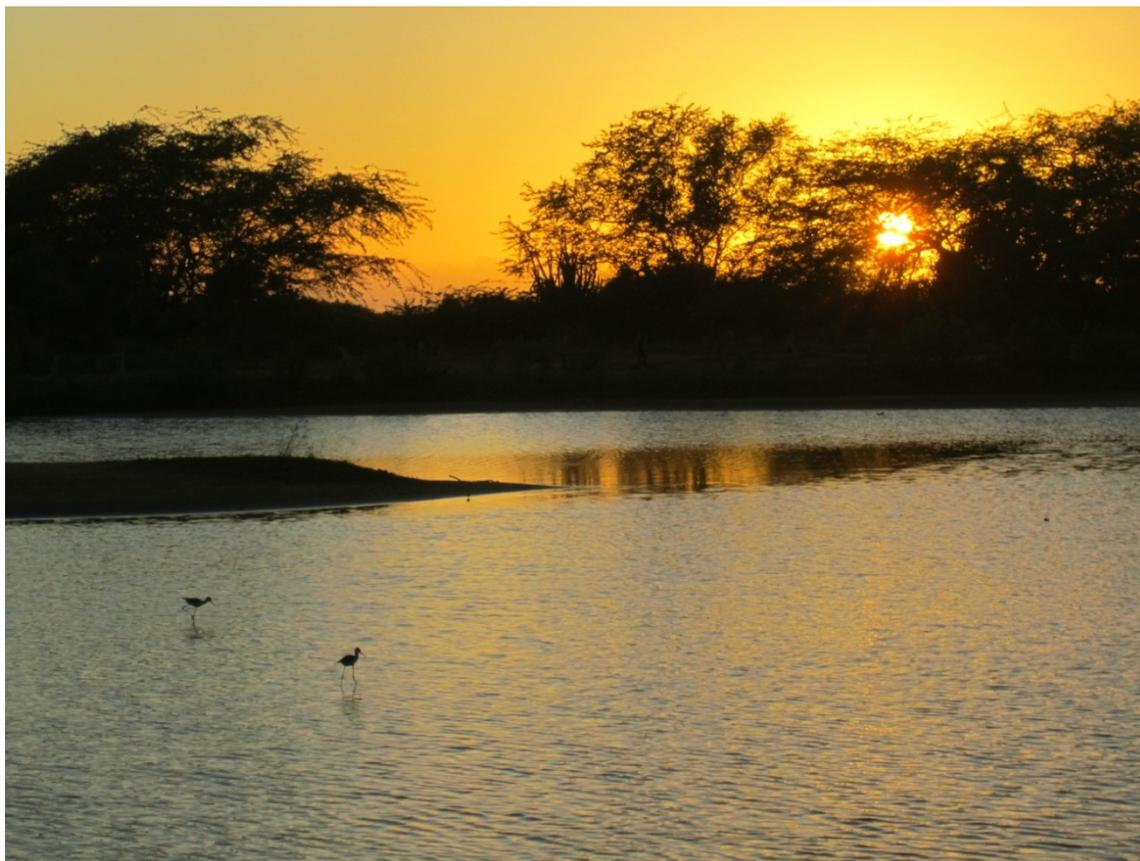


# National Wildlife Refuge Visitor Survey 2010/2011: Individual Refuge Results for Cabo Rojo National Wildlife Refuge

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

*It was a wonderful experience to take friends there. Every time we get company from the mainland I take them there. I simply love it.*—Survey comment from visitor to Cabo Rojo National Wildlife Refuge.



Cabo Rojo National Wildlife Refuge. Photo credit: Alia Dietsch, U.S. Geological Survey.

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## Acknowledgments

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

## Introduction

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

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

## Organization of Results

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

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

## **Methods**

### **Selecting Participating Refuges**

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

### **Developing the Survey Instrument**

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

### **Contacting Visitors**

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

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

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

<b>Pacific Region (R1)</b>	
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)	
<b>Southwest Region (R2)</b>	
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)	
<b>Great Lakes-Big Rivers Region (R3)</b>	
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)
<b>Southeast Region (R4)</b>	
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)
<b>Northeast Region (R5)</b>	
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)
<b>Mountain-Prairie Region (R6)</b>	
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)	
<b>Alaska Region (R7)</b>	
Alaska Maritime National Wildlife Refuge (AK)	Kenai National Wildlife Refuge (AK)
<b>California and Nevada Region (R8)</b>	
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  $n^{\text{th}}$  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 Cabo Rojo 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 Cabo Rojo National Wildlife Refuge

Cabo Rojo NWR lies along the southwestern coastal plain of Puerto Rico. In 1974, 587 acres were obtained from the Central Intelligence Agency. Twenty-five years later, Cabo Rojo NWR expanded to 1,836 acres after purchasing the Cabo Rojo Salt Flats for its potential habitat for migratory birds. Cabo Rojo NWR is made up of 65% forest and 35% grassland.

Prior to U.S. Fish and Wildlife Service ownership, the land was used for cattle ranching and agriculture for nearly two centuries. Due to this practice, much of the native vegetation has been replaced with plants from other regions. This left the land barren except for a limited population of trees located in drainages and near the homesteads. Native species are currently being replanted to return the land to its original mature hardwood forest.

The Cabo Rojo Salt Flats are considered the single most important converging point for migrating shorebirds in the eastern Caribbean. Many species of birds pass through this region during migration between North and South American. The Salt Flats also lie within designated critical habitat of the yellow-shouldered blackbird, a Federally-listed endangered species. Yellow-shouldered blackbirds use the upland and wetland vegetation surrounding the salt flats as corridors between feeding and roosting areas.

With 140,000 visitors annually (based on 2008 RAPP database; U.S. Fish and Wildlife Service, 2011, written comm.), Cabo Rojo NWR offers a variety of activities including fishing, use of the Visitor Center, hiking, wildlife observation, photography, environmental education, and interpretation. Figure 1 displays a map of Cabo Rojo NWR. For more information, please visit <http://www.fws.gov/caribbean/Refuges/Caborojo/default.htm>.

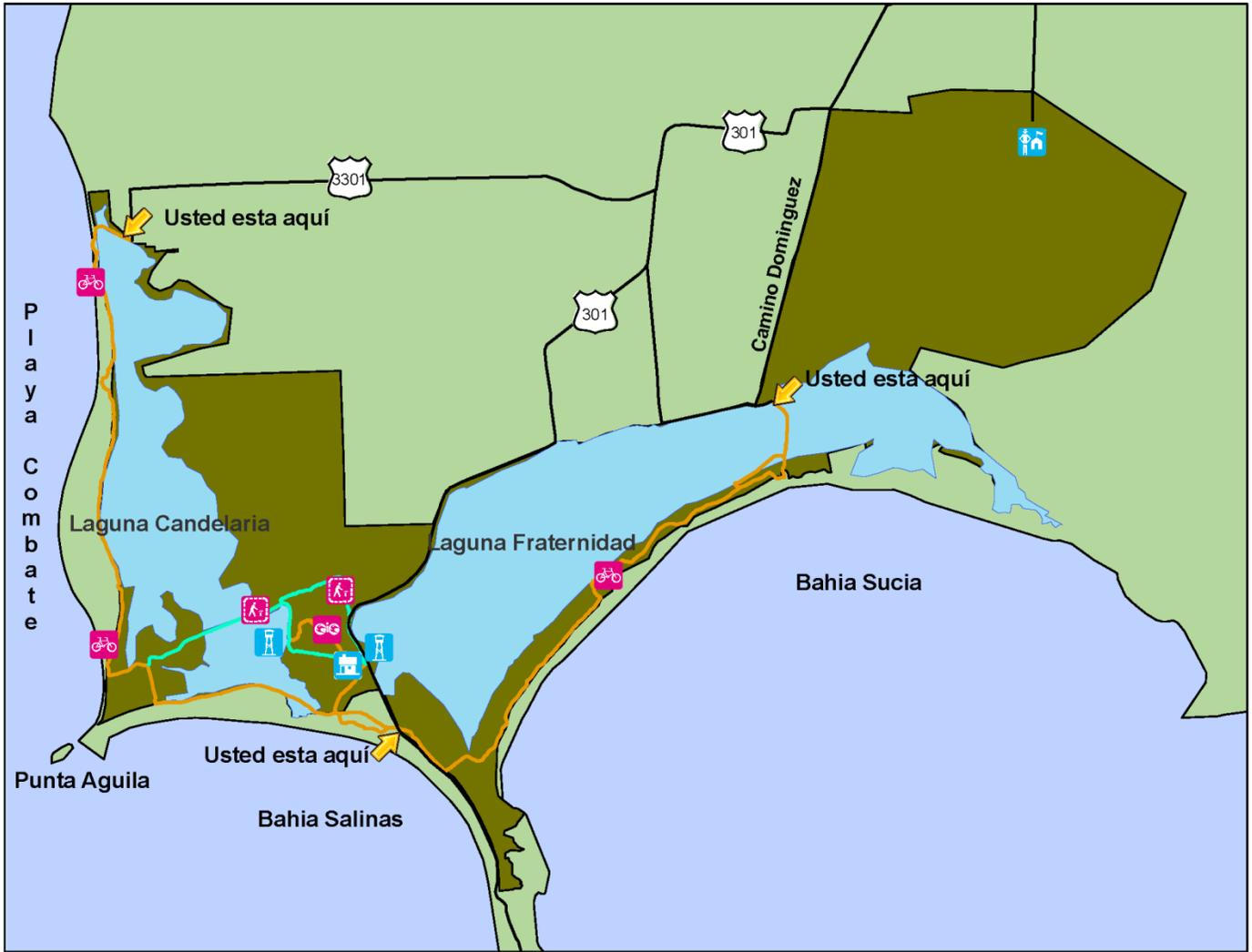


Figure 1. Map of Cabo Rojo NWR, courtesy of U.S. Fish and Wildlife Service.

## Sampling at Cabo Rojo National Wildlife Refuge

A total of 323 visitors agreed to participate in the survey during the two sampling periods at the identified locations at Cabo Rojo NWR (table 2). In all, 174 visitors completed the survey for a 58% response rate and  $\pm 4\%$  margin of error at the 95% confidence level.<sup>1</sup>

**Table 2.** Sampling and response rate summary for Cabo Rojo NWR.

Sampling period	Dates	Locations	Total contacts	Undeliverable addresses	Completed surveys	Response rate
1	1/7/2011 to 1/21/2011	Salt Flats Interpretive Center Observation Tower Patrol of Public Use Areas	162	8	93	60%
2	7/9/11 To 7/26/11	Salt Flats Interpretive Center Observation Tower Patrol of Public Use Areas	161	14	81	55%
<b>Total</b>			<b>323</b>	<b>22</b>	<b>174</b>	<b>58%</b>

## 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 Cabo Rojo 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 (74%) and that the Refuge System has the mission of conserving, managing, and restoring fish, wildlife, plants and their habitat (85%). 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

<sup>1</sup> 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).

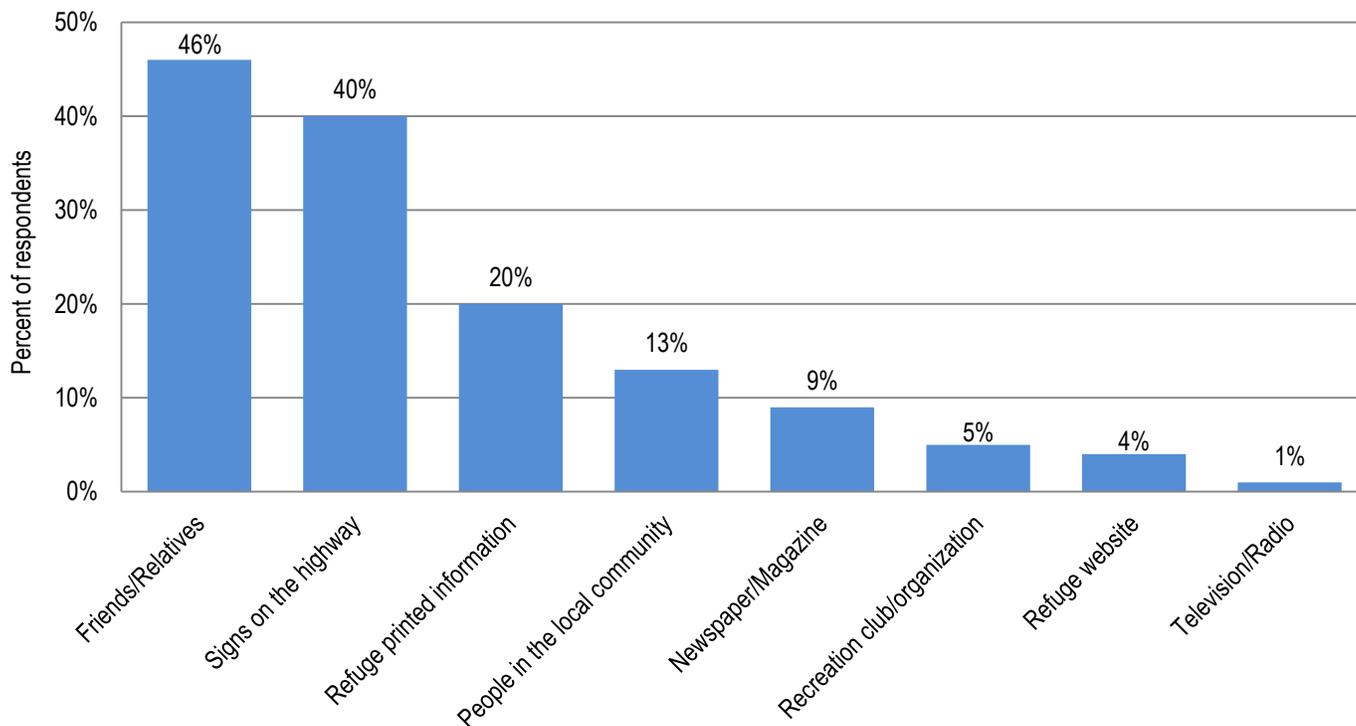
manages refuges and why. Compared to other public lands, many visitors feel that refuges provide a unique recreation experience (86%; see Appendix B for visitor comments on “What Makes National Wildlife Refuges Unique?”); however, reasons for why visitors find refuges unique are varied and may not directly correspond to their understanding of the mission of the Refuge System. More than half of visitors to Cabo Rojo NWR had been to at least one other National Wildlife Refuge in the past year (65%), with an average of 3 visits to other refuges during the past 12 months.

