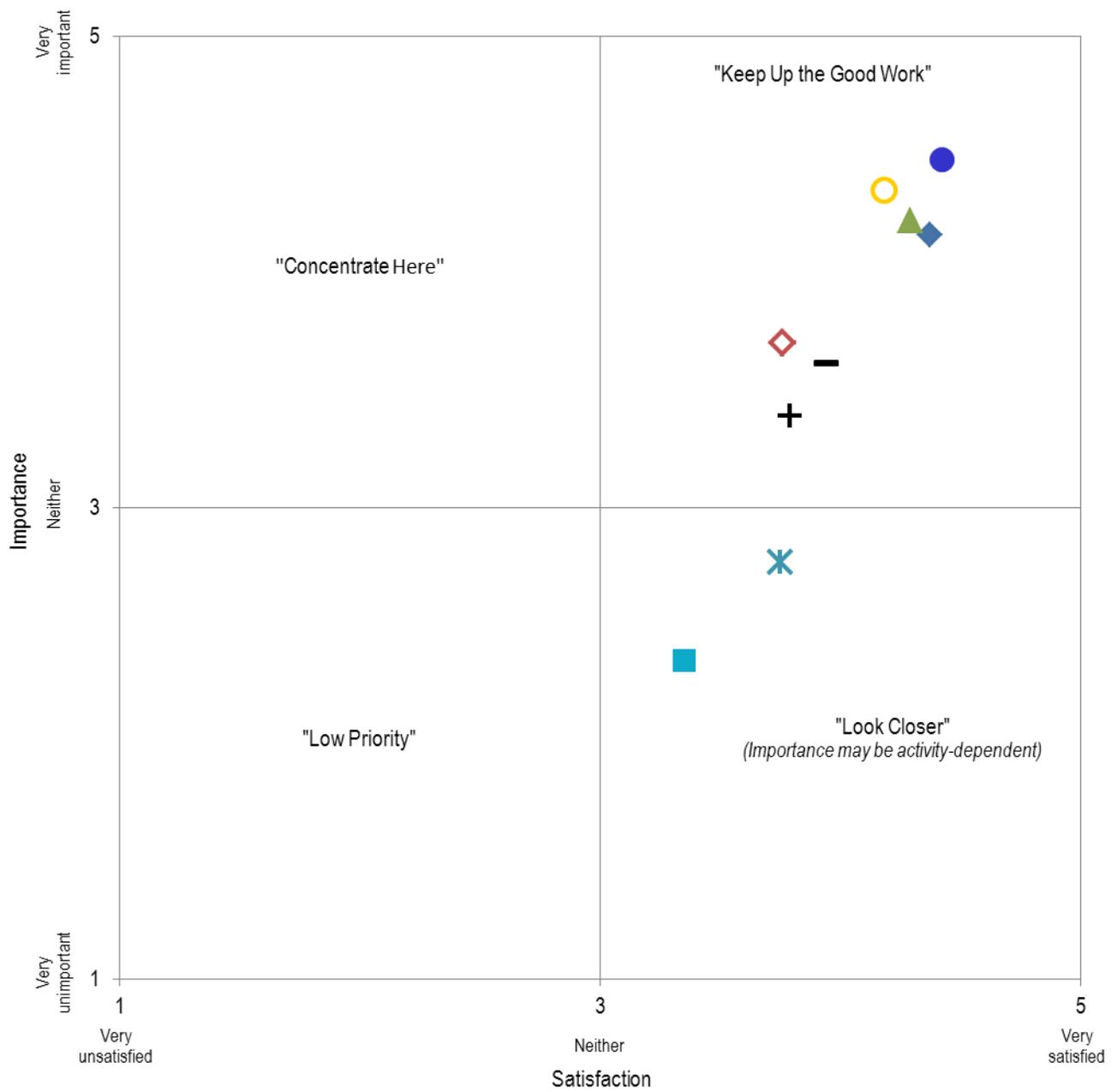
Figures 10-12 depict surveyed visitors' importance-satisfaction results for refuge services and facilities, recreational opportunities, and transportation-related features at Moosehorn NWR, respectively. All refuge services and facilities fell in the "Keep Up the Good Work" quadrant (fig. 10). Nearly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



EXPLANATION

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

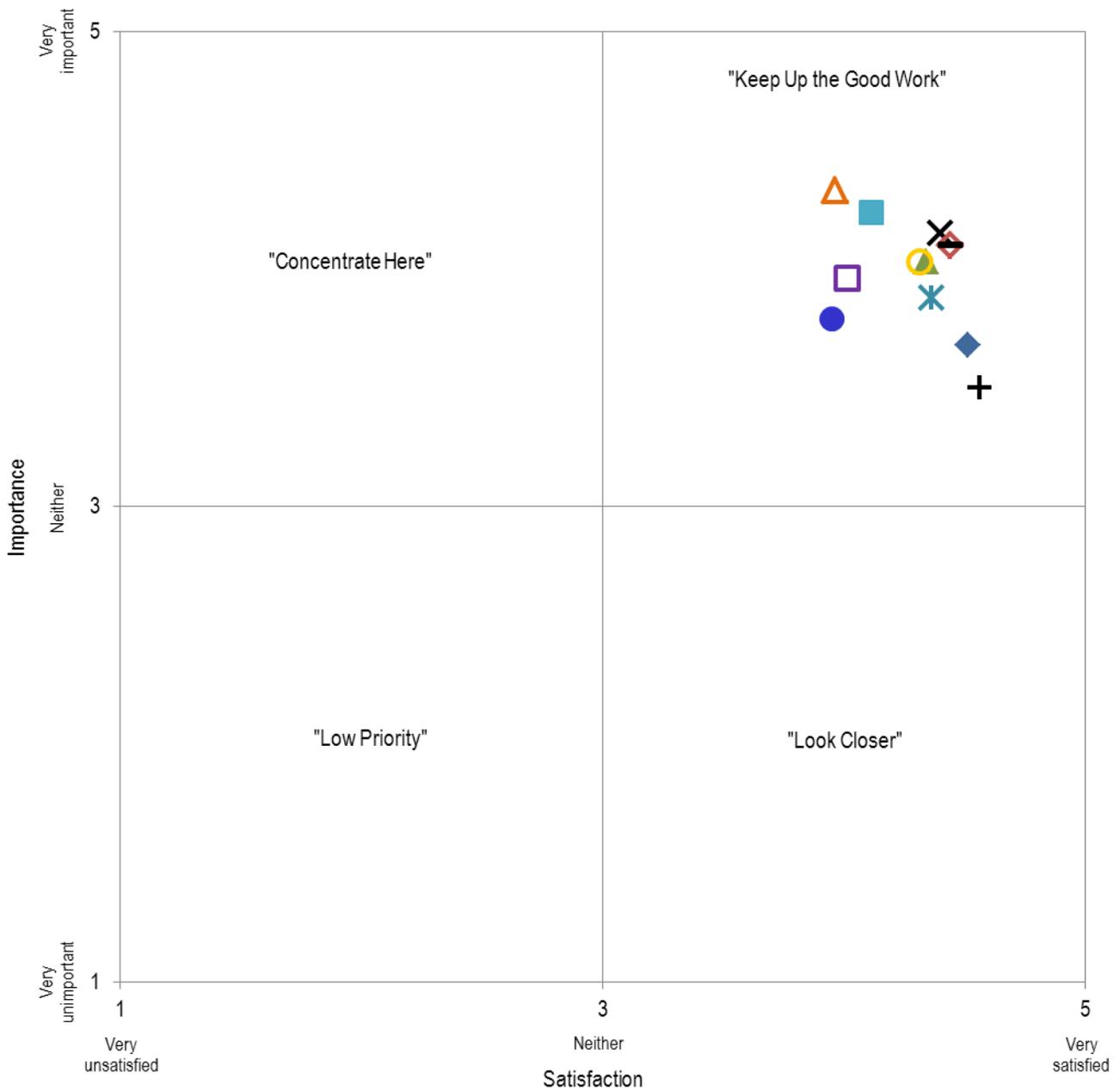
Figure 10. Importance-satisfaction ratings of services and facilities provided at Moosehorn NWR.



