



National Wildlife Refuge Visitor Survey 2012: Individual Refuge Results for Crystal River National Wildlife Refuge

By Alia M. Dietsch, Natalie R. Sexton, Lynne Koontz, and Shannon J. Conk

The viewing and swimming with the manatees was a trip that will always be remembered. The Three Sisters Springs was fantastic. We need to do everything possible to protect these natural wonders for future generations.

— *Survey comment from a visitor to Crystal River National Wildlife Refuge*



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

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Introduction

The National Wildlife Refuge System (Refuge System), established in 1903 and managed by the U.S. Fish and Wildlife Service (Service), is the leading network of protected lands and waters in the world specifically dedicated to the conservation of fish, wildlife, and their habitats. There are 560 national wildlife refuges (refuges) and 38 wetland management districts nationwide, including possessions and territories in the Pacific and Caribbean, encompassing more than 150 million acres (U.S. Fish and Wildlife Service, 2013). As stated in the National Wildlife Refuge Improvement Act of 1997, 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 the diversity and interconnectedness of fish, wildlife, and plants, and their habitats” and the goal “to provide and enhance opportunities to participate in compatible wildlife-dependent recreation” (U.S. Fish and Wildlife Service, 2006, p. 2). The Refuge System attracts nearly 45 million visitors annually, including 34.8 million people who observe and photograph wildlife, 9.6 million who hunt and fish, and nearly 675,000 teachers and students who use refuges as “outdoor classrooms” (U.S. Fish and Wildlife Service, 2012). Understanding visitor perceptions of refuges and characterizing their experiences on 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 refuges. The purpose of the survey was to better understand visitor experiences and trip characteristics, to gauge visitors’ levels of satisfaction with existing recreational opportunities, and to garner feedback to inform the design of programs and facilities. The survey results will inform performance, planning, budget, and communications goals. Results will also inform Comprehensive Conservation Plans (CCPs), visitor services, and transportation planning processes.

Organization of Results

These results are specific to visitors who were contacted at Crystal River National Wildlife Refuge (NWR) (this refuge) during the specified sampling periods and are part of USGS Data Series 754. All refuges participating in the 2012 survey 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 survey effort.
- **Methods:** The procedures for the national survey 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 Refuge System topics
- **Conclusion**
- **References Cited**
- **Survey Frequencies (Appendix A):** The survey instrument with frequency results for this refuge.
- **Visitor Comments (Appendix B):** The verbatim responses to open-ended survey questions for this refuge.

Methods

Selecting Participating Refuges

The national visitor survey was conducted from January–December 2012 on 25 refuges across the Refuge System (table 1). Each refuge was selected for participation by the Refuge Transportation Program National Coordinator in conjunction with regional office Visitor Services Chiefs. Selection was based on the need to inform transportation planning processes at the national level and to address refuge planning and transportation needs at the individual refuge level.

Developing the Survey Instrument

Researchers at the USGS 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 (one 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 at which to sample, 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 the 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 3–5 hour (hr) time bands, stratified across AM and PM as well as weekend and weekdays. In coordination with refuge staff, any necessary customizations were made to the standardized schedule to accommodate the identified sampling locations and to address specific spatial and temporal patterns of visitation.

Twenty visitors (18 years of age or older) per sampling shift were systematically selected, for a total of 320 willing participants per refuge (or 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. Refuges participating in the 2012 national wildlife refuge visitor survey.

Pacific Region (R1)
Ridgefield National Wildlife Refuge (WA)
Southwest Region (R2)
Balcones Canyonlands National Wildlife Refuge (TX)
Hagerman National Wildlife Refuge (TX)
Kofa National Wildlife Refuge (AZ)
Santa Ana National Wildlife Refuge (TX)
Tishomingo National Wildlife Refuge (OK)
Great Lakes-Big Rivers Region (R3)
La Crosse District, Upper Mississippi River National Wildlife and Fish Refuge (WI)
Minnesota Valley National Wildlife Refuge (MN)
Southeast Region (R4)
Crystal River National Wildlife Refuge (FL)
Eufaula National Wildlife Refuge (AL)
Felsenthal National Wildlife Refuge (AR)
Lacassine National Wildlife Refuge (LA)
National Key Deer Refuge (FL)
Savannah National Wildlife Refuge (GA/SC)
Northeast Region (R5)
Assabet River National Wildlife Refuge (MA)
Back Bay National Wildlife Refuge (VA)
Chincoteague National Wildlife Refuge (VA)
Edwin B. Forsythe National Wildlife Refuge (NJ)
Rachel Carson National Wildlife Refuge (ME)
Mountain-Prairie Region (R6)
Bear River Migratory Bird Refuge (UT)
Lee Metcalf National Wildlife Refuge (MT)
Rocky Mountain Arsenal National Wildlife Refuge (CO)
National Bison Range (MT)
California and Nevada Region (R8)
Don Edwards San Francisco Bay National Wildlife Refuge (CA)
San Luis National Wildlife Refuge (CA)

Refuge staff and/or volunteers (survey recruiters) contacted visitors onsite following a protocol provided by the USGS that was designed to obtain a representative sample. Instructions included contacting visitors across the entire sampling shift (for example, every n^{th} visitor for dense visitation, as often as possible for sparse visitation) and contacting only one person per group. Visitors were informed of the survey effort, given a token incentive (for example, a small magnet or 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 were also instructed to record any refusals and then proceed with the sampling protocol.

All visitors that agreed onsite to fill out a survey received the same sequence of correspondence regardless of their preference for survey mode. This approach allowed for an assessment of visitors' likelihood of completing the survey by their preferred survey mode (see Sexton and others, 2011). Researchers at the USGS sent the following materials to all visitors agreeing to participate who had not yet completed a survey at the time of each mailing (Dillman, 2007):

- A postcard mailed within 10 days of the initial onsite contact thanking visitors for agreeing to participate in the survey and inviting them to complete the survey online.
- A packet mailed 9 days later consisting of a cover letter, survey, and postage paid envelope for returning a completed paper survey.
- A reminder postcard mailed 7 days later.
- A second packet mailed 14 days later consisting of another cover letter, survey, and postage paid envelope for returning a completed paper survey.

Each mailing included instructions for completing the survey online, so visitors had an opportunity to complete an online survey with each mailing. 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 packet to determine any differences between respondents and nonrespondents at the aggregate level. Online survey data were exported and paper survey data were entered into Microsoft Excel using a standardized survey codebook and data entry procedure. All survey data were analyzed using *Statistical Package for the Social Sciences* (SPSS, v.20) software¹.

Interpreting the Results

The extent to which these results accurately represent the total population of visitors to this refuge is dependent on the number of visitors who completed the survey (sample size) and the ability of the variation

¹ Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

resulting from that sample to reflect the beliefs and interests of different visitor user groups (Scheaffer and others, 1996). 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 unique to each refuge. Spatially, the geographical layout and public-use infrastructure varies widely across refuges. Some refuges can be accessed only 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 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, which may result in certain survey measures such as visitors' self-reported "primary activity during their visit" reflecting a seasonality bias. Results contained within this report may not apply to visitors during all times of the year or to visitors who did not visit the survey locations.

In this report, visitors who responded to the survey are referred to simply as "visitors." However, when interpreting the results for Crystal River NWR, any potential spatial and temporal sampling limitation specific to this refuge needs 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 (mi) 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). 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, visitors who paid a fee) is too low ($n < 30$), a warning is included in the text. Finally, the term "this visit" is used to reference the visit during which people were contacted to participate in the survey.

Refuge Description for Crystal River National Wildlife Refuge

Crystal River NWR is located approximately 80 mi north of Tampa on Florida's Gulf Coast and spans 46 acres in the spring-fed waters and islands of King's Bay. The refuge was established in 1983 specifically for the protection of the endangered West Indian manatee, and currently acts to preserve the last undeveloped habitat in King's Bay, which forms the headwaters of the Crystal River.

Crystal River NWR is known primarily for its manatees and unique habitat. The refuge assists in preserving Florida's most significant naturally-occurring warm water springs. These springs are essential to migrating manatees, providing habitat for roughly 20% of the nation's manatee population. Each winter, over 350 migrating manatees utilize the warm water of King's Bay. Visitors also are drawn to these waters to observe manatees, creating situations that may stress or negatively impact these animals. For example, more than 50% of the manatees at Crystal River NWR have scars from encounters with motorized boats in Florida waters. To address this concern in or near refuge waters, refuge staff formed a Manatee Rescue Team that treats wounded manatees, helps to enforce slow speed zones in the Bay, and informs refuge visitors of this issue through educational efforts.

Each year, approximately 105,000 visitors come to the refuge, primarily to snorkel and observe manatees, but also for saltwater fishing, photography, and nonmotorized boating (2011 Refuge Annual Performance Plan measures; Rob Miller, U.S. Fish and Wildlife Service, 2012, written commun.). The refuge is home to a number of birds, including herons, egrets, ospreys, laughing gulls, cormorants, anhingas, white ibis, and bald eagles. Frequently, mullet, largemouth bass, alligator gars, mangrove snappers, and tarpons can be observed onsite. Crystal River NWR benefits from a cooperative relationship with the Manatee Education Center located 7 mi from the Refuge Headquarters, and from nearby Chassahowitzka National Wildlife Refuge. Figure 1 displays a map of Crystal River NWR. For more information, visit <http://www.fws.gov/crystalriver/>.

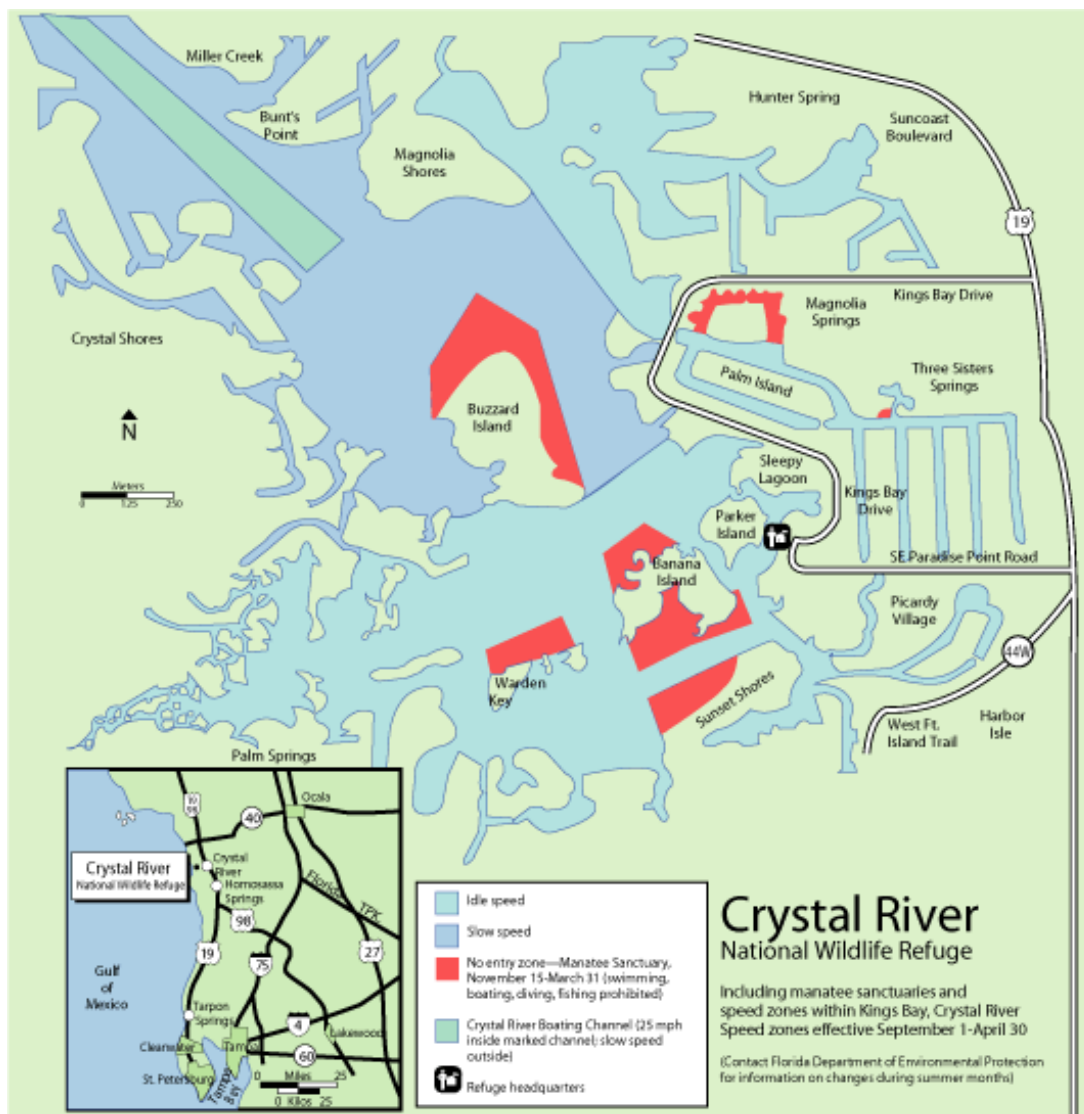


Figure 1. Map of Crystal River NWR, courtesy of U.S. Fish and Wildlife Service.

Sampling at Crystal River National Wildlife Refuge

A total of 514 visitors agreed to participate in the survey during the two sampling periods at the identified locations at Crystal River NWR (table 2). In all, 284 visitors completed the survey for a 57% response rate, and $\pm 4.7\%$ margin of error at the 95% confidence level.²

Table 2. Sampling and response rate summary for Crystal River NWR.