### Visiting This Refuge

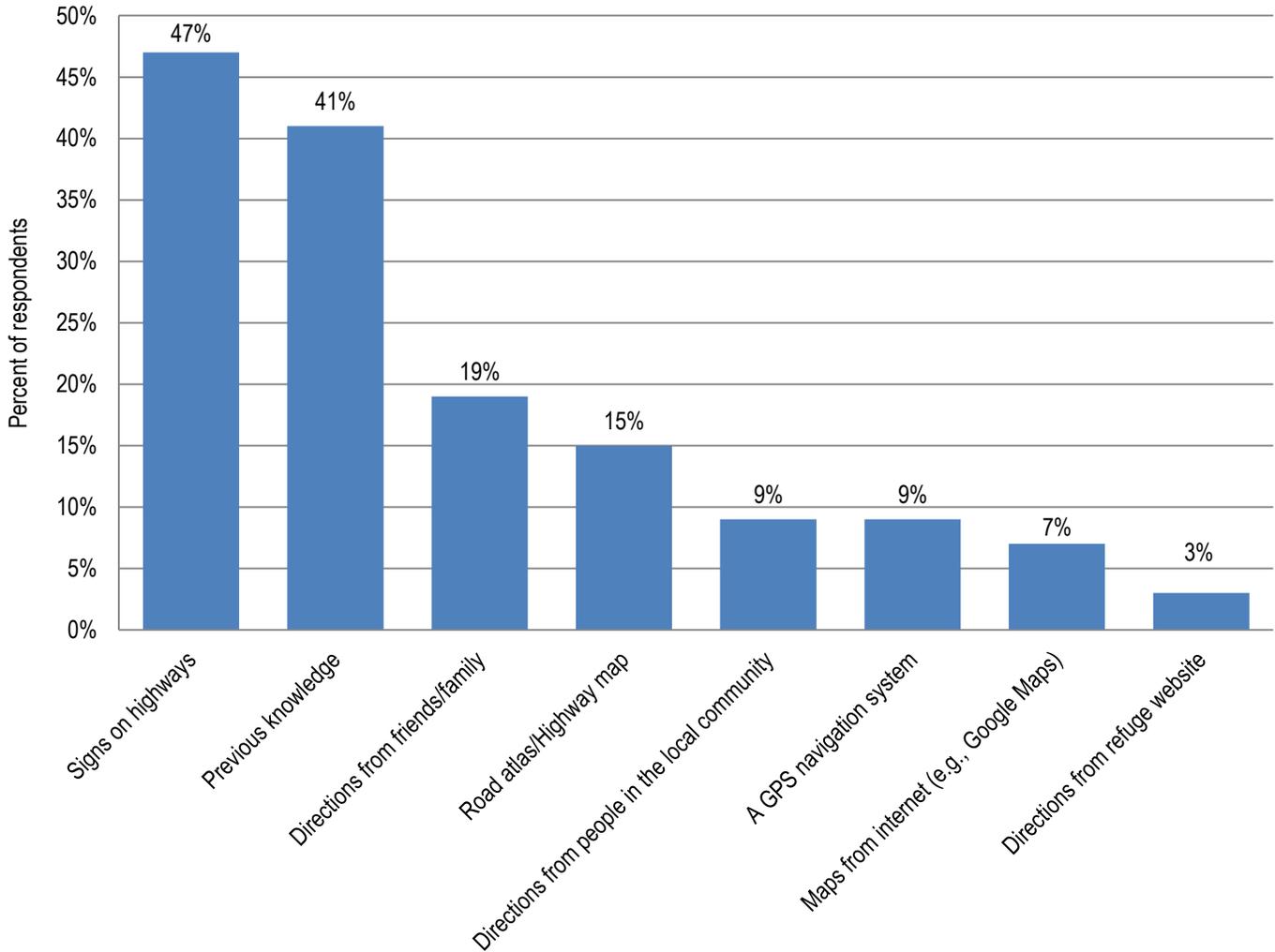
Most surveyed visitors (57%) had only been to Cabo Rojo NWR once in the past 12 months, while others had been multiple times (43%). These repeat visitors went to the refuge an average of 6 times during that same 12-month period. Visitors used the refuge during only one season (72%), during multiple seasons (16%), and year-round (12%).

Most visitors first learned about the refuge from friends/relatives (46%), signs on the highway (40%), or refuge printed information (20%; fig. 2). Key information sources used by visitors to find their way to this refuge include signs on highways (47%), previous knowledge (41%), or directions from friends/family (19%; fig. 3).

Some visitors (32%) lived in the local area (within 50 miles of the refuge), whereas 68% were nonlocal visitors. For most local visitors, Cabo Rojo NWR was the primary purpose or sole destination of their trip (54%; table 3). For most nonlocal visitors, the refuge was one of many equally important reasons or destinations for trip (46%). Local visitors reported that they traveled an average of 19 miles to get to the refuge, while nonlocal visitors traveled an average of 144 miles. Figure 4 shows the residence of visitors travelling to the refuge. About 74% of visitors travelling to Cabo Rojo NWR were from Puerto Rico.



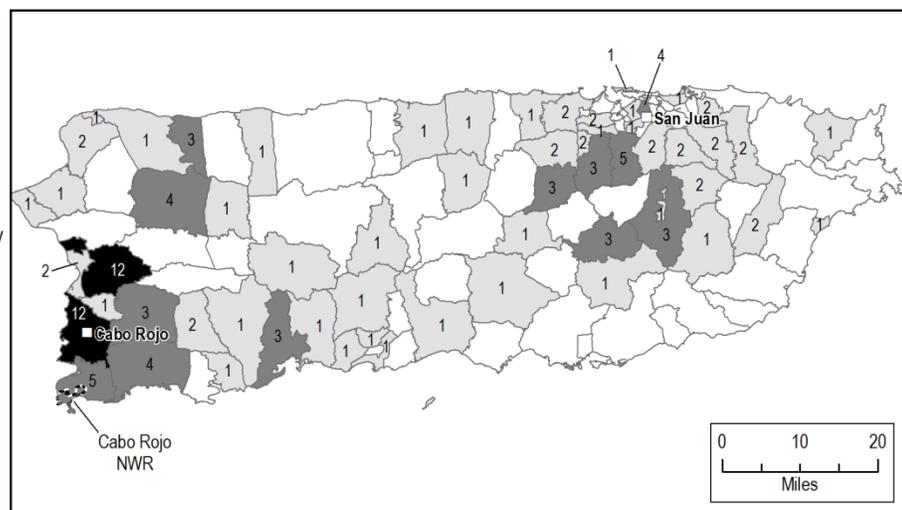
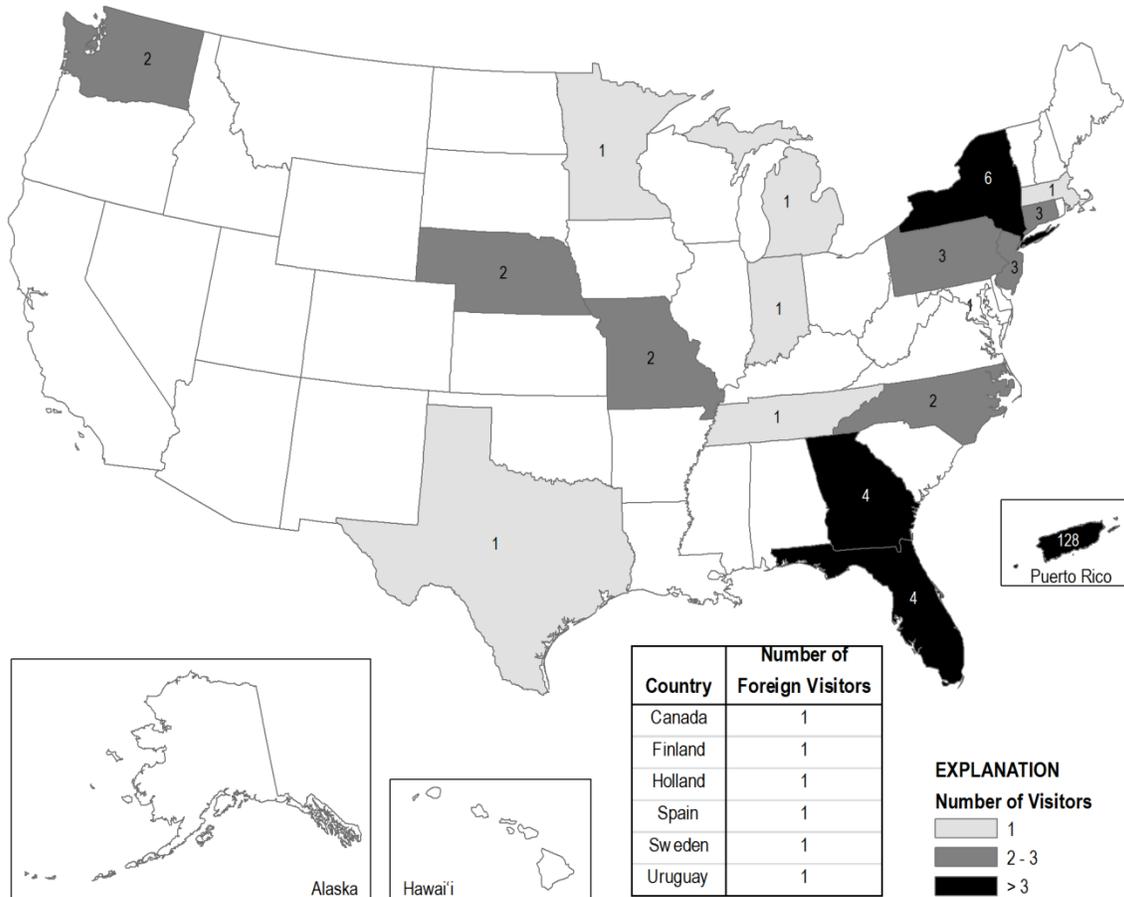
**Figure 2.** How visitors first learned or heard about Cabo Rojo NWR (n = 163).



**Figure 3.** Resources used by visitors to find their way to Cabo Rojo NWR during *this* visit (n = 169).

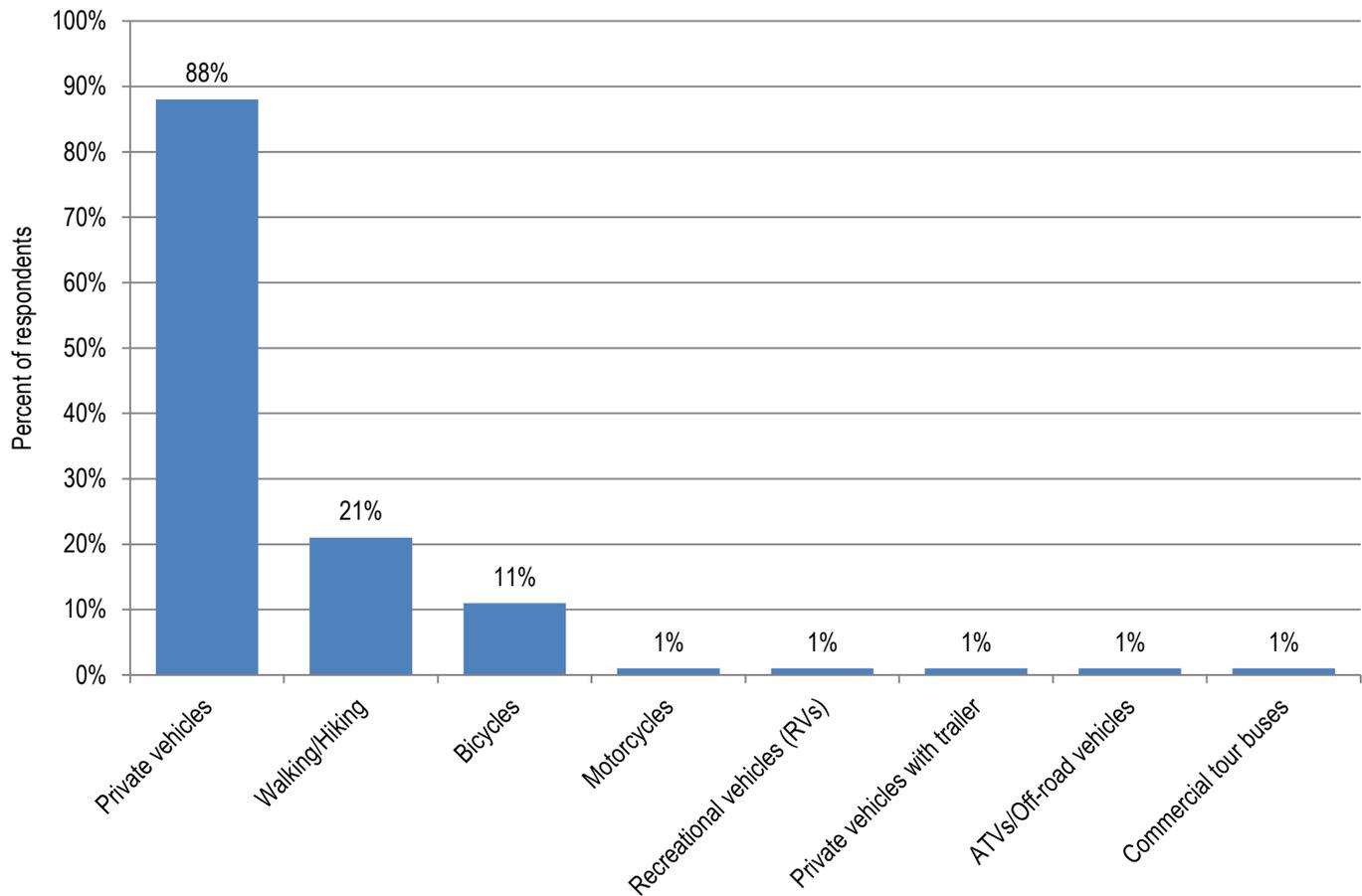
**Table 3.** Influence of Cabo Rojo NWR on visitors' decision to take *this* trip.

Visitors	Visiting this refuge was...		
	the primary reason for trip	one of many equally important reasons for trip	an incidental stop
Nonlocal	21%	47%	32%
Local	54%	28%	18%
Total	32%	40%	28%



**Figure 4.** Number of visitors travelling to Cabo Rojo NWR by residence. Top map shows residence by state and bottom map shows residence by zip codes near the refuge (n = 172).

Surveyed visitors reported that they spent an average of 3 hours at Cabo Rojo 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 1 hour (27%). The key modes of transportation used by visitors to travel around the refuge were private vehicle (88%), walking/hiking (21%), and bicycle (11%; fig. 5). Most visitors indicated they were part of a group on their visit to this refuge (75%), travelling primarily with family and friends (table 4).

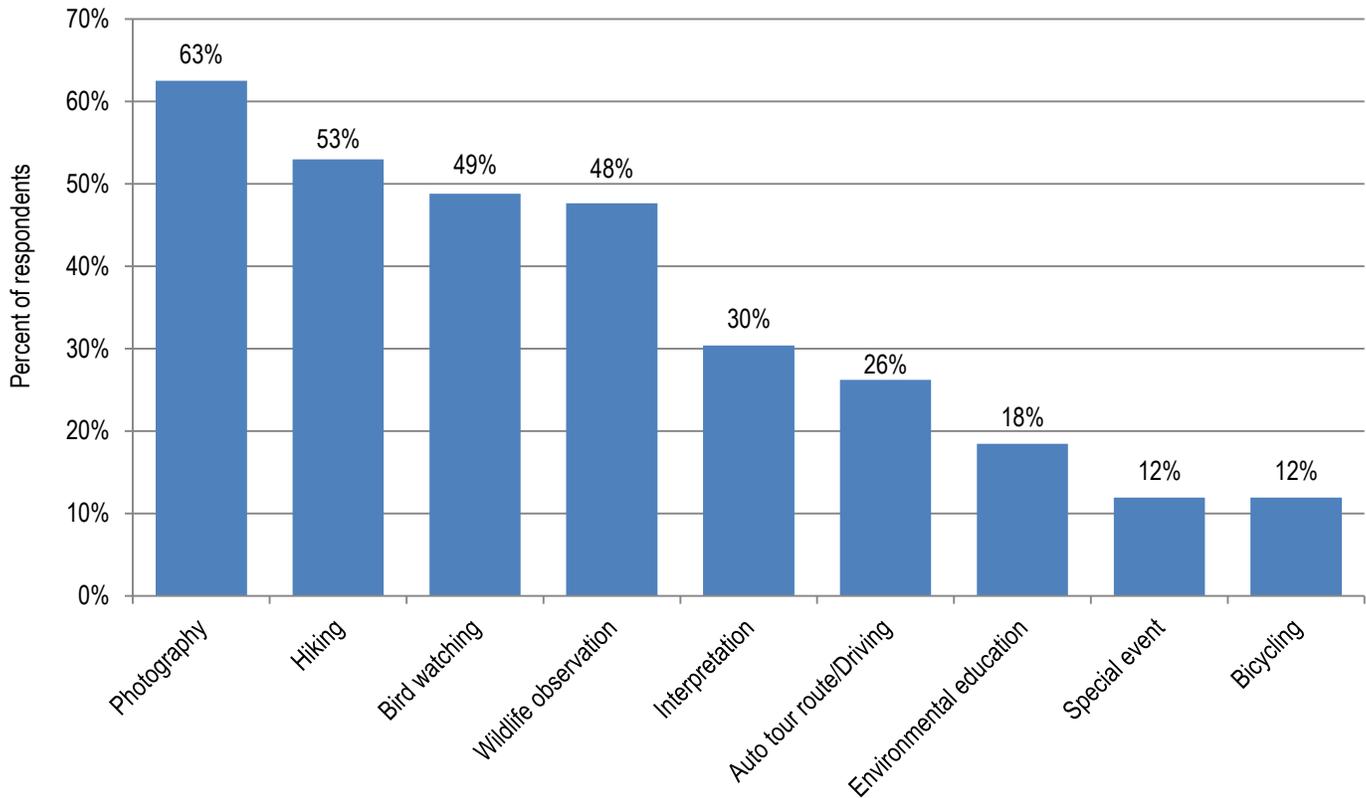


**Figure 5.** Modes of transportation used by visitors to Cabo Rojo NWR during *this* visit (n = 170).

**Table 4.** Type and size of groups visiting Cabo Rojo NWR (for those who indicated they were part of a group, n = 126).