EXPLANATION

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

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



EXPLANATION

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

Figure 12. Importance-satisfaction ratings of transportation-related features at Moosehorn 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 Moosehorn 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 Moosehorn NWR visitors who were surveyed were likely to use the following options at national wildlife refuges in the future (fig. 13):

- an offsite parking lot that provides trail access;
- a boat that goes to different points on Refuge waterways;
- a bus/tram that provides a guided tour;
- a bus/tram that runs during a special event; 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 Moosehorn NWR specifically, 45% of visitors indicated they were unsure whether it would enhance their experience; however, some visitors thought alternative transportation would enhance their experience (30%) and others thought it would not (25%).

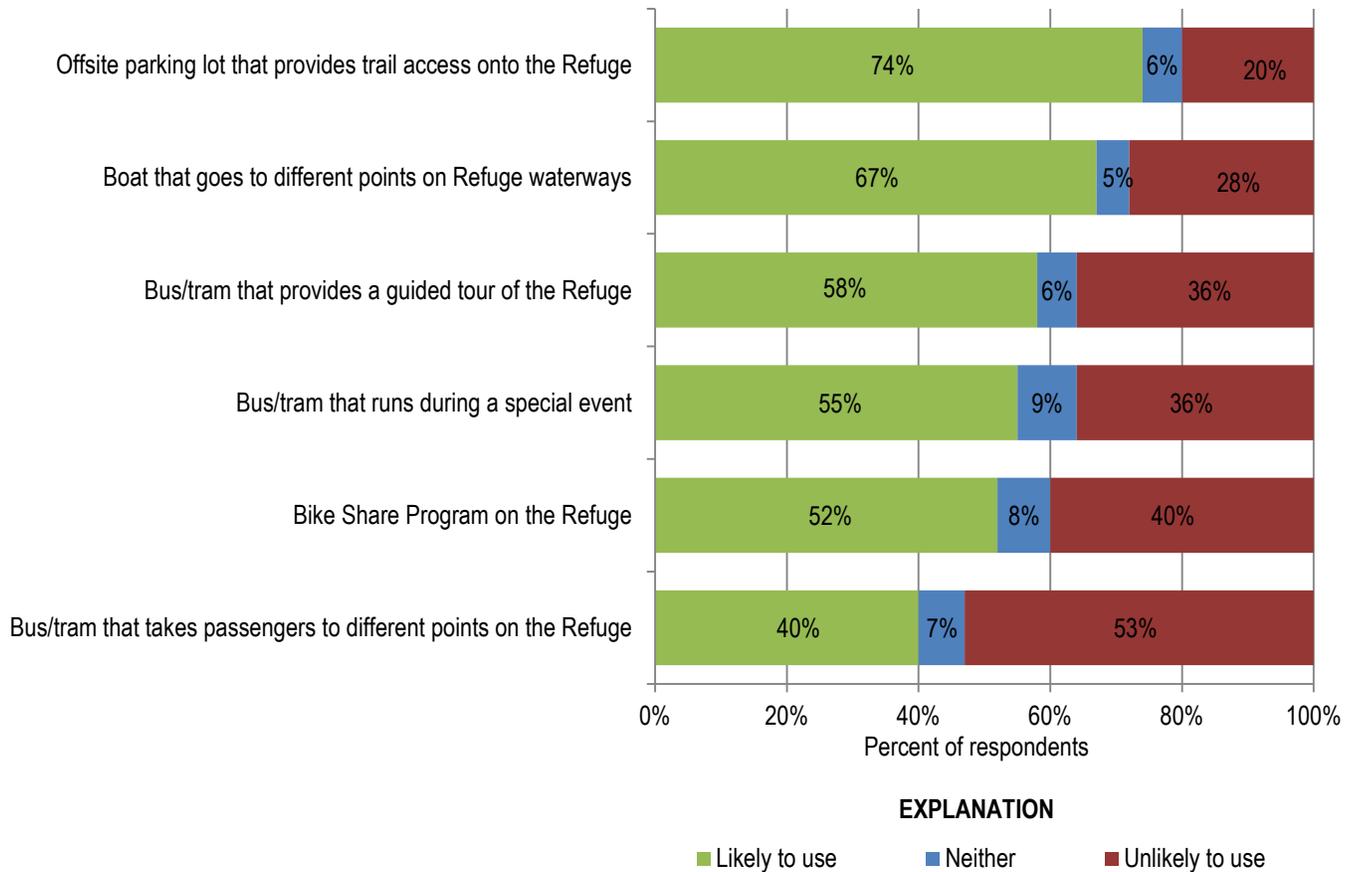


Figure 13. Visitors’ likelihood of using alternative transportation options at national wildlife refuges in the future (n ≥ 210).

Climate Change and the National Wildlife Refuge System

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

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

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

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

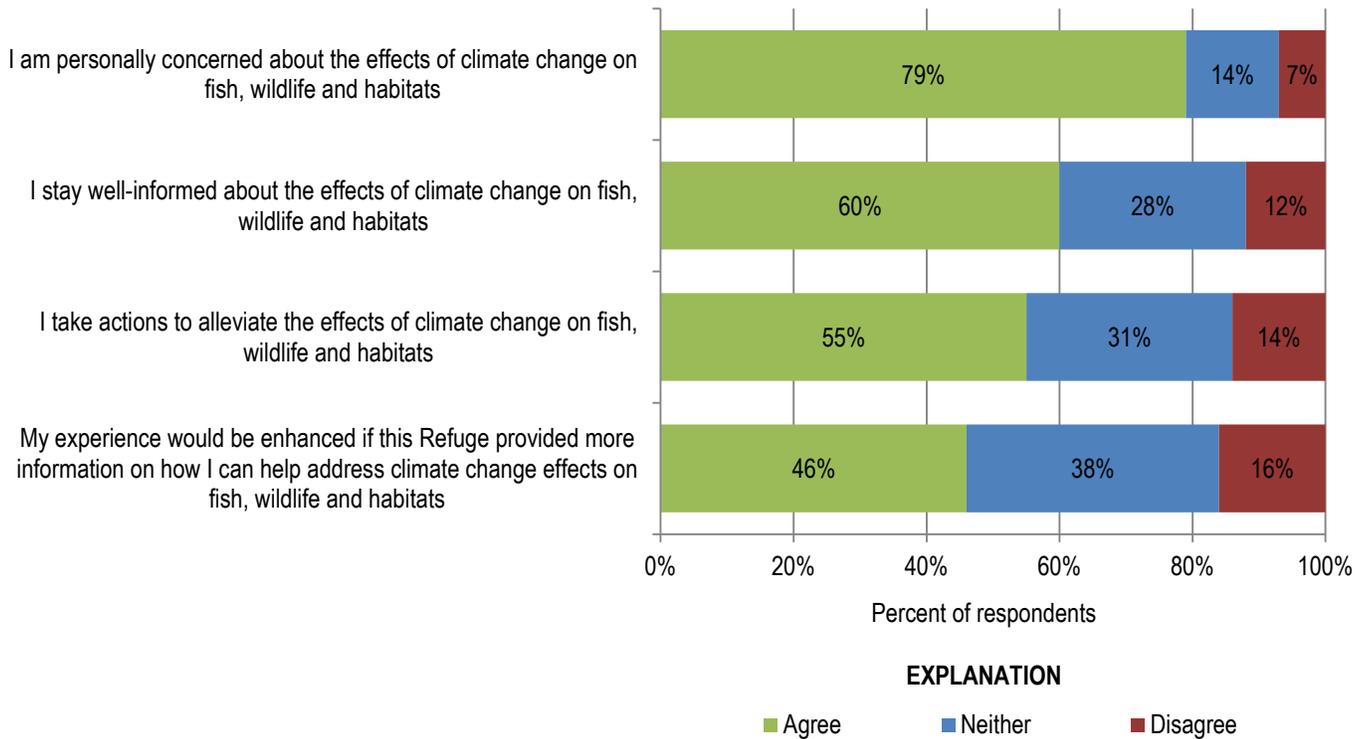


Figure 14. Visitors’ personal involvement with climate change related to fish, wildlife and their habitats (n ≥ 208).

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

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

The majority of visitors did *not* believe:

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

Such information suggests that certain beliefs resonate with a greater number of visitors than other beliefs do. This information is important to note because some visitors (46%) indicated that their experience would be enhanced if Moosehorn 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.

