

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

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We will return to explore Merritt Island more thoroughly and at different seasons. It is a wonderful place to experience birds. Thanks to all who make its preservation and operation possible - we like spending our tax dollars this way.—Survey comment from visitor to Merritt Island National Wildlife Refuge.



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

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Introduction

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

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

Organization of Results

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

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

Methods

Selecting Participating Refuges

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

Developing the Survey Instrument

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

Contacting Visitors

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

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

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

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

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

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

Interpreting the Results

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

Herein, the sample of visitors who responded to the survey are referred to simply as "visitors." However, when interpreting the results for Merritt Island NWR, any potential spatial and temporal sampling limitations specific to this refuge need to be considered when generalizing the results to the total population of visitors. For example, a refuge that sampled during a special event (for example, birding festival) held during the spring may have contacted a higher percentage of visitors who traveled greater than 50 miles to get to the refuge than the actual number of these people who would have visited throughout the calendar year (that is, oversampling of nonlocals). In contrast, another refuge may not have enough nonlocal visitors in the sample to adequately represent the beliefs and opinions of that group type. If the sample for a specific group type (for example, nonlocals, hunters, those visitors who paid a fee) is too low ($n < 30$), a warning is included. Additionally, the term "*this* visit" is used to reference the visit on which people were contacted to participate in the survey, which may or may not have been their most recent refuge visit.

Refuge Description for Merritt Island National Wildlife Refuge

Merritt Island NWR is one of the more unique refuges in the system, due to the possibility of viewing space shuttle take off and landings. Located on the eastern shore of Florida, about 45 miles east of Orlando, Merritt Island NWR was established in 1963 as an overlay of NASA's John F. Kennedy Space Center. The refuge consists of 140,000 acres and provides a wide variety of habitats for over 1,500 species of animals or plants: coastal dunes, saltwater estuaries and marshes, freshwater impoundments, scrub, pine flatwoods, and hardwood hammocks. Of the 500 species of wildlife, 15 are federally listed threatened or endangered species.

In 1962, NASA acquired 140,000 acres of land, water and marshes adjacent to Cape Canaveral to establish the JFK Space Center. As development of the entire area was not necessary, the U.S. Fish and Wildlife Service agreed to establish the refuge and manage most of the land. The northern 20 miles of the 35-mile long refuge is open to the public for various wildlife oriented activities.

Merritt Island attracts over 780,000 visitors annually (based on 2008 RAPP database; U.S. Fish and Wildlife Service, 2011, written comm.) for various activities. Visitors travel to Merritt Island NWR primarily for environmental education and interpretative programs, fishing, hunting, wildlife observation and photography. Hunting opportunities include duck, exotic species, upland bird and small game. Figure 1 displays a map of the refuge. For more information, please visit <http://www.fws.gov/merrittisland/Index.html#>.

Sampling at Merritt Island National Wildlife Refuge

A total of 356 visitors agreed to participate in the survey during the two sampling periods at the identified locations at Merritt Island NWR (table 2). In all, 270 visitors completed the survey for a 79% response rate and $\pm 5\%$ margin of error at the 95% confidence level.¹

Table 2. Sampling and response rate summary for Merritt Island NWR.

| Sampling period | Dates | Locations | Total contacts | Undeliverable addresses | Completed surveys | Response rate |
|-----------------|------------------------------|----------------------------|----------------|-------------------------|-------------------|---------------|
| 1 | 1/15/2011 to 1/29/2011 | Visitor Center | 187 | 7 | 146 | 81% |
| | | Black Point Wildlife Drive | | | | |
| | | Manatee Observation Deck | | | | |
| | | Bairs Cove Boat Ramp | | | | |
| 2 | 4/9/2011 to 4/23/2011 | Biolab Road | 169 | 9 | 124 | 78% |
| | | Visitor Center | | | | |
| | | Black Point Wildlife Drive | | | | |
| | | Manatee Observation Deck | | | | |
| Total | | Bairs Cove Boat Ramp | 356 | 16 | 270 | 79% |
| | | | | | | |

Selected Survey Results

Visitor and Trip Characteristics

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

Familiarity with the Refuge System

While we did not ask visitors to identify the mission of the National Wildlife Refuge System or the U.S. Fish and Wildlife Service, visitors to Merritt Island NWR reported that before participating in the survey, they were aware of the role of the U.S. Fish and Wildlife Service in managing national wildlife refuges (85%) and that the Refuge System has the mission of conserving, managing, and restoring fish,

¹ The margin of error (or confidence interval) is the error associated with the results related to the sample and population size. A margin of error of $\pm 5\%$, for example, means if 55% of the sample answered a survey question in a certain way, then 50–60% of the entire population would have answered that way. The margin of error is calculated with an 80/20 response distribution, assuming that for any given dichotomous choice question, approximately 80% of respondents selected one choice and 20% selected the other (Salant and Dillman, 1994).

wildlife, plants and their habitat (90%). Positive responses to these questions concerning the management and mission of the Refuge System do not indicate the degree to which these visitors understand the day-to-day management practices of individual refuges, only that visitors feel they have a basic knowledge of who manages refuges and why. Compared to other public lands, many visitors feel that refuges provide a unique recreation experience (92%; see Appendix B for visitor comments on “What Makes National Wildlife Refuges Unique?”); however, reasons for why visitors find refuges unique are varied and may not directly correspond to their understanding of the mission of the Refuge System. Most visitors to Merritt Island NWR had been to at least one other National Wildlife Refuge in the past year (71%), with an average of 5 visits to other refuges during the past 12 months.

Visiting This Refuge

Some surveyed visitors (43%) had only been to Merritt Island NWR once in the past 12 months, while most had been multiple times (57%). These repeat visitors went to the refuge an average of 12 times during that same 12-month period. Visitors used the refuge during only one season (61%), during multiple seasons (23%), and year-round (16%).

Most visitors first learned about the refuge from friends/relatives (50%), refuge printed information (23%), or signs on the highway (19%; fig. 2). Key information sources used by visitors to find their way to this refuge include previous knowledge (50%), signs on highways (48%), or a GPS navigation system (25%; fig. 3).

Some visitors (37%) lived in the local area (within 50 miles of the refuge), whereas 63% were nonlocal visitors. For most local visitors, Merritt Island NWR was the primary purpose or sole destination of their trip (81%; table 3). For most nonlocal visitors, the refuge was one of many equally important reasons or destinations for their trip (55%). Local visitors reported that they traveled an average of 28 miles to get to the refuge, while nonlocal visitors traveled an average of 473 miles. Figure 4 shows the residence of visitors travelling to the refuge. About 50% of visitors travelling to Merritt Island were from Florida.

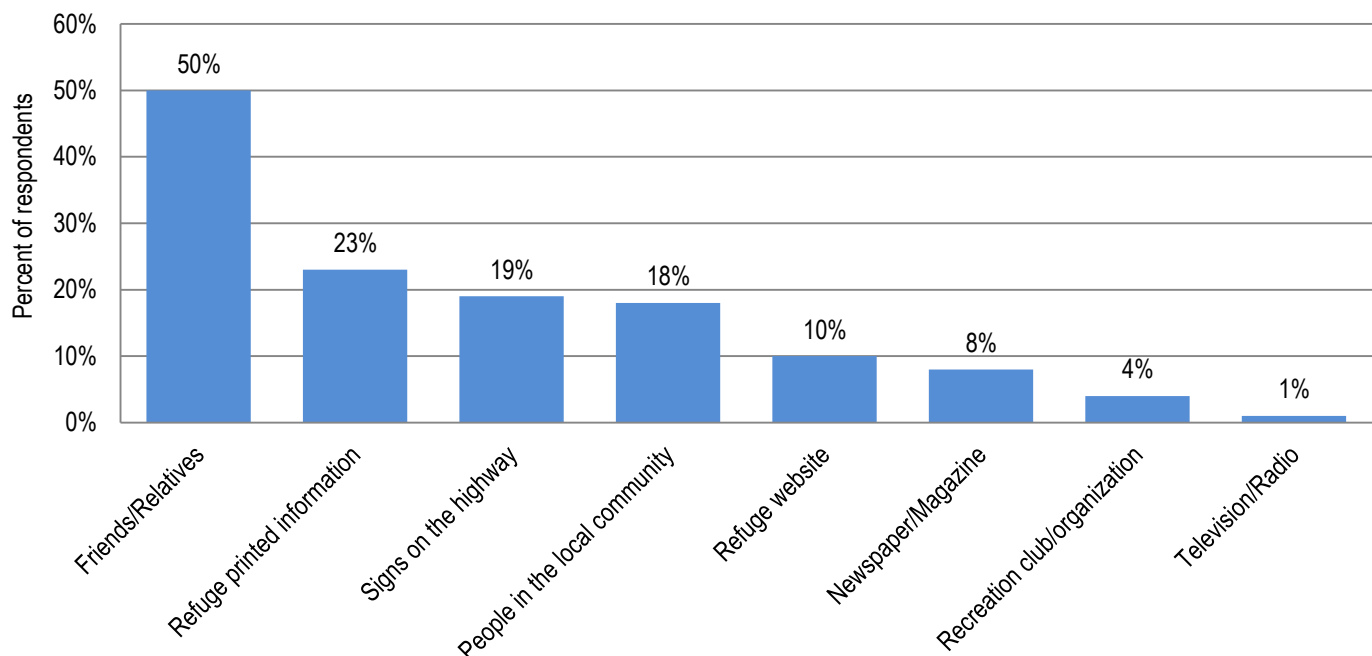


Figure 2. How visitors first learned or heard about Merritt Island NWR (n = 262).

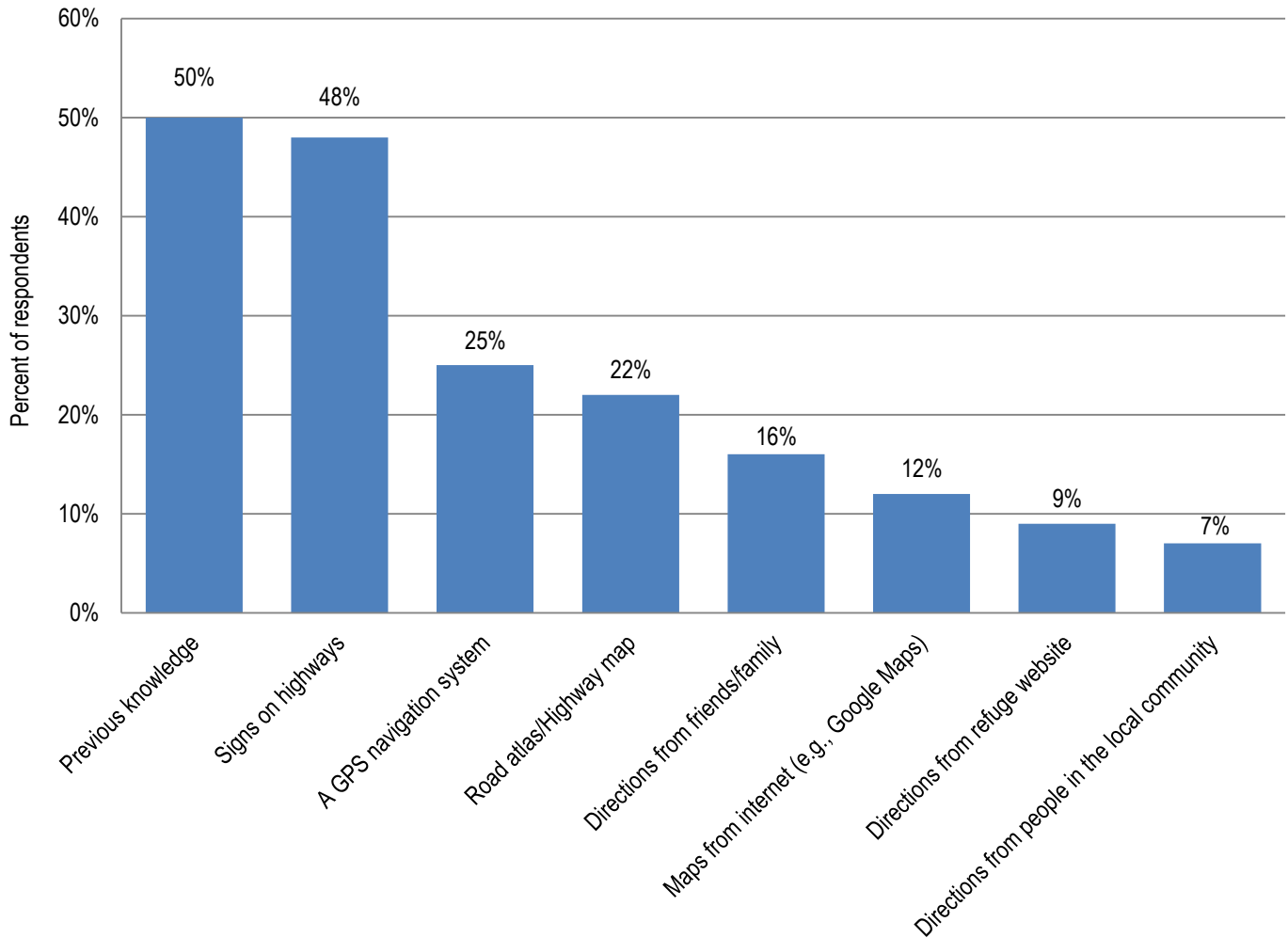


Figure 3. Resources used by visitors to find their way to Merritt Island NWR during *this* visit (n = 268).

Table 3. Influence of Merritt Island NWR on visitors' decision to take *this* trip.

| Visitors | Visiting this refuge was... | | |
|----------|-----------------------------|--|--------------------|
| | the primary reason for trip | one of many equally important reasons for trip | an incidental stop |
| Nonlocal | 25% | 55% | 20% |
| Local | 81% | 14% | 5% |
| Total | 45% | 40% | 15% |

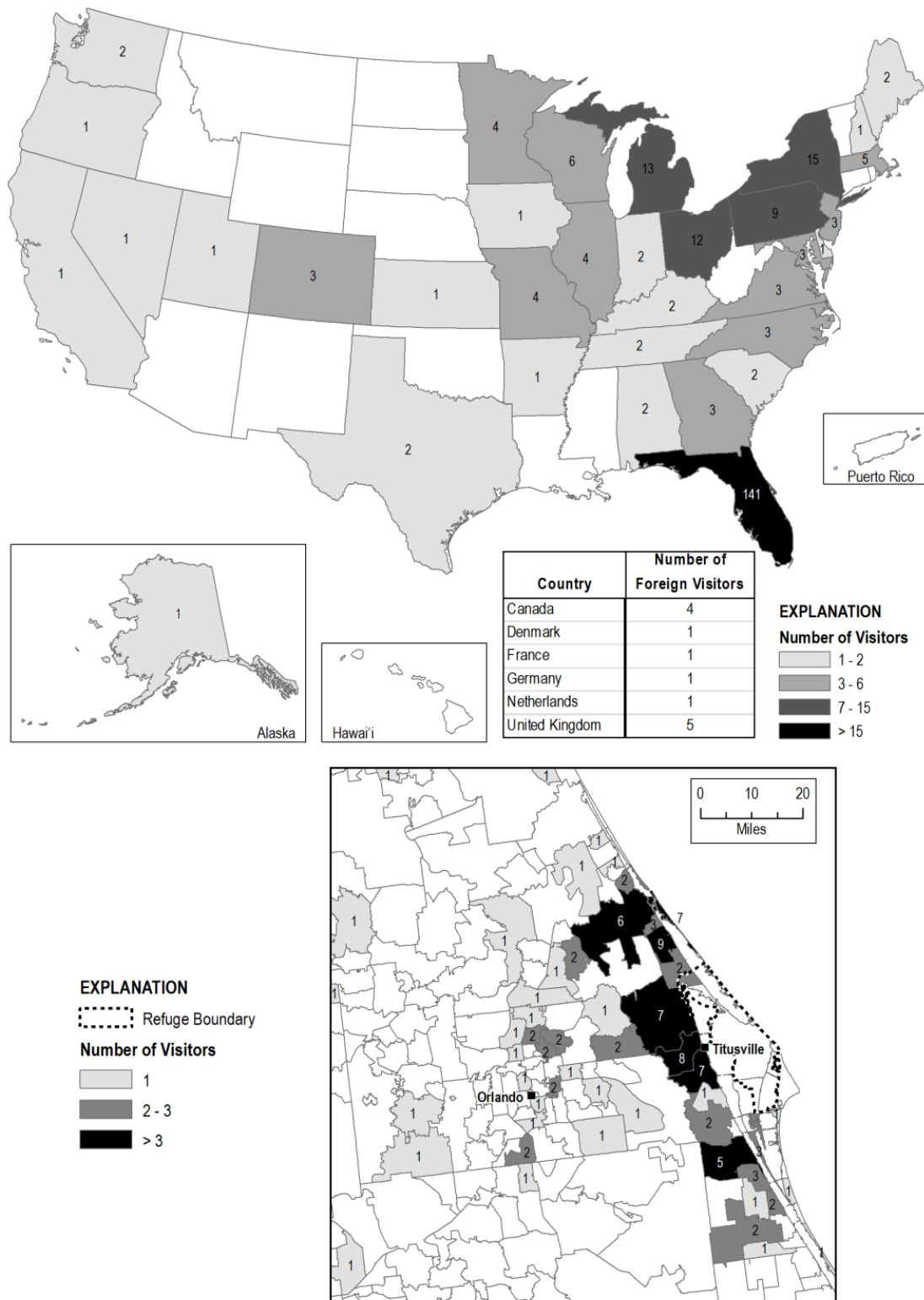


Figure 4. Number of visitors travelling to Merritt Island NWR by residence. Top map shows residence by state and bottom map shows residence by zip codes near the refuge (n = 270).