Group type	Percent (of those traveling in a group)	Average group size		
		Number of adults	Number of children	Total group size
Family/Friends	90%	4	1	5
Commercial tour group	0%	0	0	0
Organized club/School group	7%	9	5	14
Other group type	3%	12	1	13

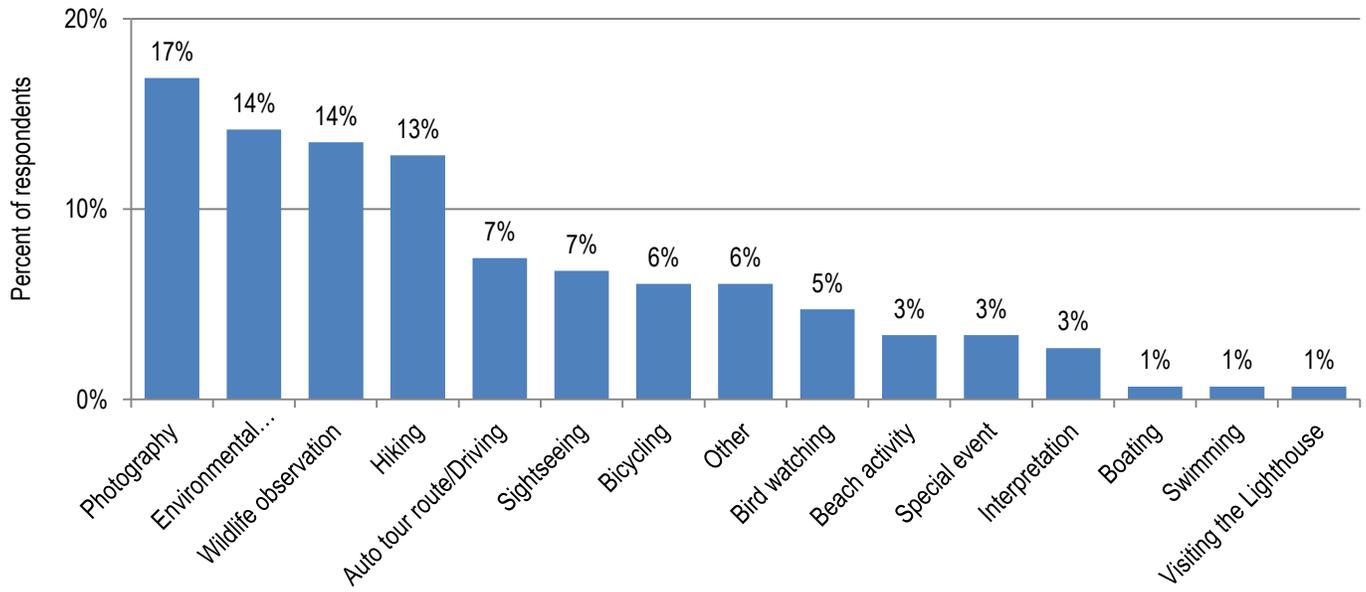
Surveyed visitors participated in a variety of refuge activities during the past 12 months (fig. 6); the top three activities reported were photography (63%), hiking (53%), and bird watching (49%). The primary reasons for their most recent visit included photography (17%), environmental education (14%), and wildlife observation (14%; fig. 7). The visitor center was used by 85% of visitors, mostly to view the exhibits (86%), ask information of staff/volunteers (65%), and visit the gift shop/bookstore (64%; fig. 8).



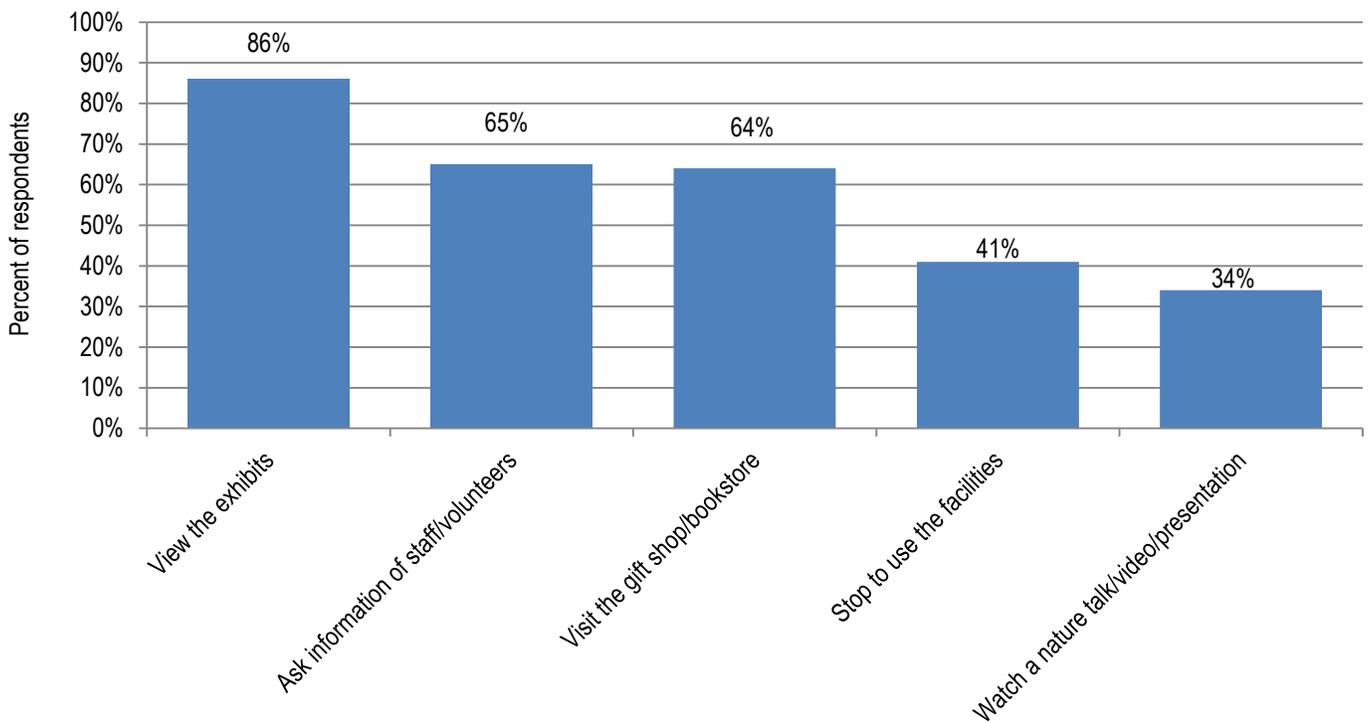
**Figure 6.** Activities in which visitors participated during the past 12 months at Cabo Rojo NWR (n = 168). See Appendix B for a listing of “other” activities.

### Visitor Characteristics

Nearly all (94%) surveyed visitors to Cabo Rojo 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 49% male with an average age of 46 years and 51% female with an average age of 47 years. Visitors, on average, reported they had 16 years of formal education (college or technical school). The median level of income was \$35,000–\$49,999. See Appendix A for more demographic information. In comparison, the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation found that participants in wildlife watching and hunting on public land were 55% male and 45% female with an average age of 46 years, an average level of education of 14 years (associate degree or two years of college), and a median income of \$50,000–\$74,999 (Harris, 2011, personal communication). Compared to the U.S. population, these 2006 survey participants are more likely to be male, older, and have higher education and income levels (U.S. Department of the Interior and U.S. Department of Commerce, 2007).



**Figure 7.** The primary activity in which visitors participated during *this* visit to Cabo Rojo NWR (n = 148). See Appendix B for a listing of “other” activities.



**Figure 8.** Use of the visitor center at Cabo Rojo NWR (for those visitors who indicated they used the visitor center, n = 144).

## 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, 32% of surveyed visitors to Cabo Rojo NWR indicated that they live within the local area. Nonlocal visitors (68%) stayed in the local area, on average, for 3 days. Table 5 shows summary statistics for local and nonlocal visitor expenditures in the local communities and at the refuge, with expenditures reported on a per person per day basis. During the two sampling periods, nonlocal visitors spent an average of \$70 per person per day and local visitors spent an average of \$64 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 Cabo Rojo NWR expressed in dollars per person per day.

Visitors	n <sup>1</sup>	Median	Mean	Standard deviation	Minimum	Maximum
Nonlocal	96	\$42	\$70	\$86	\$0	\$440
Local	42	\$36	\$64	\$76	\$2	\$341

<sup>1</sup>n = 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.

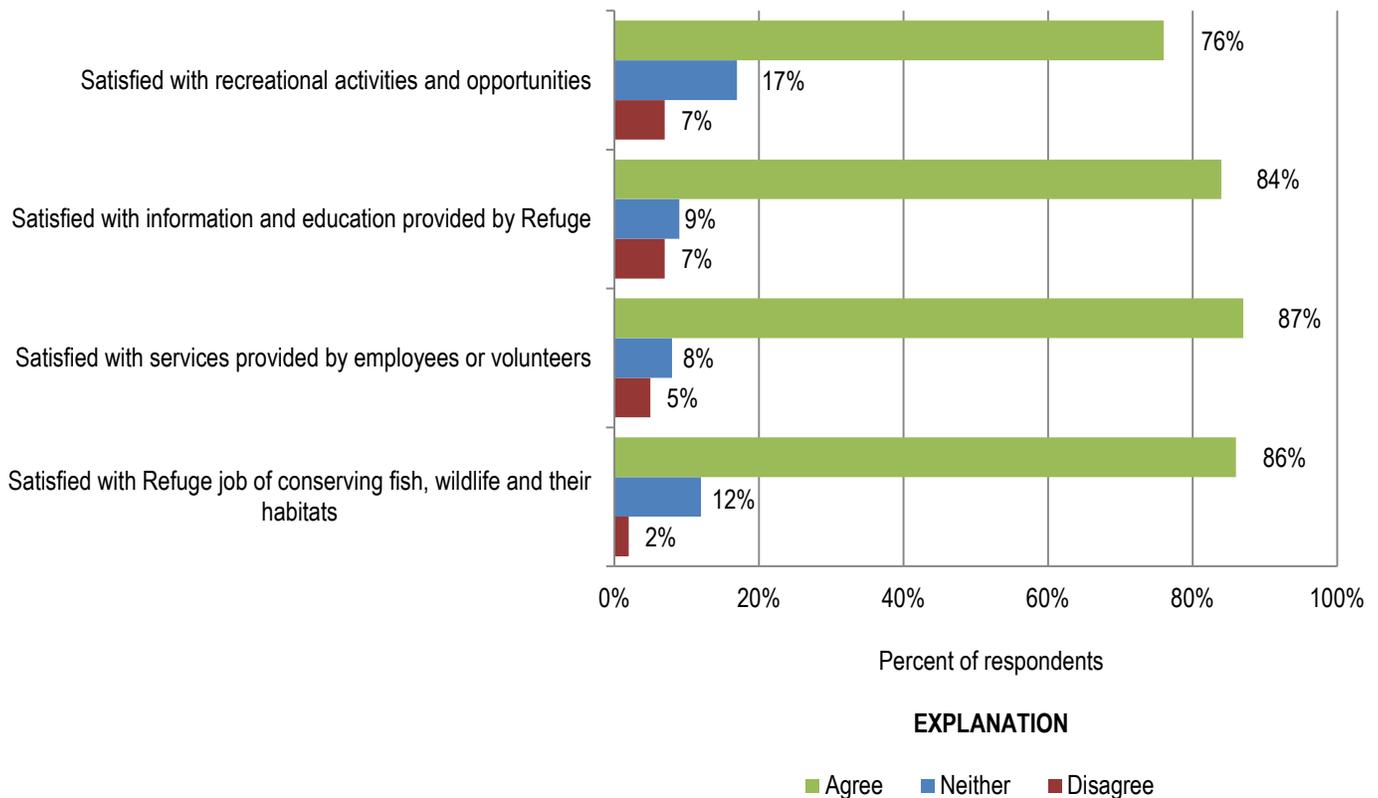
## Visitor Opinions about This Refuge

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 Cabo Rojo NWR were as follows (fig. 9):

- 75% were satisfied with the recreational activities and opportunities,
- 84% were satisfied with the information and education about the refuge and its resources,
- 87% were satisfied with the services provided by employees or volunteers, and
- 86% were satisfied with the refuge's job of conserving fish, wildlife and their habitats.

Although 21% (n = 34) of visitors indicated they paid a fee to enter Cabo Rojo NWR, the refuge does not have an entrance fee. It is not known why some visitors thought they paid a fee.



**Figure 9.** Overall satisfaction with Cabo Rojo NWR during this visit (n ≥ 155).

## Importance/Satisfaction Ratings

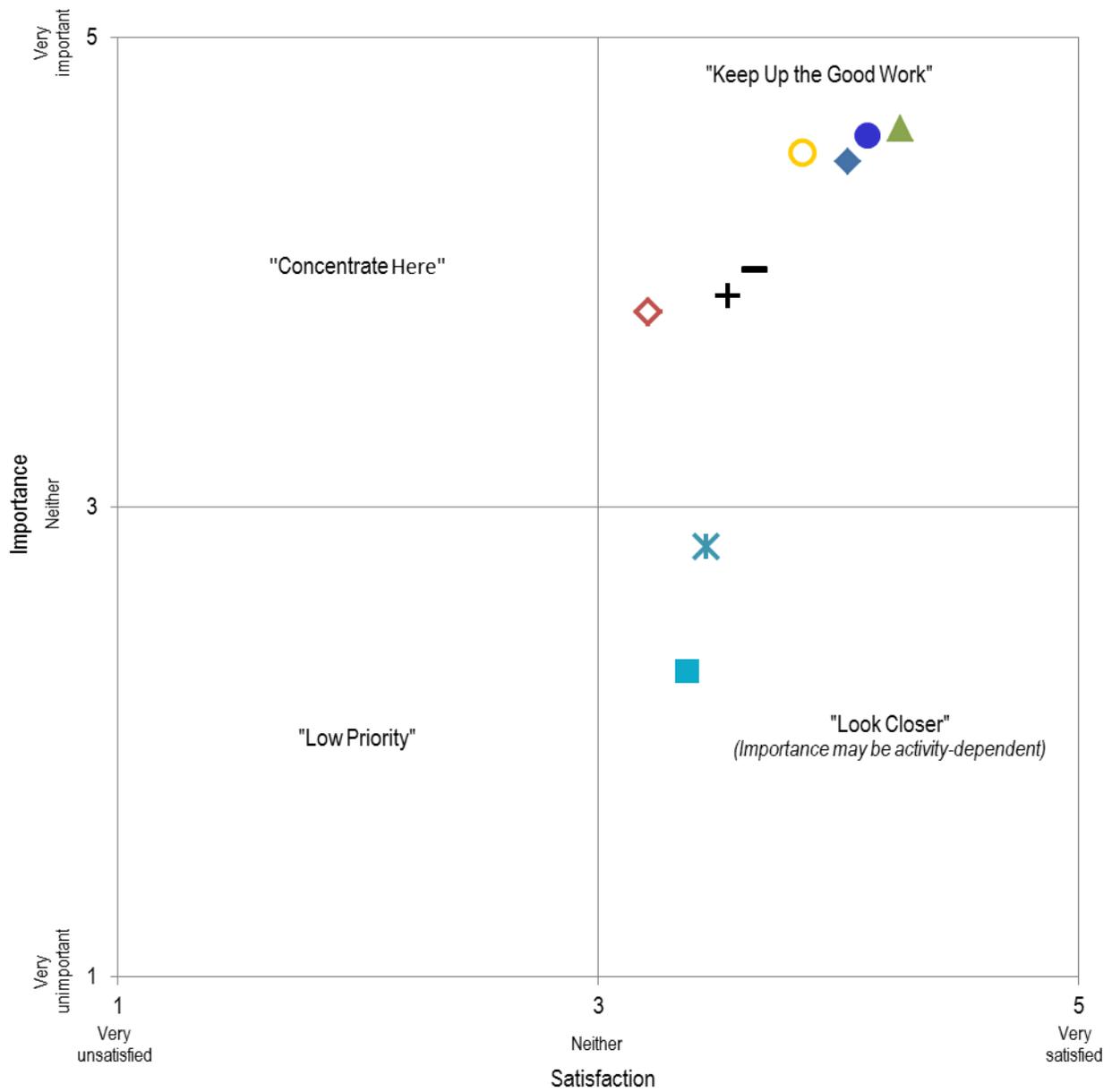
*Comparing the importance and satisfaction ratings for visitor services provided by refuges can help to identify how well the services are meeting visitor expectations. The importance-performance framework presented in this section is a tool that includes the importance of an attribute to visitors in 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 Cabo Rojo 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 Cabo Rojo NWR, respectively. All refuge services and facilities fell in the "Keep Up the Good Work" quadrant (fig. 11). Nearly all refuge recreational opportunities fell in the "Keep Up the Good Work" quadrant except hunting opportunities and fishing opportunities, which fell into the "Look Closer" quadrant (fig. 12). The average importance of these activities in the "Look Closer" quadrant may be higher among visitors who have participated in them 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. 13).

