



National Wildlife Refuge Visitor Survey 2012: Individual Refuge Results for Rachel Carson National Wildlife Refuge

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

My husband and I love this wildlife refuge. We are both avid fisherman and enjoy the striper fishing at the base of Goose Brook. We also enjoy the fact that the beach changes constantly. After stopping at the campground to unload the car the refuge is our next stop. We love to walk the beach to collect sea glass, to fish, and see the changing landscape, etc. I think this refuge is as close to heaven as you can get. We are looking to retire in Maine because of this refuge.

— *Survey comment from a visitor to Rachel Carson National Wildlife Refuge*



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

Contents

Acknowledgments	iv
Introduction	1
Organization of Results	2
Methods	3
Selecting Participating Refuges	3
Developing the Survey Instrument	3
Contacting Visitors	3
Interpreting the Results	5
Refuge Description	5
Sampling at This Refuge	8
Selected Survey Results	9
Visitor and Trip Characteristics	9
Visitor Spending in Local Communities	17
Visitor Opinions about This Refuge	18
Visitor Opinions about National Wildlife Refuge System Topics	23
Conclusion	28
References Cited	29
Appendix A: Survey Frequencies for This Refuge	A-1
Appendix B: Visitor Comments for This Refuge	B-1

Figures

1.	Map of this refuge	7
2.	How visitors first learned or heard about this refuge	10
3.	Resources used by visitors to find their way to this refuge during this visit	10
4.	Number of visitors travelling to this refuge by place of residence.....	12
5.	Modes of transportation used by visitors to this refuge during this visit.....	13
6.	Activities in which visitors participated during the past 12 months at this refuge.....	14
7.	The primary activity in which visitors participated during this visit to this refuge	15
8.	Visitor Center activities in which visitors participated at this refuge.....	15
9.	Overall satisfaction with this refuge during this visit	18
10.	Importance-satisfaction ratings of services and facilities provided at this refuge	20
11.	Importance-satisfaction ratings of recreational opportunities provided at this refuge	21
12.	Importance-satisfaction ratings of transportation-related features at this refuge	22
13.	Visitors' likelihood of using alternative transportation options at refuges in the future.....	24
14.	Visitors' personal involvement with climate change related to fish, wildlife and their habitats	26
15.	Visitors' beliefs about the effects of climate change on fish, wildlife and their habitats	27

Tables

1.	Refuges participating in the 2012 national wildlife refuge visitor survey.....	4
2.	Sampling and response rate summary for this refuge.....	8
3.	Influence of this refuge on visitors' decisions to take their trips.....	11
4.	Type and size of groups visiting this refuge	13
5.	Total visitor expenditures in local communities and at this refuge expressed in dollars per person per day	17

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Introduction

The National Wildlife Refuge System (Refuge System), established in 1903 and managed by the U.S. Fish and Wildlife Service (Service), is the leading network of protected lands and waters in the world specifically dedicated to the conservation of fish, wildlife, and their habitats. There are 560 national wildlife refuges (refuges) and 38 wetland management districts nationwide, including possessions and territories in the Pacific and Caribbean, encompassing more than 150 million acres (U.S. Fish and Wildlife Service, 2013). As stated in the National Wildlife Refuge Improvement Act of 1997, the mission of the Refuge System is “to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.” Part of achieving this mission is the goal “to foster understanding and instill appreciation of the diversity and interconnectedness of fish, wildlife, and plants, and their habitats” and the goal “to provide and enhance opportunities to participate in compatible wildlife-dependent recreation” (U.S. Fish and Wildlife Service, 2006, p. 2). The Refuge System attracts nearly 45 million visitors annually, including 34.8 million people who observe and photograph wildlife, 9.6 million who hunt and fish, and nearly 675,000 teachers and students who use refuges as “outdoor classrooms” (U.S. Fish and Wildlife Service, 2012). Understanding visitor perceptions of refuges and characterizing their experiences on refuges are critical elements of managing these lands and meeting the goals of the Refuge System.

The Service contracted with the U.S. Geological Survey (USGS) to conduct a national survey of visitors regarding their experiences on refuges. The purpose of the survey was to better understand visitor experiences and trip characteristics, to gauge visitors’ levels of satisfaction with existing recreational opportunities, and to garner feedback to inform the design of programs and facilities. The survey results will inform performance, planning, budget, and communications goals. Results will also inform Comprehensive Conservation Plans (CCPs), visitor services, and transportation planning processes.

Organization of Results

These results are specific to visitors who were contacted at Rachel Carson National Wildlife Refuge (NWR) (this refuge) during the specified sampling periods and are part of USGS Data Series 754. All refuges participating in the 2012 survey effort will receive individual refuge results specific to the visitors to that refuge. Each set of results is organized by the following categories:

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

Methods

Selecting Participating Refuges

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

Developing the Survey Instrument

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

Contacting Visitors

Refuge staff identified two separate 15-day sampling periods, and one or more locations at which to sample, that best reflected the diversity of use and specific visitation patterns of each participating refuge. Sampling periods and locations were identified by refuge staff and submitted to the USGS via an internal website that included a customized mapping tool. A standardized sampling schedule was created for all refuges that included eight randomly selected sampling shifts during each of the two sampling periods. Sampling shifts were 3–5 hour (hr) time bands, stratified across AM and PM as well as weekend and weekdays. In coordination with refuge staff, any necessary customizations were made to the standardized schedule to accommodate the identified sampling locations and to address specific spatial and temporal patterns of visitation.