Surveyed visitors reported that they spent an average of 5 hours at Merritt Island NWR during one day there (a day visit is assumed to be 8 hours). However, the most frequently reported length of visit during one day was actually 8 hours (28%). The key modes of transportation used by visitors to travel around the refuge were private vehicle (94%), and walking/hiking (20%; fig. 5). Most visitors indicated they were part of a group on their visit to this refuge (67%), travelling primarily with family and friends (table 4).

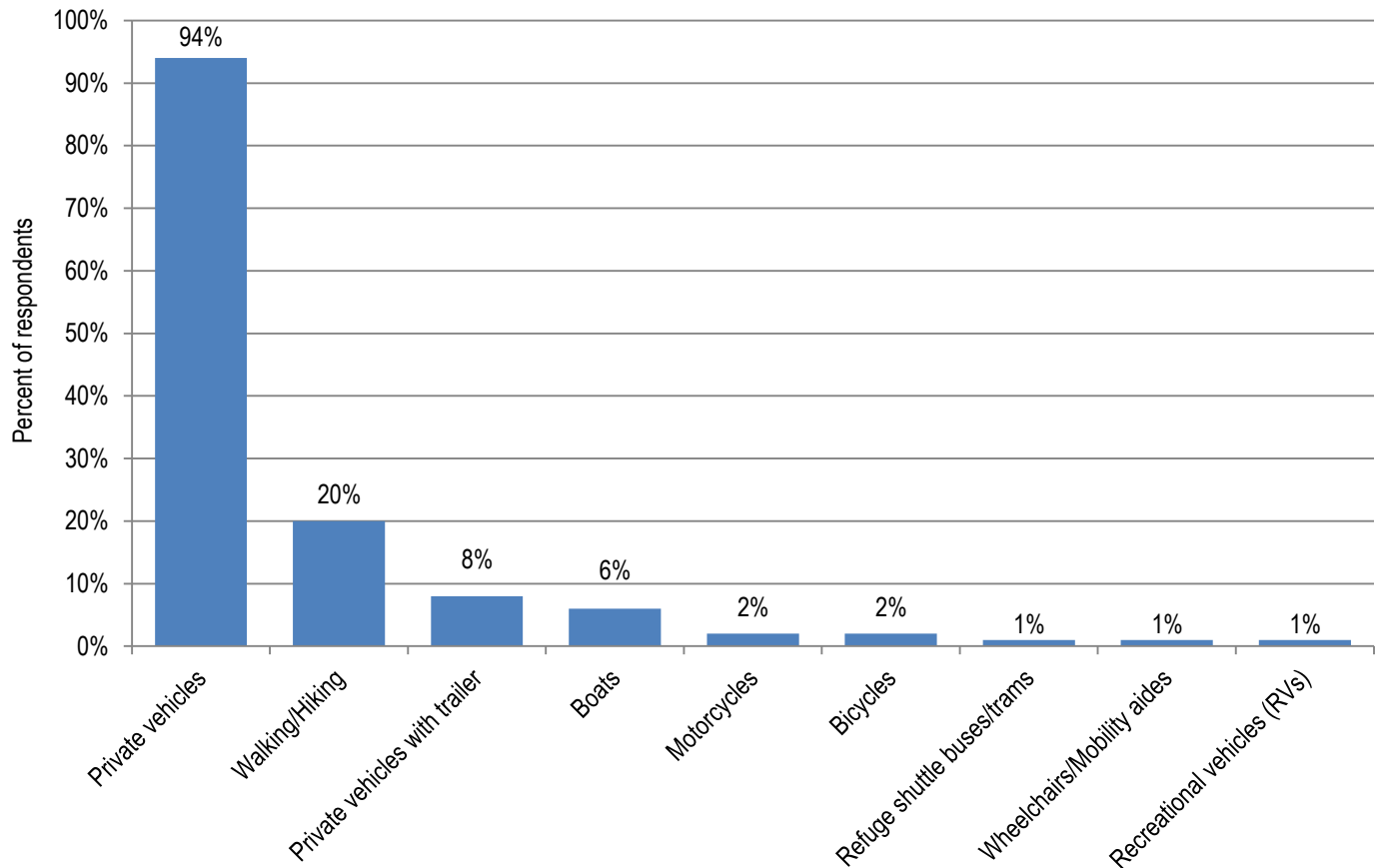


Figure 5. Modes of transportation used by visitors to Merritt Island NWR during *this* visit (n = 267).

Table 4. Type and size of groups visiting Merritt Island NWR (for those who indicated they were part of a group, n = 177).

| Group type | Percent (of those traveling in a group) | Average group size | | |
|-----------------------------|---|--------------------|--------------------|------------------|
| | | Number of adults | Number of children | Total group size |
| Family/Friends | 91% | 3 | 0 | 3 |
| Commercial tour group | 0% | 0 | 0 | 0 |
| Organized club/School group | 4% | 13 | 7 | 20 |
| Other group type | 5% | 13 | 5 | 18 |

Surveyed visitors participated in a variety of refuge activities during the past 12 months (fig. 6); the top three activities reported were wildlife observation (78%), bird watching (66%), and auto tour route/driving (60%). The primary reasons for their most recent visit included wildlife observation (32%), bird watching (29%), and fishing (14%; fig. 7). The visitor center was used by 68% of visitors, mostly to view the exhibits (83%), stop to use the facilities (for example, get water, use restroom; 80%), ask information of staff/volunteers (80%), and visit the gift shop/bookstore (75%; fig. 8).

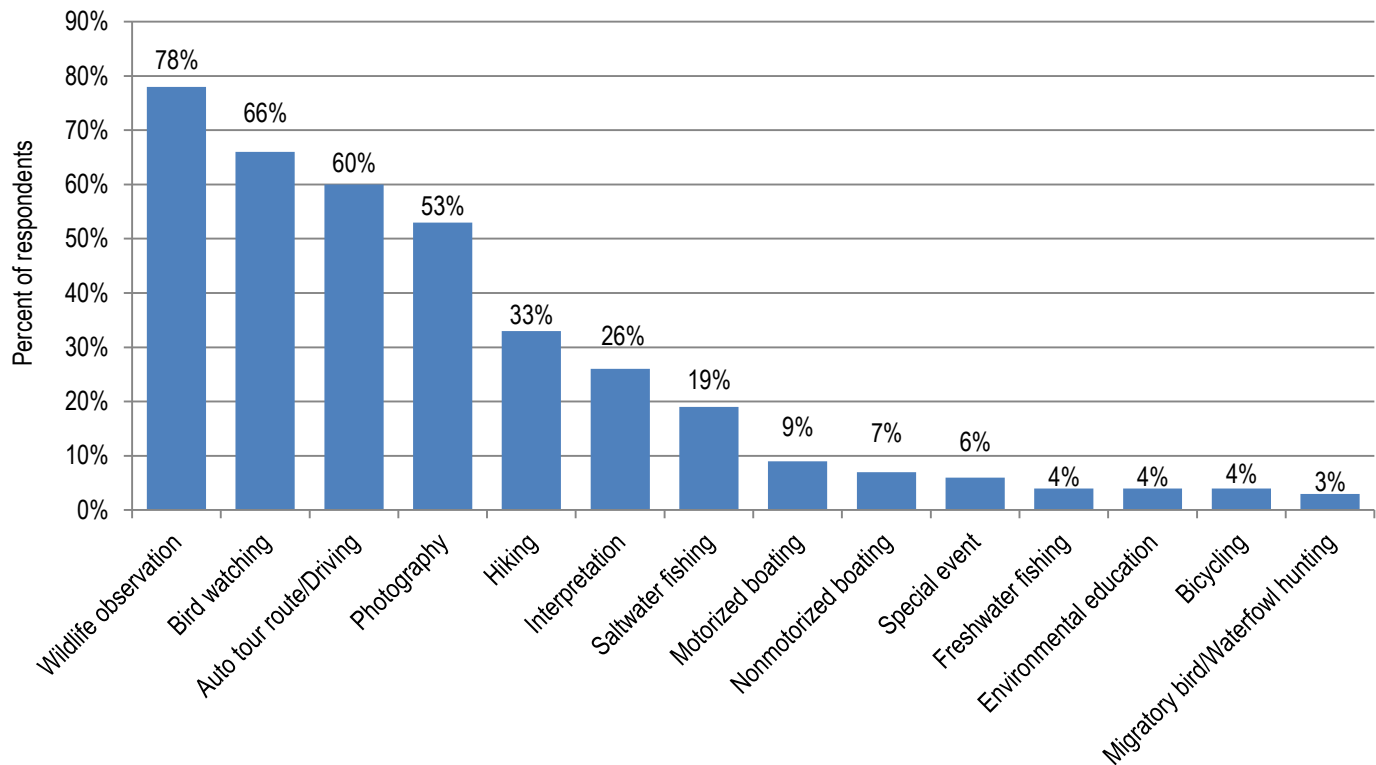


Figure 6. Activities in which visitors participated during the past 12 months at Merritt Island NWR (n = 268). See Appendix B for a listing of “other” activities.

Visitor Characteristics

Nearly all (95%) surveyed visitors to Merritt Island NWR indicated that they were citizens or permanent residents of the United States. Only those visitors 18 years or older were sampled. Visitors were a mix of 53% male with an average age of 60 years and 47% female with an average age of 59 years. Visitors, on average, reported they had 15 years of formal education (college or technical school). The median level of income was \$50,000–\$74,999. See Appendix A for more demographic information. In comparison, the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation found that participants in wildlife watching and hunting on public land were 55% male and 45% female with an average age of 46 years, an average level of education of 14 years (associate degree or two years of college), and a median income of \$50,000–\$74,999 (Harris, 2011, personal communication). Compared to the U.S. population, these 2006 survey participants are more likely to be male, older, and have higher education and income levels (U.S. Department of the Interior and U.S. Department of Commerce, 2007).

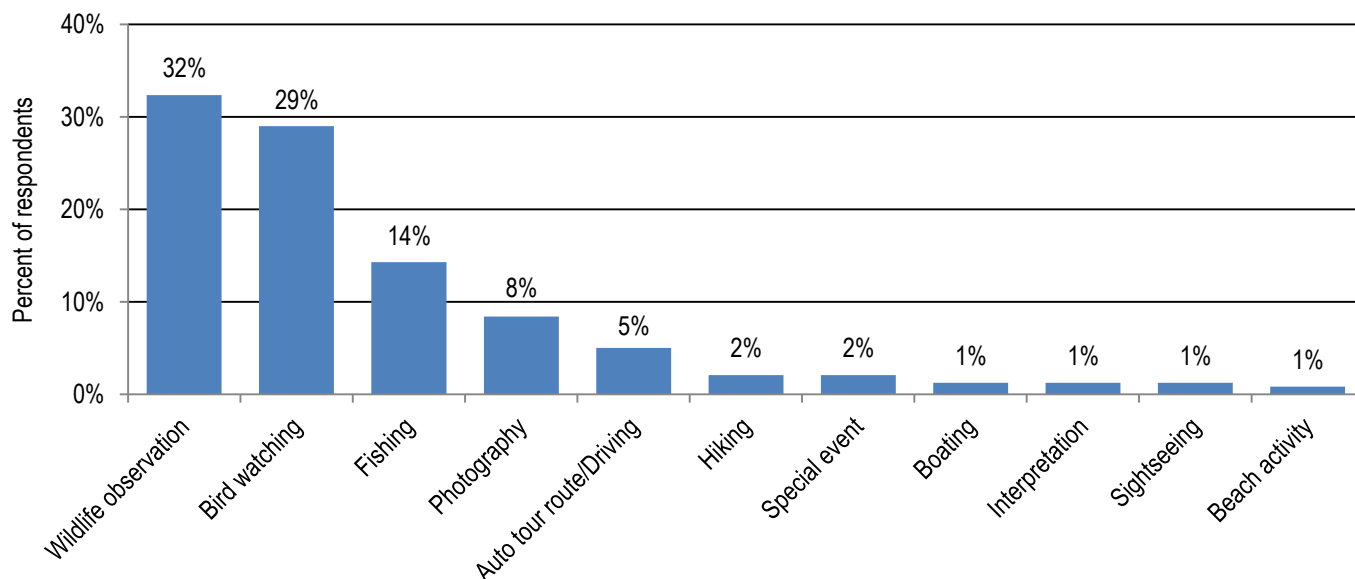


Figure 7. The primary activity in which visitors participated during *this* visit to Merritt Island NWR (n = 238). See Appendix B for a listing of “other” activities.