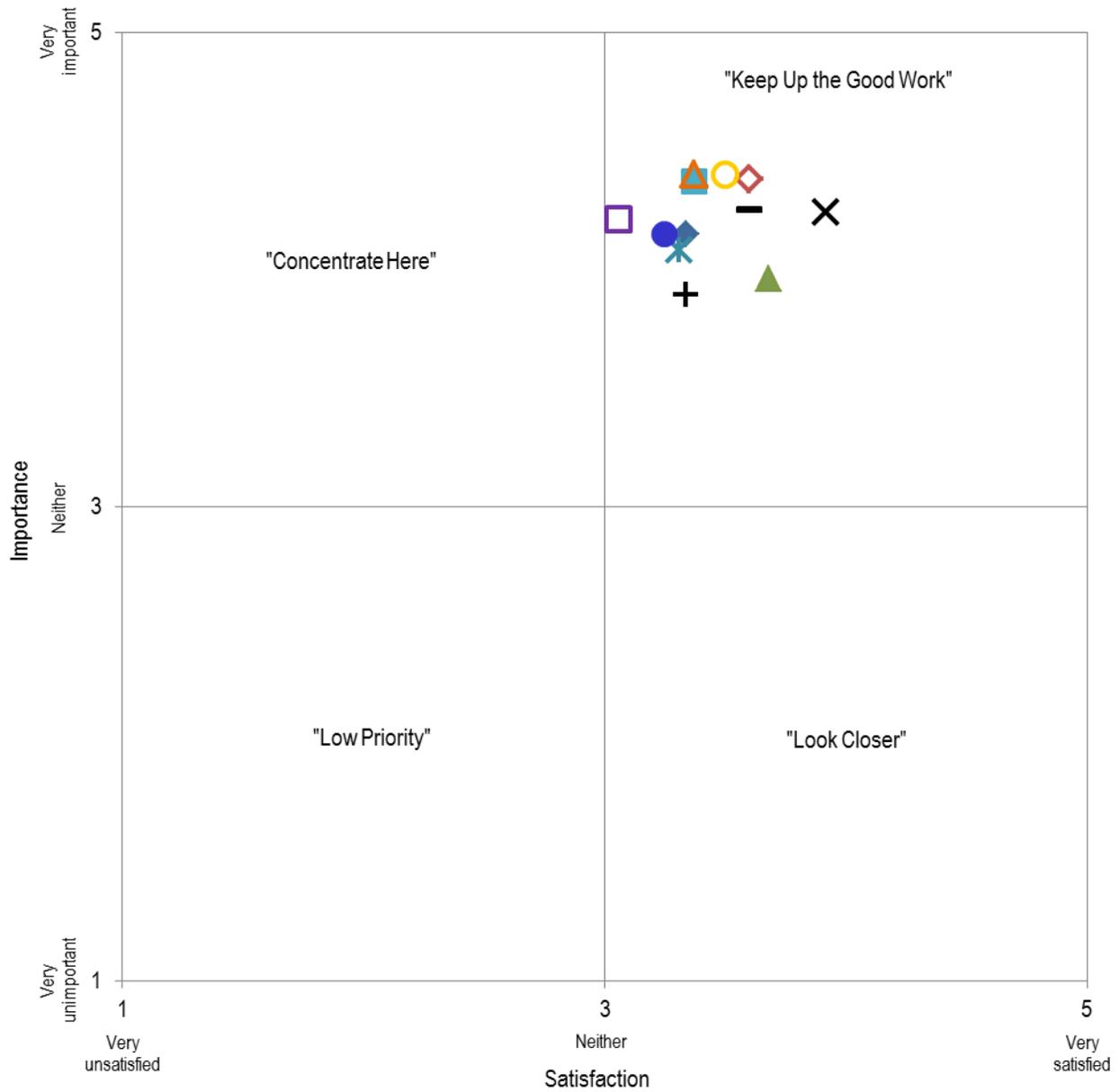




**EXPLANATION**

- ◆ 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 Cabo Rojo 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 Cabo Rojo 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 Cabo Rojo NWR are reported here.*

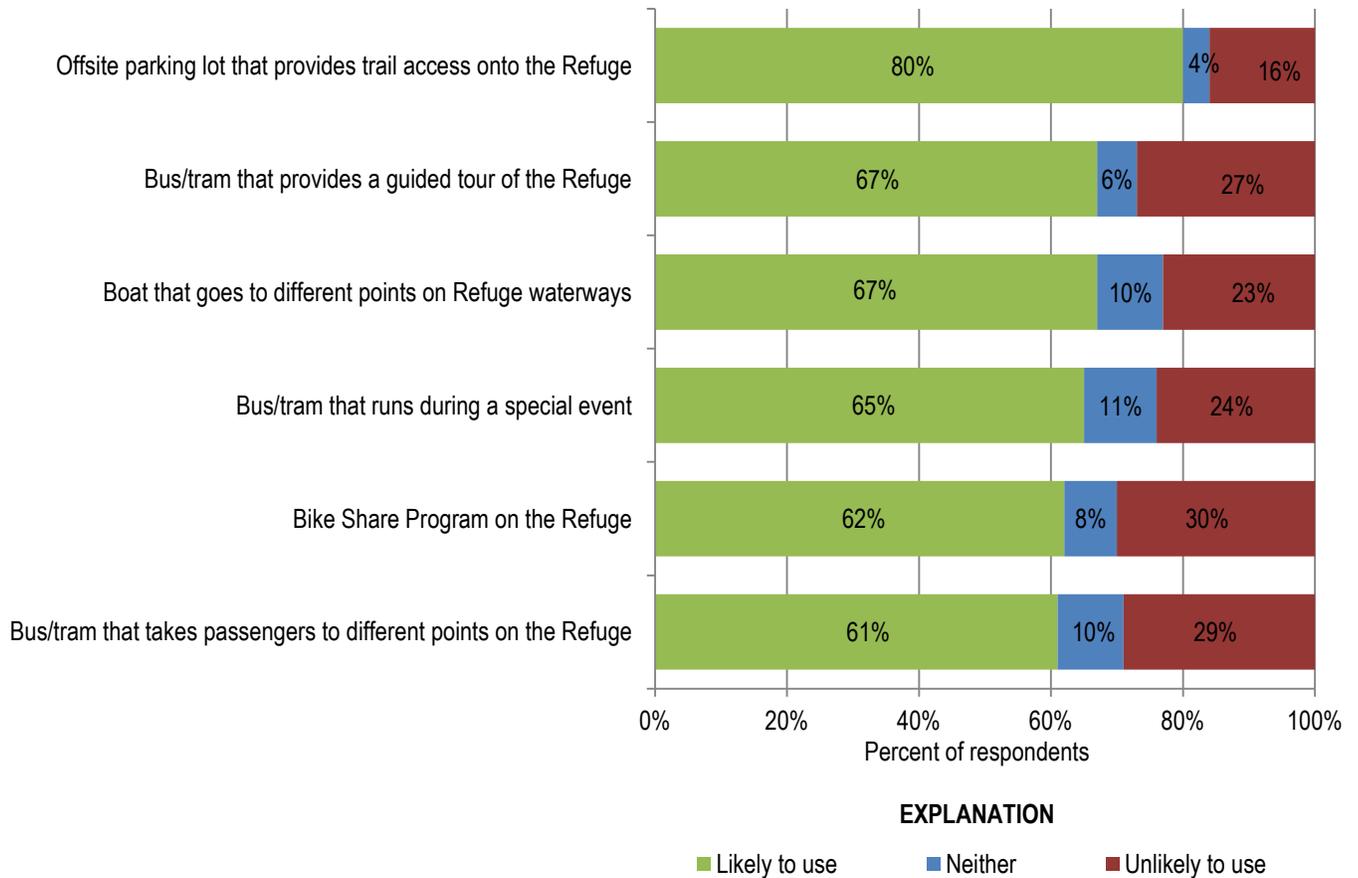
### Alternative Transportation and the National Wildlife Refuge System

*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 Cabo Rojo 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;
- a bike share program; and
- a bus/tram that takes passengers to different points on the Refuge.

When asked about using alternative transportation at Cabo Rojo NWR specifically, 26% of visitors indicated they were unsure whether it would enhance their experience; however, some visitors thought alternative transportation would enhance their experience (63%) and others thought it would not (11%).



**Figure 13.** Visitors’ likelihood of using alternative transportation options at national wildlife refuges in the future (n ≥ 159).

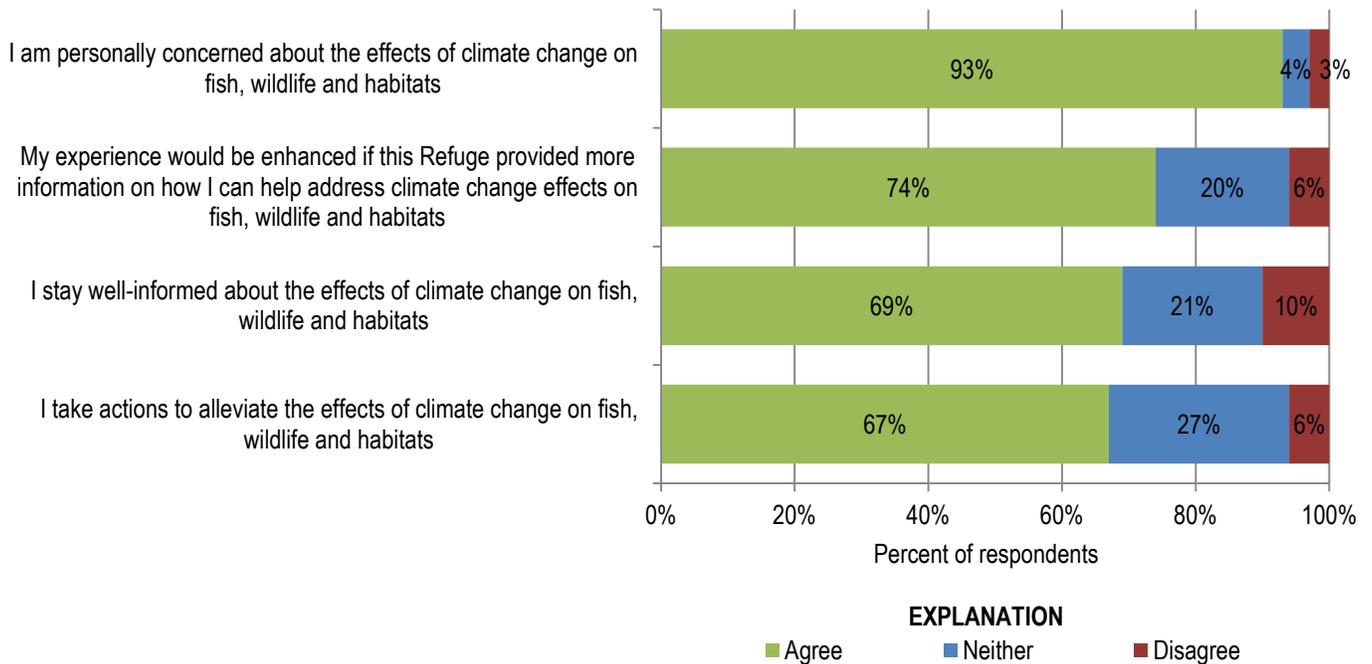
### Climate Change and the National Wildlife Refuge System

*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 Cabo Rojo NWR agreed with the following statements (fig. 14):

- “I am personally concerned about the effects of climate change on fish, wildlife and habitats;”
- “My experience would be enhanced if the Refuge provides information about how I can help address climate change effects;”
- “I stay well-informed about the effects of climate change;” and
- “I take actions to alleviate the effects of climate change.”



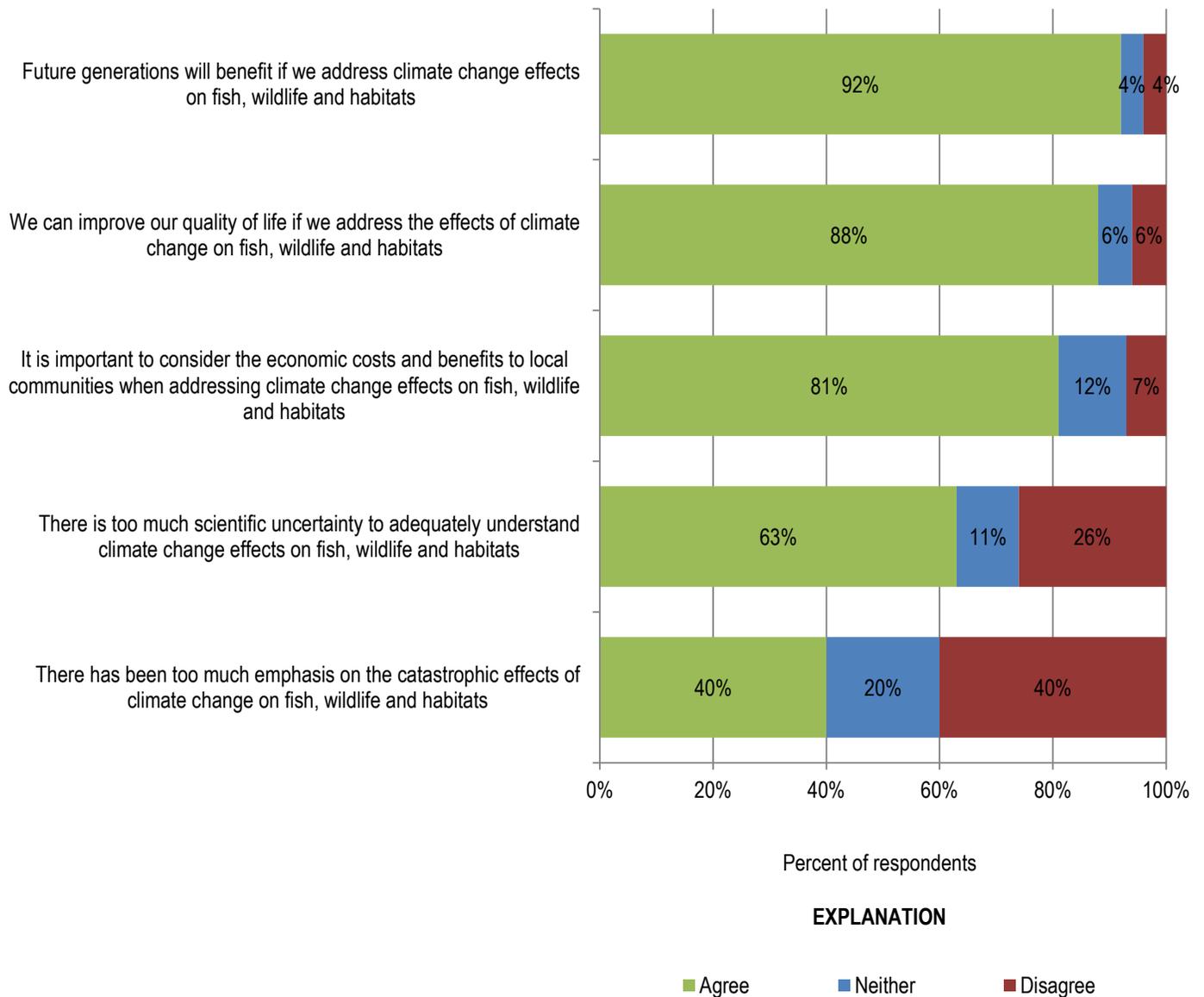
**Figure 14.** Visitors’ personal involvement with climate change related to fish, wildlife and their habitats (n ≥ 161).

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

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

Such information suggests that certain beliefs resonate with a greater number of visitors than other beliefs do. This information is important to note because the majority of visitors (74%) indicated that their experience would be enhanced if Cabo Rojo 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 ≥ 161).

## Conclusion

These individual refuge results provide a summary of trip characteristics and experiences of a sample of visitors to Cabo Rojo 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](mailto:national_visitor_survey@usgs.gov) or 970.226.9205.