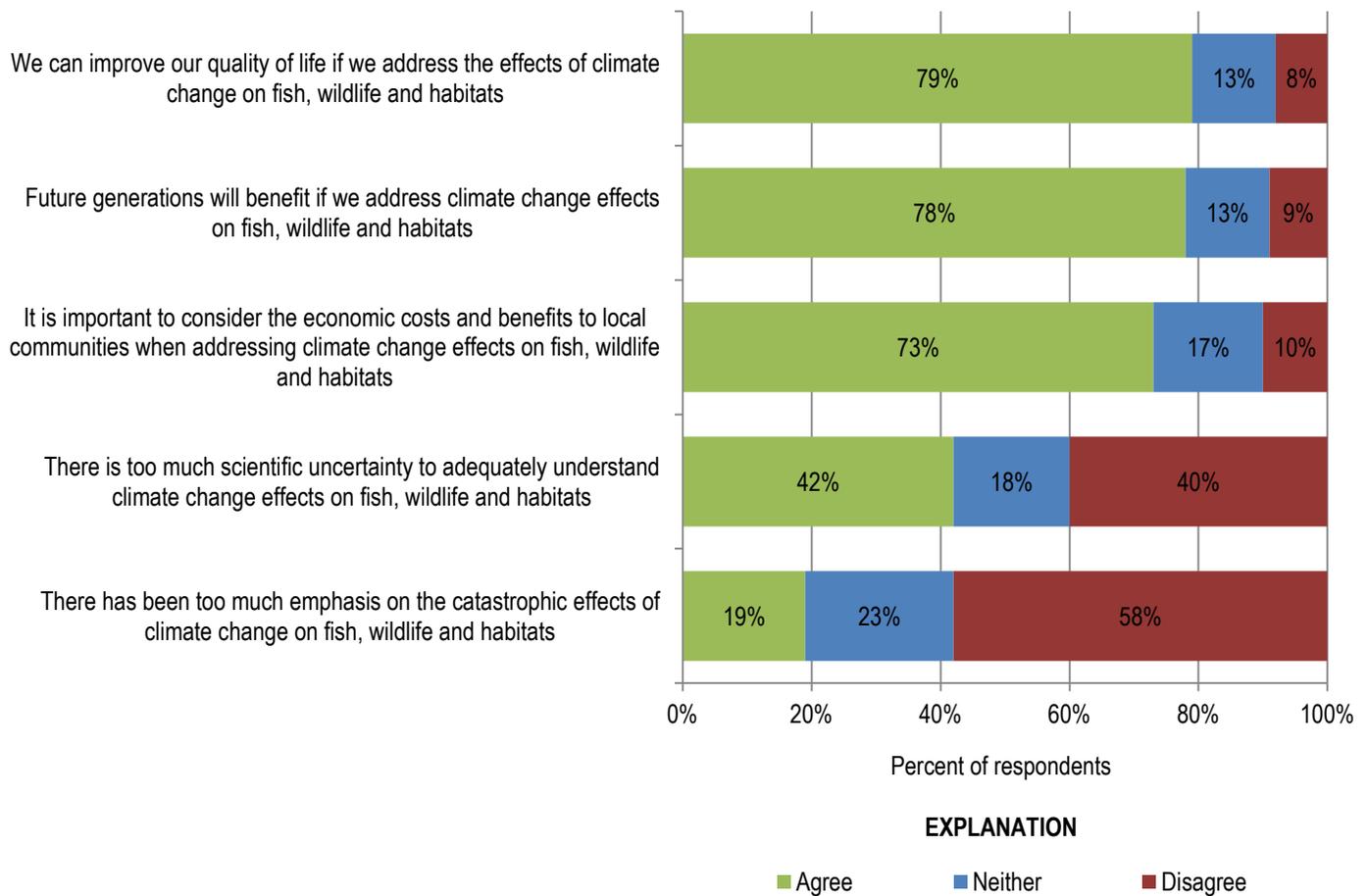


Figure 15. Visitors’ beliefs about the effects of climate change on fish, wildlife and their habitats (n ≥ 211).

Conclusion

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

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

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National Wildlife Refuge Visitor Survey



PLEASE READ THIS FIRST:

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

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

SECTION 1. Your visit to this Refuge

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

- | | | |
|--|---|--|
| <input type="checkbox"/> 4% Big game hunting | <input type="checkbox"/> 54% Hiking | <input type="checkbox"/> 9% Environmental education (for example, classrooms or labs, tours) |
| <input type="checkbox"/> 5% Upland/Small-game hunting | <input type="checkbox"/> 13% Bicycling | |
| <input type="checkbox"/> 3% Migratory bird/Waterfowl hunting | <input type="checkbox"/> 43% Auto tour route/Driving | <input type="checkbox"/> 7% Special event (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 61% Wildlife observation | <input type="checkbox"/> 0% Motorized boating | |
| <input type="checkbox"/> 51% Bird watching | <input type="checkbox"/> 11% Nonmotorized boating (including canoes/kayaks) | <input type="checkbox"/> 26% Other (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 7% Freshwater fishing | | |
| <input type="checkbox"/> 0% Saltwater fishing | <input type="checkbox"/> 13% Interpretation (for example, exhibits, kiosks, videos) | <input type="checkbox"/> 1% Other (<i>please specify</i>)
<u>See Appendix B</u> |
| <input type="checkbox"/> 47% Photography | | |

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

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

- 50% No
- 50% Yes → If yes, what did you do there? (Please mark **all that apply.**)
- | | |
|--|---|
| <input type="checkbox"/> 5% Visit the gift shop or bookstore | <input type="checkbox"/> 9% Watch a nature talk/video/presentation |
| <input type="checkbox"/> 44% View the exhibits | <input type="checkbox"/> 59% Stopped to use the facilities (for example, get water, use restroom) |
| <input type="checkbox"/> 83% Ask information of staff/volunteers | <input type="checkbox"/> 11% 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	
27%	62%	45%	It was the primary purpose or sole destination of my trip.
29%	19%	24%	It was one of many equally important reasons or destinations for my trip.
44%	20%	31%	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 311 number of miles

Local 23 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?

44% No (*skip to question #9*)

56% Yes → What **type of group** were you with on your visit? (*Please mark **only one.***)

82% Family and/or friends

10% Organized club or school group

2% Commercial tour group

7% Other (*please specify*) See Appendix B

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

 3 number 18 years and over

 1 number 17 years and under

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

35% Friends or relatives

6% Refuge website

44% Signs on highway

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

6% Recreation club or organization

0% Television or radio

23% People in the local community

11% Newspaper or magazine

11% Refuge printed information (brochure, map)

12% 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.***)

33% Spring
(March-May)

76% Summer
(June-August)

61% Fall
(September-November)

20% Winter
(December-February)

11. How many times have you visited...

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

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

SECTION 2. Transportation and access at this Refuge

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

- | | | |
|---|--|---|
| <input type="checkbox"/> 83% Private vehicle without a trailer | <input type="checkbox"/> 5% Refuge shuttle bus or tram | <input type="checkbox"/> 10% Bicycle |
| <input type="checkbox"/> 5% Private vehicle with a trailer
(for boat, camper or other) | <input type="checkbox"/> 1% Motorcycle | <input type="checkbox"/> 42% Walk/Hike |
| <input type="checkbox"/> 0% Commercial tour bus | <input type="checkbox"/> 1% ATV or off-road vehicle | <input type="checkbox"/> 3% Other (<i>please specify below</i>) |
| <input type="checkbox"/> 2% Recreational vehicle (RV) | <input type="checkbox"/> 4% Boat | <u>See Appendix B</u> |
| | <input type="checkbox"/> 1% Wheelchair or other mobility aid | |

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

- | | |
|--|---|
| <input type="checkbox"/> 53% Signs on highways | <input type="checkbox"/> 6% Directions from Refuge website |
| <input type="checkbox"/> 10% A GPS navigation system | <input type="checkbox"/> 6% Directions from people in community near this Refuge |
| <input type="checkbox"/> 23% A road atlas or highway map | <input type="checkbox"/> 11% Directions from friends or family |
| <input type="checkbox"/> 5% Maps from the Internet (for example,
MapQuest or Google Maps) | <input type="checkbox"/> 51% Previous knowledge/I have been to this Refuge before |
| | <input type="checkbox"/> 3% Other (<i>please specify</i>) <u>See Appendix B</u> |