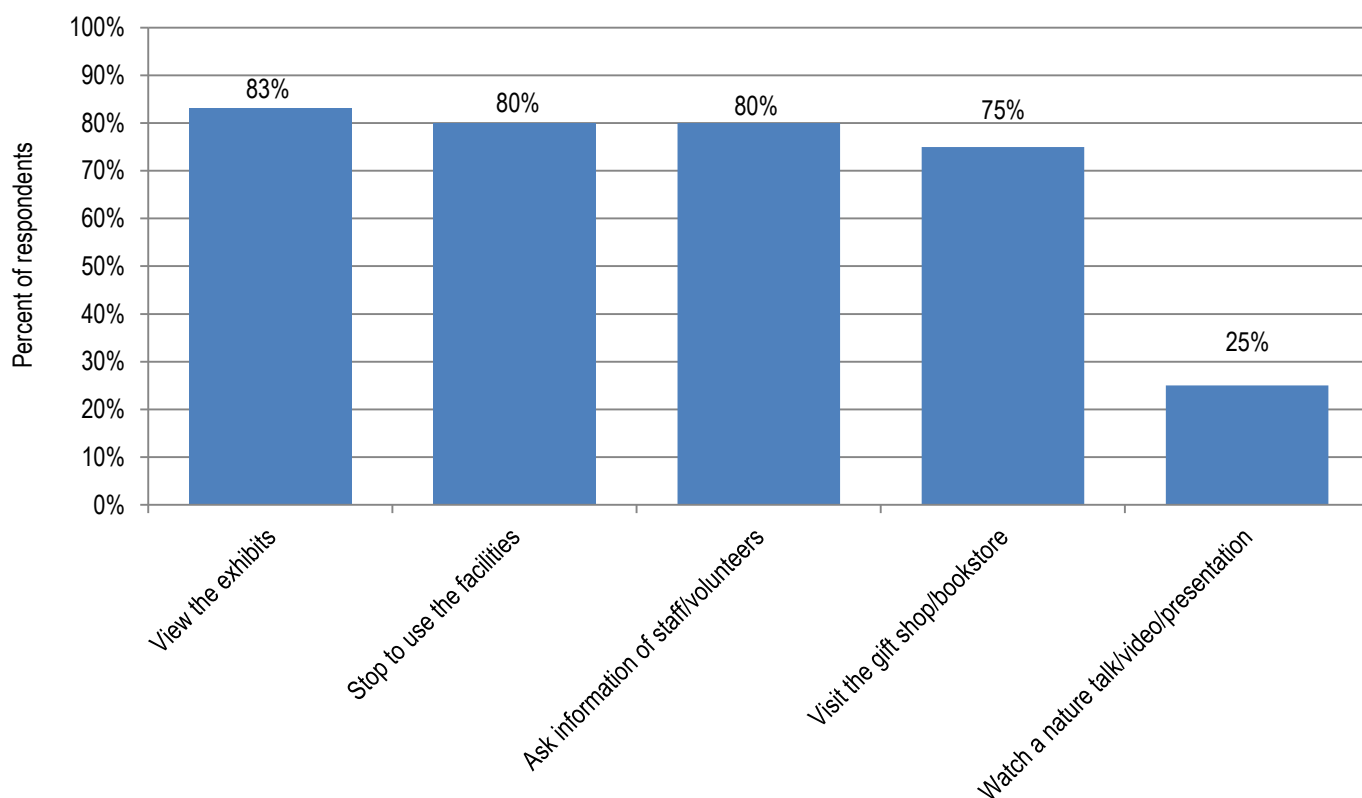


Figure 8. Use of the visitor center at Merritt Island NWR (for those visitors who indicated they used the visitor center, n = 182).

Visitor Spending in Local Communities

Tourists usually buy a wide range of goods and services while visiting an area. Major expenditure categories include lodging, food, supplies, and gasoline. Spending associated with refuge visitation can generate considerable economic benefits for the local communities near a refuge. For example, more than 34.8 million visits were made to national wildlife refuges in fiscal year 2006; these visits generated \$1.7 billion in sales, almost 27,000 jobs, and \$542.8 million in employment income in regional economies (Carver and Caudill, 2007). Information on the amount and types of visitor expenditures can illustrate the economic importance of refuge visitor activities to local communities. Visitor expenditure information also can be used to analyze the economic impact of proposed refuge management alternatives.

A region (and its economy) is typically defined as all counties within 50 miles of a travel destination (Stynes, 2008). Visitors that live within the local 50-mile area of a refuge typically have different spending patterns than those that travel from longer distances. During the two sampling periods, 37% of visitors to Merritt Island NWR indicated that they live within the local area. Nonlocal visitors (63%) stayed in the local area, on average, for 6 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 \$91 per person per day and local visitors spent an average of \$52 per person per day in the local area. Several factors should be considered when estimating the economic importance of refuge visitor spending in the local communities. These include the amount of time spent at the refuge, influence of refuge on decision to take this trip, and the representativeness of primary activities of the sample of surveyed visitors compared to the general population. Controlling for these factors is beyond the scope of the summary statistics presented in this report. Detailed refuge-level visitor spending profiles which do consider these factors will be developed during the next phase of analysis.

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

| Visitors | n ¹ | Median | Mean | Standard deviation | Minimum | Maximum |
|----------|----------------|--------|------|--------------------|---------|---------|
| Nonlocal | 147 | \$65 | \$91 | \$93 | \$0 | \$513 |
| Local | 74 | \$25 | \$52 | \$74 | \$0 | \$375 |

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

Note: For each respondent, reported expenditures were divided by the number of persons in their group that shared expenses in order to determine the spending per person per trip. This was then divided by the number of days spent in the local area to determine the spending per person per day for each respondent. For respondents who reported spending less than one full day, trip length was set equal to one day. These visitor spending estimates are appropriate for the sampling periods selected by refuge staff (see table 2 for sampling period dates and figure 7 for the primary visitor activities). They may not be representative of the total population of visitors to this refuge.

Visitor Opinions about This Refuge

National wildlife refuges provide visitors with a variety of services, facilities, and wildlife-dependent recreational opportunities. Understanding visitors' perceptions of their refuge experience is a key component of the Refuge System mission as it pertains to providing high-quality wildlife-dependent recreational opportunities. Having a baseline understanding of visitor experience can inform management decisions to better balance visitors' expectations with the Refuge System mission. Recent studies in outdoor recreation have included an emphasis on declining participation in traditional activities such as hunting and an increasing need to connect the next generation to nature and wildlife. These factors highlight the importance of current refuge visitors as a key constituency in wildlife conservation. A better understanding is increasingly needed to better manage the visitor experience and to address the challenges of the future.

Surveyed visitors' overall satisfaction with the services, facilities, and recreational opportunities provided at Merritt Island NWR were as follows (fig. 9):

- 96% were satisfied with the recreational activities and opportunities,
- 95% were satisfied with the information and education about the refuge and its resources,
- 97% were satisfied with the services provided by employees or volunteers, and
- 97% were satisfied with the refuge's job of conserving fish, wildlife and their habitats.

Although 26% (n = 67) of visitors indicated they paid a fee to enter Merritt Island NWR, the refuge does not have an entrance fee. Based on open-ended comments, it may be that visitors to the refuge also visited Canaveral National Seashore, which does charge a fee.

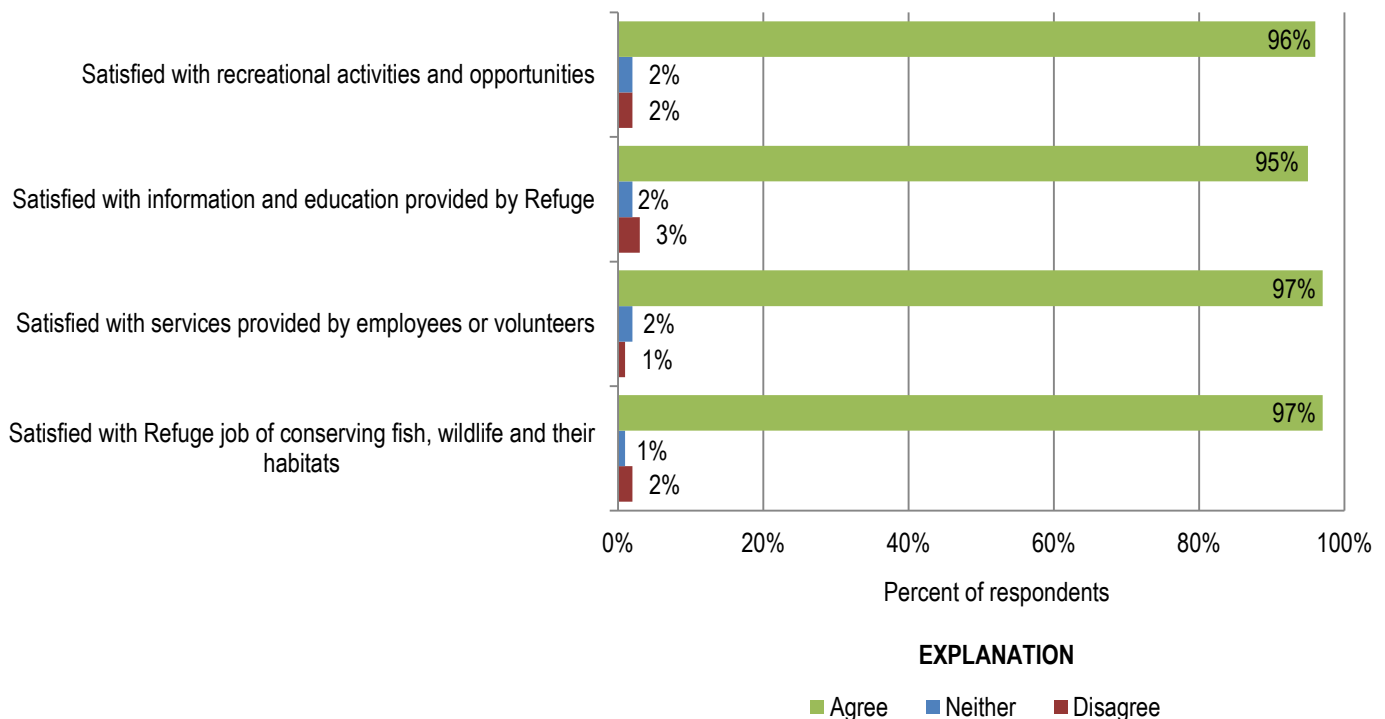


Figure 9. Overall satisfaction with Merritt Island NWR during *this* visit (n ≥ 253).

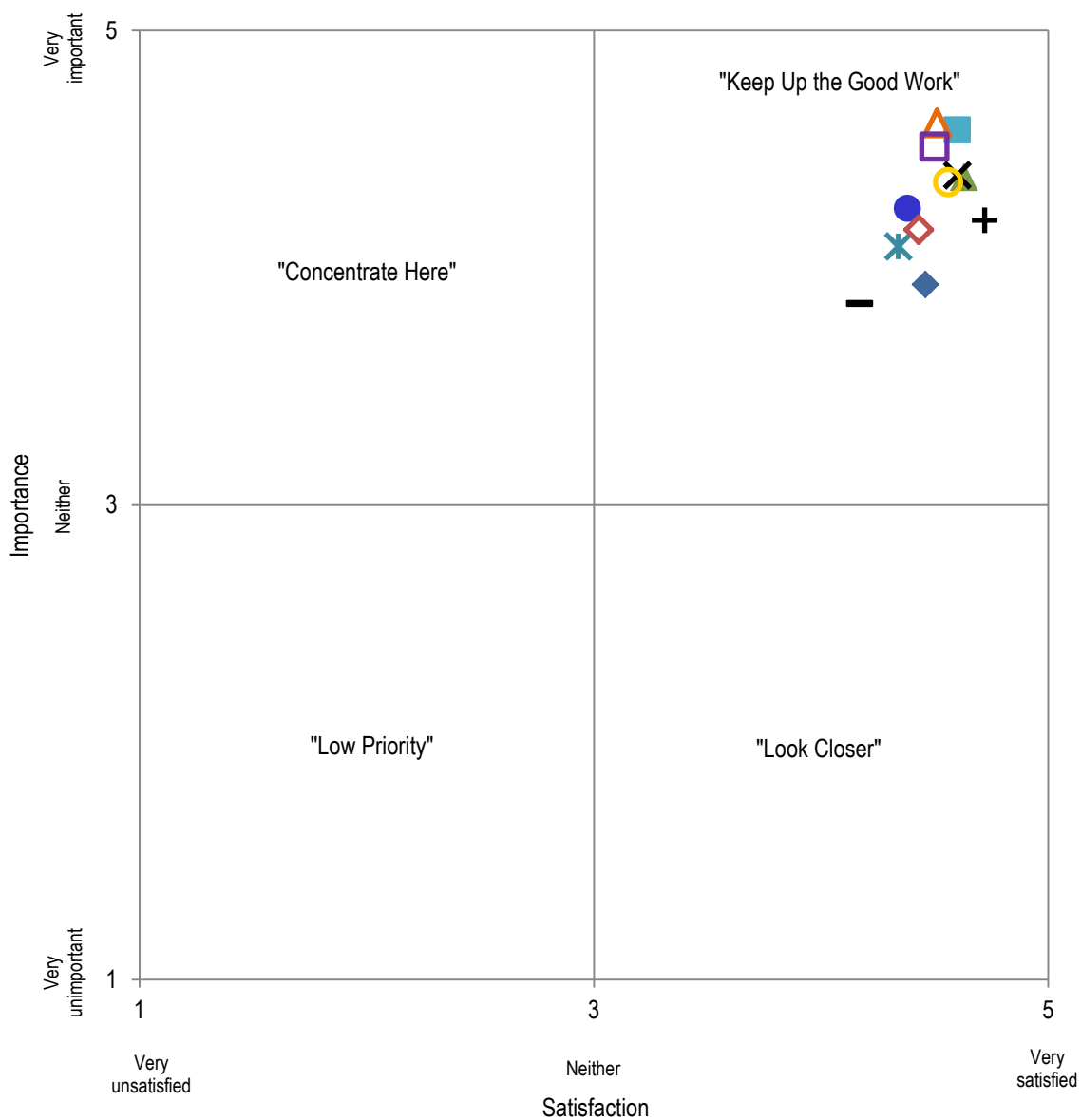
Importance/Satisfaction Ratings

Comparing the importance and satisfaction ratings for visitor services provided by refuges can help to identify how well the services are meeting visitor expectations. The importance-performance framework presented in this section is a tool that includes the importance of an attribute to visitors in relation to their satisfaction with that attribute. Drawn from marketing research, this tool has been applied to outdoor recreation and visitation settings (Martilla and James, 1977; Tarrant and Smith, 2002). Results for the attributes of interest are segmented into one of four quadrants (modified for this national study):

- Keep Up the Good Work = high importance/high satisfaction;
- Concentrate Here = high importance/low satisfaction;
- Low Priority = low importance/low satisfaction; and
- Look Closer = low importance/high satisfaction.

Graphically plotting visitors' importance and satisfaction ratings for different services, facilities, and recreational opportunities provides a simple and intuitive visualization of these survey measures. However, this tool is not without its drawbacks. One is the potential for variation among visitors regarding their expectations and levels of importance (Vaske et al., 1996; Bruyere et al., 2002; Wade and Eagles, 2003), and certain services or recreational opportunities may be more or less important for different segments of the visitor population. For example, hunters may place more importance on hunting opportunities and amenities such as blinds, while school group leaders may place more importance on educational/informational displays than would other visitors. This potential for highly varied importance ratings needs to be considered when viewing the average results of this analysis of visitors to Merritt Island NWR. This consideration is especially important when reviewing the attributes that fall into the "Look Closer" quadrant. In some cases, these attributes may represent specialized recreational activities in which a small subset of visitors participate (for example, hunting, kayaking) or facilities and services that only some visitors experience (for example, exhibits about the refuge). For these visitors, the average importance of (and potentially the satisfaction with) the attribute may be much higher than it would be for the overall population of visitors.