## References

- Bruyere, B.L., Rodriguez, D.A., and Vaske, J.J., 2002, Enhancing importance-performance analysis through segmentation: *Journal of Travel and Tourism Marketing*, v. 12, no. 1, p. 81-95.
- Carver, E., and Caudill, J., 2007, Banking on nature 2006: The economic benefits to local communities of National Wildlife Refuge visitation: U.S. Fish and Wildlife Service, Division of Economics, Washington, D.C., 372 p., accessed September 30, 2011, at [http://www.fws.gov/refuges/about/msWord/BankingonNature\\_2006\\_11-23.doc](http://www.fws.gov/refuges/about/msWord/BankingonNature_2006_11-23.doc).
- Clark, J.R., 2001, Mission and Goals (National Fish and Wildlife Service Director's Order #132–601 FW1), accessed November 18, 2011 at [http://www.fws.gov/refuges/policiesandbudget/HR1420\\_missionGoals.html](http://www.fws.gov/refuges/policiesandbudget/HR1420_missionGoals.html).
- Dillman, D.A., 2007, Mail and Internet surveys: The tailored design method. (2nd ed.): Hoboken, N.J., John Wiley and Sons, Inc., 523 p.
- Krechmer, D., Grimm, L., Hodge, D., Mendes, D., and Goetzke, F., 2001, Federal lands alternative transportation systems study – Volume 3 – Summary of national ATS needs: prepared for Federal Highway Administration, and Federal Transit Administration in association with National Park Service, Bureau of Land Management, and U.S. Fish and Wildlife Service, 80 p. (Also available at [http://www.fta.dot.gov/documents/3039\\_study.pdf](http://www.fta.dot.gov/documents/3039_study.pdf).)
- Leiserowitz, A, Maibach, E., and Roser-Renouf, C., 2008, Global warming's six Americas: An audience segmentation: New Haven, Conn., Yale University.
- Martilla, J.A., and James, J.C., 1977, Importance-performance analysis: *Journal of Marketing*, v. 41, p. 77–79.
- Nisbet, M.C., 2009, Communicating climate change: Why frames matter for public engagement: *Environment*, v. 51, p. 12-23.
- Salant, P., and Dillman, D.A., 1994, How to conduct your own study: New York, N.Y., John Wiley and Sons, Inc.

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

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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.**

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**SECTION 1. Your visit to this Refuge**

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

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> 0% Big game hunting                 | <input type="checkbox"/> 53% Hiking   | <input type="checkbox"/> 18% Environmental education (for example, classrooms or labs, tours) |
| <input type="checkbox"/> 0% Upland/Small-game hunting        | <input type="checkbox"/> 12% Bicycling  |   |
| <input type="checkbox"/> 0% Migratory bird/Waterfowl hunting | <input type="checkbox"/> 26% Auto tour route/Driving                                | <input type="checkbox"/> 12% Special event ( <i>please specify</i> )<br><u>See Appendix B</u> |
| <input type="checkbox"/> 48% Wildlife observation            | <input type="checkbox"/> 0% Motorized boating                                       |   |
| <input type="checkbox"/> 49% Bird watching                   | <input type="checkbox"/> 0% Nonmotorized boating (including canoes/kayaks)          | <input type="checkbox"/> 10% Other ( <i>please specify</i> )<br><u>See Appendix B</u>         |
| <input type="checkbox"/> 0% Freshwater fishing               |   |   |
| <input type="checkbox"/> 0% Saltwater fishing                | <input type="checkbox"/> 30% Interpretation (for example, exhibits, kiosks, videos) | <input type="checkbox"/> 0% Other ( <i>please specify</i> )<br><u>See Appendix B</u>          |
| <input type="checkbox"/> 63% 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?

- 15% No
- 85% Yes → If yes, what did you do there? (Please mark **all that apply.**)
- |  |   |
|--|---|
| <input type="checkbox"/> 64% Visit the gift shop or bookstore    | <input type="checkbox"/> 34% Watch a nature talk/video/presentation                               |
| <input type="checkbox"/> 86% View the exhibits                   | <input type="checkbox"/> 41% Stopped to use the facilities (for example, get water, use restroom) |
| <input type="checkbox"/> 65% Ask information of staff/volunteers | <input type="checkbox"/> 8% 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	
<input type="checkbox"/> 21%	<input type="checkbox"/> 54%	<input type="checkbox"/> 32%	It was the primary purpose or sole destination of my trip.
<input type="checkbox"/> 46%	<input type="checkbox"/> 28%	<input type="checkbox"/> 40%	It was one of many equally important reasons or destinations for my trip.
<input type="checkbox"/> 32%	<input type="checkbox"/> 19%	<input type="checkbox"/> 28%	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** 144 number of miles

**Local** 19 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?

25% No (skip to question #9)

75% Yes → What **type of group** were you with on your visit? (Please mark **only one**.)

90% Family and/or friends

7% Organized club or school group

0% Commercial tour group

3% Other (please specify) See Appendix B

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

4 number 18 years and over

2 number 17 years and under

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

46% Friends or relatives

4% Refuge website

40% Signs on highway

1% Other website (please specify) See Appendix B

5% Recreation club or organization

1% Television or radio

13% People in the local community

9% Newspaper or magazine

20% Refuge printed information (brochure, map)

10% Other (please specify) See Appendix B

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

23% Spring  
(March-May)

57% Summer  
(June-August)

17% Fall  
(September-November)

58% Winter  
(December-February)

11. How many times have you visited...

...this Refuge (including this visit) in the last 12 months? 3 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"/> 88% | Private vehicle without a trailer                             | <input type="checkbox"/> 0% | Refuge shuttle bus or tram       | <input type="checkbox"/> 11% | Bicycle                               |
| <input type="checkbox"/> 1%  | Private vehicle with a trailer<br>(for boat, camper or other) | <input type="checkbox"/> 1% | Motorcycle                       | <input type="checkbox"/> 21% | Walk/Hike                             |
| <input type="checkbox"/> 1%  | Commercial tour bus   | <input type="checkbox"/> 1% | ATV or off-road vehicle          | <input type="checkbox"/> 1%  | Other ( <i>please specify below</i> ) |
| <input type="checkbox"/> 1%  | Recreational vehicle (RV)                                     | <input type="checkbox"/> 0% | Boat                             | <u>See Appendix B</u>        |                                       |
|                              |   | <input type="checkbox"/> 0% | Wheelchair or other mobility aid |                              |                                       |

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

- |                              |  |                              |   |
|------------------------------|--|------------------------------|---|
| <input type="checkbox"/> 47% | Signs on highways  | <input type="checkbox"/> 3%  | Directions from Refuge website                        |
| <input type="checkbox"/> 9%  | A GPS navigation system  | <input type="checkbox"/> 9%  | Directions from people in community near this Refuge  |
| <input type="checkbox"/> 15% | A road atlas or highway map                                      | <input type="checkbox"/> 19% | Directions from friends or family                     |
| <input type="checkbox"/> 7%  | Maps from the Internet (for example,<br>MapQuest or Google Maps) | <input type="checkbox"/> 41% | Previous knowledge/I have been to this Refuge before  |
|                              |  | <input type="checkbox"/> 2%  | Other ( <i>please specify</i> ) <u>See Appendix B</u> |

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

How likely would you be to use...	Very Unlikely	Somewhat Unlikely	Neither	Somewhat Likely	Very Likely
...a bus or tram that takes passengers to different points on the Refuge (such as the Visitor Center)?	<input type="checkbox"/> 22%	<input type="checkbox"/> 7%	<input type="checkbox"/> 11%	<input type="checkbox"/> 22%	<input type="checkbox"/> 38%
...a bike that was offered through a Bike Share Program for use while on the Refuge?	<input type="checkbox"/> 21%	<input type="checkbox"/> 8%	<input type="checkbox"/> 8%	<input type="checkbox"/> 22%	<input type="checkbox"/> 41%
...a bus or tram that provides a guided tour of the Refuge with information about the Refuge and its resources?	<input type="checkbox"/> 21%	<input type="checkbox"/> 6%	<input type="checkbox"/> 7%	<input type="checkbox"/> 22%	<input type="checkbox"/> 45%
...a boat that goes to different points on Refuge waterways?	<input type="checkbox"/> 16%	<input type="checkbox"/> 6%	<input type="checkbox"/> 11%	<input type="checkbox"/> 21%	<input type="checkbox"/> 46%
...a bus or tram that runs during a special event (such as an evening tour of wildlife or weekend festival)?	<input type="checkbox"/> 16%	<input type="checkbox"/> 8%	<input type="checkbox"/> 11%	<input type="checkbox"/> 30%	<input type="checkbox"/> 36%
...an offsite parking lot that provides trail access for walking/hiking onto the Refuge?	<input type="checkbox"/> 12%	<input type="checkbox"/> 4%	<input type="checkbox"/> 4%	<input type="checkbox"/> 27%	<input type="checkbox"/> 53%
...some other alternative transportation option? ( <i>please specify</i> ) <u>See Appendix B</u>	<input type="checkbox"/> 18%	<input type="checkbox"/> 0%	<input type="checkbox"/> 6%	<input type="checkbox"/> 6%	<input type="checkbox"/> 71%

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

- 63% Yes       11% No       26% Not Sure

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

Importance						Satisfaction					
Circle one for each item.						Circle one for each item.					
Very Unimportant	Somewhat Unimportant	Neither	Somewhat Important	Very Important		Very Unsatisfied	Somewhat Unsatisfied	Neither	Somewhat Satisfied	Very Satisfied	Not Applicable
6%	5%	10%	28%	51%	Surface conditions of roads	17%	17%	11%	23%	31%	NA
8%	7%	17%	26%	43%	Surface conditions of parking areas	10%	14%	27%	31%	18%	NA
7%	2%	25%	20%	46%	Condition of bridges	1%	9%	35%	28%	26%	NA
7%	3%	9%	24%	58%	Condition of trails and boardwalks	5%	7%	17%	31%	40%	NA
5%	7%	12%	27%	49%	Number of places for parking	11%	17%	18%	37%	17%	NA
5%	5%	9%	34%	47%	Number of places to pull over along Refuge roads	10%	21%	22%	28%	19%	NA
5%	2%	7%	23%	63%	Safety of driving conditions on Refuge roads	10%	9%	17%	38%	26%	NA
5%	1%	12%	26%	55%	Safety of Refuge road entrances/exits	7%	10%	21%	37%	24%	NA
5%	4%	3%	22%	66%	Signs on highways directing you to the Refuge	11%	15%	14%	31%	28%	NA
5%	3%	6%	21%	65%	Signs directing you around the Refuge roads	9%	22%	15%	32%	22%	NA
6%	3%	4%	21%	67%	Signs directing you on trails	8%	21%	17%	36%	18%	NA
8%	3%	8%	20%	60%	Access for people with physical disabilities or who have difficulty walking	13%	18%	33%	20%	15%	NA

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

See Appendix B

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**SECTION 3. Your expenses related to your Refuge visit**

1. Do you live in the local area (within approximately 50 miles of this Refuge)?

32% Yes

68% No → How much time did you spend in local communities on this trip?

  3   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 (please specify) _____	

See Report for Results

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

  3   number of people sharing expenses

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

\$0	\$10	\$20	\$35	\$50	\$75	\$100	\$125	\$150	\$200	\$250
11%	14%	20%	10%	16%	4%	14%	1%	4%	2%	4%

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.***)

12%	Far too low	15%	Too low	68%	About right	3%	Too high	3%	Far too high	79%	Did not pay a fee (skip to Section 4)
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6. Please indicate whether you disagree or agree with the following statement. (*Please mark **only one.***)

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

3%	Strongly disagree	3%	Disagree	29%	Neither agree or disagree	44%	Agree	21%	Strongly agree
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#### SECTION 4. Your experience at this Refuge

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

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Not Applicable
Overall, I am satisfied with the recreational activities and opportunities provided by this Refuge.	0%	6%	18%	41%	35%	NA
Overall, I am satisfied with the information and education provided by this Refuge about its resources.	2%	5%	9%	38%	46%	NA
Overall, I am satisfied with the services provided by employees or volunteers at this Refuge.	2%	3%	9%	34%	53%	NA
This Refuge does a good job of conserving fish, wildlife and their habitats.	1%	1%	13%	30%	55%	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%	4%	2%	20%	70%	Availability of employees or volunteers	3%	2%	8%	16%	71%	NA
4%	1%	2%	15%	77%	Courteous and welcoming employees or volunteers	5%	1%	6%	15%	74%	NA
3%	1%	2%	16%	78%	Knowledgeable employees or volunteers	4%	1%	8%	14%	73%	NA
3%	2%	5%	23%	66%	Printed information about this Refuge and its resources (for example, maps and brochures)	3%	7%	7%	30%	52%	NA
3%	3%	4%	27%	64%	Informational kiosks/displays about this Refuge and its resources	3%	10%	10%	31%	46%	NA
4%	3%	8%	24%	61%	Signs with rules/regulations for this Refuge	3%	7%	15%	37%	38%	NA
3%	1%	6%	24%	66%	Exhibits about this Refuge and its resources	3%	5%	11%	35%	47%	NA
3%	4%	9%	16%	68%	Environmental education programs or activities	5%	8%	22%	31%	35%	NA
3%	3%	6%	21%	67%	Visitor Center	4%	4%	14%	28%	50%	NA
3%	0%	8%	22%	67%	Convenient hours and days of operation	2%	4%	18%	29%	47%	NA
2%	3%	3%	16%	76%	Well-maintained restrooms	4%	4%	13%	17%	61%	NA
3%	1%	4%	21%	70%	Wildlife observation structures (decks, blinds)	3%	3%	10%	32%	52%	NA
3%	2%	8%	21%	67%	Bird-watching opportunities	4%	6%	14%	36%	41%	NA
2%	1%	6%	25%	66%	Opportunities to observe wildlife other than birds	4%	10%	15%	40%	31%	NA
2%	1%	6%	17%	74%	Opportunities to photograph wildlife and scenery	1%	8%	8%	27%	55%	NA
50%	5%	25%	6%	14%	Hunting opportunities	3%	3%	65%	11%	17%	NA
33%	7%	26%	14%	21%	Fishing opportunities	3%	3%	62%	13%	20%	NA
3%	0%	6%	19%	72%	Trail hiking opportunities	2%	6%	13%	37%	42%	NA
11%	3%	22%	20%	44%	Water trail opportunities for canoeing or kayaking	5%	23%	32%	25%	15%	NA
8%	4%	17%	21%	50%	Bicycling opportunities	6%	10%	30%	20%	34%	NA
6%	4%	26%	23%	41%	Volunteer opportunities	3%	4%	51%	22%	20%	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

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

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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?

74% Yes

26% No

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

85% Yes

15% No

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

86% Yes

14% No

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

See Appendix B

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4. There has been a lot of talk about climate change recently. We would like to know what you think about climate change as it relates to fish, wildlife and their habitats. To what extent do you disagree or agree with each statement below? (Please circle one number for each statement.)

Statements about climate change	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I am personally concerned about the effects of climate change on fish, wildlife and their habitats.	1%	2%	4%	31%	63%
We can improve our quality of life if we address the effects of climate change on fish, wildlife and their habitats.	1%	4%	6%	27%	61%
There is too much scientific uncertainty to adequately understand how climate change will impact fish, wildlife and their habitats.	11%	15%	12%	34%	29%
I stay well-informed about the effects of climate change on fish, wildlife and their habitats.	2%	8%	21%	44%	25%
It is important to consider the economic costs and benefits to local communities when addressing the effects of climate change on fish, wildlife and their habitats.	3%	4%	13%	42%	38%
I take actions to alleviate the effects of climate change on fish, wildlife and their habitats.	3%	3%	27%	40%	27%
There has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and their habitats.	16%	24%	20%	25%	15%
Future generations will benefit if we address the effects of climate change on fish, wildlife and their habitats.	1%	2%	4%	29%	63%
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.	2%	4%	20%	28%	47%

## 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?  49% Male  51% Female

3. In what year were you born? 1964 (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)			
					1%			5%				45%				49%			

5. What ethnicity do you consider yourself?  83% Hispanic or Latino  17% Not Hispanic or Latino

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

- 6% American Indian or Alaska Native
- 21% Black or African American
- 83% White
- 2% Asian
- 1% Native Hawaiian or Pacific Islander

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

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

- 6% Less than \$10,000
- 17% \$35,000 - \$49,999
- 13% \$100,000 - \$149,999
- 19% \$10,000 - \$24,999
- 14% \$50,000 - \$74,999
- 3% \$150,000 - \$199,999
- 17% \$25,000 - \$34,999
- 9% \$75,000 - \$99,999
- 3% \$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.)?