Sampling period	Dates	Locations	Total contacts	Undeliverable addresses	Completed surveys	Response rate
1	3/24/2012 to 4/7/2012	King Spring Three Sisters Spring				
		SP1 Totals	224	7	142	65%
2	6/23/2012 to 7/7/2012	King Spring Three Sisters Spring Parker Island				
		SP2 Totals	290	8	142	50%
		Combined Totals	514	15	284	57%

² A margin of error of $\pm 5\%$ at a 95% confidence level, for example, means that, if a reported percentage is 55%, then 95 out of 100 times, that sample estimate would fall between 50% and 60% if the same question was asked in the same way. The margin of error is calculated with an 80/20 response distribution, assuming that for a given dichotomous choice question, approximately 80% of respondents would select one choice and 20% would select the other choice (Salant and Dillman, 1994).

Selected Survey Results

Visitor and Trip Characteristics

A solid understanding of visitor characteristics and details about their trips to refuges can inform communication and outreach efforts, inform managers about desired types of visitor services and modes of transportation used on refuges, and help forecast use and gauge demand for services and facilities.

Familiarity with the Refuge System

Many visitors to Crystal River NWR reported that before participating in the survey, they were aware of the role of the Service in managing refuges (79%) and that the Refuge System has the mission of conserving, managing, and restoring fish, wildlife, plants, and their habitats (88%). It is important to note that we did not ask visitors to identify the mission of the Refuge System or the Service, and positive responses to these questions concerning the management and mission of the Refuge System do not necessarily indicate that these visitors fully understand the day-to-day management practices of individual refuges, only that visitors feel they have a basic knowledge of who manages refuges and why.

Most visitors (90%) feel that refuges, compared to other public lands, provide a unique recreation experience (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 Crystal River NWR had been to at least one *other* national wildlife refuge in the past year (61%), with an average of 4 visits to *other* refuges during the past 12 months.

Visiting This Refuge

A majority of surveyed visitors (60%) had only been to Crystal River NWR once in the past 12 months, while less than half had been multiple times (40%). These repeat visitors went to the refuge an average of 7 times during that same 12-month period. Visitors used the refuge during only one season (71%), during multiple seasons (19%), and year-round (10%).

Most visitors first learned about the refuge from friends/relatives (58%), people in the local community (14%), or some other website (13%; fig. 2). Key information sources used by visitors to find their way to this refuge include their own previous knowledge (43%), a GPS navigation system (36%), or maps from the internet such as Google Maps (18%; fig. 3).

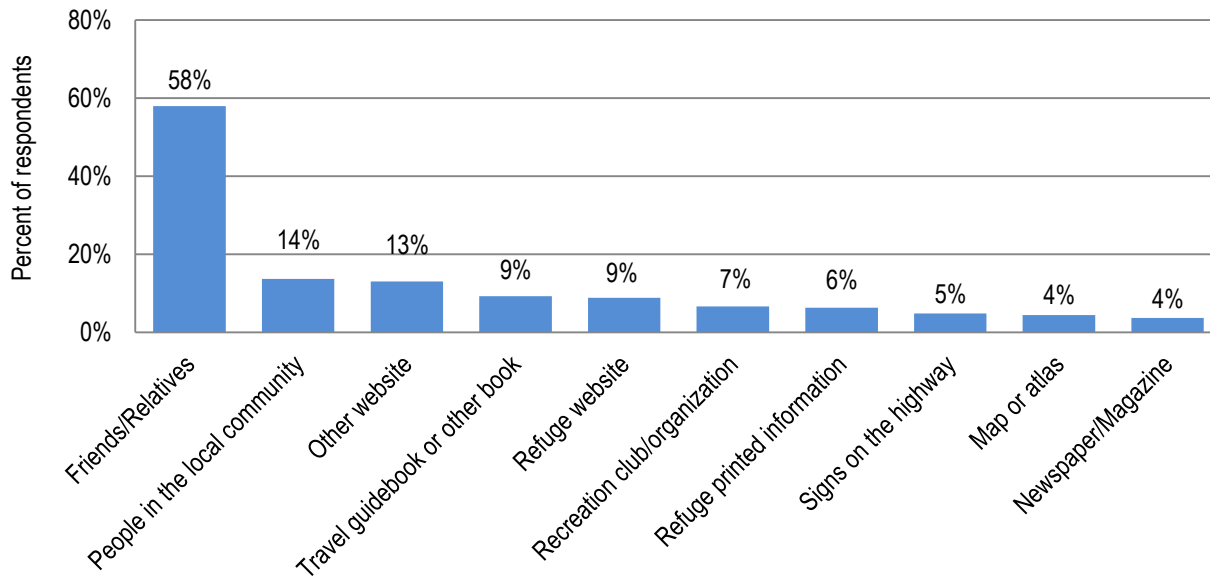


Figure 2. How visitors first learned or heard about Crystal River NWR (n = 271).

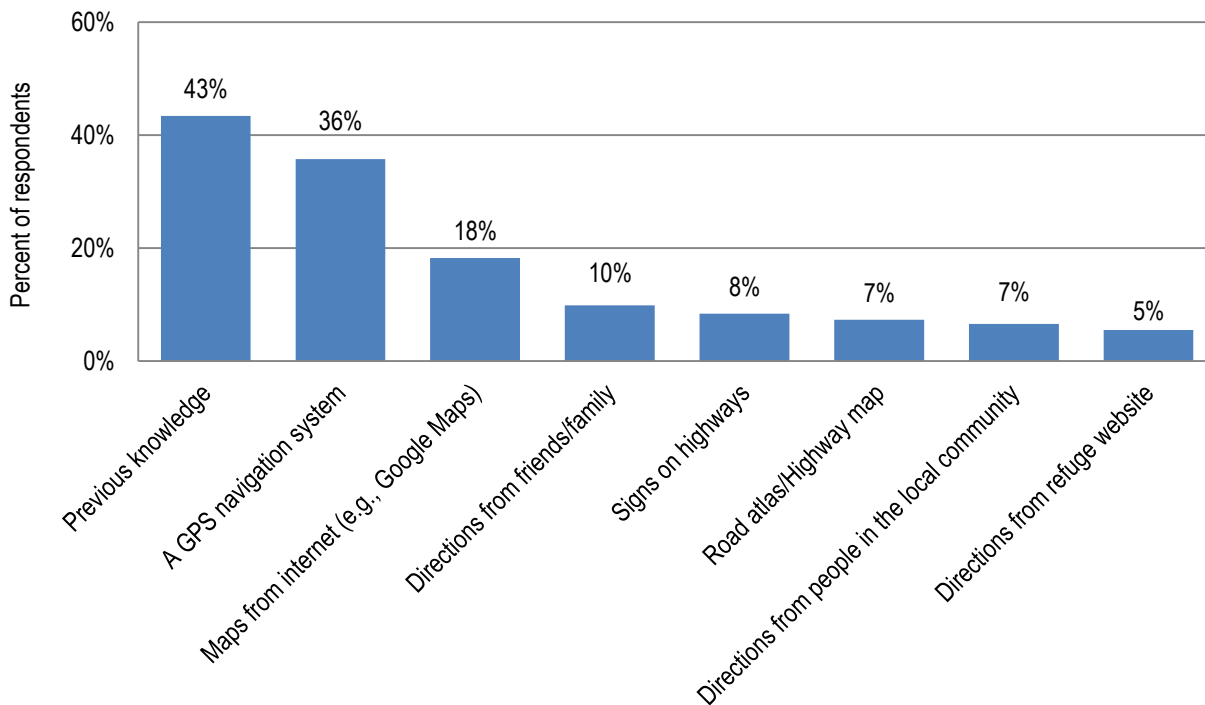


Figure 3. Resources used by visitors to find their way to Crystal River NWR during this visit (n = 274).

Some visitors (27%) lived in the local area (within 50 mi of the refuge), whereas 73% were nonlocal visitors. For most local visitors, Crystal River NWR was the primary purpose or sole destination of their trips (71%; table 3). For half of the nonlocal visitors, the refuge was also the primary purpose or sole destination of their trips (50%).

Local visitors reported that they traveled an average of 36 mi to get to the refuge, while nonlocal visitors traveled an average of 292 mi. The average distance traveled for all visitors to this refuge was 249 mi, while the median was 90 mi. Figure 4 shows the residences of visitors traveling to this refuge. About 59% of visitors traveling to Crystal River NWR were from Florida.

Table 3. Influence of Crystal River NWR on visitors' decisions to take their trips.

Visitors	Visiting this refuge was...		
	the primary reason for trip	one of many equally important reasons for trip	an incidental stop
Nonlocal	50%	39%	11%
Local	71%	22%	7%
All visitors	56%	34%	10%

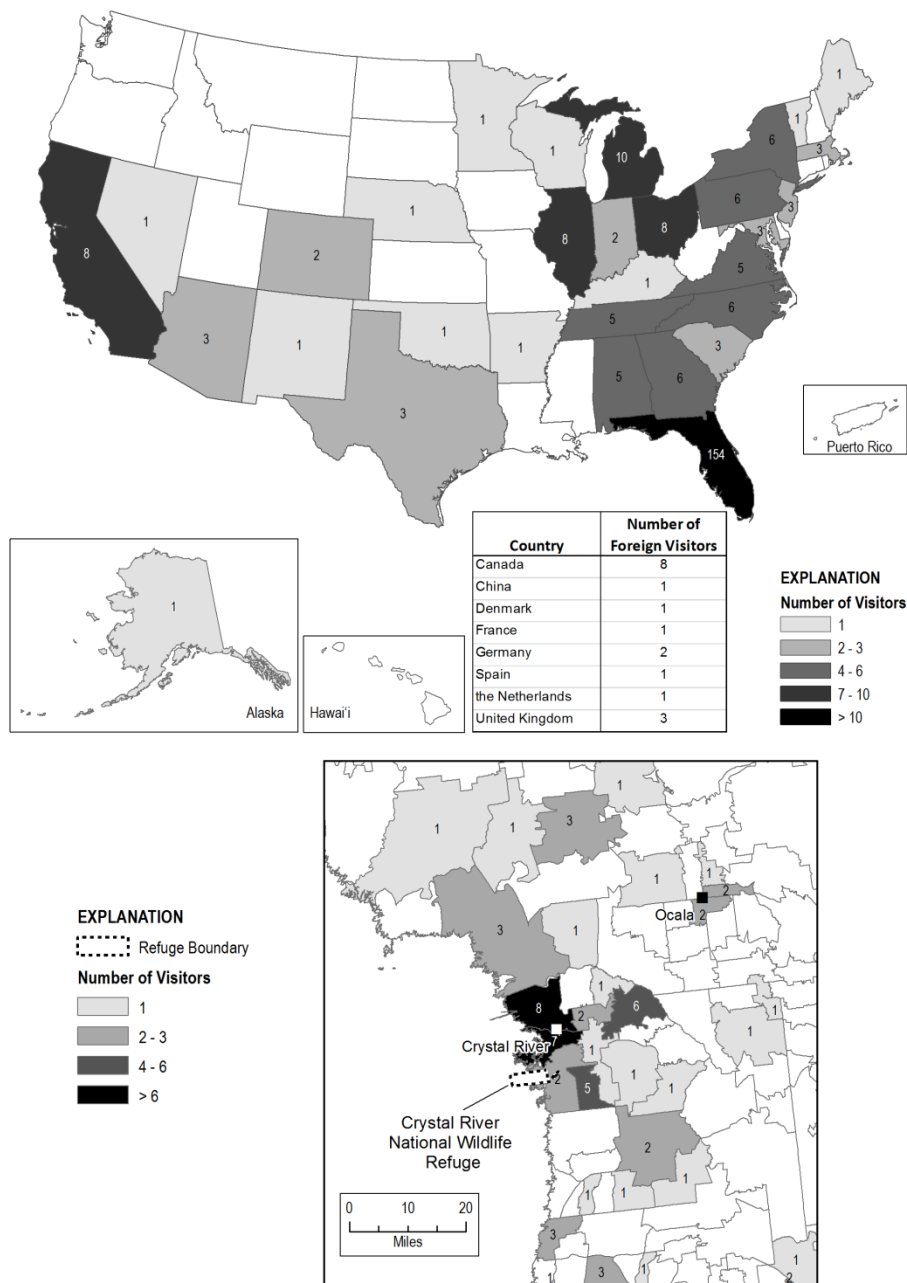


Figure 4. Number of visitors travelling to Crystal River NWR by place of residence. The top map shows visitors residence by state and the bottom map shows residence by zip codes near the refuge (n = 279).

Surveyed visitors reported that they spent an average of 5 hr at the refuge during one day there, while the most frequently reported length of a day visit (the modal response) was 8 hr (46%). Almost all visitors indicated they were part of a group on their visit to this refuge (99%). Of those people who indicated they traveled with a group, visitors primarily traveled with family/friends (table 4).

Table 4. Type and size of groups visiting Crystal River NWR (for those who indicated they were part of a group, n = 273).

Group type	Percent (of those traveling in a group)	Average group size		
		Number of adults	Number of children	Total group size
Family/Friends	88%	3	1	4
Commercial tour group	7%	7	1	8
Organized club/School group	3%	11	7	18
Other group type	2%	13	1	14

The key modes of transportation used by visitors on their trip to Crystal River NWR were boats (52%). It is important to note that driving, bicycling, and motorized boating are generally not allowed on the refuge. During special events such as an Open House at Three Sisters Spring, visitors may arrive on a refuge shuttle bus/tram from an off-site location. Furthermore, visitors may use motorized boats to access points adjacent to the refuge (for example, when part of a tour operator group outing), but must either swim, snorkel, dive, or use nonmotorized boats such as kayaks or canoes to actually access refuge property.