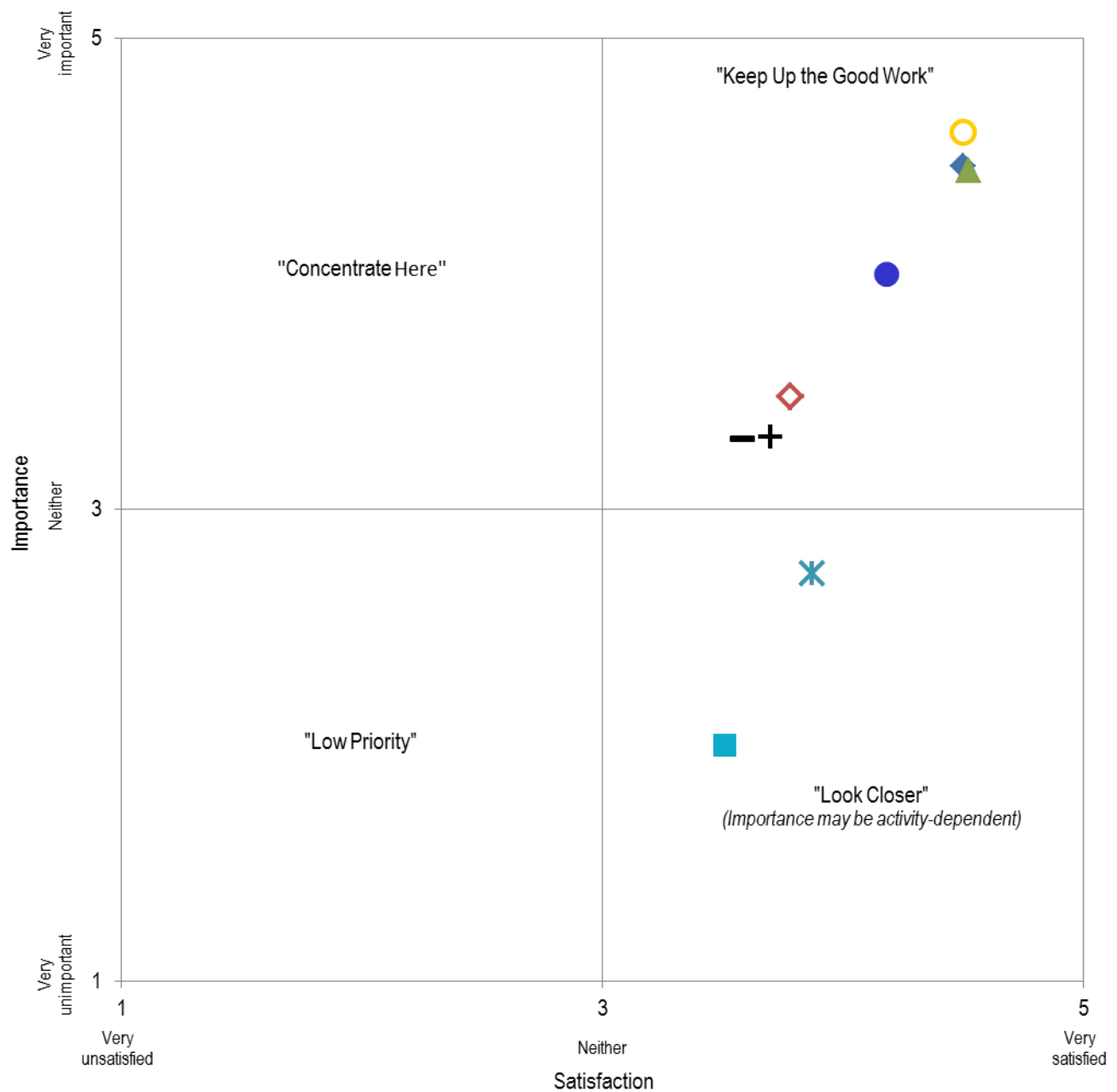
Figures 10-12 depict surveyed visitors' importance-satisfaction results for refuge services and facilities, recreational opportunities, and transportation-related features at Merritt Island NWR, respectively. All refuge services and facilities fell in the "Keep Up the Good Work" quadrant (fig. 10). Nearly all refuge recreational opportunities fell in the "Keep Up the Good Work" quadrant except hunting and fishing opportunities, which fell into the "Look Closer" quadrant (fig. 11). The average importance for fishing opportunities in the "Look Closer" quadrant was much higher among visitors who indicated they participated in this activity ($n = 45$; mean importance score = 4.5), as compared to visitors who did not participate in fishing at all (mean importance score = 2.3). The average importance of hunting activities may be higher among visitors who have participated in this activity during the past 12 months; however, there were not enough individuals in the sample to evaluate the responses of such participants. All transportation-related features fell in the "Keep Up the Good Work" quadrant (fig. 12).



EXPLANATION

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

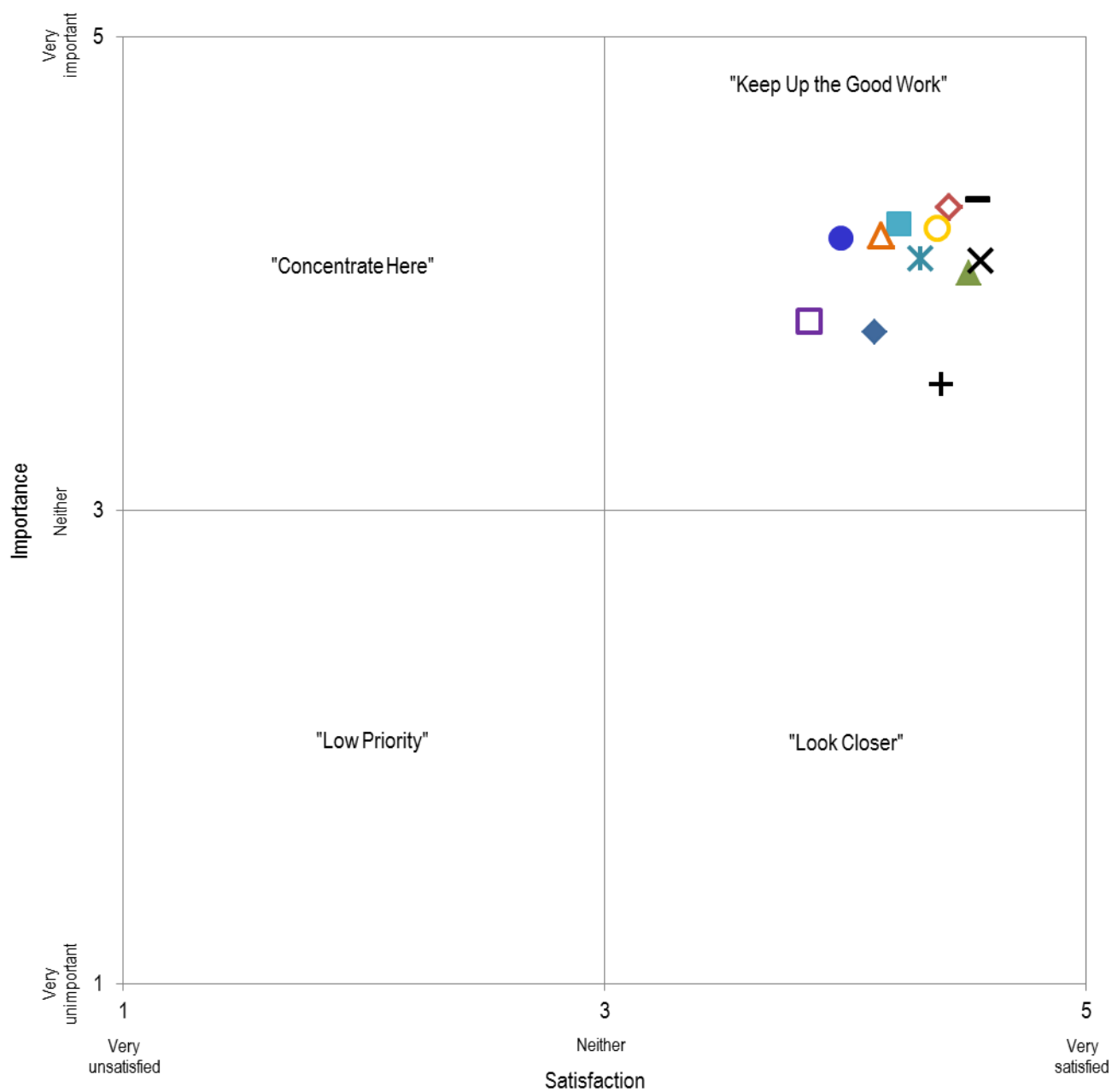
Figure 10. Importance-satisfaction ratings of services and facilities provided at Merritt Island NWR.



EXPLANATION

- | | | |
|-------------------------------|----------------------------------|-----------------------------|
| ◆ Bird watching opportunities | ○ Wildlife viewing opportunities | ▲ Photography opportunities |
| ■ Hunting opportunities | ✕ Fishing opportunities | ● Hiking opportunities |
| ◇ Kayak/Canoe opportunities | — Bicycling opportunities | + Volunteer opportunities |

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



EXPLANATION

- | | | | |
|---------------------------------|-------------------------------|--------------------------------|----------------------------------|
| ◆ Condition of roads | + Condition of parking areas | ▲ Condition of bridges | ✕ Condition of trails/boardwalks |
| ✕ Number of parking places | ● Number of pullovers | ◊ Safety of driving conditions | — Safety of Refuge entrances |
| ○ Directional signs on highways | ■ Directional signs on Refuge | △ Directional signs on trails | □ Disabled access |

Figure 12. Importance-satisfaction ratings of transportation-related features at Merritt Island NWR.

Visitor Opinions about National Wildlife Refuge System Topics

One goal of this national visitor survey was to identify visitor trends across the Refuge System to more effectively manage refuges and provide visitor services. Two important issues to the Refuge System are transportation on refuges and communicating with visitors about climate change. The results to these questions will be most meaningful when they are evaluated in aggregate (data from all participating refuges together). However, basic results for Merritt Island NWR are reported here.

Alternative Transportation and the National Wildlife Refuge System

Visitors use a variety of transportation means to access and enjoy national wildlife refuges. While many visitors arrive at the refuge in a private vehicle, alternatives such as buses, trams, watercraft, and bicycles are increasingly becoming a part of the visitor experience. Previous research has identified a growing need for transportation alternatives within the Refuge System (Krechmer et al., 2001); however, less is known about how visitors perceive and use these new transportation options. An understanding of visitors' likelihood of using certain alternative transportation options can help in future planning efforts. Visitors were asked their likelihood of using alternative transportation options at national wildlife refuges in the future.

Of the six Refuge System-wide alternative transportation options listed on the survey, the majority of Merritt Island NWR visitors who were surveyed were likely to use the following options at national wildlife refuges in the future (fig. 13):

- a boat that goes to different points on Refuge waterways;
- an offsite parking lot that provides trail access; and
- a bus/tram that provides a guided tour.

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

When asked about using alternative transportation at Merritt Island NWR specifically, 36% of visitors indicated they were unsure whether it would enhance their experience; however, some visitors thought alternative transportation would enhance their experience (25%) and others thought it would not (40%).

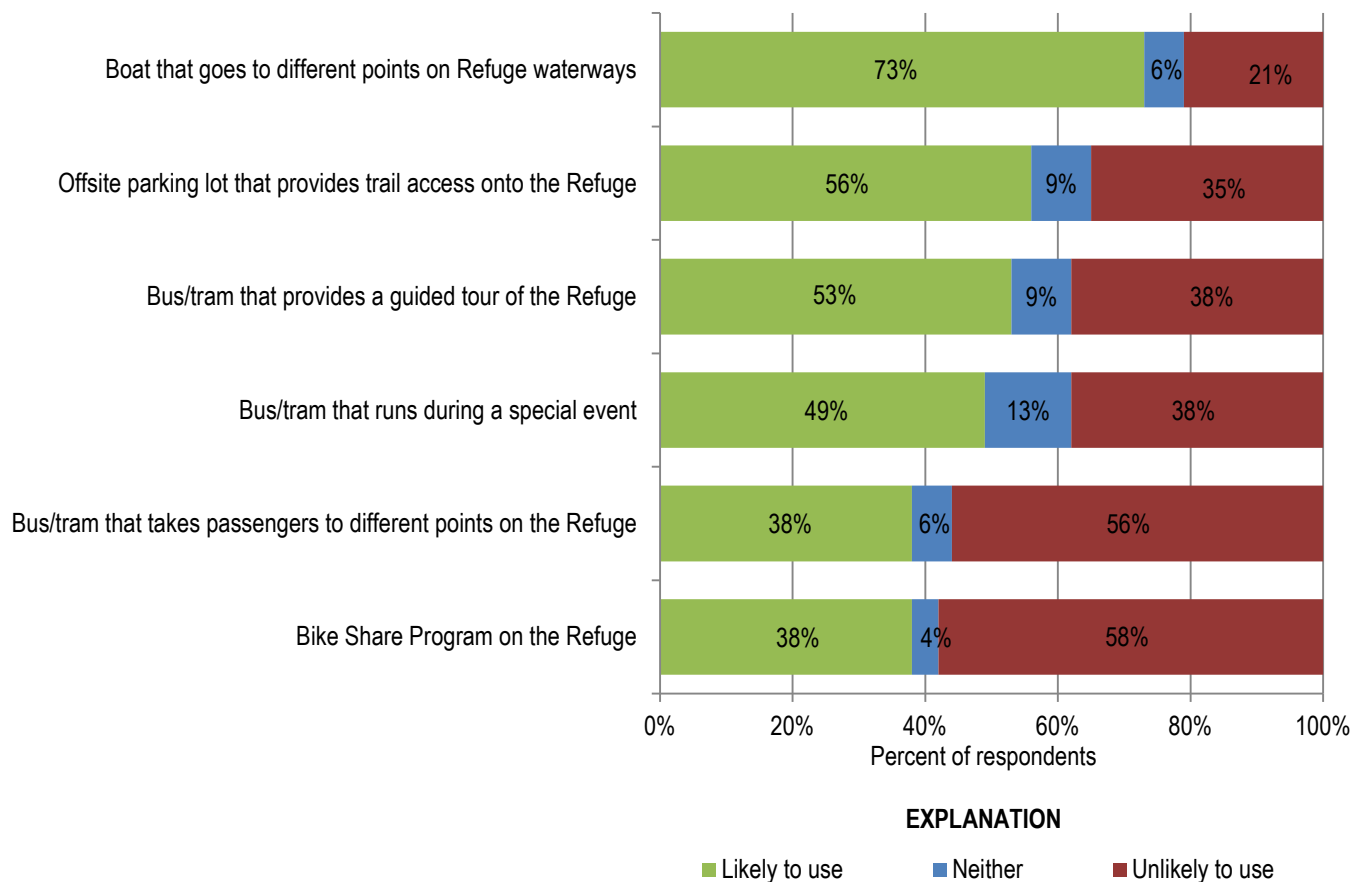


Figure 13. Visitors' likelihood of using alternative transportation options at national wildlife refuges in the future (n ≥ 255).

Climate Change and the National Wildlife Refuge System

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

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

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

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

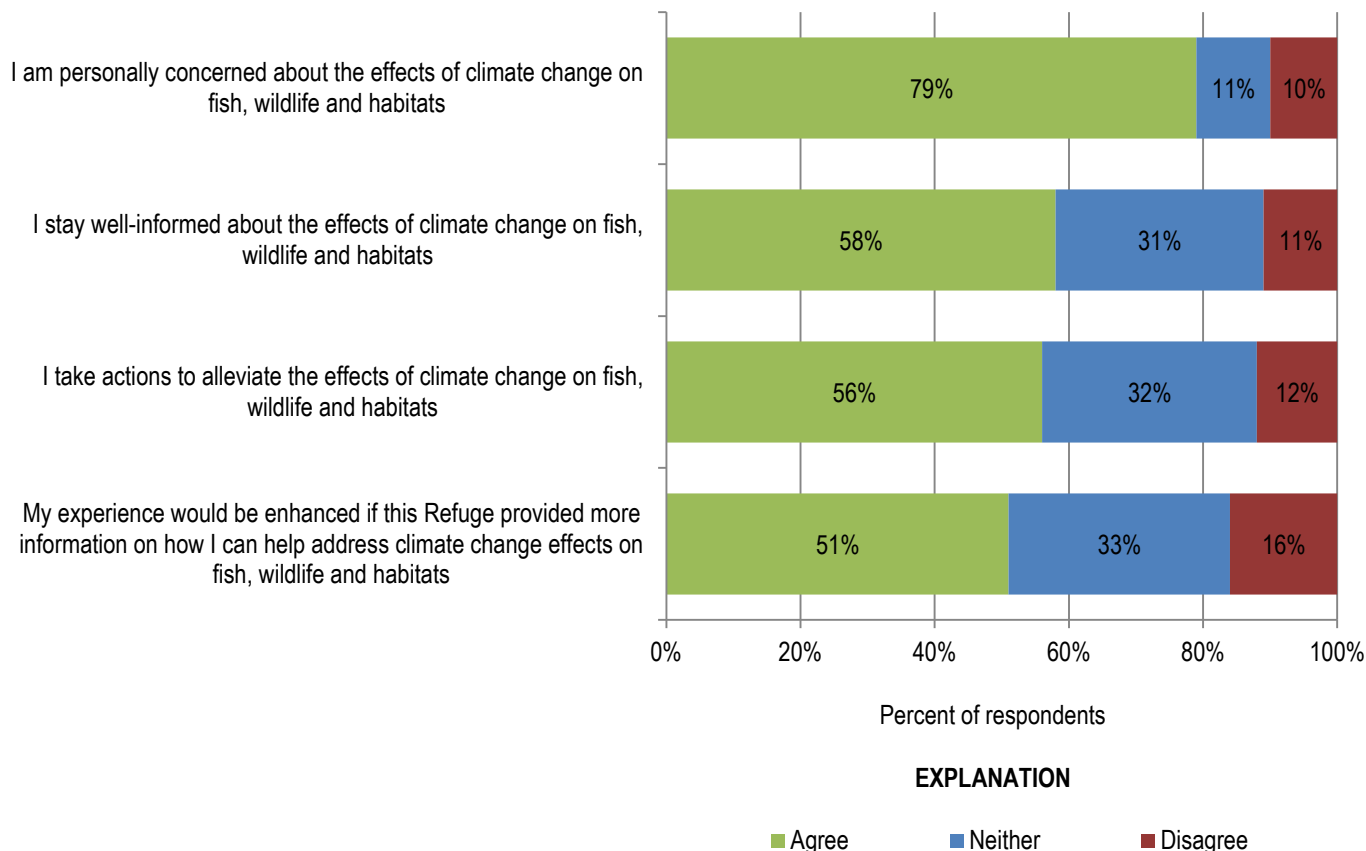


Figure 14. Visitors’ personal involvement with climate change related to fish, wildlife and their habitats (n ≥ 254).