7 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 Cabo Rojo 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
Actividad de Historia de las Salinas en Cabo Rojo (An activity about the history of the Cabo Rojo Salt Flats)	1
Boy Scout Visit	1
Celebracion 500 anos de Las Salinas (500 year Celebration of the Salt Flats)	11
Conferencia de aves (Bird Conference)	1
Lleve a un Canadiense de B.C. para que observara las bellezas de Puerto Rico (Brought a Canadian from British Columbia to observe the beauty of Puerto Rico.)	1
Observacion Salinas (Observation of Salt Flats)	1
Open House - Salt Flats Interpretive Center	1
Open house, artisans show	1
Salt Flats 500 year anniversary celebration	2
Taller sobre identificación de aves playeras (A workshop on shorebird identification)	1
Total	21

Other Activity	Frequency
Banarse en la playa (Swim at the beach)	1
Beach going	1
Censo aves (Bird census)	1
Holiday	1
Ir a la playa y al faro de Cabo Rojo (Go to the beach and the Cabo Rojo Lighthouse)	1

Playa (The beach)	1
Salt mine observation	1
Sharing the beauty with the family.	1
Sightseeing	1
Solo visita (Only to Visit)	1
Swimming	1
Swimming at the Lighthouse	1
Swimming, sunning, reading, etc.	1
Uso de la playa familiar (Family trip to the beach)	1
Visita al mirador (Visit the observation tower)	1
Visita para observar (To observe)	1
Visitar Refugio (To visit the Refuge)	1
Total	17

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
Conocer el lugar (To get to know the place)	1
Diversion (Fun)	1
Estadia con la familia (To be with the family)	1
Holiday	1
Museum	1
Placer (Pleasure)	1
Recreo (Recreation)	1

Salt mines	1
Traer la familia como grupo (Bring the family as a group)	1
Visit	1

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

Other Visitor Center Activity	Frequency
Caminar y sacar fotografias (Walk and take photographs)	1
Caminata (Walk)	2
Comer del frappe y las frituras (Eat fritters and drink a shake)	1
Conocer mision del Refugio (To learn the mission of the Refuge)	1
Descansar del sol (Rest/break from the sun)	1
Enjoyed view from observation tower.	1
Lectura de cuentos sobre las salinas (A reading of stories about the Salt Flats)	1
Participar de una caminata informativa (Participate in an informative walk/hike)	1
Shopping for coarse salt	1
The supervisor there gave us a tour of the watch tower. She was excellent. Very informative and gave us a sense of "ours," "protect it."	1
Torre de Observacion (Observation Tower)	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
Caborrojenos Pro-Salud y Ambiente (Cabo Rojans for Health and Environment)	2
Maestros (teachers)	1
Photography tour to preserve PR wildlife!	1
Total	4

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

Other Website	Frequency
Facebook	1
Invitación en facebook y por email (Facebook invitation and through email)	1
Total	2

Other Ways Heard about This Refuge	Frequency
Conferencia/Museo Luis H. Ferver Cabo Rojo (Conference/Luis H. Ferver Cabo Rojo Museum)	1
Frecuentes paseos dominicales casualidad (Coincidence - Frequently walk on Sundays)	1
Guidebook	1
Hoja suelta indicando la actividad de Las Salinas de Cabo Rojo (Information release sheet indicating the activities of the Cabo Rojo Salt Flats)	1
Holiday Brochures/Book	1
I went to visit the Cabo Rojo, Puerto Rico lighthouse and found the refuge on the way there.	1
In 1973, prior to it being a Refuge it was visited by Marine Biology Department in Mayaguez, Puerto Rico.	1
Personal del refugio (Refuge employees)	1
Por el mismo edificio (Through the building)	1

Por mi hermano el Dr. Luis Ramirez (Through my brother Dr. Luis Ramirez)	1
Por Voluntarios (Through Volunteers)	1
Puerto Rico's tourism information	1
Soy parte de la comunidad y pariente empleado del F&W (I am part of the community and a relative of a FWS employee.)	1
The book 'Puerto Rico's birds in photographs'	1
Tourist information	1
Travel guidebook (Lonely Planet)	2
Total	17

## Survey Section 2

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

Other Ways Found This Refuge	Frequency
Lonely Planet guidebook	1
Site brochure	1
Torre de observacion (Observation Tower)	1
Tourist information	1
Total	4

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
4x4 trail	1
A pie (On foot)	1
Algunas transporte que se pueda utilizar solo familias con ninos menores de 3 anos. (Some transportation is only to be used by families with children younger than 3 years old.)	1
Animales, caballos (Animals, horses)	1

Anything to avoid the two mile walk in the middle of summer	1
Auto propio (Own Car)	2
Bicicleta (Bicycle)	1
Caballos (Horses)	1
Caminata a pie (Walking/Hiking)	1
Caminatas (Walking/Hiking)	1
Day long walking tours	1
Four tracks	1
Kayak	3
Renten mulitas solas o con carretas - pero es costoso. (Rent donkeys, or donkey pulled carts - but it is expensive.)	1
Teleferico (Cable Car)	1
Too much noise is no good for the birds.	1
Tour guiado en bicicleta por senderos del refugio (Guided bicycling tour on the refuge trails)	1
Transportacion colectiva local con parada en las entradas (Collective local transportation with a stop at the entrances.)	1
Tren que haga varias paradas en diferentes partes del refugio (A train that makes stops at different parts of the refuge)	1
Trolley	1
Total	23

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 = 43)

Al leer la última premisa me percaté que para personas con discapacidad o dificultad para caminar, se hace inaccesible este lugar. Sería lo único que deberían considerar, porque en lo demás está perfecto. (Upon reading the last question I realized that for people with a handicap or those who have difficulty walking, this refuge would be inaccessible. This would be the only thing to consider because otherwise it is perfect.)

Biking could be an entertaining and leisure alternative but the roads are riddled with steep sinkholes and tall bumps. I think non-pervious surfaces would be detrimental to storm-water in such an ecosystem, but its current status makes for an uncomfortable ride.

Considero que debe haber mas letreros que nos dirijan hasta el refugio. (They should consider having more signs that direct us to the Refuge.)

Creo que se necesitan mejorar vias de acceso al refugio y los areas de parking para mejorar el transporte. (I think the access roads to the refuge and the parking area needs to be improved.)

Cuando cierran el paso de camino al faro de Cabo Rojo seria preferible un servicio de transporte para personas discapacitadas y los ninos ya que la caminata es larga y agotadora. (When the road to the Cabo Rojo is closed, it would be preferable to have a transportation service for disabled persons and children as the walk is long and exhausting.)

Deben utilizar vehiculos para ser excursiones. (They should utilize vehicles to do excursions.)

El camino es malo y el parking es limitado. (The road is bad and the parking is limited.)

El personal esta muy bien orientado. (The employees were very knowledgeable.)

En una de los gazebos de descanso se habia formado un enjambre de abejas poniendo en peligro los caminantes. (In one of the gazebos there was a swarm of bees putting the walkers in danger.)

Es necesario asfaltar el camino y construir estacionamientos. (It is necessary to pave the road and construct parking areas.)

Es necesario el mantenimiento a los senderos para poder correr bicicleta con seguridad. Gracias es un lugar muy hermoso. (It's necessary to maintain the paths so that people can bike safely. Thank you, it is a beautiful place.)

Esta reserva esta hecha principalmente para caminarla o ir en bicicleta, no tengo problema con eso. (This Refuge is primarily for walking or biking, I don't have a problem with that.)

Estaban arreglando el puente cerca de la Villa Pesquera . Confio quedo perfecto. (They were fixing the bridge close to the fishing village Villa Pesquera. I trust it turned out perfect.)

Fatal porque en P.R. la transportacion es fatal. El gobierno local no hace mucho sobre este problema. Por eso la gente posee un auto no porque quiera sino por necesidad. (Terrible because in Puerto Rico the transportation is terrible. The local government doesn't do much about this problem. Because of this, people own cars not because they want to, but rather out of necessity.)

Fuimos caminando no hace falta transportacion. (We were walking, it does not need transportation.)

Generally my first experience was good. I hope more people visit. It has beautiful areas. Thank you.

La transportacion obligatoria como un parque de recreacion, le quitara al lugar lo bello, natural y silvestre que tiene el lugar. Se vera muy commercial. Lo lindo de este lugar es que esta al natural! (Obligatory transportation like a recreation park could take away from the natural beauty and wildlife that this area has. It would be very commercial. The beautiful thing about this place is that it is all natural!)

Las carreteras y los caminos dentro del refugio podrian estar mucho mejor. Podria ver area donde haya baño y fuentes de agua y algun telefono en caso de emergencia uno comunicarse con los encargados del refugio. (The roads inside the refuge really need to be improved. An area where there are bathrooms, water fountains and an emergency telephone with the numbers of those in charge at the refuge would be nice.)

Mayores letreros con indicaciones de donde estamos y hacia donde esta el centro de visitantes. (Better signs indicating where you are and which direction the Visitor Center is.)

Me gustaria mucho los programas auspiciados por el gobierno para hacer excurciones al refugio, podrian ser gratis o con un bajo costo. (I would really like it if there were government sponsored excursions at the refuge at a free or low cost.)

Me gustaria que el edificio sea mas grande. (I would like the building to be bigger.)

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Mi llegada allí fue algo ocasional. No tengo un criterio amplio y definido. Estoy contestando esta encuesta pues al subir la torre de observación una joven me pidió que llenara la encuesta. Espero volver a visitar para poder tener una visión mejor sobre el refugio. (My trips here are occasional. I don't have the appropriate knowledge to judge the refuge. I am answering the survey because I climbed the observation tower and a young person asked me to participate in the survey. I hope to return to visit to better understand the vision of the refuge.)

Muy pobre (Very poor)

Muy poco personal (pero yo sé que el gobierno es el que asigna el dinero y no ustedes). No cerrar al mediodía (Rotenee). (Very few employees (but I know that it is assigned by the government and not you guys). Don't close at mid-day (rotate).)

No hay sistema de transporte, senderos adecuados, seguridad adecuada, o vigilancia. (There is no transportation system, no adequate trails, no adequate safety or security.)

No pase por el Refugio, solo visite la oficina de información. (I didn't pass through the Refuge, I only visited the office.)

No use y no vi transporte. Mi tiempo fue limitado cuando visite. (I didn't use or see transportation. My time was limited when I visited.)

Opciones alternativas de transporte: La experiencia depende de muchos elementos: señalización, exhibición (diseño, contenido, accesibilidad, tipografía, espacio, iluminación entre otros). (The experience depends on many elements: signage, exhibits (design, content, accessibility, lettering, space, lighting, among others).)

Pienso en la palabra "Refugio" Refugio para las aves/diferentes especies, etc. Debe continuar por siempre, siendo "Refugio" y no tanto para áreas de múltiples visitantes en un futuro de exponer todo por todo al público. (I believe in the word "Refuge". Refuge for the birds/different species, etc. They should continue forever being "Refuges" and not so much for the many visitors in a future of exhibiting everything for the public.)

Roads are terrible, no access for people with disabilities and there is no security or officers while seeing the sights.

Se necesitan más espacios disponibles para estacionamiento. (There needs to be more space for parking.)

Sería de gran utilidad porque hay muchas personas que quizás por su edad no pueden caminar mucho y también quieren disfrutar de este refugio. (It would be of great utility because many people, perhaps because of their age, can't drive much and would also want to enjoy this Refuge.)

Si por favor, podrían hacer un paseo tablado para que el turista disfrute el paisaje y a la vez está haciendo ejercicios por la salud. (If possible, please make a boardwalk so that visitors can enjoy the walk and at the same time exercise for their health.)

Tener en mente el transporte para personas en silla de ruedas. (Keep in mind transportation for people in wheelchairs.)

The road along the salt mines had a lot of potholes; we had an SUV so it wasn't a problem, but I could see others having problems with the road. I also didn't get to go on a large number of the hiking trails, so I can't really comment on their condition.

The road from the Visitor Center to the Lighthouse was unsatisfactory with lots of holes and once the El Faro area exceeds the vehicle/visitors capacity, people have to walk for several minutes if they want to go to the beach or to the lighthouse. The only bridge is so narrow that if you get distracted you can fall off the bridge.

The road to the lighthouse past the Refuge was horrible, but that was not part of the Refuge (I don't think).

The road to the lighthouse was terrible, with many wide and deep potholes--we could not go over 5mph.

The roads are unpassable. While there, I noticed a few cars leave because they could not walk to the Lighthouse. There is no shade and it is uphill and sidewalks are virtually non-existent. The Refuge parking lot is not paved. The office was nice, clean and accessible. Rangers and supervisors were excellent. The public needs to be informed of events. Signs need to be put on the roads in Spanish and English. More

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information needs to be distributed via magazines, TV and in nearby towns. Local universities can also have student and visitor day tours. This would inspire visits by local as well as promote tourism. Should have a walk-tour available for tourists that want to spend a day exercising . They must be healthy and walk willing.

The roads were dirt and very rough in the Refuge.

The roads were horrendous, but we suspect that kept traffic down and made it not so crowded.

Tiene que proveer transporte al visitante o permitir que el mismo puede estacionar cerca del objetivo de visitar. (They need to provide visitor transport or permit parking close to the objective of the visit.)

When I die, half of my ashes will come to El Faro cliff, half to Mona Island. That is how special these two places are.

## 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 = 49)

Agradezco la oportunidad de poderle visitar. Empleados muy amables y conocedores del Refugio. Deberian fomentar y promocionar mas el Refugio para que reciban mas visitas y que las peronas se involucren mas en la vida silvestre. (I appreciate the opportunity to be able to visit. Very friendly and knowledgeable employees. They should encourage and promote the Refuge more so that they receive more visitors and people can get more involved with wildlife.)

Courteous, well-informed and welcoming staff.

Deben de haber letreros que indiquen a donde no se puede pasar debido a que anidan aves playeras. (There should be signs that indicated where we shouldn't go as to not disturb the nesting shorebirds.)

El area es una muy seca. Deberian sembrar arboles y mejorar el landscaping. El binocular no enfoca adecuadamente y esta borroso el lente. (The area is very dry. They should plant trees and improve the landscaping. The binoculars didn't focus and the lens was blurry/smudged.)

El precio para visita de grupos de estudiantes es muy caro, debe ser mas accesible. (The price for student groups to visit is very expensive; it should be more accessible.)

El refugio esta muy bien equipado el peronal es muy amable y competente y dispuesto. Se le debe asignar todos los fondos necesarios para que continúen la gran obra y esta gran industria continúen operando. Dios los continue bendiciendo. (The Refuge is very well equipped, the staff is very friendly, competent, and available. They should assign all the funds necessary to continue this great work and the operation of this great industry. God will continue blessing it.)

Es un lugar muy importante. Continue haciendo este trabajo para que podemos disfrutarlo. (It is a very important place. Continue doing this work so that we may enjoy it.)

Están haciendo un gran trabajo. Creo que se puede hacer mucho mas. (They are doing a great job. I think they could do much more.)

Este refugio se debe mantener lo mas natural posible; en cuanto hacer, tablados, caminos y transporte obligatorio, le quita al lugar la belleza y emoción al ir y visitar un sitio intacto. (This Refuge should be maintained as natural as possible; having platforms, roads and obligatory transportation takes away from the beauty and emotion.)

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Excelente (Excellent)

Excellent staff - very hospitable and knowledgeable.

Exhorto a las encargados de los diquesa buscar la forma de-rescatar- evitar la muerte de las cocolias al cerrar compuertas. Por lo menos intentar evitar que queden atrapadas en aguas con baja oxigenación y alta salinidad. Los kioscos están en proceso todavía. Muchos no contiened informacion a pesar de estar habites. Pronto estaremos "Muy satisfechos". Horario puede ampliarse. (I encourage those in charge of the dikes to look for ways to rescue/avoid the death of the crabs upon closing the floodgates. At least try to avoid them getting trapped in water with low oxygen and high salinity. The kiosks are still unfinished. Many don't have information even though they are fit to. Soon we will be "Very Satisfied". The visiting hours could be expanded.)

Great staff! Though I wish you didn't have to make reservations to walk the trails.

Hay que darle mas publicidad a este lugar y deben tener mas facilidades y entretenimientos para el publico en general. (There should be more publicity for this place and they should have more facilities and entertainment for the public in general.)

I would hate hunting at the refuge!

Informacion escrita en los senderos no estaba en su mayoria disponible. (Written information on the trails is not available.)