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

How likely would you be to use...	Very Unlikely	Somewhat Unlikely	Neither	Somewhat Likely	Very Likely
...a bus or tram that takes passengers to different points on the Refuge (such as the Visitor Center)?	<input type="checkbox"/> 35%	<input type="checkbox"/> 18%	<input type="checkbox"/> 7%	<input type="checkbox"/> 25%	<input type="checkbox"/> 15%
...a bike that was offered through a Bike Share Program for use while on the Refuge?	<input type="checkbox"/> 28%	<input type="checkbox"/> 12%	<input type="checkbox"/> 8%	<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"/> 24%	<input type="checkbox"/> 12%	<input type="checkbox"/> 6%	<input type="checkbox"/> 33%	<input type="checkbox"/> 25%
...a boat that goes to different points on Refuge waterways?	<input type="checkbox"/> 22%	<input type="checkbox"/> 6%	<input type="checkbox"/> 5%	<input type="checkbox"/> 42%	<input type="checkbox"/> 25%
...a bus or tram that runs during a special event (such as an evening tour of wildlife or weekend festival)?	<input type="checkbox"/> 29%	<input type="checkbox"/> 7%	<input type="checkbox"/> 9%	<input type="checkbox"/> 30%	<input type="checkbox"/> 25%
...an offsite parking lot that provides trail access for walking/hiking onto the Refuge?	<input type="checkbox"/> 14%	<input type="checkbox"/> 6%	<input type="checkbox"/> 6%	<input type="checkbox"/> 28%	<input type="checkbox"/> 46%
...some other alternative transportation option? (<i>please specify</i>) <u>See Appendix B</u>	<input type="checkbox"/> 7%	<input type="checkbox"/> 36%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 57%

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

- 30% Yes 25% No 45% 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
7%	15%	9%	43%	27%	Surface conditions of roads	4%	3%	3%	20%	71%	NA
9%	14%	13%	45%	19%	Surface conditions of parking areas	4%	1%	6%	15%	75%	NA
6%	3%	15%	36%	40%	Condition of bridges	3%	1%	15%	20%	61%	NA
6%	3%	5%	41%	44%	Condition of trails and boardwalks	3%	3%	8%	22%	64%	NA
5%	8%	11%	47%	29%	Number of places for parking	2%	5%	9%	26%	59%	NA
7%	8%	13%	41%	30%	Number of places to pull over along Refuge roads	2%	12%	10%	42%	35%	NA
7%	2%	11%	34%	46%	Safety of driving conditions on Refuge roads	2%	3%	9%	24%	63%	NA
6%	3%	9%	38%	44%	Safety of Refuge road entrances/exits	3%	3%	8%	21%	65%	NA
6%	8%	10%	31%	46%	Signs on highways directing you to the Refuge	4%	5%	7%	24%	60%	NA
5%	2%	6%	37%	50%	Signs directing you around the Refuge roads	4%	10%	5%	32%	49%	NA
4%	3%	6%	29%	58%	Signs directing you on trails	4%	11%	8%	36%	40%	NA
5%	7%	17%	28%	43%	Access for people with physical disabilities or who have difficulty walking	2%	4%	24%	29%	40%	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)?

51% Yes

49% No → How much time did you spend **in local communities** on this trip?

 4 number of hours OR 5 number of days

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

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

See Report for Results

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

 2 number of people sharing expenses

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

\$0	\$10	\$20	\$35	\$50	\$75	\$100	\$125	\$150	\$200	\$250
12%	21%	17%	5%	13%	2%	19%	1%	2%	2%	7%

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

0%	Far too low	0%	Too low	100%	About right	0%	Too high	0%	Far too high	91%	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	11%	Neither agree or disagree	58%	Agree	32%	Strongly agree
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SECTION 4. Your experience at this Refuge

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

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Not Applicable
Overall, I am satisfied with the recreational activities and opportunities provided by this Refuge.	2%	2%	3%	38%	54%	NA
Overall, I am satisfied with the information and education provided by this Refuge about its resources.	1%	2%	5%	45%	46%	NA
Overall, I am satisfied with the services provided by employees or volunteers at this Refuge.	1%	2%	4%	32%	61%	NA
This Refuge does a good job of conserving fish, wildlife and their habitats.	2%	0%	6%	24%	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
4%	8%	8%	49%	30%	Availability of employees or volunteers	0%	2%	9%	18%	71%	NA
5%	4%	6%	37%	49%	Courteous and welcoming employees or volunteers	1%	1%	4%	9%	86%	NA
4%	3%	5%	33%	57%	Knowledgeable employees or volunteers	1%	1%	5%	15%	79%	NA
2%	3%	4%	39%	53%	Printed information about this Refuge and its resources (for example, maps and brochures)	1%	6%	7%	20%	66%	NA
3%	7%	9%	49%	34%	Informational kiosks/displays about this Refuge and its resources	1%	3%	13%	28%	55%	NA
3%	4%	12%	43%	40%	Signs with rules/regulations for this Refuge	1%	3%	11%	29%	57%	NA
3%	6%	12%	56%	23%	Exhibits about this Refuge and its resources	1%	6%	14%	39%	41%	NA
2%	6%	25%	39%	28%	Environmental education programs or activities	1%	2%	32%	30%	36%	NA
2%	5%	14%	43%	37%	Visitor Center	3%	4%	15%	29%	50%	NA
3%	2%	10%	36%	49%	Convenient hours and days of operation	0%	1%	8%	25%	66%	NA
4%	3%	9%	28%	56%	Well-maintained restrooms	1%	2%	10%	19%	68%	NA
2%	3%	12%	43%	41%	Wildlife observation structures (decks, blinds)	0%	3%	13%	32%	52%	NA
2%	3%	14%	41%	41%	Bird-watching opportunities	0%	1%	13%	33%	53%	NA
3%	1%	7%	38%	51%	Opportunities to observe wildlife other than birds	1%	5%	12%	39%	43%	NA
3%	3%	12%	34%	48%	Opportunities to photograph wildlife and scenery	2%	2%	10%	38%	48%	NA
47%	6%	25%	9%	13%	Hunting opportunities	9%	2%	54%	15%	20%	NA
32%	9%	23%	19%	16%	Fishing opportunities	3%	1%	45%	22%	30%	NA
2%	3%	6%	27%	63%	Trail hiking opportunities	1%	4%	4%	31%	59%	NA
9%	5%	24%	29%	32%	Water trail opportunities for canoeing or kayaking	2%	3%	43%	23%	30%	NA
10%	7%	24%	29%	30%	Bicycling opportunities	1%	4%	33%	26%	36%	NA
11%	6%	38%	21%	23%	Volunteer opportunities	1%	3%	48%	13%	35%	NA

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

See Appendix B

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

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

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

88%

Yes

12%

No

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

94%

Yes

6%

No

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

83%

Yes

17%

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%	6%	14%	33%	46%
We can improve our quality of life if we address the effects of climate change on fish, wildlife and their habitats.	1%	7%	13%	34%	45%
There is too much scientific uncertainty to adequately understand how climate change will impact fish, wildlife and their habitats.	20%	19%	18%	28%	14%
I stay well-informed about the effects of climate change on fish, wildlife and their habitats.	1%	11%	28%	44%	16%
It is important to consider the economic costs and benefits to local communities when addressing the effects of climate change on fish, wildlife and their habitats.	2%	8%	17%	54%	19%
I take actions to alleviate the effects of climate change on fish, wildlife and their habitats.	4%	10%	31%	41%	13%
There has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and their habitats.	33%	25%	23%	13%	6%
Future generations will benefit if we address the effects of climate change on fish, wildlife and their habitats.	3%	7%	13%	29%	49%
My experience at this Refuge would be enhanced if this Refuge provided more information about how I can help address the effects of climate change on fish, wildlife and their habitats.	4%	11%	38%	35%	11%

SECTION 6. A Little about You

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

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

94% Yes 6% No → If not, what is your home country? See Figure 4 in Report

2. Are you? 47% Male 53% Female

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

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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20+
(elementary)					(junior high or middle school)			(high school)				(college or technical school)				(graduate or professional school)			
					0%			17%				50%				34%			

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.***)

- 3% American Indian or Alaska Native 0% Black or African American 97% White
 0% Asian 0% Native Hawaiian or Pacific Islander

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

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

- | | | |
|---|--|--|
| <input checked="" type="checkbox"/> 3% Less than \$10,000 | <input type="checkbox"/> 14% \$35,000 - \$49,999 | <input type="checkbox"/> 16% \$100,000 - \$149,999 |
| <input type="checkbox"/> 8% \$10,000 - \$24,999 | <input type="checkbox"/> 21% \$50,000 - \$74,999 | <input type="checkbox"/> 5% \$150,000 - \$199,999 |
| <input type="checkbox"/> 15% \$25,000 - \$34,999 | <input type="checkbox"/> 15% \$75,000 - \$99,999 | <input type="checkbox"/> 2% \$200,000 or more |

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

23 number of trips

Thank you for completing the survey.