These results are most useful when coupled with responses to belief statements about the effects of climate change on fish, wildlife and their habitats, because such beliefs may be used to develop message frames (or ways to communicate) about climate change with a broad coalition of visitors. Framing science-based findings will not alter the overall message, but rather place the issue in a context in which different audience groupings can relate. The need to mitigate impacts of climate change on Refuges could be framed as a quality-of-life issue (for example, preserving the ability to enjoy fish, wildlife, plants, and their habitat) or an economic issue (for example, maintaining tourist revenues, supporting economic growth through new jobs/technology).

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

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

The majority of visitors did *not* believe:

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

Such information suggests that certain beliefs resonate with a greater number of visitors than other beliefs do. This information is important to note because just over half of visitors (51%) indicated that their experience would be enhanced if Merritt Island NWR provided information about how they could help address the effects of climate change on fish, wildlife, and their habitats (fig. 14), and framing the information in a way that resonates most with visitors may result in a more engaged public who support strategies aimed at alleviating climate change pressures. Data will be analyzed further at the aggregate, or national level, to inform the development of a comprehensive communication strategy about climate change.

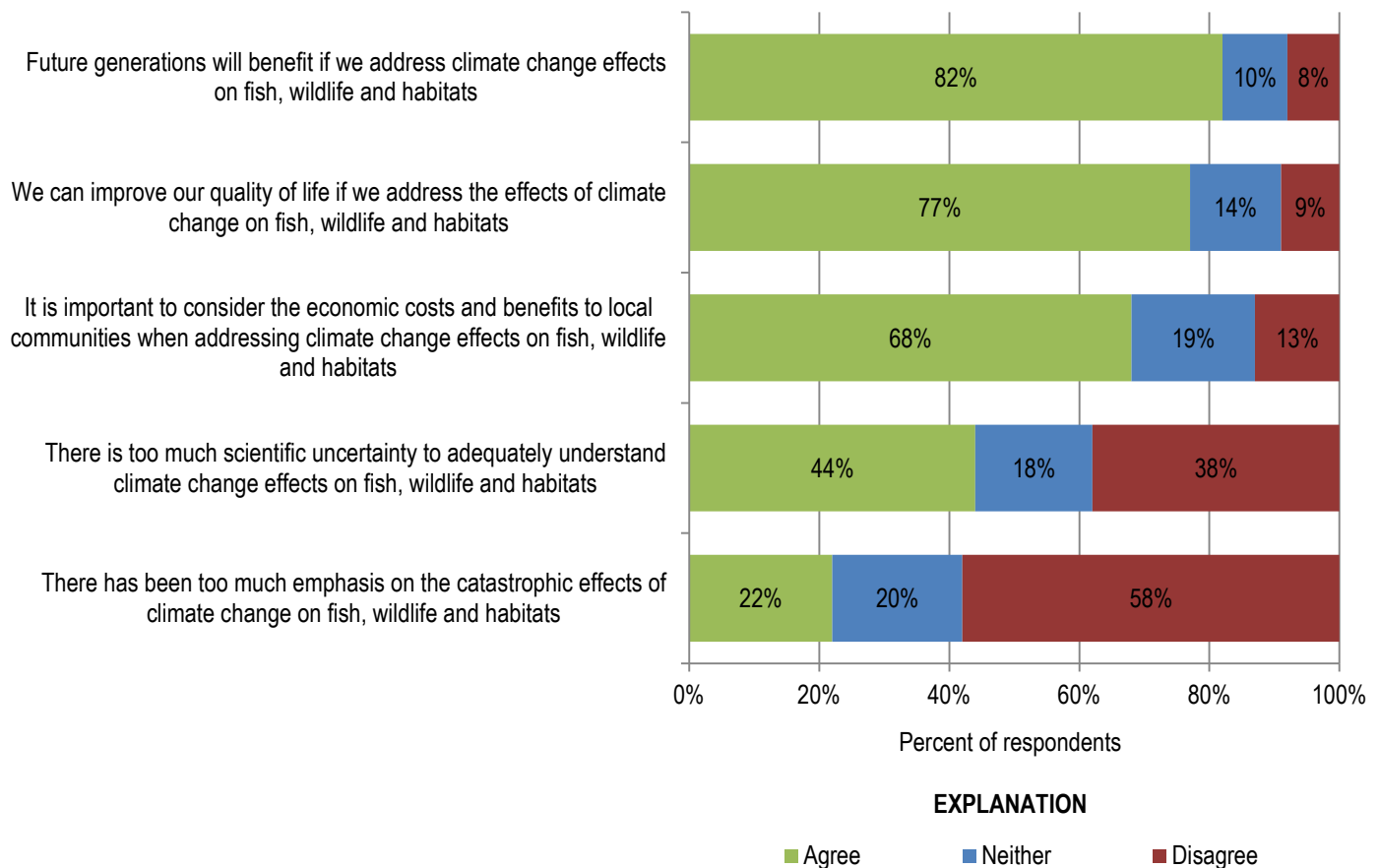


Figure 15. Visitors’ beliefs about the effects of climate change on fish, wildlife and their habitats (n ≥ 252).

Conclusion

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

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

References

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

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

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National Wildlife Refuge Visitor Survey



PLEASE READ THIS FIRST:

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

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

SECTION 1. Your visit to this Refuge

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

| | | |
|--|---|--|
| <input type="checkbox"/> 0% Big game hunting | <input type="checkbox"/> 33% Hiking | <input type="checkbox"/> 4% Environmental education (for example, classrooms or labs, tours) |
| <input type="checkbox"/> 0% Upland/Small-game hunting | <input type="checkbox"/> 4% Bicycling | |
| <input type="checkbox"/> 3% Migratory bird/Waterfowl hunting | <input type="checkbox"/> 60% Auto tour route/Driving | <input type="checkbox"/> 6% Special event (<i>please specify</i>) <u>See Appendix B</u> |
| <input type="checkbox"/> 78% Wildlife observation | <input type="checkbox"/> 9% Motorized boating | |
| <input type="checkbox"/> 66% Bird watching | <input type="checkbox"/> 7% Nonmotorized boating (including canoes/kayaks) | <input type="checkbox"/> 4% Other (<i>please specify</i>) <u>See Appendix B</u> |
| <input type="checkbox"/> 4% Freshwater fishing | | |
| <input type="checkbox"/> 19% Saltwater fishing | <input type="checkbox"/> 26% Interpretation (for example, exhibits, kiosks, videos) | <input type="checkbox"/> 0% Other (<i>please specify</i>) <u>See Appendix B</u> |
| <input type="checkbox"/> 53% 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"/> 32% No | |
| <input type="checkbox"/> 68% Yes → If yes, what did you do there? (Please mark <u>all that apply.</u>) | |
| <input type="checkbox"/> 75% Visit the gift shop or bookstore | <input type="checkbox"/> 25% Watch a nature talk/video/presentation |
| <input type="checkbox"/> 83% View the exhibits | <input type="checkbox"/> 80% Stopped to use the facilities (for example, get water, use restroom) |
| <input type="checkbox"/> 80% Ask information of staff/volunteers | <input type="checkbox"/> 12% Other (<i>please specify</i>) <u>See Appendix B</u> |

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

Nonlocal **Local** **Total**

25%

81%

46%

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

55%

14%

39%

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

20%

5%

15%

It was just an incidental or spur-of-the-moment stop on a trip taken for other purposes or to other destinations.

5. Approximately how many **miles** did you travel to get to this Refuge?

Nonlocal 473 number of miles

Local 28 number of miles

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

See Report for Results

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

33% No (*skip to question #9*)

67% Yes → What **type of group** were you with on your visit? (*Please mark only one.*)

91% Family and/or friends

4% Organized club or school group

0% Commercial tour group

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

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

3 number 18 years and over

1 number 17 years and under

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

50% Friends or relatives

10% Refuge website

19% Signs on highway

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

4% Recreation club or organization

1% Television or radio

18% People in the local community

8% Newspaper or magazine

23% Refuge printed information (brochure, map)

13% Other (*please specify*) See Appendix B

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

65% Spring
(March-May)

22% Summer
(June-August)

28% Fall
(September-November)

66% Winter
(December-February)

11. How many times have you visited...

...this Refuge (including this visit) in the last 12 months? 7 number of visits

...other National Wildlife Refuges in the last 12 months? 4 number of visits

SECTION 2. Transportation and access at this Refuge

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

| | | | | | |
|------------------------------|---|-----------------------------|----------------------------------|------------------------------|---------------------------------------|
| <input type="checkbox"/> 94% | Private vehicle without a trailer | <input type="checkbox"/> 1% | Refuge shuttle bus or tram | <input type="checkbox"/> 2% | Bicycle |
| <input type="checkbox"/> 8% | Private vehicle with a trailer (for boat, camper or other) | <input type="checkbox"/> 2% | Motorcycle | <input type="checkbox"/> 20% | Walk/Hike |
| <input type="checkbox"/> 0% | Commercial tour bus | <input type="checkbox"/> 0% | ATV or off-road vehicle | <input type="checkbox"/> 1% | Other (<i>please specify below</i>) |
| <input type="checkbox"/> 0% | Recreational vehicle (RV) | <input type="checkbox"/> 6% | Boat | <u>See Appendix B</u> | |
| | | <input type="checkbox"/> 1% | Wheelchair or other mobility aid | | |

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

| | | | |
|------------------------------|--|------------------------------|---|
| <input type="checkbox"/> 48% | Signs on highways | <input type="checkbox"/> 9% | Directions from Refuge website |
| <input type="checkbox"/> 25% | A GPS navigation system | <input type="checkbox"/> 7% | Directions from people in community near this Refuge |
| <input type="checkbox"/> 22% | A road atlas or highway map | <input type="checkbox"/> 16% | Directions from friends or family |
| <input type="checkbox"/> 12% | Maps from the Internet (for example, MapQuest or Google Maps) | <input type="checkbox"/> 50% | Previous knowledge/I have been to this Refuge before |
| | | <input type="checkbox"/> 4% | Other (<i>please specify</i>) <u>See Appendix B</u> |

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

| How likely would you be to use... | Very Unlikely | Somewhat Unlikely | Neither | Somewhat Likely | Very Likely |
|---|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| ...a bus or tram that takes passengers to different points on the Refuge (such as the Visitor Center)? | <input type="checkbox"/> 35% | <input type="checkbox"/> 21% | <input type="checkbox"/> 6% | <input type="checkbox"/> 23% | <input type="checkbox"/> 15% |
| ...a bike that was offered through a Bike Share Program for use while on the Refuge? | <input type="checkbox"/> 41% | <input type="checkbox"/> 17% | <input type="checkbox"/> 4% | <input type="checkbox"/> 24% | <input type="checkbox"/> 14% |
| ...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"/> 16% | <input type="checkbox"/> 9% | <input type="checkbox"/> 34% | <input type="checkbox"/> 19% |
| ...a boat that goes to different points on Refuge waterways? | <input type="checkbox"/> 13% | <input type="checkbox"/> 8% | <input type="checkbox"/> 6% | <input type="checkbox"/> 37% | <input type="checkbox"/> 36% |
| ...a bus or tram that runs during a special event (such as an evening tour of wildlife or weekend festival)? | <input type="checkbox"/> 24% | <input type="checkbox"/> 14% | <input type="checkbox"/> 13% | <input type="checkbox"/> 31% | <input type="checkbox"/> 18% |
| ...an offsite parking lot that provides trail access for walking/hiking onto the Refuge? | <input type="checkbox"/> 20% | <input type="checkbox"/> 15% | <input type="checkbox"/> 9% | <input type="checkbox"/> 31% | <input type="checkbox"/> 25% |
| ...some other alternative transportation option? (<i>please specify</i>) <u>See Appendix B</u> | <input type="checkbox"/> 6% | <input type="checkbox"/> 6% | <input type="checkbox"/> 13% | <input type="checkbox"/> 31% | <input type="checkbox"/> 44% |

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

☐ 25% Yes ☐ 40% No ☐ 36% Not Sure

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

| Importance | | | | | | Satisfaction | | | | | |
|---------------------------|----------------------|---------|--------------------|----------------|---|---------------------------|----------------------|---------|--------------------|----------------|----------------|
| Circle one for each item. | | | | | | Circle one for each item. | | | | | |
| Very Unimportant | Somewhat Unimportant | Neither | Somewhat Important | Very Important | | Very Unsatisfied | Somewhat Unsatisfied | Neither | Somewhat Satisfied | Very Satisfied | Not Applicable |
| 5% | 13% | 9% | 49% | 24% | Surface conditions of roads | 5% | 9% | 6% | 27% | 52% | NA |
| 6% | 15% | 16% | 47% | 16% | Surface conditions of parking areas | 4% | 3% | 5% | 25% | 63% | NA |
| 6% | 6% | 11% | 35% | 42% | Condition of bridges | 3% | 1% | 8% | 19% | 70% | NA |
| 6% | 5% | 5% | 46% | 38% | Condition of trails and boardwalks | 2% | 1% | 7% | 20% | 70% | NA |
| 3% | 6% | 9% | 45% | 37% | Number of places for parking | 1% | 8% | 6% | 28% | 57% | NA |
| 4% | 5% | 6% | 43% | 42% | Number of places to pull over along Refuge roads | 1% | 14% | 8% | 40% | 37% | NA |
| 5% | 2% | 5% | 35% | 52% | Safety of driving conditions on Refuge roads | 2% | 4% | 5% | 27% | 62% | NA |
| 3% | 4% | 4% | 37% | 52% | Safety of Refuge road entrances/exits | 2% | 3% | 4% | 20% | 70% | NA |
| 4% | 5% | 8% | 35% | 49% | Signs on highways directing you to the Refuge | 1% | 3% | 10% | 28% | 58% | NA |
| 2% | 5% | 7% | 44% | 43% | Signs directing you around the Refuge roads | 2% | 6% | 9% | 31% | 51% | NA |
| 4% | 3% | 11% | 36% | 46% | Signs directing you on trails | 1% | 1% | 19% | 37% | 42% | NA |
| 6% | 5% | 28% | 27% | 35% | Access for people with physical disabilities or who have difficulty walking | 3% | 5% | 30% | 25% | 36% | NA |

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

See Appendix B

SECTION 3. Your expenses related to your Refuge visit

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

☐ 37% Yes

☐ 63% No → How much time did you spend **in local communities** on this trip?