Surveyed visitors participated in a variety of refuge activities during the 12 months prior to completing the survey (fig. 5); the top activities in which people reported participating were wildlife observation (69%), nonmotorized boating (44%), and photography (40%). The primary reasons for visitors' most recent visits included some activity related to viewing manatees (30%), nonmotorized boating (24%), and wildlife observation (18%; fig. 6). Some visitors also used the Refuge Headquarters during their trips (23%), mostly to visit the gift shop/bookstore (69%), view the exhibits (56%), or ask information of staff or volunteers (48%; fig. 7).

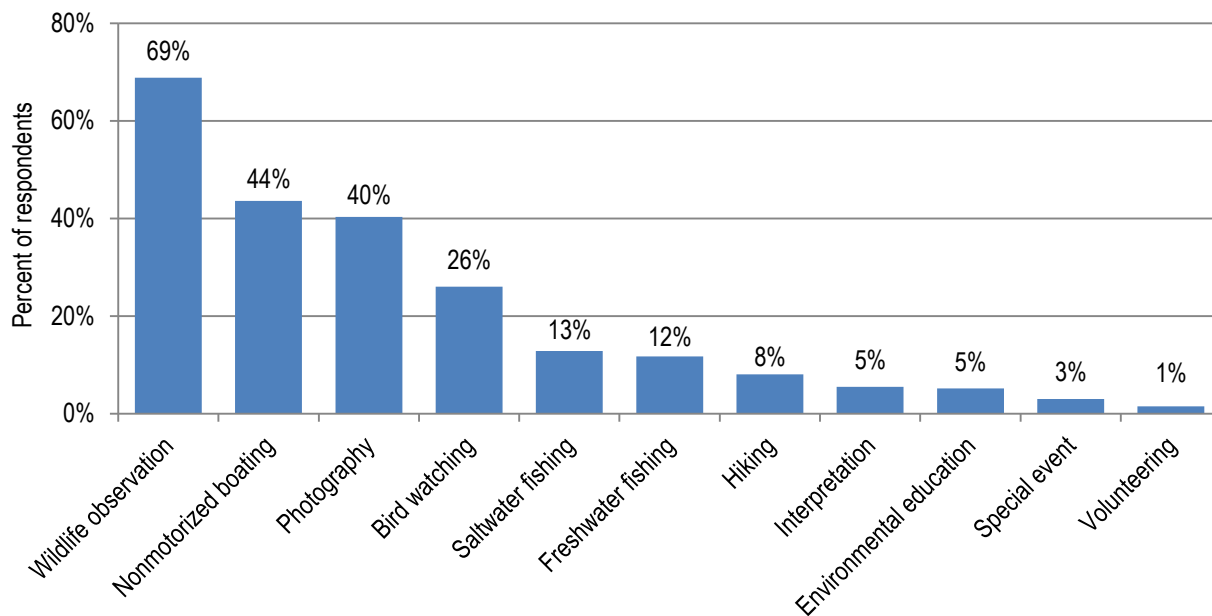


Figure 5. Activities in which visitors participated during the past 12 months at Crystal River NWR (n = 273). See Appendix B for a listing of “other” activities.

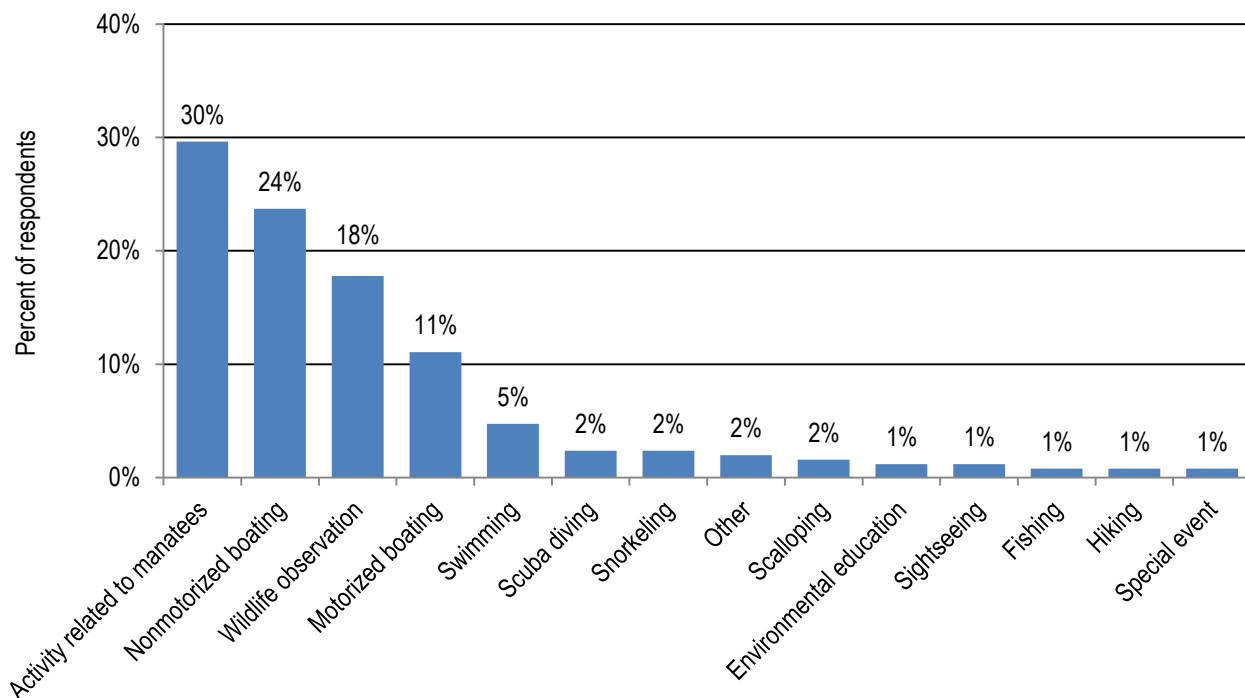


Figure 6. The **primary** activity³ in which visitors participated during this visit to Crystal River NWR (n = 254). See Appendix B for a listing of “other” activities.

³ Motorized boating is not allowed on the refuge. Most likely, visitors used motorized boats to arrive at or near the refuge via nearby waterways, then participated in some other activity (e.g., swimming or snorkeling to view manatees) while on the refuge.

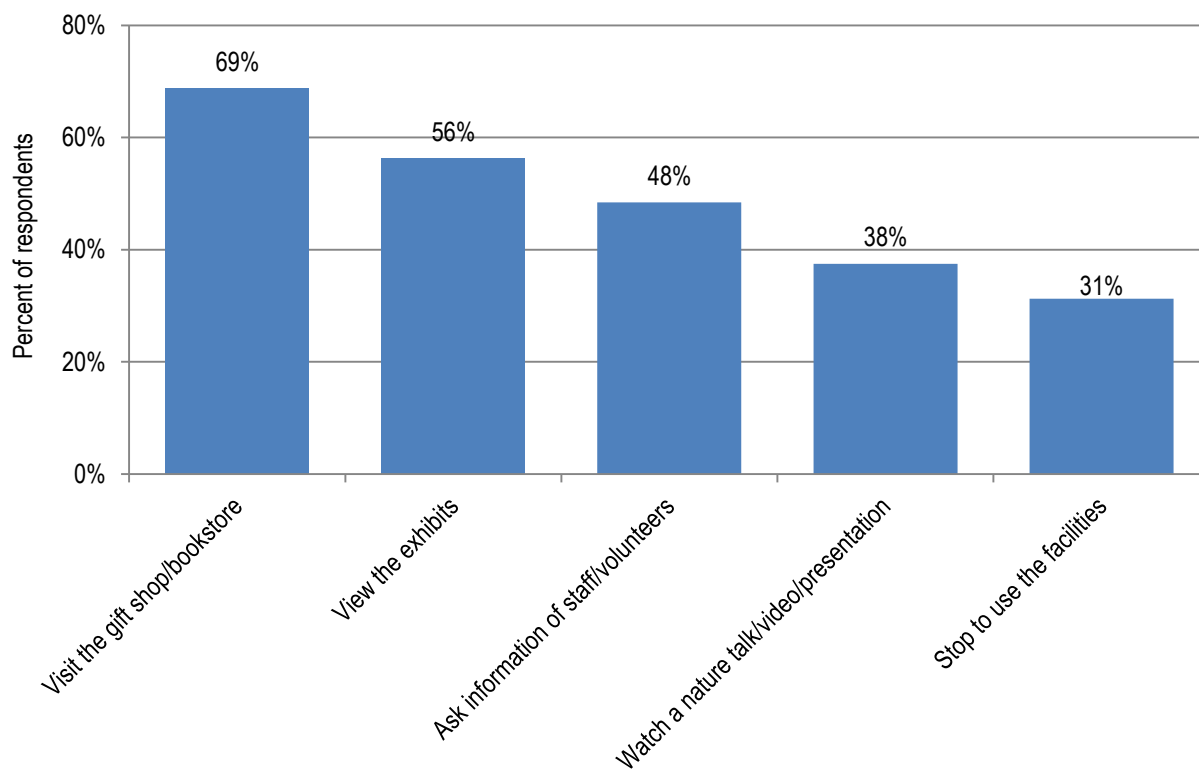


Figure 7. Activities⁴ in which visitors participated at the Refuge Headquarters for Crystal River NWR (n = 64).

⁴ Nature talks/videos/presentations are typically only offered to visitors upon request.

Visitor Characteristics

Most (92%) visitors who participated in the survey at Crystal River NWR indicated that they were citizens or permanent residents of the United States. These visitors were a mix of 42% male (with an average age of 50 years) and 58% female (with an average age of 45 years). Visitors, on average, reported they had 16 years of formal education (equivalent to four years of college or technical school). The median level of income was \$75,000-\$99,999. See Appendix A for more demographic information.

In comparison to these results, the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation (U.S. Fish and Wildlife Service, 2007) found that participants in wildlife watching and hunting on public lands were 55% male and 45% female with an average age of 46 years, an average level of education of 14 years (equivalent to an associate degree or two years of college), and a median income of \$50,000–74,999 (Anna Harris, U.S. Fish and Wildlife Service, 2011, written commun.). Compared to the U.S. population, participants in wildlife-related recreation are more likely to be male, and tend to be older with higher education and income levels (U.S. Fish and Wildlife Service and U.S. Census Bureau, 2007).

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 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 to local communities of visitor activities on refuges. Visitor expenditure information also can be used to analyze the economic impact of proposed refuge management alternatives.

Visitors that live within the local 50-mi area of a refuge typically have different spending patterns than those that travel from longer distances. During the two sampling periods, 27% of surveyed visitors to Crystal River NWR indicated that they live within the local 50-mi area while nonlocal visitors (73%) stayed in the local area, on average, for 4 days. Table 5 shows summary statistics for local and nonlocal visitor expenditures in the local communities and at the refuge, with expenditures reported on a per person per day basis. During the two sampling periods, nonlocal visitors spent an average of \$95 per person per day and local visitors spent an average of \$58 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 factors include the amount of time spent at the refuge, influence of the refuge on the visitors' 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.

Table 5. Total visitor expenditures in local communities and at Crystal River NWR expressed in dollars per person per day.

Visitors	n ¹	Median	Mean	Standard deviation	Minimum	Maximum
Nonlocal	170	\$71	\$95	\$76	\$1	\$360
Local	55	\$35	\$58	\$63	\$0	\$278

¹n = number of visitors who answered both locality *and* expenditure questions.

Note: For each respondent, reported expenditures were divided by the number of persons in their group that shared expenses in order to determine the spending per person per trip. This number 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 in the local community, 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 in which people participated), and may not be representative of the total population of visitors to this refuge.

Visitor Opinions about this Refuge

Refuges provide visitors with a variety of services, facilities, and wildlife-dependent recreational opportunities. Understanding visitors' perceptions of refuge offerings is a key component of the Refuge System's mission. In particular, a baseline understanding of visitor experiences provides a framework from which the Refuge System can monitor trends in visitor experiences overtime, which is increasingly useful in the face of changing demographics and wildlife-related interests. Some studies on wildlife-related recreation trends have indicated declines in participation over the latter part of the 20th century in traditional activities such as hunting (for example, U.S. Department of the Interior and others, 2007), while others highlight a need to connect the next generation of people to nature and wildlife (for example, Charles and Louv, 2009). These types of factors highlight a need to better understand visitors' opinions of their refuge experiences and to monitor trends in these opinions over time.

Surveyed visitors' overall satisfaction ratings with the services, facilities, and recreational opportunities provided at Crystal River NWR were as follows (fig. 8):

- 90% of visitors were satisfied with the recreational activities and opportunities,
- 86% of visitors were satisfied with the information and education about the refuge and its resources,
- 87% of visitors were satisfied with the services provided by employees or volunteers, and
- 92% of visitors were satisfied with the refuge's job of conserving fish, wildlife and their habitats.