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

See Appendix B for Comments

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Appendix B: Visitor Comments to Open-Ended Survey Questions for Moosehorn 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
Bird dog trial	2
Birding festival, winter carnival, fishing derby, and more	1
Boy scout camporee	1
Boy Scout Moosehorn International Camporee	1
Community event	1
Cross country meet	1
Cross country running race	3
Elderhostel - Road Scholar	1
Field trial	1
Guided tour of the preserve	1
High school cross country race	1
Kids fishing derby	1
Total	15

Other Activity	Frequency
Asking questions	1
Auto tour	1
Blueberry picking	21
Camping	6
Camping at Cobscook Bay	1
Camping Cobscook	1
Campout	1

Community service with the students, trail maintenance, etc.	1
Daughter at YCC	1
Dog field trial	1
Dog walking	1
Dropped in on way by	1
Family picnic	1
Family reunion	1
Horseback riding	2
Husband is a scientist and he wanted to talk to someone	1
Leaf peeping with family	1
Mushroom Study	1
Outdoor education	1
Same as above	1
Sitting in beaver pond (oops!)	1
Snowmobiling	1
Snowshoeing	1
Sports Cross country	1
Trail maintenance	2
Trail work	1
Volunteer building hiking trails	1
Walking	1
Winter Family Fun Days	1
YCC	1
Total	57

2 nd Other Activity	Frequency
Guided Tour	1
Picnicking	1
Total	2

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
Asking questions	1
Elderhostel trip - letterboxing. I was guide/naturalist	1
Family lobster feed	1
Get out and stretch	1
Leaf peeping with family	1
Other	1
Pick up/drop daughter off at YCC	1
Sight seeing	1
Taking my grandson to work NYC (summer employment)	1
To look at autumn leaves	1
Trail maintenance	2
Trail work	1
Volunteer building hiking trails	1
YCC	1
Total	15

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

Other Visitor Center Activity	Frequency
Coordinate educational activities	1
Donate money to the "friends of Moosehorn"	1
Got maps	1
Hunting permits	1
Not much of a visitor center, it is just facilities & signs	1
Permit to hunt	1
Picked berries	1
Picked blueberries	1
Picked up brochures and maps and read interactive signs	1
Tour	1
Visit visitor sign in hut.	1
Volunteer assignment on trails	1
Total	12

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
American Hiking Society	1
American Hiking Society Volunteer Vacation	1
American Hiking Society Volunteers	1
Boy scout troop	1
Fellow field trailers	1
Hunters	1
Maine Bird Club	1
Non-profit Organization	1
Total	8

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

Other Website	Frequency
Americanhiking.org	1

Other Ways Heard about This Refuge	Frequency
A Birder's Guide to Maine	1
AAA book	1
AAA map	1
American Hiking Society Volunteer Vacations	1
Birding Guides to Maine	1
Cobscook Bay State Park	2
Cobscook Trails brochure	1
Cobscook Bay State Park	1
From the campground ranger	1
Grand lake stream chamber of commerce	1
Internship during college	1
Internship Position	1
Main Gazetteer	1
NWR books	1
On Maine map	1
On map (Delorme Maine Gazetteer)	1
Refuge Employee	1
Remembered it from childhood travel.	1
School	1
State map	1
University Biology Course	1
We saw it on the map when we were planning our trip to Cobscook Bay	1
Woodcock research	1
YCC	1
Total	25

Survey Section 2

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

Other Forms of Transportation	Frequency
College van	1
Forest Service Van	1
Gov. Vehicles	1
School bus	2
Skis	1
Van tour	1
Total	7

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

Other Ways Found This Refuge	Frequency
A refuge worker	1
Directions from the Refuge staff	1
Nautical navigation	1
NWR books	1
Talked to refuge personnel	1
Wildlife Refuge Manager e-mailed directions	1
Total	6

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

Other Transportation Option Likely to Use	Frequency
4-wheeler, snowmobile	1
ATVs	5
Bicycle	2
Canoe/kayak	1
Car	3

Electric golf carts for touring the preserve	1
Float plane	1
Golf cart/Buggy	1
Horse rides	1
Horseback riding through trails	1
Kayak	1
Private transportation	2
Snow shoeing would be fun or cross country skis	1
Snowmobile, cross-country skis, ATV	1
Snowmobiles, cross country skiing, or snow shoes	1
Snowshoeing or cross-country skiing	1
Walking	2
Walking with a tour guide	1
Whatever is available	1
Total	28

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 = 25)

At Moosehorn NWR, it is unclear why dirt roads are closed for most of year and then open for short periods in fall. Why maintain roads and all the expensive water gates/bridges to maintain roads if not allowed to be used by visitors. If for maintenance access, then less money should be spent maintaining them to perfect grade and keep as 4x4 roads.

At Moosehorn, we had trouble finding access roads to the refuge from the main roads.

Even though this refuge is in a low populated area of Maine, they receive a significant number of visitors who go out of their way to visit the refuge. The use of private vehicles serves the needs for this rural refuge. The refuge provides a van tour for the public one day (evening) a week.

I appreciate the efforts made to make the park accessible to people with physical disabilities. There is a trail that is paved for this purpose and it is primarily flat. It would be nice if other trails such as this were made in other parts of the park (specifically near water). Also I'm unsure of when the roads are open to the public as they are often gated, this too would benefit those with physical disabilities.

I hope they do not allow ATV use -- too noisy, dirty, and dusty.

I prefer to listen to just natural sounds of nature all year round.

I was pleased to find there was an auto trail. It was really beautiful there.

It is not clear where to park for trails that begin just off the road.

Moosehorn is a very good refuge or national park to visit.

More bike paths (along roads as well as trails) would be nice. Moosehorn is lovely and you do a great job. Thank you.

Not enough roads or parking. Areas were in good condition.

Please do not over-develop the roads and trails. This is a refuge for wildlife, not humans.

Refuge personnel do a good job of maintaining roads and trails.

Signage at trailheads needs to be completely detailed, which is not the case at Moosehorn.

Since the gates are closed and vehicles aren't allowed inside, I have the place all to myself.

Some portions of trails were closed due to blow-downs.

The road sign to the refuge was difficult to spot. We actually missed the turn off and had to turn around. I would suggest more visible signs and more of them.

The trailheads off Charlotte Road need more space for parking.

This refuge is primarily a hiking and biking refuge and that's the way it should be.

This refuge is very unfriendly to people. Every road should be open to autos in summer and ATVs and snowmobiles in the winter. Most of roads are rated 11 tons so there is no way ATVs or snowmobiles could hurt them.

Trail maps were very difficult to understand - roads vs. trails confusing as some roads are trails too.

Walking is difficult for a family member. Trails were in good condition. The auto route was a feature that makes this refuge a family experience.

We stayed at Cobscook Campground which is part of the refuge and is very well maintained. Last fall, we hiked some trails and found the roads to the parking areas for the trails in excellent condition, trails were well marked and maintained.

While access to the refuges is nice, the important thing to remember is that they are a place to protect the habitat of the animals, plants, etc. We are the reason those habitats are important, because we are destroying the places these creatures have lived and thrived for eons. Access is nice... protection is vital!

Wilderness Trail at Edmund Division stopped at the Beaver Pond and we had to backtrack. No signage warning of trail blockage!

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 = 59)

All employees we encountered were friendly and very helpful.

As a volunteer, I was housed in the fire fighters cabin. It was absolutely wonderful. Great cooking facilities. Could not have asked for better!

Confusing maps. Wonderful, busy staff!

Dissatisfaction with wildlife, birding and hiking opportunities largely due to strip clearcuts throughout refuge (for woodcock?)... Ruins experience for me...

Excellent staff, wonderful facilities.

Extremely poor signage for the EDMUNDS branch of this refuge. We missed it completely and would have liked to have visited it as well if we could have found it.

Friendly people.

I do not feel welcome at this refuge. It seems only deer hunters and snowmobilers are welcome.

I don't think hunting should be allowed in the park.

I drove to Maine from Indiana for bird watching. While driving along the road I saw signs to the refuge, and was glad I stopped. I did not drive to Maine specifically to visit this refuge.