 3 number of hours OR 8 number of days

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

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

See Report for Results

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

 2 number of people sharing expenses

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

| | | | | | | | | | | |
|-----------------------------|------------------------------|------------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------------|
| \$0 | \$10 | \$20 | \$35 | \$50 | \$75 | \$100 | \$125 | \$150 | \$200 | \$250 |
| <input type="checkbox"/> 8% | <input type="checkbox"/> 16% | <input type="checkbox"/> 17% | <input type="checkbox"/> 8% | <input type="checkbox"/> 15% | <input type="checkbox"/> 2% | <input type="checkbox"/> 12% | <input type="checkbox"/> 1% | <input type="checkbox"/> 4% | <input type="checkbox"/> 6% | <input type="checkbox"/> 12% |

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

☐ 3% Far too low ☐ 10% Too low ☐ 85% About right ☐ 1% Too high ☐ 0% Far too high ☐ 74% Did not pay a fee
(skip to Section 4)

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

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

☐ 8% Strongly disagree ☐ 5% Disagree ☐ 8% Neither agree or disagree ☐ 35% Agree ☐ 45% Strongly agree

SECTION 4. Your experience at this Refuge

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

| | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree | Not Applicable |
|---|-----------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|----------------|
| Overall, I am satisfied with the recreational activities and opportunities provided by this Refuge. | <input type="checkbox"/> 1% | <input type="checkbox"/> 2% | <input type="checkbox"/> 1% | <input type="checkbox"/> 32% | <input type="checkbox"/> 65% | NA |
| Overall, I am satisfied with the information and education provided by this Refuge about its resources. | <input type="checkbox"/> 1% | <input type="checkbox"/> 2% | <input type="checkbox"/> 2% | <input type="checkbox"/> 35% | <input type="checkbox"/> 60% | NA |
| Overall, I am satisfied with the services provided by employees or volunteers at this Refuge. | <input type="checkbox"/> 1% | <input type="checkbox"/> 0% | <input type="checkbox"/> 2% | <input type="checkbox"/> 29% | <input type="checkbox"/> 67% | NA |
| This Refuge does a good job of conserving fish, wildlife and their habitats. | <input type="checkbox"/> 1% | <input type="checkbox"/> 1% | <input type="checkbox"/> 1% | <input type="checkbox"/> 23% | <input type="checkbox"/> 74% | NA |

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

| Importance <i>Circle one for each item.</i> | | | | | Refuge Services, Facilities, and Activities | Satisfaction <i>Circle one for each item.</i> | | | | | |
|--|----------------------|---------|--------------------|----------------|---|--|----------------------|---------|--------------------|----------------|----------------|
| Very Unimportant | Somewhat Unimportant | Neither | Somewhat Important | Very Important | | Very Unsatisfied | Somewhat Unsatisfied | Neither | Somewhat Satisfied | Very Satisfied | Not Applicable |
| 3% | 8% | 11% | 48% | 29% | Availability of employees or volunteers | 3% | 2% | 8% | 22% | 66% | NA |
| 3% | 5% | 7% | 38% | 46% | Courteous and welcoming employees or volunteers | 1% | 1% | 5% | 11% | 82% | NA |
| 3% | 2% | 5% | 33% | 56% | Knowledgeable employees or volunteers | 2% | 1% | 6% | 14% | 77% | NA |
| 1% | 3% | 4% | 38% | 53% | Printed information about this Refuge and its resources (for example, maps and brochures) | 2% | 2% | 4% | 19% | 73% | NA |
| 2% | 3% | 10% | 53% | 31% | Informational kiosks/displays about this Refuge and its resources | 2% | 4% | 11% | 24% | 59% | NA |
| 2% | 2% | 13% | 38% | 46% | Signs with rules/regulations for this Refuge | 1% | 1% | 12% | 31% | 55% | NA |
| 2% | 2% | 9% | 52% | 35% | Exhibits about this Refuge and its resources | 1% | 3% | 9% | 25% | 62% | NA |
| 3% | 5% | 22% | 42% | 27% | Environmental education programs or activities | 2% | 2% | 24% | 22% | 51% | NA |
| 2% | 2% | 9% | 34% | 54% | Visitor Center | 1% | 1% | 12% | 12% | 74% | NA |
| 1% | 0% | 4% | 29% | 66% | Convenient hours and days of operation | 1% | 2% | 4% | 20% | 73% | NA |
| 1% | 2% | 4% | 22% | 72% | Well-maintained restrooms | 1% | 5% | 4% | 21% | 69% | NA |
| 1% | 1% | 5% | 33% | 60% | Wildlife observation structures (decks, blinds) | 1% | 3% | 5% | 26% | 64% | NA |
| 2% | 1% | 11% | 23% | 64% | Bird-watching opportunities | 1% | 2% | 11% | 20% | 67% | NA |
| 0% | 1% | 2% | 31% | 65% | Opportunities to observe wildlife other than birds | 2% | 1% | 7% | 26% | 65% | NA |
| 1% | 2% | 10% | 25% | 61% | Opportunities to photograph wildlife and scenery | 1% | 1% | 8% | 25% | 65% | NA |
| 56% | 5% | 27% | 5% | 7% | Hunting opportunities | 4% | 2% | 60% | 8% | 26% | NA |
| 33% | 12% | 24% | 10% | 21% | Fishing opportunities | 3% | 2% | 38% | 19% | 38% | NA |
| 4% | 4% | 14% | 43% | 35% | Trail hiking opportunities | 2% | 1% | 16% | 40% | 41% | NA |
| 11% | 7% | 30% | 27% | 25% | Water trail opportunities for canoeing or kayaking | 3% | 2% | 42% | 21% | 32% | NA |
| 14% | 10% | 27% | 28% | 20% | Bicycling opportunities | 4% | 2% | 47% | 26% | 21% | NA |
| 12% | 8% | 40% | 21% | 20% | Volunteer opportunities | 3% | 2% | 47% | 19% | 29% | 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?

85%

Yes

15%

No

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

90%

Yes

10%

No

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

92%

Yes

8%

No

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

See Appendix B

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

| Statements about climate change | Strongly Disagree | Disagree | Neither | Agree | Strongly Agree |
|--|-------------------|----------|---------|-------|----------------|
| I am personally concerned about the effects of climate change on fish, wildlife and their habitats. | 6% | 3% | 11% | 36% | 43% |
| We can improve our quality of life if we address the effects of climate change on fish, wildlife and their habitats. | 6% | 2% | 15% | 37% | 40% |
| There is too much scientific uncertainty to adequately understand how climate change will impact fish, wildlife and their habitats. | 15% | 23% | 18% | 31% | 13% |
| I stay well-informed about the effects of climate change on fish, wildlife and their habitats. | 3% | 8% | 31% | 41% | 17% |
| 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. | 5% | 7% | 19% | 50% | 19% |
| I take actions to alleviate the effects of climate change on fish, wildlife and their habitats. | 6% | 6% | 32% | 37% | 19% |
| There has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and their habitats. | 28% | 30% | 21% | 14% | 8% |
| Future generations will benefit if we address the effects of climate change on fish, wildlife and their habitats. | 5% | 3% | 10% | 40% | 42% |
| 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. | 7% | 9% | 33% | 38% | 13% |

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?

95% Yes 5% No → If not, what is your home country? See Figure 4 in Report

2. Are you? 53% Male 47% Female

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

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

| | | | | | | | | | | | | | | | | | | | |
|--------------|---|---|---|---|--------------------------------|---|---|---------------|----|----|----|-------------------------------|----|----|----|-----------------------------------|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20+ |
| (elementary) | | | | | (junior high or middle school) | | | (high school) | | | | (college or technical school) | | | | (graduate or professional school) | | | |
| | | | | | 0% | | | 19% | | | | 46% | | | | 35% | | | |

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

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

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

| | | |
|---|--|--|
| <input type="checkbox"/> 1% Less than \$10,000 | <input type="checkbox"/> 12% \$35,000 - \$49,999 | <input type="checkbox"/> 12% \$100,000 - \$149,999 |
| <input type="checkbox"/> 7% \$10,000 - \$24,999 | <input type="checkbox"/> 27% \$50,000 - \$74,999 | <input type="checkbox"/> 8% \$150,000 - \$199,999 |
| <input type="checkbox"/> 7% \$25,000 - \$34,999 | <input type="checkbox"/> 21% \$75,000 - \$99,999 | <input type="checkbox"/> 4% \$200,000 or more |

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

22 number of trips

Thank you for completing the survey.

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

See Appendix B for Comments

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Appendix B: Visitor Comments to Open-Ended Survey Questions for Merritt Island 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 |
|--|-----------|
| 14th Annual Space Coast Birding and Wildlife Festival | 1 |
| Adopt-an-Area clean up | 1 |
| Beach Clean-up (Keep Brevard Beautiful) | 1 |
| Bird Field Trip Leader | 1 |
| Bird Watching Tour | 1 |
| Birding Event | 1 |
| Birding Festival in Titusville | 1 |
| Clean-up | 1 |
| Eagle Project | 1 |
| Eagle Project, Boy Scouts, Playalinda Beach Clean-up, Haul over canal, Dummit Cave cleanup | 1 |
| Space Coast Birding Festival | 4 |
| Space Coast Birding Festival Field Trips | 1 |
| Total | 15 |

| Other Activity | Frequency |
|---------------------|-----------|
| Beach | 4 |
| Beach walking | 1 |
| Eagle Scout project | 1 |

| | |
|--|----|
| One of 12 fly fishers, cleaning the side of the road | 1 |
| Rubbish clean-up | 1 |
| School field trip | 1 |
| Trail clean-up | 1 |
| Visit to the beach - National Seashore | 1 |
| Total | 12 |

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 |
|--|-----------|
| Beach | 2 |
| Discovery | 1 |
| Show to out-of-state visitors | 2 |
| Sightseeing | 1 |
| Swam | 1 |
| Total | 7 |

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

| Other Visitor Center Activity | Frequency |
|----------------------------------|-----------|
| Art show | 1 |
| Asked for help identifying birds | 1 |
| Ate our lunch on the grounds | 1 |
| Birded the boardwalk | 1 |

| | |
|---|----|
| Bought Audubon birds, insects | 1 |
| Get info on sightings | 1 |
| Get refreshment | 1 |
| Looked at the pair of painted buntings on the feeder | 1 |
| Nature walk | 1 |
| Photo club meeting | 1 |
| Photographed birds | 1 |
| Photographed painted bunting at the Visitors Center's feeders | 1 |
| Pick up materials for cleanup project | 1 |
| Picnic | 1 |
| Purchased gift shop items | 1 |
| Saw a 2010 watercolor painting exhibit | 1 |
| Strolled on the nature walkway | 1 |
| Walked on the trail at the Visitor Center | 1 |
| Walked the boardwalk | 1 |
| Watch birds at feeders there and walk the little trail | 1 |
| Watch the bird feeder | 1 |
| Watched painted buntings at feeders | 1 |
| Total | 22 |

Question 7: "Were you part of a group on your visit to this Refuge?; If Yes, "What type of group were you with on your visit?"

| Other Group Type | Frequency |
|--|-----------|
| Bird watching groups | 1 |
| BSA troop | 1 |
| Clean-up | 1 |
| CNPA member | 1 |
| Space Coast Birding & Wildlife Festival lecture/walk | 1 |
| Space Coast Birding Festival | 3 |
| The Annual Birding Festival visits the refuge for instruction purposes | 1 |
| Total | 9 |

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

| Other Website | Frequency |
|--|-----------|
| Birding forum | 1 |
| Carolina Nature Photographers Association (www.cnpa.org) | 1 |
| dayawaykayaktours.com | 1 |
| Duckhuntingchat.com | 1 |
| Google - Birding the Space Coast | 1 |
| Mark Drown fishing website | 1 |
| Space Coast Birding Festival website | 1 |
| Surf fishing | 1 |
| Trip research on the Internet | 1 |
| Total | 9 |

| Other Ways Heard about This Refuge | Frequency |
|---|-----------|
| AAA | 1 |
| AAA road map | 1 |
| Audubon | 1 |
| Books on things to do in Florida | 1 |
| Brochures, Florida books | 1 |
| Buy a French travel book of Florida | 1 |
| Centennial book on NWRs | 1 |
| Condo management told us of this refuge | 1 |
| Employed by the Florida Dept. of Environmental Regulation | 1 |
| Festival info | 1 |
| Florida birding guidebook | 3 |
| Florida Birding trail, NWR map of all states | 1 |
| Fodor's guidebook | 1 |
| Great Florida Birding Trail Guides | 1 |
| Kennedy Space Center Visitor Center | 2 |
| Las Olas Beach Club, Cocoa Beach, FL | 1 |
| Lonely Planet Guide: Orlando & Central Florida | 1 |
| Map included in a festival activities booklet | 1 |
| Map of wildlife refuges across the nation | 1 |
| Oscar Scherer - State Park volunteer | 1 |
| Someone at an Elder Hostel told us. | 1 |
| Space Coast Birding Festival | 1 |
| State highway map | 1 |

| | |
|-------------------------------|----|
| Tampa Audubon field trip 2009 | 1 |
| Travel guidebook | 4 |
| Ulysses guide | 1 |
| Total | 32 |

Survey Section 2

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

| Other Forms of Transportation | Frequency |
|-------------------------------|-----------|
| Kayak | 1 |
| School bus | 1 |
| Total | 2 |

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

| Other Ways Found This Refuge | Frequency |
|--|-----------|
| Birder's guide to Florida | 1 |
| Brochures | 1 |
| Called refuge for directions | 1 |
| Came with locals | 1 |
| Directions from the Visitors Center by phone | 1 |
| Driver | 1 |
| Initially tried to access from road to the space center. Learned there is no access via 405 and 3. | 1 |
| KSC Worker | 1 |
| Map in festival booklet | 1 |
| Refuge pamphlets with map | 2 |
| Total | 11 |

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

| Other Transportation Option Likely to Use | Frequency |
|---|-----------|
| Canoe | 1 |
| Golf cart | 1 |
| Guided horseback trails | 1 |
| Hybrid car | 1 |
| Kayak or canoe rental | 1 |
| More refuges with driving capabilities | 1 |
| Motorcycle | 1 |
| Personal vehicle | 7 |
| Segway | 2 |
| Slow plane | 1 |
| Total | 17 |

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

Comments on Transportation-related Items at This Refuge (n = 39)

A beach wheelchair was available for my use, enabling me to get down on the beach. It was wonderful!

A few more pull offs might be nice for the rude people that don't pull close to the edge of the road when looking at something.

As a birder, being forced to use busses or other transportation would take the pleasure of the refuge away. I need to be independent and would not return.

Because of the insect population, it is not practical to do much hiking; therefore, spending money on wheelchair access/etc. may be wasteful at this refuge.

Better road or street markings, and better maps.

Conditions were adequate for our short visit.

I attempted to access L. Pond Road from the refuge only to find it was closed, forcing me to turn around. This dead-end should be clearly marked.

I feel that it's important in bad weather such as storms of the nature of tornadoes & hurricanes. I saw no signs for leaving the area in case of a storm. There were signs on the mainland.

I have difficulty walking and I did not find easy access to where I went.

I have difficulty walking any distance and feel that benches on which to rest would get me further along the trails and enhance my trail experience.

I know that some NWRs are thinking of busses to transport visitors around. This would be very bad for photographers. First, we have lots of gear we need access to. Also, it is good to use the vehicle as a photo blind and take pictures right out the window. Other times, we like to get away from the crowds and stand or sit quietly for long periods of time watching and photographing. If you pile us all on a bus and only let the whole lot of us at certain stops the bird photography, in my mind, will be ruined.

I like it natural and undisturbed by man.

I wasn't doing the driving and we had a guide, so some of your questions above were hard to answer.

I wish more areas were open for photography.

I'm a photographer and I need to stop often and for various time intervals.

It would be nice to have the option to have a guided tour bus or something like that.

Maps not to scale and signs directing to sites are poor.

Maybe a bus or something from Cocoa Beach or New Sunshine, or somewhere else would be helpful.

Merritt Island NWR is a great place to visit!

One road that showed on the map as going through the refuge, in fact, was a dead end. It went about half way, was pretty rough, and had a very minimum space on which to turn around. It should have had a sign indicating that it was a dead end. Apparently, it had been closed as a through route for about two years.

Really like the new boardwalk overlooking the manatee habitat at the boat ramp! Nice job!

Road from US-1 to the bridge needs repaired, with the bumps and waves taken out.