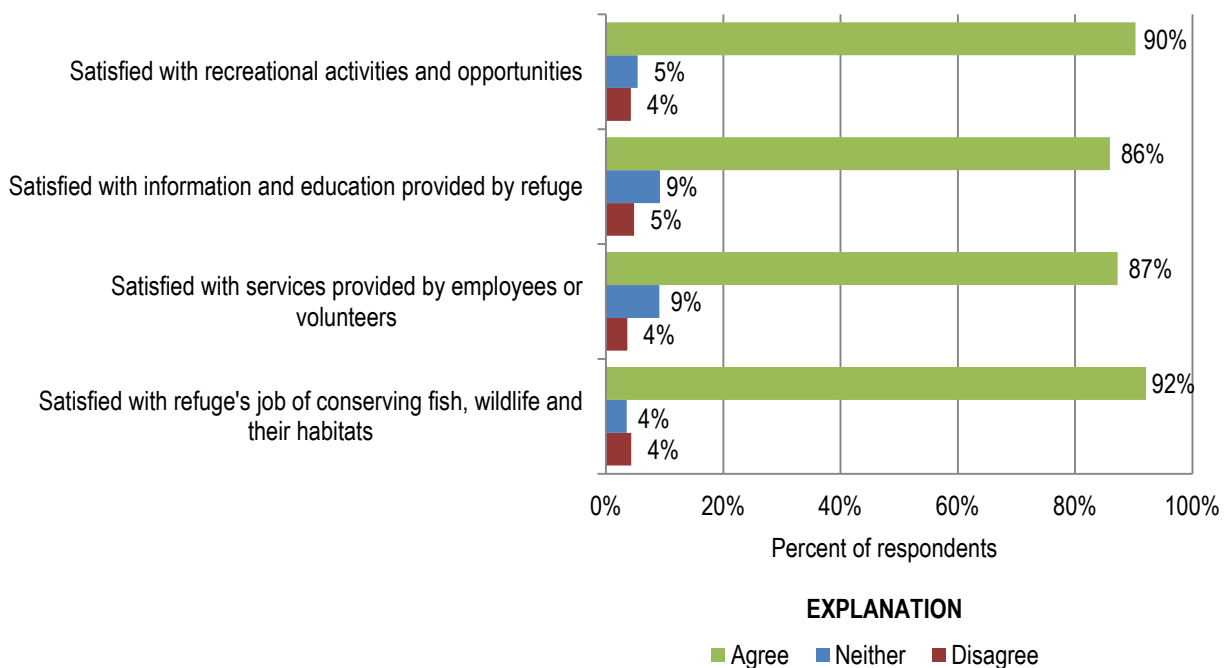


Figure 8. Overall satisfaction with Crystal River NWR during this visit (n ≥ 220).

Importance/Satisfaction Ratings

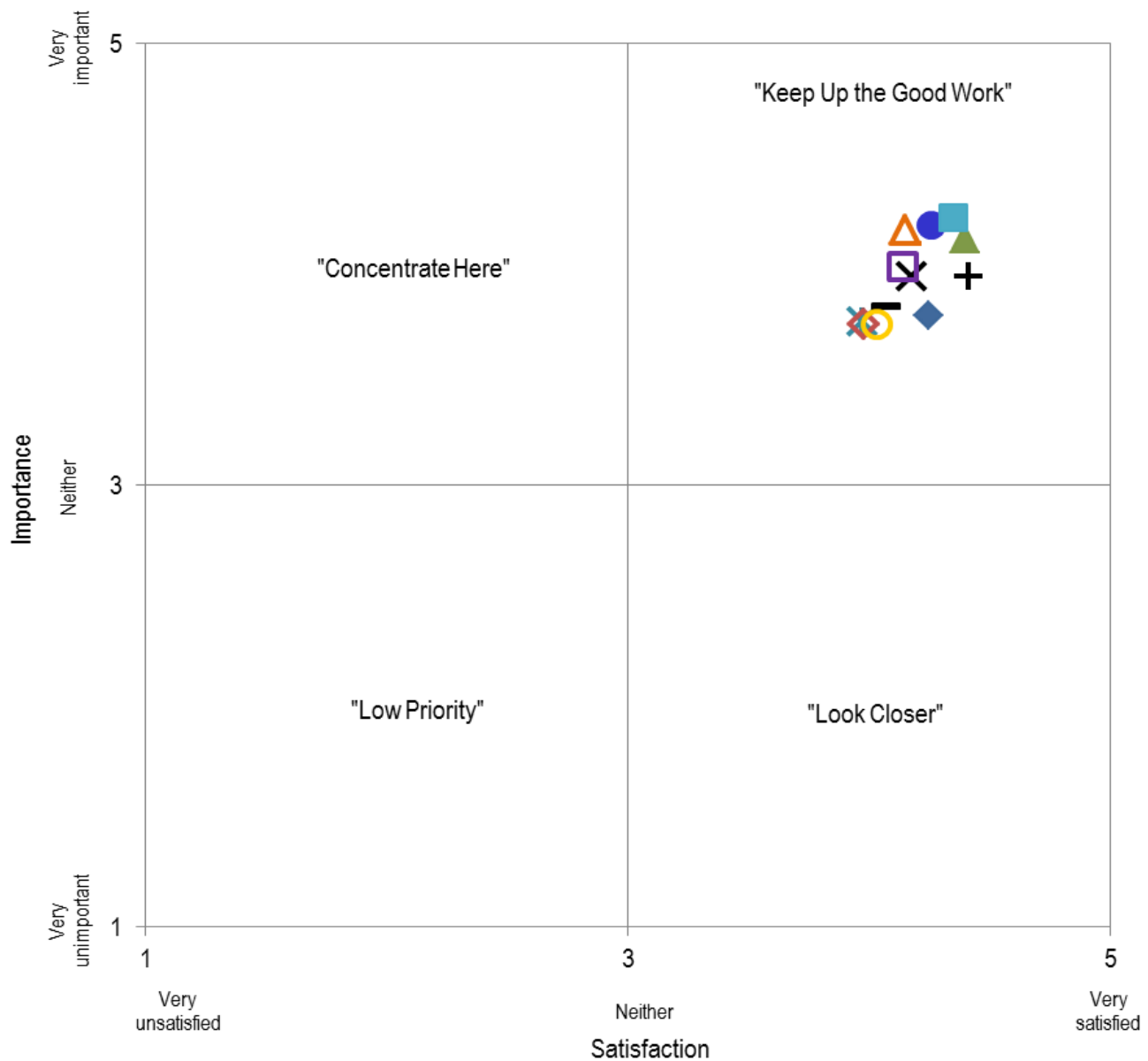
Comparing the importance and satisfaction ratings for visitor services provided by refuges can help to identify how well the services are meeting visitor expectations. The importance-performance framework presented in this section is a tool that examines the importance of an attribute to visitors in relation to their satisfaction with that attribute (Martilla and James, 1977). Drawn from marketing research, this tool has been applied to outdoor recreation and visitation settings (for example, Tarrant and Smith, 2002). Results for the attributes of interest are segmented into one of four quadrants (modified slightly for this 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 different visitor groups regarding their expectations and levels of importance (Vaske and others, 1996; Bruyere and others, 2002; Wade and Eagles, 2003); 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. This consideration is especially important when reviewing any attribute that falls 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 or 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 their satisfaction with) the attribute may be much higher than the overall importance (and satisfaction) would be for the sample of visitors summarized in this report.

Figures 9–10 depict surveyed visitors' importance-satisfaction ratings for refuge services and facilities, and recreational opportunities at Crystal River NWR. Results are summarized as follows:

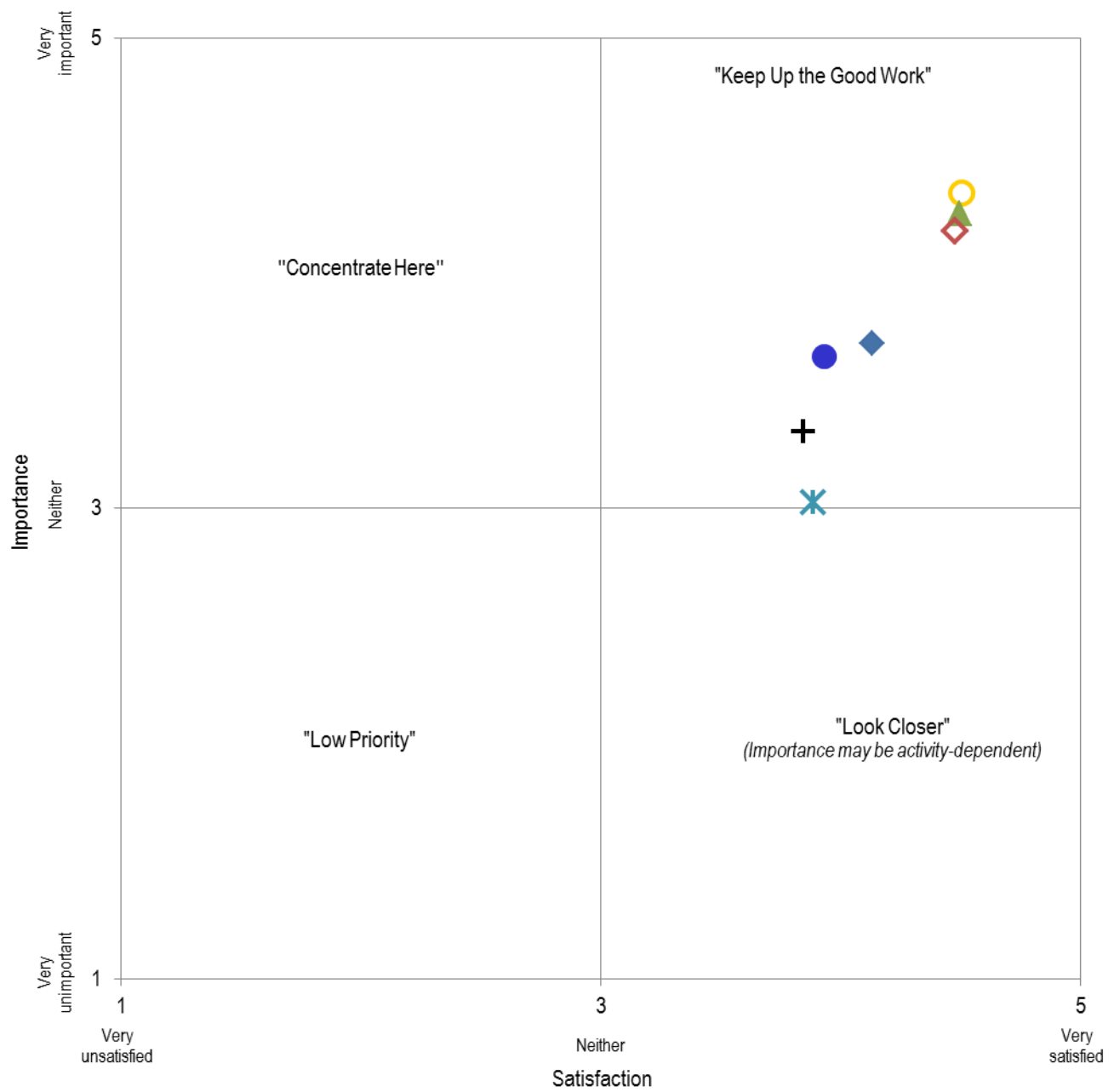
- All refuge *services and facilities* fell in the "Keep Up the Good Work" quadrant (fig. 9).
- All refuge *recreational opportunities* fell in the "Keep Up the Good Work" (fig. 10).



EXPLANATION

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

Figure 9. Importance-satisfaction ratings of services and facilities provided at Crystal River NWR.



EXPLANATION

- Bird watching opportunities
 Wildlife viewing opportunities
 Photography opportunities
 Fishing opportunities
- Hiking opportunities
 Kayak/Canoe opportunities
 Volunteer opportunities

Figure 10. Importance-satisfaction ratings of recreational opportunities provided at Crystal River 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 of these questions will be evaluated in aggregate form (data from all participating refuges together) to better address national-level goals. Basic results for Crystal River NWR are reported here.

Alternative Transportation and the Refuge System

Visitors use various types of transportation to access and enjoy refuges. While many visitors arrive at the refuge in private vehicles, 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 and others, 2001), and recent efforts are beginning to characterize the use of transit and non-motorized transportation modes for visitor access to refuges (Volpe Center, 2010). However, less is known about how visitors perceive 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 refuges in the future.

Of six alternative transportation options listed on the survey, a majority of Crystal River NWR visitors were likely to use the following at refuges in the future (fig. 11):

- a boat that goes to different points on refuge waterways;
- an offsite parking lot that provides trail access;
- a bus/tram that provides a guided tour;
- a bus/tram that runs during a special event;
- a bus/tram that takes passengers to different points on the refuge; and
- a bike share program.

When asked specifically about using alternative transportation at Crystal River NWR, some visitors thought alternative transportation would enhance their experience (18%) while others thought it would not (37%). An additional 45% of surveyed visitors indicated they were unsure whether alternative transportation would enhance their experiences.