I enjoy bicycling and have found the trails enjoyable for this sport; however it was later brought to my attention that many of the trails did not allow mechanical means of transportation, including bicycles. I believe bicycles should be allowed in all areas of the park as it is a healthy physical activity, allows for greater access of the park in a shorter period of time, and would bring more people to the park.

I have observed that this is a very well maintained refuge with not too much human intervention, just the right amount. I think that is one reason the wildlife and bird viewing is so prevalent.

I know there is a visitor center, but have never been to it. When I was approached and asked to fill out this survey, it was the first time in over 20 years of going here that I'd ever seen an employee!

I recently found out about the 2 hour tour offered each Tuesday night. I hope to take a tour this season.

I think the length of the time during the year for the auto tour should be extended into November and be open in late spring as well maybe.

I visited the Edmund section of Moosehorn - no visitor center, education, staff/volunteers (except one). That was fine with me, as I was most interested in hiking and possible fishing opportunities.

I was a little disappointed that a large portion of the refuge was closed to upland bird hunting. Years ago, nearly the entire upper portion of the refuge was open to hunting. That is no longer the case.

I would like the trails to be marked better. Last year I set out on a hike and walked about 3-4 extra miles due to no signage at all.

It was a nice way to spend an afternoon and the refuge was extremely well kept.

It would be great to have bike trails in the park. The South trail is usually in good condition, though. It would also be good to have better kayak access from camp sites.

It would be helpful if there were trail descriptions and suggestions for hikers and bikers.

Looking forward to bringing my family back to the facilities. So much to do and see. Everything is well kept, clean, and easy to use.

Maintaining the Refuge for woodcock and grouse habitat is very important.

Must return. My parents were there years ago and we intended to come much sooner.

Need information about how to become a friend of refuge.

Provide additional walking/hiking opportunities.

Received good information from refuge personnel.

Signage says to be out by dusk/Pamphlets say best wildlife opportunities are at dusk. Should be open up to 1 hr. after dusk.

Thank you again.

The employees at the headquarters are very pleasant and helpful. They make your visit a pleasure. Great job.

The Moosehorn is a very good refuge.

The roads were rough and not very welcoming, and they are not maintained.

The van tour guides were exceptional.

The volunteer was amazing! She offered so many great suggestions. When we came back from our bike ride, we chatted with the worker on duty -- she was also wonderful and gave us a free copy of a beautiful poster that I asked about purchasing! Trail signage was confusing (and we've hiked a LOT!)

The volunteers were very accessible, helpful and knowledgeable, as were the staff in the headquarters office.

The volunteers were very friendly and helpful.

The volunteers were very knowledgeable and eager to answer our questions.

There are no activities. You just walk, bike, or drive. Have activities for children so they enjoy walking the trails and learning. Have guides, have videos, and have souvenir shops.

There should be more volunteer opportunities and educational outreach to locals to get involved in conservation awareness and action.

They should offer ice-skating for the public on some of the shallow waterways.

This refuge needs a true visitor's center.

Thoroughly enjoyed the van tour with Wally and Caroline.

Very helpful volunteers.

Very informative and friendly greeter.

Very nice facilities at the refuge.

Very satisfied with campground facilities, personnel conditions. The wildlife area we visited last fall had well marked and maintained trails.

Volunteers were extremely friendly, knowledgeable, and helpful.

We enjoy the blueberries as much as the wildlife. We would like to see the blueberry fields better maintained. They are in need of attention so as not to lose this valuable commodity for both wildlife and visitors.

We like being neighbors to the Moosehorn.

We primarily visit this site because there is a Maine State Park campground here. A USFWS Volunteer explained that Maine leases refuge land for the campsite. Otherwise, I wouldn't have realized we were on refuge property.

We use the refuge to ride our horses. The employees have always been very good. Other than that activity, we don't use the refuge.

We walked for 3 or 4 miles on a trail only to find at the end it was under construction at a water crossing creek. Fortunately, we were able to carefully cross over a pile of sticks and twigs to get to the other side. Our golden retriever was able to cross also; however, the outcome could have become serious. We feel that the volunteer we spoke to before our hike should have been aware of that particular road/trail being closed. Other than that, we love this facility and visit it several times every year!

We were staying at the state park, which is on refuge land. We had no need (and did not have the weather) to explore the refuge to the extent we might have. The volunteer who visited us was very cordial and informative.

While this refuge does not have a visitor center, they (staff and volunteers) are always kind and helpful to the visiting public. It is a beautiful refuge and we are all fortunate for its existence.

Wish they would burn the blueberry field.

Would like to see more hiking and biking trails.

Would love to see a Visitor Center with a more comprehensive gift shop and bookstore.

Young lady volunteer was very nice and helpful.

Youth Conservation Corps very worth-while program - good for my daughter and well-informed group of leaders.

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 = 141)

I think their uniqueness stems from allowing the wildness to be mostly wild. Mowing is at a minimum, natural habitats are allowed to flourish, wildflowers and grasses to grow. It is a restorative place, beautiful in its own way- as it was created and allowed to flourish without too much intervention. Refuges for the wildlife and fauna and also a natural refuge for the human visitor.

A category of land that remains open to public use!

A place where community members can enjoy outdoor activities together.

A safe and well kept habitat for wildlife and good viewing of eagles nesting annually.

A safe way to explore and get to enjoy a natural setting.

All that is available and protection of fish and wildlife.

Beautiful area.

Beautiful land - lots of trails - fun alternative to the fishing camp we stayed at. Looking forward to bringing my bike next time.

Being in Washington County, Maine makes this refuge unique...

Bird watching and cross-country skiing opportunities.

Blueberry picking offered!

Chance to observe, learn about, and participate in programs about birds and wildlife.

Cobscook Bay is the most beautiful camping and recreation spot in Maine. The sites are large, wooded and private with lots of waterfront spaces to launch a kayak. As a Mainer, I really appreciate having non-reservation sites.

Conservation efforts - protecting our wildlife properly and in their own environment.

Dedication to conservation of unique species, data collection very detailed: some actually interesting :-)
Thanks!

Due to location - the Moosehorn Wildlife Refuge - Edmunds and Baring are unique. Location, location, location.

Easy access, information available, friendly atmosphere.

Educational value. One of the best stress-relievers we have.

Efforts to save wildlife, especially endangered, and educational experiences related.

Emphasis on conservation and preservation.

Enjoyed the variety of walking paths and viewpoints.

Fewer people, more wilderness like.

Friendly, knowledgeable guides, van services for tour.

Habitat, access.

I am able to see a variety of wildlife with good roads to horseback ride on.

I find them less overrun and often better for wildlife and birding opportunities. I visit as many as I can on my trips and vacations.

I have and use "passports" for both the National Parks and the Wildlife Refuges and have had a great number of pages in both stamped. I love both and for many years, drove coast to coast a time or twice a year routing my trip through both the Parks and the Refuges. In my experience, the Refuges offer wonderful opportunities, particularly for bird watching, and at most sites, have fewer crowds - which I like. I constantly swing miles, hundreds of miles, out of my way to spend time in the Refuges. Again, thanks.

I have not experienced many refuges or campgrounds but I can see that this one was set up in a way that gave a unique private space for each camping group. It was very clean and appeared to be well maintained.

I have worked with BLM lands and your Refuge was more beautiful and welcoming to visitors.

I like the fact that the protection of wildlife is run by professionals from the government. On the other hand, it would be nice if the US would adequately fund the refuge system instead of trying to rebuild all the underdeveloped nations of the world.

I like the lands that are maintained in their natural state. This helps wildlife and increases the potential to see animals in their natural environment.

I love the protected nature of a refuge, and I also feel strongly that people should not necessarily have too much access to these refuges. Keep them primitive and do not let people overrun them.

I think because of the history of the fishing/hunting on lands is strong, these tends to be easier to access by car - more miles of dirt roads/acre than organizations with a more preservation focus - NPS, Nature Conservancy, Local Land Trusts, State Parks. I presume this provides better access for people with limited mobility - which is great. I may be one of these people some day!

I think the experience is much more natural, there are fewer people and that was great for the fishing!!

I was able to walk in the refuge free at will.

I'm from Canada, so it is hard to get on other public lands if we don't know about them.

In a refuge, one is able to see the different levels of change in an ecosystem, for example forest growth, as the land is managed.