Information about Salt Flat extraction process was ok. We did not see any wildlife aside from birds, which was disappointing . Also the trails were not well-marked so it was not clear where trails started. No posted rules so we weren't sure if we could walk around wherever we wanted rather than staying on trails. Observation tower was neat! The staff spoke English well.

La experiencia fue excelente y bien educativa. La proxima visite ire a visitar el Refugio con mas tiempo. He recomendado el Refugio a otros familias y amigos. (The experience was excellent and educational. The next time we will visit the Refuge with more time. I have recommended the Refuge to other families and friends.)

La muchacha que nos atendio es muy conocedora del proceso de orientacion. (The young women that attended to us was very knowledgeable on guidance and information.)

Lack of transport to site.

Las facilidades visitados estaban muy bien presentadas y limpias. El personel muy atento. (The facilities I visited were put together well and clean. The staff, very attentive.)

Los empleados que estaban el dia que fue estuvieron bien atentos y brindando informacion satisfactoriamente. Quede satisfecha con mi primer visita. (The employees that were there the day I went were attentive and offered satisfactory information. I was satisfied with my first visit.)

Los voluntarios son corteses - facilidades lo suficientemente rusticas para un contacto natural con la naturaleza. (The volunteers are courteous - facilities are sufficiently rustic for a natural contact with nature.)

Mas informacion en periodicos que es lo que la gente mas lee. En especial las actividades para poder atraer turistas. (More information in widely read newspapers. Especially the activities that could attract tourists.)

Mas servicios sanitarios y limpios, mas guias. (More clean bathrooms, more guides.)

Me gusta la torre de observacion. Muy interesante. (I like the observation tower. Very interesting.)

Me siento muy satisfecho con los servicios al cliente de orientación y las facilidades educativas visuales con respecto a la importancia de vida silvestre. (I am very satisfied with the guidance and information and the visual and educational component of the facilities in respect to the importance of wildlife.)

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Mi única queja es que hay unas tablas informativas en los caminos que no están completadas or en condiciones optimas. (My only complaint is that there are informative kiosks/displays that aren't completed or in ideal condition.)

Muy buena experiencia en un ambiente natural. (A very good experience in a natural environment.)

Necesitan mas empleados. (They need more employees.)

Observation deck/tower was wonderful.

Pasaba hacia la playa, estaba tirando fotos por el area. Vi el refugio y entre por curiosidad. Observe y me fui rápido. No tenia conocimiento sobre las actividades que se llevan a cabo en el refugio. Cuando vuelva quiero informarme y participar de ellas. (I passed it on the way to the beach; I was taking photos of the area. I saw the refuge and entered out of curiosity. I observed and then left quickly. I am not familiar with the activities at the Refuge. When I return, I want to learn more and participate in them.)

Please have a badge for the Salt Flats Interpretive Center of Cabo Rojo. As an admirer and camper this is a great way to promote the center. This center has a designed badge, however, does not know a vendor to make it.

Se puede hacer mas con las facilidades. Mas actividades durante el año, mejorar la publicidad de estos eventos y mejorar el rotulado en las carretera principales en cabo rojo que guien a los visitantes hasta el lugar y dentro del refugio (aunque las salinas es relativamente pequeño) siempre es bueno que este bien rotulado con estaciones donde haya mapa del lugar y deje saber donde esta ubicado y una fuente de agua u oasis para los cabezones q se les olvida o no llevan agua, es importante mantener buenas fuentes de hidratación. (They could do more with the facilities - more activities during the year, improve the publicity of those events and improve the signs on the main roads in Cabo Rojo that guide visitors to the refuge and inside the refuge (even the the Salt Flats is relatively small) It is always good for the refuge to be well marked with stations where there are maps of the area and a water fountain or oasis for the stubborn people that forget or don't bring water. It is important to maintain fountains for hydration.)

Se ver muy buenos y quiero visitar cuando venga a esta area. (It was very nice and I want to visit when I come again to this area.)

Seria favorable que hubieran banos o lugares para cambiarse de ropa cerca del faro y la playa en punta guilante en Cabo Rojo, P.R. (It would be nice if there were bathrooms or places to change clothes close to the lighthouse and the beach at Guilante Point in Cabo Rojo.)

Shop needs more exhibits and more items for sale at gift counter. Also it's a unique place that needs more advertising and literature so people are aware that it exists and can visit and enjoy!

The lighthouse was closed when it was supposed to be open. The municipal employee apparently was going to arrive late. I wanted to purchase the DVD, which I considered excellent, about the bird refugee but it was not available. I was willing to pay for a reasonable feed for the exhibitions and the documentary but it was for free. Volunteers were very enthusiastic, well informed and courteous but need some additional training on how to handle the crowd. It would be better if they have a script on what they are going to tell and try to run a schedule for the guided tours. It is a great place with lots of potential. An area for camping where Boy Scout groups can perform outdoor activities will be a plus.

The refuge had brochures but there are no other places to advertise. If you don't stop there you miss a whole lot of information. Displays were limited. Signs and rules were few, convenient hours need to be extended. Volunteering is a privilege and an honor. I would volunteer if provided the opportunity - could have a weeks training and camping for people who would like to learn how to volunteer, then allow camping facilities for them to volunteer on monthly basis, special events, or on their vacation.

The staff at the Visitor Center was extremely helpful in locating bird species that we were looking to find.

The two young men working there, Carlos and Jose went out of their way to be helpful and informative. Two real young and devoted stars.

There needs to be signs on the trails to guide us through refuge.

Tiene que haber mas apertura al publica y acceso al faro y sus facilidades. (There needs to be more open to the public and access to the lighthouse and its facilities.)

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Todo centro de protección de vida silvestre debe tener prohibir la caza. (The entire center for the protection of wildlife should prohibit hunting.)

Todo esta muy bien planificado. (Everything is very well planned.)

Todo fue muy bueno y excelentes voluntarios. (Everything was very good and the volunteers were excellent.)

Todos los servicios facilidades y actividades son estan en acorde con el refugio de vida silvestre que visite. (All the services, facilities, and activities are in agreement/appropriate for the Wildlife Refuge that we visited.)

Very helpful and knowledgeable staff.

Visite la oficina a la entrada. Lo sentio limpio, ordenado - los empleados muy atentos. La carretera para llegar al faro es muy horrible. (I visited the office at the entrance. It felt clean and orderly - the employees very attentive. The road to go to the lighthouse is very bad.)

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## Survey Section 5

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

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### Comments on What Makes Refuges Unique? (n = 116)

La experiencia de confraternizar a un grado casi de un 100% con la naturaleza, la conciencia ambiental que crea a las personas que las visita. La importancia que guarda en preservar toda la flora y fauna. La experiencia y recarga positiva espiritual y emocional que crea estos refugios a las personas que las visita. (Having a very close experience with nature, and the environmental conscience that is created for those who visit. The importance to protect and preserve all flora and fauna. The experience and positive spiritual and emotional recharging that the refuge creates for people that visit.)

A great place for learning and increasing awareness of the importance of restoring wildlife, plants, and fish.

A place to observe native plant and animal life.

A refuge is a place for observation and beauty. Walk and only leave footsteps to preserve the natural beauty. Conservation of wildlife and natural habitats are essential on this island, since many are polluting its beauty by throwing garbage anywhere. Conservation and public education should include not only the refuge but the importance of the rest of the island. Fines should be enforced on land pollution, waterway pollution and dumping of animals. I have rescued 5 dogs - spayed and neutered them. There needs to be a carryover philosophy to the rest of the island. Public education is essential in such a small island of 100x35 miles.

Ability to provide conservation and recreational opportunities.

Ademas de recreativa es una experiencia educativa donde podemos aprender de los animales y habitats del refugio y como cuidarlos adecuadamente. (Besides the recreation aspect, there is an educational experience where we can learn about the animals and habitats of the refuge and how to care for them adequately.)

Aprende uno de los ecosistemas y aves. (To learn about the ecosystem and the birds.)

Are strategic to preserve our natural patrimony, and the best way to teach the new generations that have born and grown up in the cities of the nature wonders.

Beautiful scenery, well preserved nature.

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Bien cuidados. (Well kept.)

Conservación de las especies y oportunidades de educación e investigación. (Conservation of species and opportunities for education and research.)

Conservan la belleza y naturaleza del refugio y así ves sus animales tienen donde descansar, mis más sinceras gracias por todo lo que hacen. (They conserve the beauty and natural state of the refuge so that you can see animals that aren't being stressed, my most sincere thanks for all that they do.)

Conservan recursos naturales únicos. (They conserve unique natural resources.)

Conservar la vida silvestre, sin ningún daño que afecte su hábitat. (Conserve wildlife without any damage that affects their habitat.)

Contacto total y real con la naturaleza sin ruidos ni estructuras externas al ambiente. (Complete and real contact with nature without sounds or structures outside of the environment.)

Controles de entrada, facilidades básicas (baños, refrigerios), información a visitantes. (Entrance controls, basic facilities (bathrooms, refreshments), information for visitors.)

Despierta conciencia en nuestros recursos y la conservación de los mismos. (They awaken a conscious to conserve our resources.)

Different environment than I have visited before.

El atractivo ambiental del cual se puede disfrutar. (The environmental attraction that you are able to enjoy.)

El centro de visitantes con personal dispuesto a ayudar. (The Visitor Center with employees available to help.)

El contacto con la naturaleza, los paisajes, ver cómo protegen la vida silvestre. (The contact with nature, the scenery, to see how wildlife is protected.)

El contacto directo con la naturaleza; caminar con personas que sepan de lo que están hablando; la alegría que muestran los empleados cada vez que lo visitamos. (The direct contact with nature; walking with people that know what they are talking about; the friendliness of the employees each time we visit.)

El encuentro con la naturaleza en su estado natural. (Experiencing nature in its natural state.)

El interés de conservación. (The interest of conservation.)

El poder compartir con la naturaleza tranquilamente y en familia. (The ability to share the tranquil nature with the family.)

El Refugio Nacional de Vida Silvestre se caracteriza en observación de aves, especies en peligro de extinción y estudio conservación de vida silvestre. Ej: aves migratorias acuáticas, peces de agua dulce y salada, demostración e interpretación (por ejemplo, videos, exhibiciones, puestos) Información impresa del Refugio (Folletos, mapas) y sitios del refugio en la red. Orientación de empleados: Ver una charla, video o presentación sobre la naturaleza y preguntas al respecto. (The National Wildlife Refuge is characterized by the observation of birds, species in danger of extinction, and the wildlife conservation. Example: migratory sea birds, freshwater and saltwater fish, demonstrations and interpretation (for example videos, exhibits). Printed information of the Refuge (brochures, maps) and Refuge websites. Guidance and information from the employees: see a lecture, video, or presentation about nature and relevant questions.)

El Refugio preserva un área/habitat único y natural. Enseñando y mostrando cómo realmente le gusta vivir a los animales del área. El Refugio es una escuela natural. (The Refuge preserves a unique and natural area/habitat. It teaches and shows how animals actually live in this area. The refuge is a natural school.)

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Entiendo que los hace unicos porque la experiencia que se adquiere en ellos la facilita la propia naturaleza. La mano del hombre es solamente un facilitador para conservarlos. (I think that they are unique because the experience that you have at them facilitates your own experience with nature. The hand of man is only a facilitator to conserve them.)

Es el único refugio en Puerto Rico donde se reproduce la Sal. (It is the only refuge in Puerto Rico where they produce salt.)

Es lugar que nos permite poder compartir con la familia y con las cosas que dios nos ha regalado la naturaleza. (This place allows us to share the gifts that God has given nature with our families.)

Es ver que todavia hay personas y entidades que desean conservar algo de lo que se nos provello y que hay otras personas que simplemente no les importa. (To see that there are still people and entities that work to conserve something of which has been provided to us and that there are others who simply don't care.)

Historic value, flora and fauna.

I can feel comfortable and safe.

Is not business oriented.

It is unique in the opportunity to observe flora and fauna and the scenery.

It's a beautiful place to be with family and friends and enjoy what nature has given us.

It's a healty, peaceful, relaxing environment that connects you with nature and provides solace and tranquility. A pleasure to visit!

It's different from other places.

It's like the modern world hasn't affected the refuge. You get to experience nature as it was intended to be without the disturbance of man, but have the opportunity to learn about it as well.

It's nature at its full expression.

La amabilidad de los empleados y el ambiente agradable y tranquilo. (The friendliness of the employees and the nice, tranquil environment.)

La caminata a traves del Refugio fue excelente. Fue 3 horas de disfrute con el ambiente natural del Refugio. (The walk near the Refuge was excellent. We spent 3 hours enjoying the natural environment of the Refuge.)

La conservacion de animales en peligro. En el caso del que visitamos es la segunda en el Caribe que toda via prudece sal. Podemos ver los recursos naturales en su mayor expresion. (The conservation of animals in danger. In the case of the one we visited, it's the second in the Caribbean that still produces salt. We are able to see natural resources in their best state.)

La conservacion de la vida silvestre y de los recursos naturales. (The conservation of wildlife and natural resources.)

La conservación de las especies, la educación y la investigación. (The conservation of the species, the education, and the research.)

La experiencia proveida en cada refugio es unica porque cada refugio conserva la vida silvestre particular de cada region. Los problemas ambientales a resolver tambien son distintos y unicos en diferentes areas. Los talleres educativos tambien son un ejemplo de la distincion de como incluir idiomas/la parte cultural y autoctona de aprendizaje para proveer informacion. (The experience provided in each refuge is unique because each refuge conserves wildlife specific to each region. The environmental problems are also distinct and unique in different areas. The educational workshops are also an example of the distinction of how to include languages/cultural parts, and autochthonous of learning to provide information.)

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La experiencia que tuve en el Refugio de Cabo Rojo fue unica, ya que, se puede disfrutan del ambiente y la vida silvestre intentando de contaminar el area lo menos posible. De manera, que uno disfruta del patrimonio cultural y silvestre con familiares y amigos. (The experience I had at Cabo Rojo Refuge was unique, since you're able to enjoy the environment and the wildlife, trying to contaminate/pollute the area as little as possible in a way that one enjoys the cultural heritage and wildlife with family and friends.)

La manera es que son cuidades y protegidos. (They are cared for and protected.)

La mejor experiencia recreativa es la conservacion de la vida silvestre. (The best recreation experience is the conservation of wildlife.)

La oportunidad de que toda la familia pose un dia lindo y se informen en la misma vez. (The opportunity for the entire family to have a nice day and learn something at the same time.)

La proteccion de la vida silvestre. (The protection of wildlife.)

La vegetacion, topografia, vida silvestre, las salinas, lo hacen muy hermoso y diferente. (The vegetation, topography, wildlife, and the salt flats. They are all very beautiful and different.)

La veracidad de la informacion ofrecida. La oportunidad para que los nino, jovenes, y adultos observan de primera mano lo importancia de proteja y conservar el ambiente. (The integrity of the offered information. The opportunity for youth and adults to observe first-hand the importance of protecting and conserving the environment.)

La vista de area. (The view of the area.)

Las condiciones en que se encuentran las facilidades en buen estado, en los espacios que manja el gobierno no se encuentran en buen estado y no hay personal. (The facility is in good condition, in government controlled spaces you don't find employees or facilities in good condition.)

Las personas que trabajan en ellos y los visitantes, ambos comprended que son huespedes en un territorio que pertenece a otros residentes del globo terraqueo que no son personas! (The employees and visitors both understand that they are guests in a territory that belongs to other residents of the earth that aren't people!)

Las plantas, animales, y el ambiente. (Plants, animals, and the environment.)

Locations are unique.

Los refugios son aquellos que fueron construidos con tal fin, lo demas es improvisacion. (The refuges are those that were built for that reason, the others are improvised.)

Los paisajes y observacion de aves. (The landscape/scenery and bird watching.)

Maintains the area in conditions for the wildlife to live in its natural habitat; prevents human contamination by establishing rules and regulations.

Many ecosystems in one area. Puerto Rico is ecologically very different from the mainland US! Beautiful cliffs and ocean view.

Most people visit this Refuge because of the beautiful beach at its southernmost tip but are unaware of its role as a wildlife refuge. Without knowing it as a refuge, many visitors drive straight through without taking note of the ecosystem and its inhabitants.

Muchas actividades interesantes. (Many interesting activities.)

Muy impoesionante esta experiencia. (A very impressive experience.)

Necesitamos mas lugares que conservan nuestros animales en su habitat natural. (We need more places that conserve animals in their natural habitat.)

Noncommercial, natural state of nature.