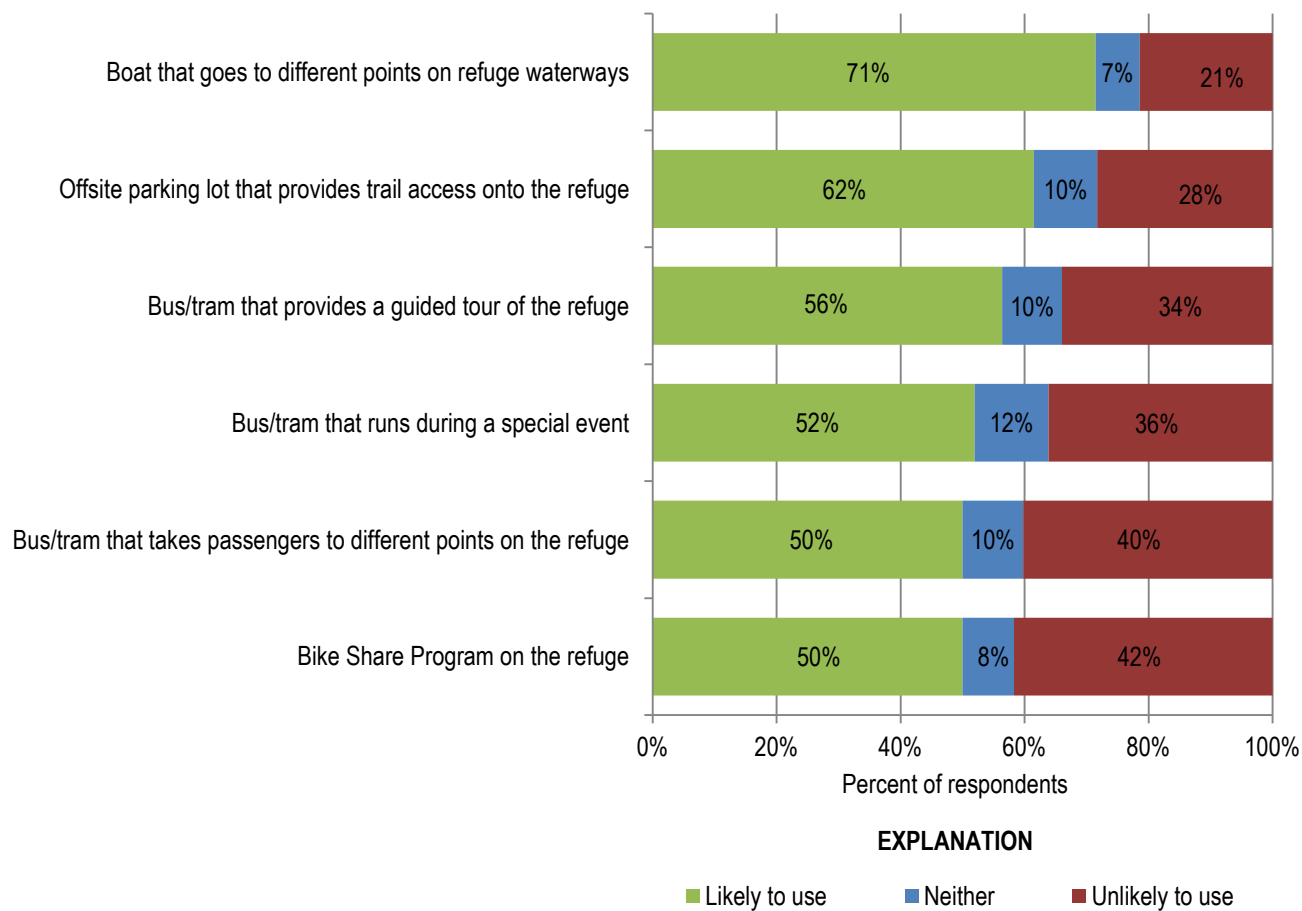


Figure 11. Visitors' likelihood of using alternative transportation options at refuges in the future (n ≥ 259).

Climate Change and the National Wildlife Refuge System

Climate change represents a growing concern for refuge management. The Service's climate-change strategy, titled "Rising to the Urgent Challenge," establishes a basic context for the agency to work within a larger conservation community to 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 the topic of climate change. Previous research suggests that human thought about climate change is influenced by individuals' levels of concern, levels of involvement, preferences for policies, and associated behaviors (Maibach and others, 2009). The results presented below provide baseline information on these factors in relation to the effects of climate change on fish, wildlife, and their habitats.

These results are most useful when coupled with responses to belief statements, 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 does not alter the overall message, but rather places the issue in a context in which different audience groupings can relate (Nisbet, 2009). 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 or supporting economic growth through new jobs/technology). Framing information in ways that resonate with visitors' beliefs may result in more engaged audiences who support strategies aimed at alleviating climate-change pressures. Data will be analyzed further at the national level to inform the development of a comprehensive climate change communication and engagement strategy.

The majority of visitors to Crystal River NWR agreed with the following statements related to their own *personal involvement* with the topic of climate change as it relates to fish, wildlife, and habitats (fig. 12):

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

The majority of visitors also agreed with the following *belief statements* regarding climate change effects on fish, wildlife and their habitats (fig. 13):

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

Results regarding such beliefs are important to consider when communicating with visitors about this topic, since almost half of visitors (46%) indicated their experiences would be enhanced if Crystal River NWR provided information about how visitors can help to address climate change impacts on fish, wildlife, and their habitats (fig. 12).

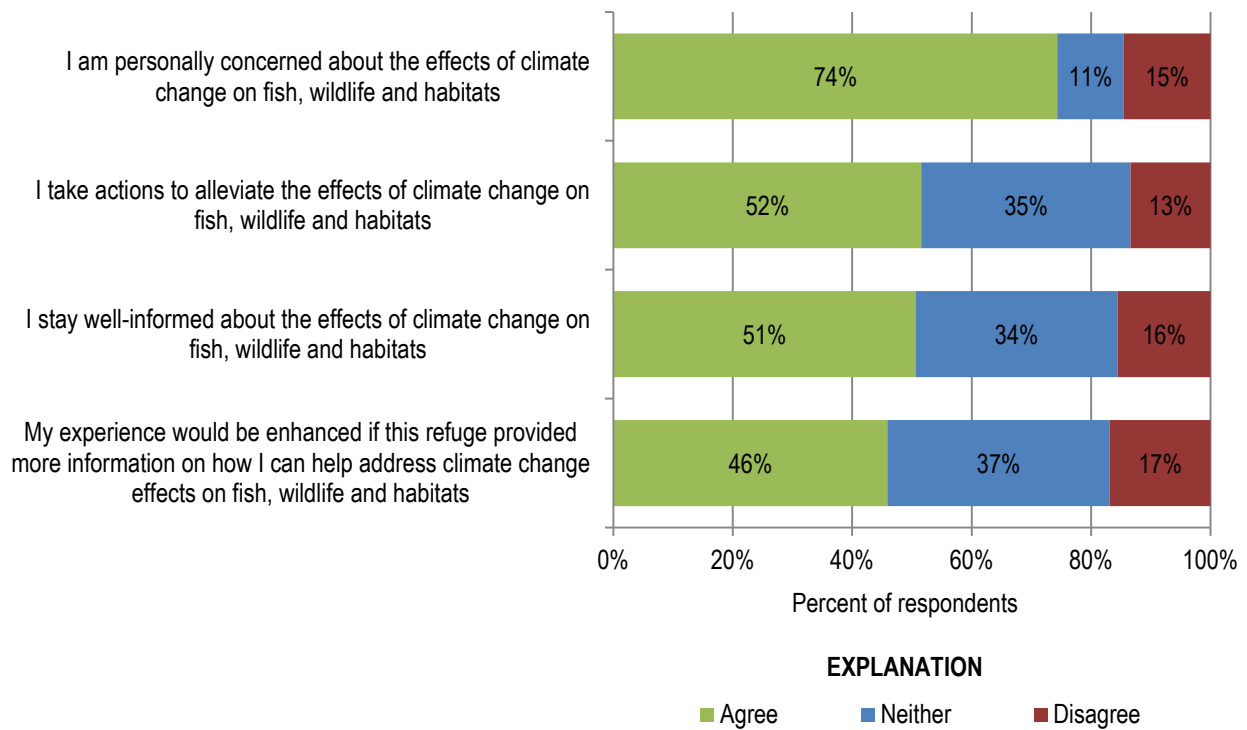


Figure 12. Visitors' personal involvement with climate change related to fish, wildlife and their habitats (n ≥ 254).

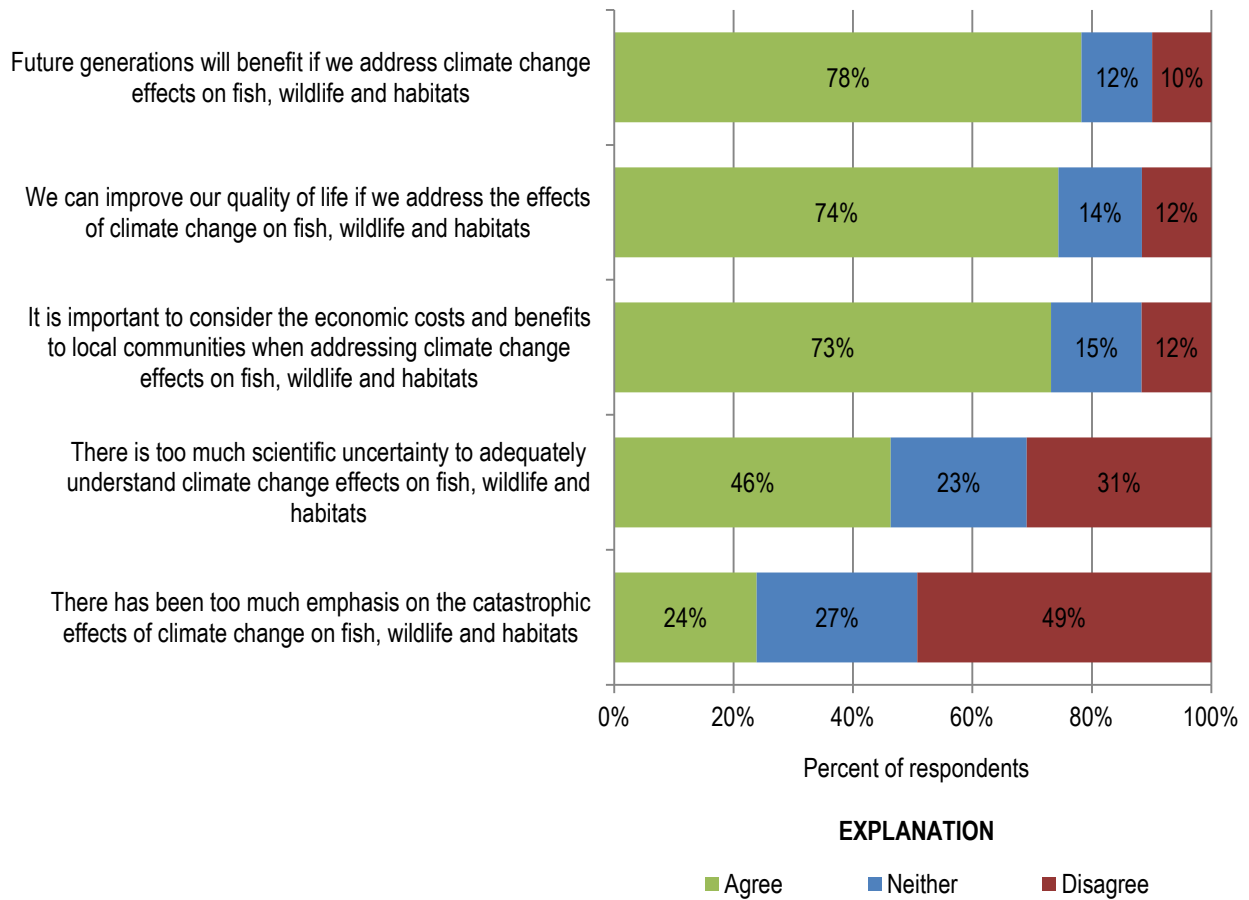


Figure 13. Visitors' beliefs about the effects of climate change on fish, wildlife and their habitats (n ≥ 253).

Conclusion

These individual refuge results provide a summary of trip characteristics and experiences of a sample of visitors to Crystal River NWR during 2012 and are intended to inform decision-making efforts related to visitor services and transportation at the refuge. Additionally, the results from this survey can be used to inform planning efforts, such as a refuge's Comprehensive Conservation Plan. With an understanding of visitors' trip and activity characteristics, visitor-satisfaction ratings with existing offerings, and opinions regarding fees, refuge managers are able to make informed decisions about possible modifications (whether reducing or enhancing) to visitor facilities, services, or recreational opportunities. This information can help managers 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 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 and its resources, 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/754/>. For additional information about this project, contact the USGS researchers at national_visitor_survey@usgs.gov or 970.226.9205.

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National Wildlife Refuge Visitor Survey



PLEASE READ THIS FIRST:

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

Even 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* for any question that uses the phrase “this Refuge.” Please reference the cover letter included with this survey if you are unsure of which refuge you visited.

SECTION 1. Your visit to this Refuge

1. Including your most recent visit, which activities have you participated in during the past 12 months at this Refuge? (Please mark ***all that apply.***) * indicates the activity is not offered at the refuge

<input type="checkbox"/> * Big game hunting	<input type="checkbox"/> 8% Hiking	<input type="checkbox"/> 6% Environmental education (for example, classrooms or labs)
<input type="checkbox"/> * Upland/Small game hunting	<input type="checkbox"/> * Bicycling	
<input type="checkbox"/> * Migratory bird/Waterfowl hunting	<input type="checkbox"/> * Auto tour route/Driving	<input type="checkbox"/> 5% Interpretation (for example, exhibits, kiosks, videos)
<input type="checkbox"/> 69% Wildlife observation	<input type="checkbox"/> * Motorized boating	
<input type="checkbox"/> 26% Bird watching	<input type="checkbox"/> 44% Nonmotorized boating (including canoes/kayaks)	<input type="checkbox"/> 3% Refuge special event (<i>please specify</i>) See Appendix B
<input type="checkbox"/> 12% Freshwater fishing		
<input type="checkbox"/> 13% Saltwater fishing	<input type="checkbox"/> 1% Volunteering	<input type="checkbox"/> 27% Other (<i>please specify</i>) See Appendix B
<input type="checkbox"/> 40% Photography		

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

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

<input type="checkbox"/> 77% No	
<input type="checkbox"/> 23% Yes → If yes, what did you do there? (Please mark <i>all that apply.</i>)	
<input type="checkbox"/> 69% Visit the gift shop or bookstore	<input type="checkbox"/> 13% Pick up/purchase a license, permit, or pass
<input type="checkbox"/> 56% View the exhibits	<input type="checkbox"/> 31% Stop to use the facilities (for example, get water, use restroom)
<input type="checkbox"/> 48% Ask information of staff/volunteers	
<input type="checkbox"/> 38% Watch a nature talk/video/presentation	<input type="checkbox"/> 8% Other (<i>please specify</i>) See Appendix B

4. Which of the following best describes your visit to this Refuge? (Please mark ***only one.***)

Nonlocal	Local	All visitors	
<input type="checkbox"/> 50%	<input type="checkbox"/> 71%	<input type="checkbox"/> 56%	It was the primary purpose or sole destination of my trip.
<input type="checkbox"/> 39%	<input type="checkbox"/> 22%	<input type="checkbox"/> 34%	It was one of many equally important reasons or destinations for my trip.
<input type="checkbox"/> 11%	<input type="checkbox"/> 7%	<input type="checkbox"/> 10%	It was just an incidental or spur-of-the-moment stop on a trip taken for other purposes or to other destinations.