Road grade some boat ramps about twice a year (WSEG, Becoan 42, BioLab).

Roads are well maintained. This area is most appreciated by people doing specific activities like fishing and bird watching. Encouraging more traffic of casual visitors will detract from its value.

Some of the signs around the refuge were confusing.

The gravel roads with potholes were somewhat of a pain to drive on.

The new manatee art is really awesome!

The only concern is that the roads are so narrow and passing other cars is a daunting experience.

The road needs to be wider so that two cars can get past each other safely; there is not enough room to pull off to the side to stop and look at wildlife.

The trails should be kept as natural as possible; after all, it is a wildlife refuge. To improve the driving conditions would attract more cars and ruin the ambiance of the refuge.

The unpaved secondary roads in the bird viewing and alligator sunning areas were in poor shape; there was a large hole with water.

There isn't enough parking where the eco-toilet is and maneuvering was difficult.

Trails are what we come for!

Very well kept and clean.

We appreciate the hard work the staff does to provide this experience to all of the nature lovers that visit.

We didn't use walking trails.

We think there would be more public support, if the wildlife refuge maintained as much freedom of access as possible.

When traveling by motorcycle, it is very hard to maneuver on sand.

When we pulled over to look at the alligators, we ran into a road block. Roads should be widened at prime viewing spots.

Survey Section 4

Question 6: "If you have any comments about services, facilities, and activities at this Refuge, please write them on the lines below."

Comments on Services, Facilities, and Activities at This Refuge (n = 70)

A better sign from the main road and information about the nearest gas station, food, and bait supplies would be helpful.

A boat ride would be nice.

As birding visitors from the UK, we arranged our itinerary specifically to allow us to visit this site and this is the 3rd time we have done so. The wildlife drive provides superlative opportunities for lagoon and salt marsh birding, wildlife watching and photography, and the Visitor Center and nearby boardwalks offer access to excellent information and different habitats. It is a wonderful to be able to experience such an important preserve "close-up."

Bank fishing should be available 24 hours a day.

Beach access, biking, and fishing are most important.

Best refuge on the east coast for birding.

Bike paths beside the road would make it much more pleasant for visitors who wish to come by bike.

Bird watching is the most important.

Could use some porta-potties at the primitive boat launches.

Excellent.

For the size of this refuge, the Visitors Center is undersized and needs more materials/boards about the refuge. For a good example, look at Ding Darling Center on Sanibel Island, FL.

Good as it is - more trails if anything.

I am there to bird and observe, so those are the things that are important to me. I am sure the hunting and fishing are important to others.

I am very satisfied with the new observation area for manatees and the improvement on the road surface at Black Point Loop Road.

I do not want any hunting by anybody.

I don't like that they allow hunting. If they want to charge more and the money stays in the refuge, I would support that. I would prefer a lifetime or yearly pass. Why can't it be tied in with a National Park Pass?

I enjoyed everything there is to offer. The people are very nice.

I had a great time and did not know the park existed. I plan to return and bring my family and visit the park again. Hopefully, I will have more time and do more things that the park had to offer. I really loved it - it was beautiful.

I really love this refuge!

I will continue to do my part to clean up and preserve nature. I think a campaign addressing personal responsibility would be very beneficial.

I would absolutely make a point of visiting this refuge on my next visit to Florida! The land is beautiful; it is obvious that the people who maintain it care about it.

I would recommend Merritt Island to family, friends, and online guests considering it.

It would be hard to add buildings and roads to an area that needs to be kept pristine; however, seeing all the animals, birds, and land makes us want to preserve it all the more for our kids and future generations.

It would be nice to have a larger parking lot at the entrance for people hiking and bicycling the drive. Also, a patch for bikers and hikers back to the entrance so they don't have to walk along the side of the road.

It would be nice to have kid-friendly events, more walking trails, more swimming access, and more areas we can park our car and go fishing or swimming.

It's great how it is. The only interest would be a few more publicly accessible bathrooms.

Just three roads need to be smoother: WSEG, Becoan 42, and Bio Lab.

Merritt Island is great!

Merritt Island National Wildlife Refuge is very well maintained. I had reason to travel Biolab Road recently and the road is in serious need of attention. (There are a lot of birds and alligators though!)

My visit was too brief to assess everything the refuge has to offer, but I certainly was rewarded with some great birding moments (my primary interest).

Nice beach.

No porta-potties.

Not many parking spaces in the paved lot. We had to park in the heavy sand area (not a real parking area).

On site at the Rio Lab Refuge, two volunteers were very helpful with information about the Refuge and gave me a booklet about the Refuge and other trails.

On the Black Point Wildlife Drive, the information leaflets were far from helpful. Most of the "markers" had a description in the leaflet that bore no relation to the wildlife that one could expect to see at that marker. One marker even referred us to a nest finder that actually appeared about 10 markers later along the drive. The drive itself is excellent, offering a wide range of bird and other wildlife viewing opportunities in a range of habitats, but the written information sadly lets the whole experience down somewhat.

Please keep it as wild as possible. Refuges were built for the animals, not people; keep them that way. The few roads give people plenty of access.

Restrooms in the Visitor Center could have been cleaner.

The cleats on dock need to be replaced or repaired and there needs to be two boat launching ramps.

The employees and volunteers were all really friendly and helpful. We had a great time.

The feral cats on Merritt Island were very unpleasant. Feral cats are an alien/invasive species with no place in a wildlife refuge with endangered scrub jays.

The individuals at the Visitors Center were very helpful in providing information about where best to hike and see alligators - our two main goals of our visit. The man who helped us even allowed us to use his insect repellent, which was a life saver! I've never seen so many mosquitoes!

The roads are well kept for slow moving traffic, which is needed and used. There are very few walkers and some trails with parking areas. The restrooms are well maintained.

The signs to recycle the tour brochure should be placed before you get to the brochure return box. The refuge drive could stay open until sunset and the Visitors Center could stay open until 5 pm.

The staff at the Visitor Center were wonderful! They went way over the top to help me. Hats off to them!

The trash left behind by others is a serious problem.

The volunteer that greeted us was very nice and very knowledgeable.

There is no need for the closing of several access roads at Black Point Drive and east side of the Indian River. You also need trash bins at the boat ramps.

This is one of the best wildlife refuges in the country for bird watching. Merritt Island Wildlife Sanctuary.

This is the finest refuge in the state for bird watching. I just love it and its services. Porta-potties should be added on the Gator and Peacock's Pocket Roads.

This refuge does not need a lot of services beyond the continued protection of the environment. Access is sufficient. It should remain a quiet, low volume resource.

This refuge was well maintained and clean.

Through your services and facilities you have drawn too many people in. You have clear cut, burned, and stripped the plants and habitat. Since the 60's, the more you do the less this refuge likes it. You used to play the role of law enforcement against poachers and let God manage the rest. If you stop now there's a chance this land will heal.

Very helpful in answering our questions.

Visitor's Booth was very helpful.

We are lucky to have this lovely refuge so close to our home.

We didn't have the opportunity to take advantage of many of the things available at this facility, so it is hard to rate it.

We enjoyed our visits to the wildlife reserve and look forward to our next visit.

We have visited Merritt Island National Wildlife Refuge 4 or 5 times over the past 15 years. Every visit has been very enjoyable and highly memorable. Great staff & volunteers, and a wonderful destination - we love it!

We just did a drive through. We didn't use any facilities or participate in any activities.

We received a wonderful reception by volunteers and staff and some good advice on where to go to see specific birds. Everyone seemed genuinely happy to help and were able to provide valuable information.

We were extremely impressed by the Visitor Center, the volunteers who greeted us, and the entire national park that has been kept pretty natural and uncommercialized.

We were looking to photograph birds... there were few good locations to set up tripods. Perhaps in the future, more observation decks or platforms might help. We were also late in the season, so there was little bird life to observe or photograph.

Well informed employees and volunteers. Clean facilities, and the boardwalk is lengthy and well-maintained. Thanks.

Well informed volunteers. We had a very helpful and knowledgeable volunteer guide for bird watching; truly a wonderful experience!

Well maintained Visitors Center and friendly employees and volunteers.

When you enter the trail off of Biolab Road/boat ramp, there are huge holes. Some are wider than my car.

While you cannot control mammals and reptiles in the refuge, it would be great if more remote viewing was car accessible without the need for hiking (I enjoy hiking, but the insects are murderous). Bird watching is already fantastic.

Wish the Visitor Center was open on Sundays during the spring and summer.

Would be nice to have informational kiosks/displays about this refuge and its resources in other languages, like French, for example.

You need a bathroom facility or a porta-potty at the canal where the manatees swarm.

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 = 208)

A combination of education and recreation opportunities, and access to unique habitats in a way that minimizes man's impact.

A great place to see wintering birds.

Ability to be up close to wild animals in their natural habitat.

Access to watching and photograph birds and other local wildlife in their natural habitat, as well as seeing launch pads at the Kennedy Center and visiting pristine beach. I visited on a day when there was no \$3 fee. I would have gladly paid the \$3 fee.

Accessibility to visitors. Unique wildlife. Amount of space to view wildlife without encroaching on other people.

All of the wildlife.

All the trails are well marked and in good condition.

Animal wildlife was unlike anything we have in my home state of Indiana.

Animals are viewed in their own habitats rather than in a zoo.

Animals first, people second.

As a photographer, it gives me the opportunity to photograph the wildlife in its natural setting. Even though there are other visitors, they all seem to respect the wildlife and others viewing it.

Attention to habitats, eco-culture and respect for all life is evident.

Back to nature; natural habitat.

Because the refuge is designed to nurture wildlife habitat instead of just creating scenery.

Being able to boat away from everyone and enjoy.

Bird sighting opportunities with low-key roads/gravel/dirt.

Bird watching and good opportunities for photography.

Bird watching opportunities.

Birding in the area is extraordinary. We can't wait until our next visit.

Birds are from all over and the animals are in their own habitat. The spoonbills and alligators are here. Everything is worth seeing again and again.

Concentration of wildlife. Knowledgeable staff.

Conservation and preservation of wildlife.

Conservation as the primary goal, with visitors as a lesser priority.

Conservation is the priority.

Conserves our wildlife, provides an opportunity to view it in its natural habitat, and gives us a unique opportunity to learn more of its importance to our nation.

Conserving the natural habitat for local wildlife. Protected from commercialization and construction expansion.

Controlled access, management practices are species specific, and access is restricted in some areas to protect certain species.

Convenient to pull off the beaten path.

Different refuges provide diverse opportunities to view and photograph their local wildlife (no spoonbills in Yellowstone and no grizzly bears at Merritt Island).

Driving/hiking opportunities, NASA viewing, large selection of wildlife, and land.

Educating the visitors about the importance of sustaining our ecosystem and to give them an opportunity to observe how interconnected the system is.

Everything they offer.

Fairly unspoiled natural lands and wildlife.

Fishing and wildlife.

For me, it is unique in its ability to attract birds and other wildlife, giving me the opportunity to observe birds and other wildlife in their natural habitat. Also, it provides birds a resting point in their migration, giving these birds a better chance at survival. The way natural areas are disappearing it's a wonder that there are any bird or wildlife left. Perhaps this refuge could provide more educational opportunities to schools so that children will learn of their importance and hopefully grow up with some sense of the need to save these spaces, not only for the wildlife, but for future generations to enjoy.

For us, it was unique because in France we don't have national wildlife refuges without some barriers. We were very surprised and happy to discover all this nature in Florida.

Generally the size and scope is larger and more varied than state or county conservation lands.

Geographically, it is a different habitat for both water and land creatures.

Gives the public the opportunity to see wildlife and nature up close.

Goal of protection over tourism convenience.

Great displays, great walking, and great scenery.

I am pleased the animals and birds in the refuge are allowed to maintain their natural living style. I am glad that they do not have to perform tricks for audiences.

I appreciate the refuges because I can go with my camera and appreciate the different wildlife, fowl, and birds. I have seen a lot migrate over the years here in Ohio that normally wouldn't be in my area if not for the wildlife refuges.

I enjoy fishing and just relaxing at the refuge!

I enjoy the wild areas rather than constantly being in civilization. To be able to identify creatures that are really wild is great.

I hadn't been to a refuge before. This specific one was very interesting in the way it managed water levels to improve habitat (and reduce mosquitoes!).

I like it because it is peaceful and relaxing. It is whole different environment.

I like knowing the land is primarily for the wildlife that inhabits it and that humans are secondary.

I like that they are government run. This makes it seem of higher quality. Maybe because of more funding?

I like the ability to be able to drive through the trails. I do this several times a week so my children and grandchildren's can see the alligators. This is an inexpensive form of entertainment that my family enjoys.

I like the size of the area. It is natural and uninterrupted.

I live in Ohio, so I was excited to see the shorebirds.

I love driving and being surprised by seeing wildlife and not expecting to.

I see different birds and animals than I would see in Michigan.

I was able to see a variety of wildlife in one trip.

Important attempts to conserve the natural environment.

In this case, the manatees come to this site frequently.

It being a drive allows those with limited mobility to enjoy the refuge. At the same time, it allows others to hike or bike the drive.

It feels like you are out with nature and it is great to be in the outdoors and very relaxing.

It gives people the opportunity to view wildlife and to hopefully have a greater appreciation of our resources. Keep things in their natural state, and hopefully stop over developing the land.

It gives the wildlife a better place to live and survive.

It has enough variety of natural activities to appeal to everyone in a group (i.e. photography, wildlife observation, fishing, trail walking).

It has good swimming, fishing, beautiful scenery, clean facilities, and knowledgeable and friendly staff.

It is a more controlled setting in which you can view things in their natural state.

It is a quiet place to observe wildlife and to see a number of species of animals and birds.

It is able to preserve the "unique" environment of the area in which it has been set up. Each refuge across the country has its own features, and it is important to preserve these features.

It is important to have large tracts of land preserved to see wildlife in its natural habitat.

It is left natural... people and nature can get along.

It offers information, tours, exhibits, and is environmentally conscious.

It's a place where animals are safe from hunting, pollution, etc. Also it's a great place to see animals in their natural habitat.

It's because of their primary mission. Conservation of important habitat is absolutely critical, but so is allowing people to see that conservation in action and how important the habitat is to the resident and migratory wildlife.

It's really a nice driving experience.

Its location, the wildlife and plants, and the methods used to keep it a refuge i.e. water control.

Just the location, habitat, employees, and volunteers who are familiar with the uniqueness.

Location, location, location - this NWR provides a reasonably managed environment without overdeveloping it into a theme park.

Location, location, location.

Low cost to participate; opportunities for birding; wildlife conservation.

Manatee observation, PLUS knowledgeable volunteer at the observation point.

Manatee observation.

Many times, NWRs provide unique opportunities for wildlife viewing on a regular basis.

More birds, natural habitat, less people!

More hands-on care and maintenance.

More opportunities to see wildlife and birds in their natural habitat.

Most people never get out of their cars and do not get to experience the habitat Merritt Island NWR brings within their reach. Fishing is as easy as pulling over and fishing, manatees are right there, etc.

Most refuges are preserved to show the public the natural state of the area - like this feature!

Most refuges I'm familiar with are near oceans.

Natural preservation.

Natural unspoiled environment. Volunteers who devote their time to educating people.

Nature, not man, is priority in a world increasingly devoted to people only.

Not as overly populated with humans most of time and easier to see wildlife with little interruptions.

Not commercialized.

Number and species of birds.

NWRs provide educational and other facilities, and have staff and volunteers that are professional and top notch. Roads and trails are well maintained. I feel safe.

Opportunities to observe high concentrations of birds and other wildlife. Knowledgeable staff who provide information regarding wildlife.

Opportunity to enjoy natural areas and wildlife.

Opportunity to observe birds and other wildlife in their own environment and to walk through unspoiled areas.

Opportunity to see animals.

Our refuges give us an opportunity to see how flora and fauna benefit from preservation.

Peace & quiet, a real feeling of "getting away from it all," and being able to observe wildlife in its natural environment.

Peaceful and easy way to connect with nature.