Nos concietizan sobre nuestra obligacion de cuidar la naturaleza. Y este es el unico hogar que tenemos, no hay otro lugar en el universo a donde podamos ir a vivir. (We learn about our obligation to care for nature. And this is the only home we have, there is no other place in the universe where we can live.)

Nos gusta llevar a nuestros hijos a aprender y cuidar los refugios. (We like to bring our children to learn and care for the refuges.)

Nos permite contacto a los niños y a toda la familia con la naturaleza. Todo es natural. Les enseno a mis hijos a conservar la tierra y la fauna que dios nos dio y a valorarla. (It allows for contact between children and the family with nature. Everything is natural. I teach my children to protect the earth and the fauna that God gives us and to value it.)

Oportunidad para observar la vida silvestre en un habitat sin perturbar (No impactado). Oportunidad de aprender sobre conservacion. (The opportunity to observe wildlife in an undisturbed habitat (not impacted). The opportunity to learn about conservation.)

Orientar al público sobre la importancia que tienen tanto la flora como la fauna en el planeta. (Educate the public about how the flora is as important as the fauna on the planet.)

Pasear, investigar, observar la vida silvestre, observar la vegetación, estudiar. (Hiking, research, observing wildlife, observing the vegetation, studying.)

Permite proteger un area en su estado natural y preservarlo para futuras generaciones para su disfrute. Ayuda a conscientizar a las personas a proteger el medio ambiente. (They protect an area in its natural state and preserve it for future generations so that they may enjoy it. They help make people conscious of protecting the environment.)

Personal attention.

Personal disponible para orientar, son un laboratorio natural. (Available employees for education and guidance, it is a natural laboratory.)

Personal muy competente y calificado que se toman muy en serio su trabajo y los trabajos que se hacen en el Refugio estan en armonia con la vida silvestre del lugar. (Qualified and competent employees that take their job very seriously and the work they do at the Refuge is in harmony with the wildlife of the area.)

Poder estar en contacto con la naturaleza en un ambiente muy sereno. (To be in contact with nature in a serene environment.)

Pone a uno en contacto con la naturaleza es algo distinto. (Puts one in contact with nature, it's something different.)

Porque en el se pueden ver algunas veces por primera vez especies de animales que nunca se habian visto. (At the Refuge you may see for the first time species of animals that you have never seen.)

Proteger la vida silvestre (flora y fauna) en estado critico, conservacion, y proteccion. (Protect wildlife (flora and fauna) in critical state, conservation, and protection.)

Provee espacios abiertos de naturaleza a mas personas sin incurrir en gastos excesivos. (It provides open natural spaces to more people without incurring excessive costs.)

Proveen acceso a paisajes y vida silvestre únicos en Puerto Rico. Orientan y dan opciones al visitante para que su experiencia sea muy agradable. Los empleados son corteses y proveen toda la informacion necesaria. (They provide access to landscape and wildlife that is unique in Puerto Rico. They educate and give options to visitors so that their experience is enjoyable. The employees are courteous and provide all the necessary information.)

Pueden la oportunidad de observar la vida silvestre que no se puede observar en ----- . Ademas es muy importante la conservacion de las especies. (They allow the opportunity to observe wildlife that is not able to be observed in other places. It is very important to conserve these

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species.)

Que es la unica planta de sal en el area y el pais. (It's the only salt plant in the area and the country.)

Que este en su estado natura, no tocada por el hombre en ningun aspecto. Como fue creado que sea asi conservada. Ver la naturaleza! Tocarla con los ojos. Refugios unicos son libre y naturales. (It is in its natural state, not altered by man in any aspect. As it was created it is also conserved. To see nature! To feel it with your eyes. Refuges are natural and free.)

Que le da oportunidad a la vida silvestre a reproducir en un ambiente seguro y tranquilo. (The opportunity for wildlife to reproduce in a safe and calm environment.)

Que preservan el ambiente completamente natural, libres de influencias mecánicas y químicas. (Preserves the environment in a completely natural state, free of chemical or mechanical influences.)

Que se puede disfrutar la vida silvestre y al mismo tiempo tienes la tranquilidad de que es un area protegida y que se esta colaborando en algo en su proteccion. (That you can enjoy the wildlife and at the same time have the tranquility of knowing that the area is protected.)

Recreation coexisting with conservation.

Salt flats, very beautiful beach and the photography opportunities of the rocky cliffs.

Scenery, landscape, and wildlife.

Se incluye un componente educativo y de conciencia con la naturaleza. (It includes an educational component and a consciousness of nature.)

Si, es muy bueno para proyectos de escuelas. (Yes, it is very good for school projects.)

Si, pues de esta forma se conservan ecosistemas únicos. (Yes, this form of conserving ecosystems is unique.)

Son más responsables y están más comprometidos con la protección del lugar para que los turistas que quieran visitarlos queden complacidos con la misma. (They are more responsible and more committed to the protection of the area so that tourists that want to visit them are satisfied with this.)

Su diversidad e importancia ecologica. (Their diversity and ecological importance.)

Sus especies - son conservadas y nuestros hijos pueden apreciarlas y proximas generaciones. Muchas especies solo las hay en estos refugios. (The species - they are conserved and our children and future generations will be able to appreciate them. Many species exist only in these refuges.)

Te da la oportunidad de conecer mas a fondo sobre la vida silvestre y de disfrutar de los que la naturaleza nos regala. Conocer sobre especies silvestres que uno no conoce... es fascinante. (You get the opportunity to understand more of the background about wildlife and about enjoying the gift of nature we've been given. To learn about wildlife species that one wasn't familiar with... is fascinating.)

The animals make this place special.

The landscape, the unique salt extraction and the "fauna."

The management and the conservation in them. Most places outside refuges are not managed to protect wildlife, plants, fish or their habitats.

The opportunity to connect to nature without a lot of commercialization.

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The rarity and diversity of wildlife. I saw a mongoose!

The refuges are the only place where I can go and relax, have fun and learn a lot about birds. Priceless!

The rugged beauty of the Puerto Rican coast preserved at this particular location. Nature as it existed/exists without human commercial development.

The Salt Flats.

The way the birds and people interact with the Salt Lakes and its unique surroundings.

There is no other like it.

These places are treasures to maintain unspoiled lands for people to experience and enjoy.

They allow an opportunity to walk, hike, and relax without the hassle of the outside world. One of our favorites nearby is a good example. It is in Middletown, Rhode Island. From there you can see the hustle and bustle of Newport, but are completely away from it in a world of your own.

They teach about how to conserve, what species are around, what they do to protect them, etc.

Tienen como proposito la conservacion de las especies en peligro de extincion. Se brinda informacion que la mayoria de la gente desconoce. Evitan se siga destruyendo los recursos, preservando y conservando asi como designando areas para refugios y otros. (The purpose of the Refuge is the conservation of species in danger of extinction. They offer information that the majority of people don't know. They avoid the continuing destruction of resources through preservation and conservation, as well as designating areas for Refuges and others.)

Tienen una area bastante extensa y estoy orgullosa de tenerlo en la isla. Y disfrutarlo. (It's an extensive area and I am proud to have it on the island, and to enjoy it.)

Una oportunidad de contacto en la naturaleza en su estado original - no modificado por el hombre. (An opportunity to have contact with nature in its original state - unmodified by man.)

When you go to a National Wildlife Refuge you know that you will be in the company of others with a like mind. Refuges are the perfect place to observe and photograph wildlife.

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#### Additional Comments (n = 32)

Admiro grandemente la labor que ustedes hacen y lamento de igual forma la importancia que se les da al trabajo de uds. Se que el dinero es un factor que les afecta a ustedes de la misma forma que a los visitantes. Por eso es que la labor de uds. Es tan valiosa. No desmayen sigan luchando que siempre hay gente a quien orientar y educar. Poca a poco llegara al dia en que el refugio tenga todas las cosas que necesita para trabajar mejor. Mis felicitaciones. (I greatly admire the work done here and regret that money is a factor that affects the Refuge in the same way as the visitors. Because of this the labor that is done here is so valuable. Don't despair, continue fighting, there are always people to educate. Little by little the day will when the Refuge will have everything it needs to function at its best. My congratulations.)

Again, the staff was superlative.

Ayudarlos en subir sus horas de trabajo y su paga e infraestructura del museo. (Help them expand their hours and increase their pay and improve the infrastructure of the museum.)

Creo que deberían tener una especie de pequeño museo de todas las aves que pasan por este refugio. (I think they should have a space in the small museum that shows all the birds that pass through the refuge.)

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Creo que se necesita mas amplia divulgación a traves de todos los medios. (I think it needs to be better publicized through all ways possible.)

Cuando visito un refugio o parque a menudo, llevo gente y lo recomiendo a aquel que esta en su estado natural, que este menos comercializado y que para visitarlo con familias y muchas amistades no sea costoso! Y especialmente que lo pueda disfrutar a mi tiempo y detenerme cuando sea necesario. (When I visit a refuge or a park, often I bring people and recommend those that are in their natural state, which are least commercialized and that to visit them with family and many friends is not expensive! And especially that you can enjoy your time and stop when necessary.)

Deben ofrecer mas promoción para que la gente conozca que estos refugios existen. (They should offer more promotion so that people know that these refuges exist.)

Desearia me mantuvieran en contacto sobre informacion ambiental, ya que soy maestra de ciencias ambientales, por favor si tienen informacion que pueda compartir con mis estudiantes me escriben a [brendaestevez@yahoo.com](mailto:brendaestevez@yahoo.com) (I would like to maintain contact with the refuge about environmental information, I am an environmental science teacher, please, if you have information that I could share with my students, write me at [brendaestevez@yahoo.com](mailto:brendaestevez@yahoo.com))

El refugio es hermoso y muy educacional , espero lo continuen conservando y gracias por cuidarlo... (The refuge is beautiful and very educational, I hope it continues to be conserved, and thank you for caring for it...)

El refugio, las actividades y el personal hacen de esta visita una bastante agradable. (The refuge, the activities, and the employees made our visit very enjoyable.)

Es importante que se fortalezca el programa Federal de la vida silvestre. Les felicito por la gestion de la encuesta. Tener la opinión del visitante es esencial para entender la necesidad del mismo a fin de hacer los cambios necesarios para garantizar su atención y respaldo. Les felicito por el programa de internado de los estudiantes. Los pobres se veian impactados por el calor pero eso no les impidio hacer su trabajo con un sonrisa y en español que no es su idioma materno. Los centros de refugio, asi como los museos tienen que identificar.

Esta entidad del gobierno federal merece todo el respaldo de la ciudadanía y recursos del gobierno y el pueblo para creer en el fin de proveer educación y protección de la vida silvestre. Esta opinión son las opiniones de muchas de las familias. (This entity of the federal government deserves all the support from society and government resources to believe in the goal of providing education and protection of wildlife. This is the opinion of many families.)

Fue una experiencia nueva e educativa. (It was a new and educational experience.)

Gracias por contribuir con su trabajo a mejorar la vida en este planeta. (Thank you for contributing by working to improve life on this planet.)

Gracias! Sugiero que se establezcan metodos de transportacion guiados, se provean audifonos para no perturbar el canto de los pajaros y otras criaturas. Tan solo seguiria el que se encienda una luz que indique cuando ponerlos y cuando quitarlos. (Thank you! I suggest that a method of guided transportation is established, providing headphones so as to not disturb the song of the birds and other creatures. I also suggest that it has a light to indicate when to turn it on and when to turn it off.)

Hay que continuar protegiendo nuestro ambiente, flora, fauna. (Continue protecting our environment, flora, and fauna.)

If it had not been for the refuges, I would have not been so aware of my environment today. I have found many excellent DNRA employees and love to go and photograph birds.

It was a wonderful experience to take friends there. Every time we get company from the mainland I take them there. I simply love it. Would you please inform me if you set up campsites or training for volunteers. We are long distance hikers. My husband is an avid outdoors person and would really enjoy the opportunity to participate in those kinds of activities. Please fix the roads it limits access and older persons cannot walk to the Lighthouse. There should be a large sign miles back asking everyone who plans to visit the Lighthouse to stop by the office first. Offer incentives. Like "Stop by: Get refreshed before entering into the refuge adventures." For activities you are sponsoring invite not only the locals, but the public to participate. Have kits available for them to put together and participate in a walk -- in classroom. Offer more hands-on learning activities and videos for children and families. Entice senior citizens by offering coffee or crystal light for a donation. Advertise your unique bathroom system. Offer tent rentals and campsites at reasonable rates. Have rules and regulations delineated and carried out firmly. No loud

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music, no garbage on ground, and no vehicles allowed. Have a star gazing night. If you can tell, I have lots of ideas! A controlled campfire site is also viable. Best of luck. Hope to hear from you.

It's a good place to visit.

It's a great spot and I feel very fortunate to be close enough to spend time there. Great staff - good people.

La encuesta fue fácil y rápida de completar. Gracias por darme la oportunidad de dar mi opinion al respecto de mi experiencia en Cabo Rojo, P.R. (The survey was easy and quickly completed. Thank you for giving me the opportunity to give my opinion in respect to my experience in Cabo Rojo, P.R.)

Me agrado mucho que tengan la oportunidad de orientación en grupos. Soy madre de 2 y junto a otras madres de la escuela de mis niños estamos haciendo un grupo para llevarlos y conozcan mas sobre los recursos naturales y como ayudar a su conservacion asi podriamos ayudar al impacto que estos han tenido en los ultimos años. Hay un dicho muy popular que dice "La educacion comienza por la casa." Muy aplicable aqui. (I greatly appreciate the opportunity of guidance in groups. I am a mother of 2 and together with other mothers at the school of my children we make a group to learn more about the natural resources and how to help with their conservation, as such, we are able to help with the impact that we have made in the recent years. There is a popular saying that goes "The education starts through (at) the house." Very aplicable here.)

Me encantaria que en Puerto Rico existieran muchos mas refugios. Sobre todo educativos, para que nuestras futuras generaciones reconozcan la destruccion que esta sufriendo nuestra planeta. Me encantaria que se realizaran programas education para todos los edades. Gracias por envia su cuestionario. Es bonito saber que sus estudios a bien realizar. (I would love it if more refuges existed in Puerto Rico. Above all, educational, so that future generations recognize the destruction that our planet is suffering. I would love to see educational programs for all ages. Thank you for sending this survey. It is wonderful to know that the study is being done well.)

Me gustaria recibir toda la informacion relacionada a la vida silvestre, que existe. Muchas gracias. (I would like to receive all the information relative to wildlife that exists. Thank you.)

Me gusto mucho, caminaba por los senderos y pude tirar muchas fotos. (I enjoy it very much, I walk on the trails and take lots of photos.)

Observe que en este refugio se esta destruyendo el ecosistema debido a la construccion innecesaria y excesiva de senderos para deportes tales como ciclismo, four tracks, carreras en fango etc. Por favor limiten estos deportes y hagan senderos especiales para ello. Los senderos que pase estaban deteriorados y no aptos para vehiculos normales. Se esta deteriorando un lugar hermoso. Que pena! Debe haber mas control. Estoy decepcionada. (I observed that this refuge is destroying the ecosystem due to the excessive and unnecessary construction for sports such as cycling, four wheeling, mud wheeling, etc. Please limit these activities and make trails especially for them. The trails I was on were deteriorated and not suitable for normal vehicles. It is ruining a beautiful place. What a shame! There needs to be more control. I am disappointed.)

Please send me a poster of your survey cover or a badge for my backpack.

Que mantengan personas para dar un tour aunque sea para un grupo familiar de 5, mis hijos e esposo fueron por los caminos a observar, sin saber donde iban a tener. Mi hijo menor le dio mucho temor perderse lo encontraron interesante pero seria mejor si fueran acompañados de una persona con mas conocimiento. Gracias. (It would be nice if there were people to give a tour, even though it would be for a family group of 5, my children and husband went on a walk to observe, without knowing what there would be. My youngest son was very scared they would get lost. They found their walk interesting but it would be better if they were accompanied by a knowledgeable person.)

Quiero volver para empaparme y conocer mas acerca de estos refugios. (I want to return so that I can learn more about these refuges.)

The refuge personnel did an outstanding job. They are very professional and passionate about their job. Overall a great experience that I strongly recommend.

The road to the Refuge was intolerable.

The salt mining industry and how it was developed by the natives before B.C., the importance in the history of the country and its decay is a

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theme that should be exploited more. This place does not receive the publicity it should. Boy Scout projects can help improve this facility if they have a place for group camping. Strategic alliances can be established with the Department of Education and the Cultural Institute.

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