5. Approximately how many **hours/minutes and miles** (one-way) did you travel from your home to this Refuge?

Nonlocal	<u>4</u> Hours	<u>8</u> Minutes	and	<u>292</u> Miles
Local	<u>1</u> Hours	<u>22</u> Minutes	and	<u>36</u> Miles
All visitors	<u>3</u> Hours	<u>40</u> Minutes	and	<u>249</u> Miles

6. What type of group were you with on your visit to this Refuge?

☐ 1% None, I visited this Refuge alone

(of those visiting with a group)

☐ 88% Family and/or friends

☐ 3% Organized club or school group (for example, Boy/Girl Scouts, hiking club, bird watching group)

☐ 7% Commerical tour group

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

7. Including yourself, how many people were in your group? (*Please answer each category.*)

4 number 18 years and over

2 number 17 years and under

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

☐ 58% Family and/or friends

☐ 9% Refuge website

☐ 5% Signs on highway

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

☐ 7% Recreation club or organization

☐ 2% Television or radio

☐ 14% People in the local community

☐ 4% Newspaper or magazine

☐ 6% Refuge printed information (brochure, map)

☐ 9% Travel guidebook or other book

☐ 4% Map or atlas

☐ 5% Other (*please specify*) See Appendix B

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

☐ 64% Spring
(March-May)

☐ 57% Summer
(June-August)

☐ 19% Fall
(September-November)

☐ 18% Winter
(December-February)

10. 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.***)

This question does not apply to Crystal River National Wildlife Refuge.

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

<input type="checkbox"/> 43% Previous knowledge/I have been to this Refuge before	<input type="checkbox"/> 18% Maps from the Internet (for example, MapQuest or Google Maps)
<input type="checkbox"/> 8% Signs on highways	<input type="checkbox"/> 5% Directions from Refuge website
<input type="checkbox"/> 36% A GPS navigation system	<input type="checkbox"/> 7% Directions from people in community near this Refuge
<input type="checkbox"/> 7% A road atlas or highway map	<input type="checkbox"/> 10% Directions from friends or family
	<input type="checkbox"/> 8% Other (please specify) <u>See Appendix B</u>

2. 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"/> 28%	<input type="checkbox"/> 12%	<input type="checkbox"/> 10%	<input type="checkbox"/> 29%	<input type="checkbox"/> 21%
...a bike that was offered through a Bike Share Program for use while on the Refuge?	<input type="checkbox"/> 29%	<input type="checkbox"/> 13%	<input type="checkbox"/> 8%	<input type="checkbox"/> 30%	<input type="checkbox"/> 20%
...a bus or tram that provides a guided tour of the Refuge with information about the Refuge and its resources?	<input type="checkbox"/> 22%	<input type="checkbox"/> 12%	<input type="checkbox"/> 10%	<input type="checkbox"/> 34%	<input type="checkbox"/> 23%
...a boat that goes to different points on Refuge waterways?	<input type="checkbox"/> 14%	<input type="checkbox"/> 8%	<input type="checkbox"/> 7%	<input type="checkbox"/> 27%	<input type="checkbox"/> 44%
...a bus or tram that runs during a special event (such as an evening tour of wildlife or weekend festival)?	<input type="checkbox"/> 25%	<input type="checkbox"/> 12%	<input type="checkbox"/> 12%	<input type="checkbox"/> 35%	<input type="checkbox"/> 17%
...an offsite parking lot that provides trail access for walking/hiking onto the Refuge?	<input type="checkbox"/> 18%	<input type="checkbox"/> 10%	<input type="checkbox"/> 10%	<input type="checkbox"/> 35%	<input type="checkbox"/> 27%
...some other alternative transportation option? (please specify) <u>See Appendix B</u>	<input type="checkbox"/> 0%	<input type="checkbox"/> 13%	<input type="checkbox"/> 8%	<input type="checkbox"/> 33%	<input type="checkbox"/> 46%

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

☐ 18% Yes ☐ 37% No ☐ 45% Not Sure

4. 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 Circle one for each item.						Satisfaction 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
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Surface conditions of roads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	100%
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Surface conditions of parking areas	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	100%
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Condition of bridges	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	100%
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Condition of trails and boardwalks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	100%
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Number of places for parking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	100%
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Number of places to pull over along Refuge roads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	100%
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Safety of driving conditions on Refuge roads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	100%
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Safety of Refuge road entrances/exits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	100%
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Signs on highways directing you to the Refuge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	100%
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Signs directing you around the Refuge roads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	100%
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Signs directing you on trails	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	100%
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Access for people with physical disabilities or who have difficulty walking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	100%

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

See Appendix B

SECTION 3. Your expenses related to your Refuge visit

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

☐ 27% Yes

☐ 73% No → How much time did you spend **in the local area** on this trip?

Nonlocals If you spent one day or more in the local area, enter the number of days: 4 day(s)

only If you spent less than one day in the local area, enter the number of hours: 7 hour(s)

2. How much time did you spend **at this Refuge** during your most recent visit?

If you spent one day or more at this Refuge, enter the number of days: 3 day(s)

If you spent less than one day at this Refuge, enter the number of hours: 4 hour(s)

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

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

See Report for Results

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

2 number of people sharing expenses

5. 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
10%	11%	13%	10%	17%	3%	20%	1%	4%	5%	8%

6. 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**.*)

☒ 100% Did not pay a fee (*skip to Section 4*)

Crystal River NWR does not charge an entrance fee. This question does not apply.

7. 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.

Crystal River NWR does not charge an entrance fee. This question does not apply.

SECTION 4. Your experience at this Refuge

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

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Not Applicable
Overall, I am satisfied with the recreational activities and opportunities provided by this Refuge.	<input type="checkbox"/> 1%	<input type="checkbox"/> 3%	<input type="checkbox"/> 5%	<input type="checkbox"/> 34%	<input type="checkbox"/> 57%	NA
Overall, I am satisfied with the information and education provided by this Refuge about its resources.	<input type="checkbox"/> 1%	<input type="checkbox"/> 4%	<input type="checkbox"/> 9%	<input type="checkbox"/> 41%	<input type="checkbox"/> 45%	NA
Overall, I am satisfied with the services provided by employees or volunteers at this Refuge.	<input type="checkbox"/> 2%	<input type="checkbox"/> 2%	<input type="checkbox"/> 9%	<input type="checkbox"/> 40%	<input type="checkbox"/> 48%	NA
This Refuge does a good job of conserving fish, wildlife and their habitats.	<input type="checkbox"/> 2%	<input type="checkbox"/> 3%	<input type="checkbox"/> 4%	<input type="checkbox"/> 30%	<input type="checkbox"/> 62%	NA

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

Importance <i>Circle one for each item.</i>					Refuge Services, Facilities, and Activities <i>* indicates not offered at this refuge</i>	Satisfaction <i>Circle one for each item.</i>					
Very Unimportant	Somewhat Unimportant	Neither	Somewhat Important	Very Important		Very Unsatisfied	Somewhat Unsatisfied	Neither	Somewhat Satisfied	Very Satisfied	Not Applicable
8%	6%	20%	34%	32%	Availability of employees or volunteers	3%	5%	14%	21%	57%	NA
7%	4%	17%	31%	41%	Courteous and welcoming employees or volunteers	4%	1%	13%	16%	67%	NA
5%	3%	16%	28%	48%	Knowledgeable employees or volunteers	2%	1%	13%	21%	62%	NA
5%	3%	15%	47%	30%	Printed information about this Refuge and its resources (for example, maps and brochures)	2%	2%	15%	35%	45%	NA
5%	6%	24%	39%	26%	Informational kiosks/displays about this Refuge and its resources	3%	5%	23%	30%	39%	NA
3%	5%	9%	35%	47%	Signs with rules/regulations for this Refuge	3%	4%	11%	30%	53%	NA
5%	7%	27%	36%	27%	Exhibits about this Refuge and its resources	1%	6%	26%	26%	40%	NA
5%	5%	25%	34%	31%	Environmental education programs or activities	1%	2%	31%	21%	45%	NA
6%	4%	29%	34%	28%	Visitor Center (<i>Refuge Headquarters</i>)	2%	1%	30%	24%	42%	NA
3%	1%	16%	33%	47%	Convenient hours and days of operation	2%	2%	13%	23%	59%	NA
5%	0%	20%	23%	52%	Well-maintained restrooms	3%	2%	21%	25%	49%	NA
4%	2%	22%	35%	37%	Wildlife observation structures (decks, blinds)	4%	4%	18%	20%	53%	NA
6%	7%	26%	34%	28%	Bird-watching opportunities	1%	5%	21%	28%	45%	NA
3%	2%	7%	34%	54%	Opportunities to observe wildlife other than birds	1%	3%	7%	23%	66%	NA
3%	2%	8%	39%	47%	Opportunities to photograph wildlife and scenery	2%	2%	8%	23%	66%	NA
50%	9%	27%	6%	6%	Hunting opportunities	4%	1%	51%	10%	33%	NA
25%	9%	25%	23%	19%	Fishing opportunities	2%	4%	38%	15%	40%	NA
10%	2%	26%	37%	25%	Trail hiking opportunities	3%	4%	28%	27%	38%	NA
5%	2%	13%	29%	51%	Water trail opportunities for canoeing or kayaking	2%	2%	10%	20%	66%	NA
*	*	*	*	*	Bicycling opportunities (<i>not offered</i>)	*	*	*	*	*	100%
10%	4%	46%	24%	17%	Volunteer opportunities	2%	3%	39%	18%	37%	NA

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

See Appendix B

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

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

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

☐ 79% Yes

☐ 21% No

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

☐ 88% Yes

☐ 12% No

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

☐ 90% Yes

☐ 10% No

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

See Appendix B

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

Statements about climate change	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I am personally concerned about the effects of climate change on fish, wildlife and their habitats.	7%	8%	11%	36%	38%
We can improve our quality of life if we address the effects of climate change on fish, wildlife and their habitats.	7%	5%	14%	38%	36%
There is too much scientific uncertainty to adequately understand how climate change will impact fish, wildlife and their habitats.	12%	19%	23%	31%	16%
I stay well-informed about the effects of climate change on fish, wildlife and their habitats.	3%	12%	34%	39%	12%
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.	4%	8%	15%	52%	21%
I take actions to alleviate the effects of climate change on fish, wildlife and their habitats.	5%	8%	35%	36%	15%
There has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and their habitats.	23%	27%	27%	14%	10%
Future generations will benefit if we address the effects of climate change on fish, wildlife and their habitats.	5%	5%	12%	40%	39%
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.	8%	9%	37%	31%	15%

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?

☐ 92% Yes ☐ 8% No → If not, what is your home country? See Figure 2 in Report

2. Are you? ☐ 42% Male ☐ 58% 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)			
					0%			10%				51%				40%			

5. What ethnicity do you consider yourself? ☐ 2% Hispanic or Latino ☐ 98% Not Hispanic or Latino

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

<input type="checkbox"/> 2% American Indian or Alaska Native	<input type="checkbox"/> 0% Black or African American	<input type="checkbox"/> 96% White
<input type="checkbox"/> 3% Asian	<input type="checkbox"/> 1% Native Hawaiian or Pacific Islander	

7. How many members are in your household? 3 persons

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

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

<input type="checkbox"/> 1% Less than \$10,000	<input type="checkbox"/> 7% \$35,000 - \$49,999	<input type="checkbox"/> 20% \$100,000 - \$149,999
<input type="checkbox"/> 5% \$10,000 - \$24,999	<input type="checkbox"/> 22% \$50,000 - \$74,999	<input type="checkbox"/> 9% \$150,000 - \$199,999
<input type="checkbox"/> 6% \$25,000 - \$34,999	<input type="checkbox"/> 21% \$75,000 - \$99,999	<input type="checkbox"/> 9% \$200,000 or more

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

11 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.

Comments?

See Appendix B for Comments

PAPERWORK REDUCTION ACT STATEMENT: The Paperwork Reduction Act requires us to tell you why we are collecting this information, how we will use it, and whether or not you have to respond. The information that we collect in this survey will help us understand visitor satisfaction with and use of National Wildlife Refuges and to make sound management and policy decisions. Your response is voluntary. An agency may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a valid OMB Control Number. We estimate it will take an average of 25 minutes to complete this survey. You may send comments concerning the burden estimate or any aspect of the survey to the Information Collection Clearance Officer, Fish and Wildlife Service, 4401 North Fairfax Drive, MS 222-ARLSQ, Arlington, VA 22203. OMB CONTROL #1018-0145 EXPIRATION DATE 6/30/2013

Appendix B: Visitor Comments to Open-Ended Survey Questions for Crystal River 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
Christmas Special	2
Festival	1
It was a special day for the new Three Rivers Park.	1
Refuge Days	1
Three Sisters Springs Open House	3

Other Activity	Frequency
Kings landing!	1
Leisure outing	1
Manatee education tour	5
Manatee encounter	1
Manatee observation	5
Member of the Waterfront Advisory Board	1
Recreation	1
Scalloping	1
Scuba diving	7
Scuba/snorkeling	1
Snorkeling	9
Snorkeling with the manatees	13
Snorkeling, boating	1
Swimming	8
Swimming at the springs	2
Swimming with the manatees	15
Kings landing!	1

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

Other Miscellaneous Primary Activities	Frequency
Pleasure	1
Recreation	1
Relaxing	1
Speak to a ranger for information.	1
Vacation	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
Center closed on weekends... Bummer.	1
I put on a wet suit.	1
Manatee special event	1
Pontoon boat to look at manatees.	1
Rented equipment for outing.	1

Question 6: “Were you part of a group on your visit to this Refuge?”; If Yes, “What type of group were you with on your visit?”