In our trip across the country in 2003, the NWR's we visited as birders were some of our favorite places (Bosque del Apache, Holla Bend, Washita, Bombay Hook, Montezuma, among others). We always appreciated the size and scope of the refuges, and loved the driving loops where we could stop and get out birding as frequently as we wanted. We often experienced moments of extreme beauty and solitude in the refuges - a sense that we almost had the place to ourselves - and we really loved that.

In these times of overdevelopment and destruction of natural habitats, it is great that refuges are maintained to support wildlife.

In this area there are not many public lands. This refuge provides the largest area and most trails in this area.

It gives the public a chance to go off the trail and explore farther than some other parks I have visited.

It helps keep the wildlife in its natural settings.

It is a huge area of land that the animals can be safe for future generations.

It is unique habitat that includes woods, lakes, swamp. There are osprey and eagle nests that are easy to see.

It provides us a wonderful experience with our horses.

It was a nice experience, volunteers are there to give some information and help you out with your questions.

It's great for tourism and for the younger generation.

Less 'occupied' than parks - Fewer people, more 'natural', more educational information than 'conservation land.'

Less developed and touristy than nat'l parks, etc.

Location, Location. Washington County is an underappreciated, underutilized gem of a resource.

Many public lands seem to be used more for human activities that are "noisy" and very active. Refuges tend to be used more for wildlife and people who enjoy observing them in natural and quiet way. Also the focus is on maintaining an area to ensure wildlife can continue in a natural way for future generations.

Moosehorn provides easier access to all it has to offer while still ensuring safety and protection for both visitors and wildlife. The two can interact without putting either at risk.

More open land to allow wildlife in. You can hunt without knowing the owner.

Most of the time they are well managed for the wildlife.

Much larger, lower cost, well maintained.

Natural environment!

Natural habitat for wildlife viewing.

Natural nature :)

Nearby, an interest by the park to make it better for all.

No commercialization...

No other woodcock refuge known.

Open access for a variety of activities.

Opportunities to observe wildlife are unique.

Opportunities to view wildlife in natural habitat - peace, beauty - I wish hunting were prohibited.

Outside the campground, the refuge is left in as natural a state as possible.

Peaceful, natural, accessible.

Picking wild blueberries was a real treat!

Pristine areas to see wildlife.

Protected area with conservation plan.

Protecting the animals, plants, etc. from the human element.

Protection from predators and viable habitats.

Protects the resources first but allows low levels of recreation.

Provide sanctuary for animals and people as well. Nice place to observe, partake in a picnic.

Providing the habitat for growth and breeding for woodcock is a very unique and important function of the refuge.

Really get to experience nature. This refuge doesn't get a lot of visitors, so there isn't someone constantly bothering you.

Refuges are for the animals and plants to live naturally.

Refuges enable people to experience the closeness in nature that one cannot get anywhere else.

Road tour and eagle nests.

Seeing wildlife (eagle this time) up close and personal and simply enjoying the wildness of places that not only deserve protection but bring us peace.

Staff and resident onsite volunteers.

That you have guided trails to walk and hike on.

The access to the multiple trails, walking, snowshoeing, and snowmobiling.

The conservation aspect (wildlife and their habitat).

The Federal Govt. doesn't need to show a profit to exist and can therefore provide education, research and recreation.

The land is well maintained and protected. There is something for everyone.

The natural environment for wildlife.

The NWRs are the last untouched places left for wildlife to live & raise their young & not have to compete with urban development. "Wild" animals do not do well in someone's backyard, so the NWR system is essential in protecting the future of wildlife.

The opportunity of viewing wildlife from a car.

The positioning of the refuge is absolutely beautiful. The trails and wildlife viewing areas are so peaceful. It was one of the highlights of our trip to Maine.

The primary mission is the conservation and visitor emphasis is secondary. I like the greater opportunity to see wildlife in natural settings where chances of seeing people are minimized.

The refuge provides a place to snowshoe, bike, cross country ski, walk, hike, drive, experience wildlife, birds, trees, kayak, plus many other experiences -- and, it's only 4 miles from where I live!

The refuges tend to be far quieter with fewer tourists -- they offer a welcome refuge for the wildlife AND US!

The refuges that I have visited are located on areas that are not over crowded.

The roads allow us to hike and drive around to see different parts of the refuge that allow good wildlife viewing.

The size of the refuge is very impressive and the roadways and trails are a pleasure to hike.

The wetlands for birds, old growth forest for wildlife. Being able to hunt and fish along with hike and kayak scenic area "in my backyard" is very important to me.

There are many and varied opportunities to fish and bicycle. They give the bears a chance to live.

There are so many of them. I have visited 49 and have a map on my wall tracking the ones I have visited, and I own the book on the refuges by Butcher. My purposes are bird watching, hiking, photography, and "getting away."

There are trails available that are posted, signs, descriptions of areas and the resources. Also staff available to help if needed. It has been a pleasant experience every time I have visited and I always feel welcome.

There is no commercial business attached. It makes the experience much more relaxed. (Especially when bringing the grandchildren.) We can really concentrate on using our own senses and the materials available without dealing with purchasing souvenirs, hot dogs etc.

There's more nature to be observed in the refuge than in a small scale state park.

They are kept in their more natural state, not commercialized.

They are often more actively managed than a park or preserve and typically allow hunting and other activities

that may not be present at a park.

They are open to the public and we can have access to wildlife areas and experiences we cannot have elsewhere. The land and wildlife are somewhat protected and so is the experience of seeing wildlife in its environment.

They are places that put more emphasis on wildlife.

They had everything cleaned up when I got there. They were polite.

They have been chosen to concentrate wildlife habitat and thus improve opportunities for outdoor experiences.

They have places established for families. They keep the areas clean and managed.

They have very unique species in which they focus their work on, like the Woodcock. Also, having stayed and worked here so long I can say there is no place like it!

They offer varying wildlife, bird life, fish, and plants. They are environment friendly, and each offers a different educational experience.

They protect animals in their natural habitat.

They provide a home for the natural world.

They provide a place to educate people on wildlife conservation.

They seem more isolated from human impact than other public lands. Even though that restricts the area available for public viewing, you can still get a sense of it.

They seem to be doing a great job on making a good place for the wildlife. Good hiking trails and roads to explore.

They think of wildlife first.

Things are in a more natural state. Refuge visitors seem to have more respect for 'Leave no trace', than visitors to other public lands. Quieter.

This large refuge offers a diverse habitat and opportunity for many types of outdoor education.

This particular one maintains eagle and osprey nesting spots on a major route. Also an avid berry picker, I'm able to get my berries pesticide free and I enjoy the sights and sounds as I pick.

To view wildlife and wilderness lands in their natural settings is always a unique experience. We can ever let them expire.

Trails and wildlife viewing.

Typically large and diverse habitats preserved and managed for the benefit and observation of wildlife.

Various outdoor recreation opportunities.

Very convenient.

We don't hunt or fish, but those activities are available at this refuge.

We have an opportunity to see some of the things they do for our wildlife and their habitat. I know they have limited resources. Their staff is over-burdened with work. If it were not for volunteers the situation would be much worse. They are wonderful places to visit and I am really glad and thankful we have them. These are our only lands where wildlife are first priority and staff and volunteers do all they can to provide people

viewing opportunities to see wildlife.

We have visited Moosehorn NWR for 42 years and it provides free access for residents and visitors who are staying in the area, and thus good for businesses in nearby communities.

We have visited national wildlife refuges around the country and have enjoyed each experience.

We stayed at Cobscook Bay Campground. We loved the privacy.

Well cared for, staff very helpful.

Well maintained trails and roads for walking.

What sets refuges apart from national parks is that hunting is allowed and we do not think this is a good idea. Let the wildlife maintain itself.

Wide variety of recreation that is allowed appeals to wide variety of groups.

Wildlife conservation is their primary mission.

Wildlife has priority!

Wildlife refuges are not as commercialized and so not as populated. It makes a great way to go hike in the woods without worrying about hunters or running into other people, ATVs, etc.

Wintering habitat for wildlife is taken care of better on refuges.

Wonderful place to visit natural areas without having to deal with crowds found at many national and state parks.

Yes, in the sense it is public property, hopefully free from private commercial influence.

You can observe wildlife without disturbing it and enjoy the outdoors and nature.

You know you are in an area that is being kept as natural as possible for the plants and animals that inhabit it. It is a place to respect that habitat and appreciate it.