Places for animals to live and reproduce that are safe from harm by humans and encourage native wildlife to remain in the area undisturbed.

Plentiful manatees.

Preservation and rebuilding of natural habitats for the wildlife allow you to see animals the way they were intended and not behind a cage/fence.

Preserving habitat and experiencing 'old' Florida.

Preserving the park and the natural habitat for the animals. It was beautiful and I was thrilled to have found out about it. I cannot wait until I come back with my family.

Pristine environment and low volume of visitors. The area is accessible to those who appreciate it the most without a big draw for tourists who mostly miss the subtle beauty and value of such a place. Broad tourism would destroy what makes this place valuable.

Provided they're managed correctly. This refuge is over managed and declining as a result of it (in every area; habitat, plants, wildlife, and fish). Just enforce the laws and leave the plants and animals alone.

Provides areas for wildlife.

Public access to habitat that is often privately held and unavailable to the public.

Quiet, undisturbed, natural. God's beauty!

Rare opportunity to see wildlife in their natural habitat. Protecting valuable, unique environments from development for future generations to enjoy as our forefathers have.

Refuges are managed primarily for wildlife, including habitat preservation; other recreational properties are managed mainly for human use, such as picnics, hiking, etc.

Refuges place an emphasis on providing habitat for wildlife, not people. Hence, no campgrounds, hotels, cabins, etc. This is the beauty of a refuge.

Refuges provide great bird watching places.

Refuges provide the wilderness that is lacking in our world today. Fewer and fewer wild spaces are available for the birds and wildlife. Private lands are managed differently and often do not have educational displays for families with children and schools or homeschoolers. The educational aspect is so important, more so than just going for a walk with the family.

Refuges try to incorporate the visitors into nature. They make it convenient for visitors while still conserving the environment.

Reliability. You can basically count on having a rewarding experience when birding and photographing in a NWR. This is not always the case in other refuges.

Road access to ponds and the variety of wildlife in season.

Roads on impoundment dikes offer unique opportunity to see birds, wildlife, and plants and flowers up close.

Saw the manatees close up and personal. Very moving experience. Not the same as watching it on TV.

Scenic drives through the refuge, seeing wildlife i.e. birds, alligators, flowers, etc.

Some public lands are "managed" and don't offer education or facilities for visitors. Refuges offer both.

Spending time in the wild.

Tax funded opportunities to participate in activities on public lands.

The "drive through" feature of Black Point Nature Trail allows me to cover a large area in less time.

The ability to take a car full of family, friends, and elderly, and take in the vast expanse with all the birds and water sunsets. I've been here many times and everyone has been impressed. It's the real Florida.

The abundance of birds and wildlife to see, photograph, and learn about. We can take our time to watch and learn.

The animals feel safe. And that gives you the chance to see them and or photograph them in their natural environment. It gives the animals a safe place to raise their young.

The appeal of the observation of wildlife in their natural habitat.

The area is remote.

The beach and refuge.

The beach and salt marshes. Thanks :)

The birds, unfortunately it was off season when we made our visit.

The convenient up-close observation of flora and fauna.

The diversity of wildlife available for viewing.

The fish, birds, and wildlife come first! THANK YOU!

The focus is on unique wildlife, keeping facilities on the basic side.

The land is at a natural state where the wildlife have the chance to feed, rest, be admired, be safe, and be enjoyed by people who appreciate them. There should be more of them.

The location and the number of dams and access to them by the dikes.

The main focus of the refuge should not be to provide recreation for people, but to preserve a natural habitat for the animals.

The many birds you see in different times of the year and the different variations you see each season. One trip is not enough, you need to visit many times to really feel the peace, see the beautiful views and the different growth, and see the birds of that season.

The most birds and the least people in the area. Love its solitude and lack of crowds.

The natural beauty it has to offer, inclusive of wildlife and the educational experience in what nature has to offer and how important it is to protect our land from over fishing and hunting to keep an equal balance between land and sea.

The natural environment, wetlands, and a place for nature.

The natural habitat was maintained.

The ones I have visited in Florida and Texas provide as good an opportunity as you're likely to find birds and wildlife in (mostly) their natural habitat. They give you access to areas and wetlands that would otherwise be visited only with great difficulty or not at all.

The opportunity to "easily" view and photograph wildlife in a natural setting for the whole family.

The opportunity to experience nature unlike in its purest form.

The opportunity to fish, boat, hike, hunt, see and photograph wildlife.

The opportunity to observe birds and other wildlife. The drivers are excellent. It is very convenient for elders.

The opportunity to see natural life.

The opportunity to see the manatees and wildlife of the wetlands.

The opportunity to truly be totally immersed in nature and the natural environment.

The opportunity to view wildlife in their natural environment.

The opportunity to visit refuges like Merritt Island to see and photograph birds is very special to us. Please keep refuges open for all to enjoy God's unique creations.

The preservation of the environment.

The protection of the environment and ability to use the refuge for recreation.

The protection provided to the habitats and wildlife.

The proximity to the Kennedy Space Center was an added attraction.

The sights, fishing, and swimming.

The size of the area lends itself to many species that co-exist. It educated us by showing how nature balances the "circle of life" with prey and predator. It also seems very safe to me compared to some places.

The size of the refuges and the quality of how they are managed for the wildlife.

The term "refuge" says it all.

The variety and number of birds, the proximity to the beach and space center, and being able to travel through self-guided.

The variety of migratory and indigenous birds is great and the ability to access them in multiple views while easily transporting cameras, telescopes and equipment is also great. In addition, there appears to be minimal invasiveness involved in the traffic flow.

The viewing of the manatees makes this trip worthwhile.

The volunteers who care, do their homework, and enthusiastically give to share nature with others. I was amazed at the dedication!

The wide variety of all the flora & fauna during the year. Also, the many different habitats.

The wide variety of area wildlife and their natural habitats make this refuge unique.

The wildlife and scenery available.

The wildlife, birds, and fishing opportunities are unmatched. I have attended several 'talks' from refuge personnel and have always been impressed by their professionalism and enthusiasm.

The wildness and wildlife.

There are more realistic habitats and the people who work or volunteer at refuges always seem to truly want to be there to make a difference!

There are usually more species of birds and animals available to observe.

They are not as developed as other places; you can feel part of the environment.

They are remote and mostly left as natural as possible! They are not commercialized and never should be.

They are set aside specifically as refuges for wildlife and birds. Places for animal habitat are fast disappearing all over the world. Keep up the good work.

They are very natural settings.

They are very well maintained. Conservation and change of water levels offer a diverse opportunity to view birds and other wildlife.

They are well-organized with a clear sense of mission.

They give us a chance to observe animals in their natural habitat.

They promote wildlife and habitat restoration and conservation. As an avid outdoorsman and hunter, I find those things important.

They protect the local habitat, and allow people to get close to nature without harming their habitat.

They provide a safe haven for wildlife and the opportunity for people to observe wildlife.

They provide habitat for wildlife and opportunities to watch and enjoy the wildlife, plants, etc.

They're more caring to preservation of wildlife and habitats.

Things are left in their natural state and not created by people to make the plants and animals fit.

This refuge has incredible birds everywhere in many different habitats.

This refuge looks almost as nature left it.

Up close observation of bald eagle nests, numerous aquatic birds, and large alligators.

Very natural. Lots of manatees to view. Small viewing walkway.

We are able to see wildlife without disturbing the area.

We are from Wisconsin so it was a unique experience to see different types of wildlife and vegetation, birds and other waterfowl. We were fascinated with the alligators!

We especially like watching the unique wildlife in their natural habitat.

We got to see alligators in their natural habitat. Also, the refuge allows visitors to experience Florida's native plants.

We have gone the last couple of years. We love to see the birds and alligators. Love it at sunset. Beautiful land! Thank you!!

We may tour and photograph at our own pace. No one pressuring us to move on their schedule. We can tour what we want and when, and we can drive with our vehicle through the refuge.

Well maintained, a lot of trails, large area, nice Visitors Center and wildlife observation area and facilities, and well patrolled.

Where else can you see 9 manatees? Or baby blue herons learning to walk and fly? Alligators resting in the water? Just so nice to see so many birds and other animals. Great! They need a safe place and we need a way to share an observation of them.

Wildlife comes first.

You can drive around the refuge - great for people who can't walk too far.

You can drive right up to birds. No houses. Few people. Vehicle access. Refuge size.

You can see wildlife in its natural state.

You can see wildlife up close.

You have a chance to see wild birds and animals in their natural habitat.

You have a variety of birds and wildlife that you can observe in their environment.

You see all kinds of wildlife.

Additional Comments (n = 48)

A great place to view Florida landscape, wildlife, and fishing.

Always enjoy the Refuge. Nice and relaxing.

An easy way for a foreign tourist to appreciate, learn about, and observe the wildlife of Florida in their natural surroundings. Also had an informative Visitor Center. A great day out, and a brilliant location to observe manatees.

Awesome refuge! We had a great time.

Because of our first visit 20 years ago to this refuge, we come yearly to spend time bird watching in all seasons, and we began a hobby of bird watching that has added much enjoyment to our senior years.

Black Point Wildlife Drive is wonderful and I hope it can be enjoyed by many for a long time.

Excellent Refuge!!

For people who appreciate 'natural' Florida, this and other refuges are that little escape from the stressful lives we lead. Refuges should all strive to stay as natural as possible and let nature "keep its course."

Great birding spot.

Great natural resource, but not utilized to its full potential. Thanks for the volunteers! Encourage bicycle access and fishing.

Great refuge. I'm concerned about the emphasis in the questionnaire about climate change. I don't believe the scientists have a clue and public (tax payer supported and funded) policies should not be guided by these theories.

I am disappointed in your questions on climate change. They are pointed in one direction. I do not believe that climate change is a man-made situation. Most knowledgeable climatologists see it as cyclic and perhaps due to the effects of the sun. There is absolutely no proof that CO2 has any bearing on climate change, but the economics is the real driving issue.

I am older than most people visiting this refuge and must say this is one of the most interesting places I visit. Every year I visit 2-4 times or more. I drive and the other people are always nice about sharing the roads and stops we make to look at birds and ducks. It is always neat and clean; I believe the visitors here are very concerned about other people.

I appreciate that you are conducting this kind of survey!

I booked the day away kayak. It was a great experience for all; my 14 year old son liked it much more than expected! The beach is beautiful and not too crowded. I like the bike idea, and more hiking areas and information points would be good.

I do not have a good level of English, so some questions are too difficult for me. Sorry, I hope that my answer can help you.

I have been to this refuge several times and it has always been a worthwhile and pleasurable experience, but I do find it a little strange that fishing and hunting is allowed in wildlife refuges.

I have enjoyed Merritt Island and will visit again next year.

I live in the country and enjoy watching native wildlife.

I love Merritt Island National Wildlife Refuge! I spend a lot of time there, especially during the winter months. I have participated in numerous clean-ups at the refuge as well as at the beach. I am a frequent, pass-carrying visitor to the Canaveral National Seashore. Please preserve our refuge!

I love this refuge and try to get here as often as I can. It changes with the seasons, but there is always something of interest to be found.

I would gladly pay higher taxes to help all wildlife refuges. I donate to many wildlife funds.

I would like to see bank fishing in Haulover Canal closed for an extended time period due to garbage, litter, and illegal harvesting of fish. The area has been disrespected for some time, even with threats of closures. The litter is an ongoing battle, but mainly the fish population has severely decreased and everyone in the Titusville and Mims area discusses this regularly. If you are boat fishing, you are regularly checked so you are less apt to illegally harvest, and this works. If you watch on any nice day, the bank fishermen are harvesting anything and everything at will! This is probably due to lack of officers on the ground, and bank fishermen know this well. No one likes to be hassled, but in the long term, the ultimate goal is conservation through education. Shut down bank fishing and the problem goes away, or keep it open and put more stationary officers on the ground. Fish populations will rebound, but it will take some time. The most beautiful place on earth is turning into a toilet and a dinner table (or a dump and a refrigerator).

In the past few years, a beautiful sign was installed at the entrance to the Scrub Jay Trail. Since I am in the sign business, I know that it is a sand blasted sign, which is expensive. I would suggest that it should be repainted every couple of years to preserve the wood. If you have any questions about that you can contact me (email address). Thank you for the book about the refuge. I think you folks are doing a wonderful job. (Signed)

In the twenty years that I've been coming here, I've noticed a decline in the number of trout and redfish being caught. I think the harvest limit numbers on both species should be reduced. Ideally, I would like to see a no harvest restriction on redfish for at least a few years.

It's a great refuge. We love it! From a national point of view, I think we should have more drive through opportunities.

Keep up the good work looking after the refuge.

My grandparent used to live on Merritt Island before the government took it away for the cape and I hunted and fished there a long time ago. It was better then.

Overall, the park was clean and the Visitors Center was enjoyable. I was disappointed in the litter along the waterways, although I find litter even in remote fishing trips to Canada. It's not the parks' fault, as the responsibility rests with the visitors.

Plan to come back to visit and will bring my family and stay longer.

Thank you for Merritt Island!

Thanks for a wonderful day!! The man was so helpful!!

Thanks.

The habitat and bird numbers have steadily been declining at Merritt Island NWR. I have been involved with the refuge and sometimes help with the bird counts - the habitat is in bad shape and bird counts should reflect lower bird numbers. This 2010/2011 winter is the worst I have seen it. The impoundments were bare, with very few birds - waders or waterfowl. It was a dismal time to spend on the refuge. Something needs to be done to recognize that bird numbers and diversity come from fresh water impoundments and not salt/brackish water. The biologists should know this and adjust their strategies that have continually eroded at the bird numbers and habitat over the past 12 years.

The volunteer and ranger at the Visitor Center at Merritt Island were very helpful to us. The water level was quite low at the time of our visit, so we didn't see as many water birds as we usually do. They informed us of another location close by to see the birds (esp.. ducks) at the Viera Wetlands. We were provided a map and directions on how to get there. Wish I had gotten their names - we visited on 1/16/11.

There should be more areas accessible by vehicles into the water inlets.

This was my first trip to Merritt Island. I loved it. If I return to the area again, I will return to Merritt Island. I would love to come for the big week when the well known photographers come, so I can learn with and from them.

This was our third visit to Black Point. We love going there and observing the birds and alligators. Unfortunately, this last visit was disappointing due to the drought conditions. In spite of that, we still enjoyed our visit.

Very friendly and informative staff. Very nice shoreline. I really enjoyed the manatee viewing area. The bird viewing area was wonderful. What a large number of very unique birds.

We are willing to pay a minimum fee (\$15.00/year) to use the boat ramp at the Merritt Island National Wildlife Refuge; however, I do not see what charging \$5.00 to launch a boat will accomplish when it would be necessary to pay federal employees of the FWS to collect the fee(s). Fee payment should be collected by placing the fee in an envelope, along with truck and trailer identification, and placed in a secured collection box, where FWS can check on who paid and who did not pay fee(s). Those of us over 65 should not have to pay a fee for use of the facilities.

We live in Florida for a good part of the year and Merritt Island is one of our favorite places to do our birding and photography. Thank you for maintaining this valuable resource for all of us.

We love National Wildlife Refuges! We realize that they are primarily for the benefit of wildlife, but we believe it is also very important to maintain accessibility to the public to increase awareness of wildlife, wildlife needs, and expansion of the National Wildlife System. Thank you.

We loved our visit to Merritt Island. We would return in the future. The staff was excellent!

We need more parking places and an additional boat ramp at Bair's Cove at Merritt Island. Also, better lights on the boat ramp area so we can see how to back up the boat trailer in the dark. Also, more rangers to catch poachers who violate fishing rules.

We specifically rent a condo in Titusville, Florida for 3 months in the winter because of Merritt Island National Wildlife Refuge. It is what brings us to the area. It's a treasure to us.

We stayed a week in this area. We often take day trips to their wildlife viewing areas.

We will be back often.

We will return to explore Merritt Island more thoroughly and at different seasons. It is a wonderful place to experience birds. Thanks to all who make its preservation and operation possible - we like spending our tax dollars this way.