Other Group Type	Frequency
Bird's Underwater Manatee Tour with family members	1
Church outing	1
Dive Shop	1
Florida Association of Police Explorers for the State Competition	1
Scuba diving group	2

Question 8: “How did you first learn or hear about this Refuge?”

Other Website	Frequency
Birds Underwater	1
Florida Manatee Adventures	1
Florida Visitor websites	1
Google	3
Google search for Manatees	1

Google/Yahoo	1
Groupon	4
Groupon and googled "Crystal River"	1
http://www.birdsunderwater.com/	1
Internet	6
Internet research - found manatee group	1
Link when we booked at the state park.	1
Living Social	1
Manatee Tour website	1
My son searched into the manatees, underwater birds.	1
Plantation Inn	1
River Ventures Crystal Springs	2
Swimming with the Manatees	3
Trip Advisor	2
visitcitrus.com	1
www.go2eu.com (Chinese Tourism Forum)	1

Other Ways Heard about This Refuge	Frequency
Captain Sean from River Ventures Tour Group, Crystal River, FL, Manatee Swim Tours	1
Discovery Kayak Tours	1
Dive map	1
Dive shop	1
Hotel	1
I biked past it and saw it.	1
I worked with the Nature Conservancy.	1
Kayaking	1
Manatee research, found Crystal River	1
Scuba shop	1
Through scuba sponsor	1
Twin Rivers Marina	1
Vacation destination	1

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
AAA Trip Maps	1
Canal	1
Captain Sean from River Ventures, Manatee Swim Tours, Crystal River, FL. We were visiting from NJ.	1
Directions from an Organized Group	1
Drove past	1
Guide	1
Guided there by professional guide	1
Hired guide	1
I went with a tour from Bird's Underwater for Manatee tour.	1
It certainly was NOT well marked. We just happened to come upon it.	1
It was on the way to the river.	1
Kayak Group Leader	1
Kayak Rental	1
Map from kayak company.	1
Maps and Info on Web	1
Marine Maps of Kings Bay	1
OnStar	1
Smartphone	1
Someone else drove the boat.	1
Tour	1
Tour Business	1
Tour Guide Drove	1
Van from tour company to dock, boat to sanctuary.	1

Question 3: “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
Airplane	1
Bicycling trails	1
Boat and truck	1
Canoe or kayak	1
Canoes and kayaks using the waterways	1
Catapult	1
Golf cart	1
It is a central point of transportation like Disney.	1
Kayak	7
Kayak drop off and pick up	1
Kayak/canoe rental	1
Nonmotorized or motorized boat	1
Paddle boat	1
Parachute	1
Personal boat	1
Personal vehicle	2
Segways	1
Small plane or helicopter	1
Walking	2

Survey Section 4

Question 3: "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 = 58)

A platform at the entrance of the Three Sisters Springs would be good to change from the canoe to swimming and back.

As mentioned earlier, I kayaked in and kayaked out, never taking advantage of the aforementioned opportunities. In addition, the "refuge" was not yet complete, and I understand those services were not available.

Beautiful, very friendly workers at the Visitor Center. We went to the visitors center near Three Sisters Spring. We were disappointed we could not use our own tubes for tubing and it cost way too much to do it so we did not go.

Captain Sean from River Ventures, Manatee Swim Tours, Crystal River, FL, gave a wonderful and informative presentation of the region and its wildlife. Our snorkeling adventure ensured the protection of the manatees and the springs.

Clean and beautiful place. Awesome wildlife and nice people visiting and working.

Eliminate public motor boat traffic into Gator Hole and Three Sisters intercoastal area. Private use only for motors. Allow kayaks and canoes of course!

Employees were polite, attentive, knowledgeable. We had little time to explore the facility, and would like to return.

Good area for families.

I am not sure a Visitor Center would benefit the Three Sister Springs.

I am really concerned about the manatees. There are rules posted but not enforced and the guide boats are everywhere. Some regulation is needed.

I enjoyed the site. There are too many boats in the bayou.

I have followed closely on rules and regulations by the US Fish and Wildlife. Some locals complain, but I support strong protection of our valuable resources.

I love that you can paddle board to Three Sisters Springs and see the manatees. It is gorgeous. I just don't like how the manatees have slashes on their backs from boat motors.

I personally thought too many boats were allowed in this small area and it ran off the manatees. We only saw two and were very disappointed; too many dangerous situations.

I really would like to have a closer place to launch the kayak. This is especially important because I have back injuries and am disabled, thus traveling via kayak through Pete's Pier is difficult. It would be nice to at least have kayak launching closer to the refuge for the disabled.

I took a tour boat out into the Silver Spring Water Refuge from their private dock.

I was disappointed that the Visitor Center is closed on weekends, and that there isn't a nearby kayak/canoe launch. We had to figure out on our own where to put in, and how to get to Three Sister's Springs, and *hope* that we weren't breaking any laws.

I was given this survey by a volunteer in a kayak while on a tour boat. We had booked a two hour "snorkeling with the manatees" trip on the Crystal River. This is why my answers are so limited. The only "refuge" experiences was this two hour trip and my very short conversation with the volunteer who asked me if I'd like to do the survey.

I would like to become more knowledgeable on how I can help improve qualities of refuges around our country.

I would like to see Three Sisters open on a more regular basis. I think this would alleviate the crowds when they do have an open house.

I went on a manatee tour with an outside organization. I still do not know much about the preserve, but the volunteers on the kayaks were very helpful and the information video was very helpful.

Just visited via kayak.

Kayaks and canoes should not be allowed in Three Sisters Springs. It is not big enough for swimmers and kayaks. I was nearly ran over several times. Need to do something about boats outside springs, it's dangerous.

Loved swimming with the manatees.

Our guide was extremely knowledgeable about the refuge and the local area, which made for an enjoyable and educational experience.

Reasons for answers is that we only approached this area by boat. I am not aware of the facilities that are available.

Seeing the manatees is only by private or commercial boat. Consequently, the vast majority of these questions do not pertain. Printed material was through the private boat agency.

Snorkeling and/or kayaking with manatees has endeared millions of people to have plight of these endangered animals.

Swimming should not be allowed at the Three Sisters Spring during time that manatees use the refuge.

The Crystal River Manatees (river ventures) was very helpful/educational/tour friendly and protective of the manatees. This is something I would look forward to doing again.

The fine people that approached us as we cracked our first beer and ask us to take the survey were quite simply the most pleasant people one could hope for. I wish I could remember their names. The male had a thick accent and patrols at Egmont Key on the regular. Thanks for having us!!!

The guide, Captain Mike, was amazing. He gave a lot of information on not only the manatees, but other wildlife in the area. Very friendly, energetic and very much enhanced the experience.

The refuge has changed the area for the worse.

The refuge is beautiful and we always love going there. My only complaint is that it is often too crowded with other visitors :). Also it would be nice to have informational brochures somewhere so we could learn more about the springs, but I suppose that is what the internet is for too.

The refuge is not really open yet. I accessed it through the public water way. But I do love going to nature to hike, bike, kayak, etc.

There are too many tour boats with swimmers allowed in this refuge at one time.

There were boats and jet ski's speeding in the no wake zone. Police were present and did not ticket or warn offenders. Dangerous for wildlife allowing speeding boats and jet ski's.

They did an excellent job educating us about manatee conservation. Taught us how to treat the animals with respect and care. Provided an awesome opportunity and developed a greater love for these gentle creatures.

This refuge truly cares about the wildlife. They are adamant about their rules and work hard to teach about the wildlife and its habitat and how to keep both safe.

Three Sisters needs to have more availability to the public.

Very beautiful.

Very enjoyable day. Your guide explained, showed, and created a memorable experience for the family and guests. Very educational.

Water needs to be cleared of algae.

We did a private tour on a boat and only went in the "water" part of the refuge.

We do not want to kayak launch at this park, it would ruin the environment. Signed, an avid kayaker.

We had one purpose for coming to the refuge - to paddle by kayak to see Manatees. The channels were filled with pontoon boats with loud tourists, many of who were breaking the rules and regulations given to us in the video. Most of these people were from local hotels or tour companies. There was no refuge personnel present to police the activities.

We loved this place. Swimming with manatees was a dream of ours and they made it come true. The guys at the plantation dive shop were great!!!

We only observed this refuge through the use of the tour group, Bird's Underwater. Bird's transported our family through the use of the tour boat to see manatees.

We saw and swam with the manatees, which was the reason for the trip. We are very pleased with that.

We went during Tropical Storm Debbie, so we didn't have much expectation to see/do anything on that day. We just wanted to find out more information about the area. The staff was able to answer most of our questions. Very friendly!

We went out with Birds Underwater Inc. to spot and snorkel with manatees. They did a great job with orientation video to acquaint us with rules and were very respectful of no wake zones, etc.

Weekend Visitor Center hours would have been nice. I was told by phone that the hours were cut due to a tight budget. Visitor Center employees were very helpful with our trip planning.

Went to the Visitor Center 6 times before I found it open - there was always some reason why it had to be closed. I went there 2 more times when it was open to talk to a ranger about clarification of regulations, but there was never a ranger available and the volunteers didn't have any answers.

Survey Section 5

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

Comments on What Makes Refuges Unique? (n = 166)

Ability to show children not to take life for granted and respect the environment.

Able to see new and different species in other areas of our country.

Able to swim with the manatees and see dolphins and fish.

Although we just went snorkeling, I thought the boat ride was unique.

Any time you can be a part of a living creature's surroundings its a great and once in a life time experience.

Beautiful water and conservation efforts and wildlife experiences gained.

Beautiful, natural land! You are able to see wildlife in their natural habitat, not in a zoo. :(

Because it's beautiful.

Because of its wildlife.

Because they seem to care about the conservation of the land and water.

Being able to see wildlife in natural habitat makes it unique.

Better maintained and watched.

Boating area.

Clean.

Clean and beautiful.

Clean and well maintained.

Close to natural habitats and lands of unspoiled beauty.

Conservation and education.

Conservation and management of natural habitats

Conservation of wildlife and education of populace.

Crystal River is wonderful. I love it!

Due to the location, there may be a chance to see manatees.

Each environment throughout the US offers unique opportunities for various activities for all.

Each seems unique.

Education and awareness to the general public.

Educational and informative.

Everyone really cares about the wildlife and is passionate about their responsibilities.

Everything is protected and they educate the public on the importance of conserving and protecting these areas, which is extremely important to me.

Explanations of habitats.

Focus on nature and preservation.

For the most part protected areas are enforced. More signs needed telling boaters not to tie to trees and should have heavy fines.

Good, healthy environment.

Great interactive experiences, learn about new species and habitats.

Great opportunity to observe wildlife. In this case, in winter, the manatee.

I am glad you do the job - could be very bad for our creatures without rules. People a lot of times have no regard for wildlife. I love it and was happy to see this place. It was my first visit and hope to go back soon. We live in Virginia but visit Florida a lot and love it. Was hoping to get to see more manatees and fish etc. Way too crowded and nowhere to park boats, some people were very rude and disrespectful. Beautiful place though, loved it! Thanks.

I am grateful for the protection of the wildlife and environment in a national wildlife refuge.

I couldn't tell you, but it was beautiful. I saw Manatees.

I enjoyed the fact that Three Sisters Springs was only accessible by boat/swimming. Very peaceful. Loved that the manatees are so carefully monitored.

I have always loved Three Sisters Springs. I am extremely happy that my son (2 years old) will be able to grow and experience more than I was able to growing up! I'm extremely happy that the public can now experience this beautiful spring. Thank you for doing this!

I like it because it's more natural.

I like it mainly because of the word 'refuge.'

I like swimming in the springs and seeing the manatees. The water near Kings Bay is not what I remember from 10-15 years ago. It is not clear water. Sad.

I live in Texas and there is no opportunity here to swim with manatees; I loved the experience. I appreciate the experience.

I think protection of our natural resources is vital to maintaining the environment, our nation's character, and the welfare of other living things we share the earth with. Being able to visit refuges and experience our natural world is one of the most enjoyable and rewarding things we can do.

I think they are wonderful places where people with similar interests can observe wildlife, plants, etc. in a peaceful environment and learn and give a little back to nature.

It captures true Florida before it was built up so big.

It gives you a chance to glimpse at what we consider "wild." It helps to provide an appreciation and respect for nature and wildlife.

It gives you the experience of seeing wildlife in their natural habitat, and in many cases, lets you see Florida as it used to be.

It has all natural habitat and is super focused on conservation.

It has endangered species.

It has unique areas to observe the wildlife from the area.

It is an absolutely important role that we must continue for the benefit of future generations.

It is an opportunity to view wildlife and their habitat in a natural setting.

It is cleaner and has more rules for the idiots that always show up to places like this.

It is the only place in the world where visitors can swim with manatees in the wild. Our tour operator did a great job providing us with the regulations concerning interaction with the animals. The tour was well guided and they ensured the animals were always protected. I also noticed out of all of the boats in the area where speeds are reduced, the tour operators were some of the only boats that slowed down.

It is the only place to see manatees.

It is usually wildlife focused.

It is well maintained with information on what to see and do at the refuge. Wonderful experience.

It lets the public know what is out there in the environment that should be cared for and preserved.

It provides a place for the manatee to be safe and protected- they are one of God's gentlest creatures.

It provides access to endangered animals like manatees.

It was a magical place.