Additional Comments (n = 50)

We have a summer camp near-by, so drive through and frequently observe wildlife and/or stop to visit or fish. We love being near-by to make more use when we're there more often.

A wonderful place with a friendly and knowledgeable staff

As a volunteer crew leader, most of my expenses were paid for. I probably would not have visited this refuge if I had driven or flown from home as a 'normal' vacation. Volunteering gave me the opportunity to learn about a new place and I hope to be able to return.

Because of its proximity to town, Moosehorn provides a number of services to our community. Close by, residents can spend less time driving and more time taking advantage of all the refuge has to offer. I drive through the refuge at least once a week - Some people drive through daily. It offers viewing of wildlife and scenery, even when you don't have time to stop. Locals fish, hunt, bike, hike, bird watch, and pick blueberries. There is an abundance of opportunities for photographers and naturalists. By being so close by, and making everything easily accessible, it is an asset to the community aside from the tourist revenue that it may bring in. Most refuges can't do that.

Cobscook Bay State Park is a gem!!!!

Cobscook is always a very pleasant place to visit.

Daughter participates in Youth Conservation Corp and we learned a lot about the documentation done at the refuge- has a greater appreciation of this work! Importance

Great place to live next door

Hope I answered everything all right. There will always be people that will leave messes. And ruin it for others. Stop there from time to time to stretch my back. Don't know if I can walk down to the brook. If I walk too far it hurts me too much to get back. Times I feel like lying down on the side of the road. So I can't walk too far. Wish the state would stock some brooks for people like me with back problems. Haven't fished for 2-3 years. I miss it. Yours Truly, [Signed]

I am just a country boy who enjoys wildlife and exploring back roads.

I believe climate change is causing beach erosion on our Gulf Coast; causing our trees to be diseased in the Appalachians, Etc.

I enjoyed my visit. I also frequently visit the Edmunds refuge.

I find lots of opportunities for photography, an interest of mine, but especially I enjoy teaching my 5 year old grandson about beaver, bear, eagles, etc. who live and can be seen on our visits to the refuge. It is a quiet and uncrowded place where one can visit nature without entering someone's private land. I also love to take my 87 year old mother and mother in law for the quiet drives through the wooded areas where they, too, can experience nature without strenuous exercise. It is a favorite family thing to do and has been since my Dad first worked at the refuge. I hope parts of the refuge are always available for us! It is very important to us to be able to enjoy this area! Thank you for opening it to us.

I look forward to my weekly walk, regardless of the weather. There is always a trail or road that is clear and available for walking with my dog or grandchildren.

I love Moosehorn!

I often only skirt the edges, watching the eagles bring up their young ones mainly. To have been able to penetrate the park via an auto tour in Autumn was just a wonderful treat. I never realized all the ponds and wetlands it contained within it - very pleased. I had a visitor from New Hampshire with me and she as well thought I was very lucky to live so close to such a sanctuary. We met two folks from Hawaii visiting, who just happened upon Moosehorn - she said she was so very glad they had taken the time to visit such a gem in downeast Maine. Lovely and memorable. Thank you.

I really enjoyed the bird activity at this site.

I retired to the area partly because of the refuge, and my wife and I visit the refuge several times each week.

I simply cannot get enough of this refuge. I visit 2 to 3 times a week for 40 years. I bring my grandkids here! I would like to think it will always be here for them and their grandkids.

I think we need to do all we can to conserve energy and prevent pollution and carbon footprint however I do not believe that the term climate change addressed specifics, nor do I believe that changes in climate are solely due to human cause.

Part of my response is greatly influenced by my post regular visitation to the Edmunds unit of Moosehorn NWR in Maine which is more basic and physically separated from the more Northern Baring unit which has more facilities. Until recently I have regularly hiked some and bird/mammal watched but arthritis may curtail the great pleasures which Moosehorn has provided this retired mammalogist and university professor. Give my best to friend and fellow Northern Arizona University graduate Tom O' Shea. [Signed with name]

I would like to thank US authorities for their excellent stewardship of Moosehorn NWR at Calais, Maine. I have had many varied and memorable experiences over 40 years on the trails.

It is great that you let the Boy Scouts use the Moosehorn. I have seen the scouts working on trails and hauling brush and pulling down fencing for the Refuge under the direction of a ranger. Wonderful that young people help out the refuge that way.

It's a very nice, peaceful place. We were happy that they opened a usually closed road to autos this fall for foliage and wildlife viewing - we wouldn't have gone on that trail otherwise as we didn't know exactly where it went or came out. We'll definitely be using that trail again.

Keep up the good work!

Keep up the good work. Keep the pressure on the politicians to continue to fund all your activities. Don't let the politicians push you around. I believe that the people are with you, so education is key. Thanks.

Moosehorn NWR is a wonderful gem here in Washington County. While I wouldn't want it to get overrun with people it would be nice for some more people to discover it and experience it. The scenery is fantastic!

My husband and I have been camping at Cobscook Bay State Park for many years. We usually spend 3-4 weeks there, during the summer and fall. We enjoy the park, but do not hunt or fish.

My son and I often use the trails available to ATVs for this purpose and enjoy this activity. I have used the park numerous times for educational purposes for my students. We use the park year round. It would be beneficial for me if a list of activities were compiled and equipment supplied for my students. For example fishing, kayaking, and biking.

My trips were a hike of the Pacific Crest Trail on the west coast. Previous to that I hiked the Appalachian Trail.

Need to be open for autos arts and snowmobiles. This refuge would be used more and the tax payers would get more for their money. This refuge owns too much land they have a lot of waste land that people could own and pay taxes on, that would help the local towns and state.

On this trip we stayed two nights at Cobscook State Park. We didn't really go in to the Refuge. I don't know if information was available regarding hiking there at the Park office. Next year, I will check it out. We also visited Sea Wall at Acadia (one night) this trip. I would fill out the questionnaire somewhat differently: we were lucky to get a place for the night without a reservation--thanks. But I had to buy a \$20 week pass on top of my \$20 for the campsite, and we only stayed one night (We hadn't planned to visit Acadia at all). That's not the case at campgrounds I frequent (Twin Mt., N.H.) in the White Mountains. Thanks.

Over the years I've heard too often from other Mainers that they'd like to go explore Moosehorn, but don't know where to go. I think this is largely a problem of public relations and better foldable pocket sized maps of all trails with clear color codes or symbols of hiking/biking/driving roads and trails.

I think that people often expect entertainment and may at times be disappointed. Although a refuge's main purpose is protecting wildlife, a well-planned visitor's center can help people understand the purposes. Moosehorn has a small but well-informed office staff and some great volunteers but there are times when visitors find no one available, especially on weekends.

Thank you and keep up the good work. Our volunteer was extremely courteous, knowledgeable, and helpful.

Thank you for not advertising in Spanish!

The Moosehorn is close to my home.

The one thing that I think our particular refuge is faced with is balancing the motorized sports with those of us into skiing and hiking. I would feel better about taking my son and dog in the winter if there were more cross country trails without snowmobiles.

The roads need work.

The staff at the refuge treated us very well. They were very friendly and informative. They took great pride in the refuge.

Their pond draining in order to let vegetation grow has resulted in a drastic decline in waterfowl. Their war on beaver has really hurt migratory waterfowl.

This area benefits from having the Refuge as it serves as a recreational, educational, and environmental tool for its visitors, in the protection of wildlife and plant life.

We didn't have much time at Moosehorn, and were specifically hoping to bird and maybe see Boreal Chickadee and Gray Jay (no luck). We had a little trouble finding the central visitor's center and getting a sense of what was where, but the spots we found were lovely. Vose Pond was especially nice. The Volunteers were extra friendly and helpful. Thanks

We go fishing at least 3 times/week during the season... Fishing mostly Meddybemps Lake for salmon or white perch. Sometimes bass. We haven't fished the refuge through because the locals talk of the run off of pollutants from the paper mill in Woodland, ME.

We look forward to our visit and we enjoy the peace and serenity of the refuge.

We stopped at the refuge briefly as we were in the area for another event. We stopped to get information on the refuge (hours of operation, hiking trails, etc.) and the volunteers were very informative and helpful. We did take a brief walk on the trails and were amazed at how peaceful and beautiful a place it was. We plan to make a trip back to the area just so we can have the time to explore the refuge more fully. We want to take a full day to explore the refuge and enjoy nature.

We will be back to check it out in a new season.

We will be back!

Where were the moose!!!