It's a beautiful waterway. Very peaceful.

It's like "old" Florida.

It's like nothing else. It's original.

It's natural beauty.

It's not a staged interaction with wildlife. It is an environment that allows guests to interact with nature on nature's terms.

It's the only place you can interact with manatees. That's priceless.

It does not cost a lot to go here and scuba dive.

It's where the manatees come to visit and that's a big draw.

Kayaking in the refuge was fun and a great opportunity for myself, my wife, and grandchildren. We hoped to see manatees although we did not see any.

Land was kept mostly in its natural state.

Layout, access to park, clean.

Less touristy and 'man made', more natural settings.

Location.

Lots of things to do.

Manatees.

Manatees and multiple springs.

Manatees, eagles, dolphins, osprey, snakes. Mostly manatees!

Motorized boating and saltwater fishing are very important to us. This area provides both fresh water experiences along with being very close to the Gulf.

National Wildlife Refuges offer the unique opportunity of seeing natural ecosystems as they should exist untouched by the effects human development.

Natural habitat.

Nature.

Nature is preserved and it is nice to have a place to visit where there is peace, wildlife and nature surrounding you.

Only place to swim with manatees. Kids enjoyed it very much.

Oportunidad de observar y conocer flora y fauna silvestre para poder valorarlo a la vez que su fin último es la conservación. (Opportunity to observe and learn about flora and fauna and to be able to value it simultaneously is the ultimate goal of conservation).

Opportunity to be a part of nature while still protecting it.

Opportunity to see wildlife and habitats that I would not see otherwise makes it unique.

Our tax dollars.

Overall experience is better in NWR versus other parks.

Peaceful and preserved.

Preservation of native species and habitat.

Preserving nature is very important and stressed by our tour guide, Captain Sean, of the River Ventures, Manatee Swim Tours, Crystal River, FL. We have traveled out west, but had never done such an enjoyable excursion. Very safely done.

Provides an opportunity to get close to nature.

Quietness, speed watching, manatees.

Refuges offer great --and sometimes the only opportunity, to view certain species of wildlife.

Scenery, people.

Seeing wildlife in natural but protected settings makes it unique. We especially like Bosque del Apache in New Mexico.

Someone needs to protect out wildlife and land from overuse and abuse from humans.

Special and open to the public.

Swimming with the manatees makes it unique!

The ability to swim near manatees makes it unique.

The animals naturally seek the area out; they are not forced into the area.

The balance between the nature and people is great! Beautiful water and swimming with manatees was great!

The chance to see wildlife in its natural habitat makes it unique as well as the preservation of this environment for future generations.

The fact that you can snorkel and see the mullet and other fish as well as plants that grow created an adventurous and awesome experience that is highly remembered and recommended to anyone wanting to experience the real and wonderful Florida.

The focus is on wildlife and protecting the habitat.

The integrity of this refuge is priceless, with all the tragedy surrounding the wildlife (oil spreading, human activities increasing, etc).

The manatees and boating in the riverways.

The manatee interaction was wonderful. I have never been so overwhelmed by the size of a creature that is so friendly. Truly a wonderful experience!

The manatees.

The manatees that are in the springs are unique and can't be found too many other places.

The manatees!

The manatees.

The natural element seemed very well preserved.

The ONLY place to swim with manatees!!!

The opportunity to educate visitors on protecting our land and water resources.

The opportunity to enjoy the outdoors and wildlife in its natural state makes it unique.

The opportunity to see manatees in their natural environment.

The opportunity to see what good we can do in the preservation of wildlife environments makes it unique.

The opportunity to see wildlife up close in safe protected setting for wildlife and the customer makes it unique.

The opportunity to visit such a unique animal such as the manatee makes it unique. This is achieved by conservation, education and awareness, a joint venture from both from the USFWS and our tour guide.

The preservation of the land and the opportunity to view areas of nature that are largely untouched makes it unique.

The preservation of wildlife, but still allowing people to use the land and enjoy it.

The pristine environment is unique.

The quality of the water (clarity), and the opportunity to observe manatees.

The resident population of manatees makes it unique.

The springs are absolutely beautiful, peaceful, clean and the manatees are a huge plus. It brings me back to nature and soothes my soul. I am limited in my physical capacity and kayaking in the springs really makes me feel at peace. Please consider "handicap" kayak access or let me know if it exists and I just don't know about it.

The springs are among Florida's most important resources. Access and protection of them is essential. It also provides an opportunity for viewing Manatees.

The springs are cool and beautiful.

The springs baby!

The true natural state and the primary purpose of preservation of wildlife makes it unique.

The unspoiledness of the land, yet should be open to all not just boaters. Maybe a walk in point with a parking near but not at site. And no boat launches from spring.

There are opportunities to see things you don't usually see.

There are restrictions for motor boating at 5 mph. There is limited boating and no chasing the manatees.

There is a focus more on protecting natural conditions in the refuge than on visitors to the refuge.

There is much more educational information is provided, along with much more informed and passionate guides/employees. There is a closer and sometimes more intimate access to wildlife also.

National Parks are generally larger and better maintained and have more wildlife and activities and amenities.

They approached me during my visit.

They are always very nice.

They are non-commercial, there are no tacky vendors selling overpriced food or tacky souvenirs, and no ads anywhere.

They are undisturbed lands that I can observe flora and fauna in its natural state. It's a fine line between development for recreational activities and too much commercialism.

They are unique because you get to see animals that you wouldn't normally see at a public area since they are protected.

They are very well maintained and seem to have a great group of volunteers.

They are worth coming to for participation in natural wildlife activities, taking time away from the city.

They care about the environment and make sure the animals are protected.

They offer wildlife experiences which are not otherwise available in many cases to the general public at affordable costs.

They preserve wildlife and have the power to do so even with local resistance. Protection of the manatee would not be as successful if left to local authority. And USFW looks ahead, so as conditions begin to change, they are setting up the structure to protect in the future also.

They protect the animals in that they have a place that is not used.

They provide a way for the public to be able to experience these things.

They provide an opportunity to observe wildlife in its natural habitat, unlike a zoo.

They work hard to save and preserve the wildlife and its home. They educate the public.

This was the only location authorized to allow any interaction with manatees from what I understand. Although this is a refuge we toured through a private company. Our experience was impressive, even though there were few contacts.

Unique, in that USFWS gets the best real estate. But you are not doing a good job of either protecting manatees or restoring Kings Bay to pre-lyngbya infestation levels.

Viewing and sailing close to manatees.

Watching and swimming with the manatees.

Water opportunities.

We enjoyed snorkeling with manatees. Having the hands-on experience was great!

We like the fact that even with the boardwalk, signs, etc., the area is still very pristine and beautiful with a large variety of wildlife.

We spent limited time there but loved the manatees.

We were able to see manatees in the wild, swim with them, and kayak with them.

Well taken care of, natural surroundings, well kept, and clean.

Where else can I go to observe wildlife in such a pristine state? I live on an island with a wildlife refuge and it is in the refuge I can expect to see most of the island's wildlife.

Yes, because the spring is mostly pristine and untouched by man's constant desire to commercialize. It is a beautiful natural habitat and one that we enjoy visiting. Thanks for preserving it.

You are able to see nature very often when you are surrounded by development.

You can get away from civilization for a moment and still feel safe.

You can go pretty much anywhere and see interesting sites. Only here can you learn and somewhat interact and understand wildlife conservation. It has turned me pro-conservation.

Additional Comments (n = 47)

You are welcome! Much enjoyed!

As a user of the Crystal River area on a regular basis, I am deeply concerned over the possible over-regulation of the Kings Bay and Crystal River areas regarding the use of power boats/boat speeds. Manatees are a special part of the area, but do not represent the main reason we come there. Boats and manatees can co-exist as they have for many years. There needs to be a balance between the two. I have been boating in the area for 35 years and think the Fish and Wildlife Service needs to listen more to those of us that pay taxes and support the local area/economy vs. those that just complain about the boats.

We had a wonderful time visiting the Crystal River NWR. It was a great experience for the whole family.

I am confused about the regulations concerning interactions with manatees, for example underwater photography. I get many different opinions from different people, but don't know where to go for an accurate source of info. I could never get a hold of a ranger and the volunteer was playing solitaire on the computer and couldn't tell me anything except to take this survey. I am very concerned about what, if anything USFWS will do about restoration of Kings Bay fish and plant life, since it has gotten mucky and cloudy and infested with invasive plant species. I work for the Feds and know how ineffective the system is.

I believe that the facility provides people with a true understanding of how important it is to protect the natural habitat of manatees. What once before was fear of this animal has now turned into respect and wonder at how amazing they really are. It has also created concern at how many people do not obey the rules of the water (manatee zones). I truly do believe with all my heart river ventures educates visitors in a way words alone can not do. Interacting with the manatees was a magical experience that still brings tears to my eyes.

I can only say it was a very rewarding trip, and we are glad to have taken it.

I enjoyed it thoroughly.

I love it. It is the best place to visit. Fish and Wildlife officials are always polite and more than willing to answer questions. Tour boats could use a little more instructions on how their visitors treat manatees. Plus, tour boat operators need to understand that just because we are not on their tour, doesn't mean they still get to boss us around.

I loved it. I am concerned about no wake zones not being monitored. There are lots of fast boats in manatees areas.

I saw many people smoking on boats, kayaks, and in canoes. What do they do with their cigarette butts? This needs to be addressed as I do not want them in the Crystal River while I am snorkeling.

I think once boardwalks are in place, and perhaps trail maps, this will be a wonderful site to visit. At the moment, there isn't really anything there.

I would prefer to see more recreational activities advertised. Also, rather than improving education related to environmental conservation, it would be more effective to encourage businesses around the refuge to use more biodegradable materials.

I would recommend it to any one. My friend we stayed with is going to swim with them again. My 9 year old said swimming with the manatees was on her bucket list. Laugh out loud.

It is a wonderful place. Volunteers are the best!

It is important to educate the public on the wildlife of the refuges so that they will understand the importance of preservation and will then actively contribute.

It was very nice. Getting to it was hard (rough river water) to many power boats.

Limit zones in which people may exceed idle speed in motor boats around National Wildlife Refuges.

Love you guys. Thanks for all the support!

More signs at the various areas of the refuge would be nice. The people are awesome.

Need stronger enforcement of no wake zones. Police overlooked speeding boats and jet ski's in the no wake zones. More than 3 violators traveling at high speeds right in front of police boats. A volunteer sheriff deputy came by during the morning at the springs but by mid afternoon many boats were tied to land violating the no tie rule at Three Sisters Springs.

My main comment goes back to disabled access via kayak to the springs. I do understand that the surrounding refuge needs to be protected, I do respect that. But, because there are many canal entrances, I feel a more convenient access for those who are disabled via kayak would make for more pleasurable and more frequent visitation. I would be willing to pay for these services so I could enjoy it more often. Thank you. [Signed and email address]

Our visit was to the outskirts of the refuge by way of kayaks.

Please continue allowing the tour operators to offer manatee trips.

Thank you for my opinion.

Thanks to the rangers for their cooperation.

The Crystal River area should be allowed to continue manatee tours. It seems to us they have enhanced the quality of life of these animals and heightened awareness of them.

The man that contacted me about this survey was very polite.

The other park was closed due to rain 2 days previously. It seemed like an overreaction to a bit of rain. We traveled 1200 miles to see the manatees, and if Homosassa Springs was open we would have gone there as well. Massachusetts does not close wildlife refuges for rain.

The tourists are ruining this refuge. You need to limit the number of us that can visit the springs each day/hour. Charging us may also limit the party boaters and folks that could care less about the manatees.

The viewing and swimming with the manatees was a trip that will always be remembered. The Three Sisters Springs was fantastic. We need to do everything possible to protect these natural wonders for future generations.

There were far too many people allowed into Three Sisters Springs at one time to provide a pleasant experience. There were a number of very loud and aggressive college-aged people that ruined the experience for other visitors, as well as disturbing the wildlife.

This trip was notable for being a snorkeler who was run into by rude boaters who couldn't control their canoes in small areas. The manatee patrols were quite visible, unfortunately no manatees were to be seen. This is a unique area that makes it difficult to have a visitors center. Making sure the information is available with the dive shops and boat operators, seems the most practical.

We do not like what they have done with Three Sisters Springs. They were supposed to keep it natural, but they took down all the trees surrounding the springs and built a walkway around it - now we feel like we are the attraction instead of the manatees. It was so much prettier before they messed it up and I'm sure tourism will decrease because of what they have done.

We enjoyed it very much and was well informed.

We entered the wildlife center from a commercial kayak rental shop, which provided many of the services found at welcome center (Maps, information, small museum, parking, restrooms, etc.). The shop was adjacent to the refuge.

We had a great time on the Manatee Swim Tours with Captain Sean.

We have a vacation house in Crystal River.

We loved the Manatee Springs State Park and will definitely return and stay for a week or longer. We'd like to take more time to explore the area. We stay in Florida three months every winter. [signed]

We loved this Refuge! Three Sisters Springs was a phenomenal place; I've never been anywhere like it, it's almost magical. We will definitely be back.

We participate in some sort of outdoor activity at least once per week. Our usual places are in and around Kings Bay.

We thoroughly enjoyed our visit to Crystal River. Manatee viewing season was nearly over we still enjoyed kayaking to the springs. I would recommend limiting the number of people or boats allowed in the spring for everyone's enjoyment/benefit. The folks at the refuge were extremely helpful on the phone when I called for information. Although some of the best information we received was from a local we spoke to at the bar/grill on our first night in town. This is the real Florida.

We went on a tour to swim with the manatees. Captain Larry was awesome. He even collected trash from the waterway bottom to discard later in the trash cans on shore.

We will be back again.

Wonderful visit with great volunteers.