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

Table 1. Refuges participating in the 2012 national wildlife refuge visitor survey.

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

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

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

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

Each mailing included instructions for completing the survey online, so visitors had an opportunity to complete an online survey with each mailing. Those visitors indicating a preference for Spanish were sent Spanish versions of all correspondence (including the survey). Finally, a short survey of six questions was sent to nonrespondents four weeks after the second survey packet to determine any differences between respondents and nonrespondents at the aggregate level. Online survey data were exported and paper survey data were entered into Microsoft Excel using a standardized survey codebook and data entry procedure. All survey data were analyzed using *Statistical Package for the Social Sciences* (SPSS, v.20) software¹.

Interpreting the Results

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

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

resulting from that sample to reflect the beliefs and interests of different visitor user groups (Scheaffer and others, 1996). The composition of the sample is dependent on the ability of the standardized sampling protocol for this study to account for the spatial and temporal patterns of visitor use unique to each refuge. Spatially, the geographical layout and public-use infrastructure varies widely across refuges. Some refuges can be accessed only through a single entrance, while others have multiple unmonitored access points across large expanses of land and water. As a result, the degree to which sampling locations effectively captured spatial patterns of visitor use will vary from refuge to refuge. Temporally, the two 15-day sampling periods may not have effectively captured all of the predominant visitor uses/activities on some refuges during the course of a year, which may result in certain survey measures such as visitors' self-reported "primary activity during their visit" reflecting a seasonality bias. Results contained within this report may not apply to visitors during all times of the year or to visitors who did not visit the survey locations.

In this report, visitors who responded to the survey are referred to simply as "visitors." However, when interpreting the results for Rachel Carson NWR, any potential spatial and temporal sampling limitation specific to this refuge needs to be considered when generalizing the results to the total population of visitors. For example, a refuge that sampled during a special event (for example, birding festival) held during the spring may have contacted a higher percentage of visitors who traveled greater than 50 miles (mi) to get to the refuge than the actual number of these people who would have visited throughout the calendar year (that is, oversampling of nonlocals). Another refuge may not have enough nonlocal visitors in the sample to adequately represent the beliefs and opinions of that group type. If the sample for a specific group type (for example, nonlocals, hunters) is too low ($n < 30$), a warning is included in the text. Finally, the term "this visit" is used to reference the visit during which people were contacted to participate in the survey.

Refuge Description for Rachel Carson National Wildlife Refuge

Rachel Carson NWR consists of 11 divisions stretched across 50 mi of coastline in southern Maine. The refuge protects critical salt marsh and estuary habitat for migratory birds as well as forested uplands, barrier beaches and dunes, coastal meadows, and the rocky coastlines. Once land acquisition efforts are complete, the refuge will cover approximately 9,125 acres. The refuge is named in honor of Rachel Carson who worked tirelessly to promote the protection of wildlife and habitat and wrote the celebrated book, *Silent Spring*, which was credited for catalyzing the contemporary environmental movement. Carson was especially inspired by the Maine coast.

The refuge was established in 1966, specifically to preserve ten critical estuaries along waterfowl and bird migration routes. Refuge habitat provides vital food and cover for migrating birds, as well as many mammals, fish, reptiles and amphibians. Deer, raccoon, mink, moose, black bears, and beaver are a few of the many animals that have been spotted on the refuge. The piping plover (listed as a federally threatened species), and the New England Cottontail (a candidate species under the Endangered Species Act), are both found on the refuge. Each year approximately 275,000 visitors participate in a wide range of activities and opportunities the refuge has to offer (2011 Refuge Annual Performance Plan measures; Rob Miller, U.S. Fish and Wildlife Service, 2012, written commun.). Hunting, fishing, canoeing/kayaking, wildlife

observation, photography, and hiking are all popular activities. Limited interpretive and educational opportunities are also available. Figure 1 displays a map of the refuge. For more information, please visit <http://www.fws.gov/northeast/rachelcarson/>.



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

Sampling at Rachel Carson National Wildlife Refuge

A total of 312 visitors agreed to participate in the survey during the two sampling periods at the identified locations at Rachel Carson NWR (table 2). In all, 224 visitors completed the survey for a 73% response rate, and $\pm 5.2\%$ margin of error at the 95% confidence level.²

Table 2. Sampling and response rate summary for Rachel Carson NWR.

Sampling period	Dates	Locations	Total contacts	Undeliverable addresses	Completed surveys	Response rate
1	6/9/12 to 6/23/12	Cutts Island Trail				
		Refuge Headquarters and Carson Trail				
		Patrol				
SP1 Totals			159	3	117	75%
2	10/6/2012 to 10/29/2012	Patrol				
		Timber Point Trail				
		Refuge Headquarters and Carson Trail				
SP2 Totals			153	6	107	71%
Combined Totals			312	6	224	73%

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

Selected Survey Results

Visitor and Trip Characteristics

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

Familiarity with the Refuge System

Many visitors to Rachel Carson NWR reported that before participating in the survey, they were aware of the role of the Service in managing refuges (73%) and that the Refuge System has the mission of conserving, managing, and restoring fish, wildlife, plants, and their habitats (87%). It is important to note that we did not ask visitors to identify the mission of the Refuge System or the Service, and positive responses to these questions concerning the management and mission of the Refuge System do not necessarily indicate that these visitors fully understand the day-to-day management practices of individual refuges, only that visitors feel they have a basic knowledge of who manages refuges and why.

Most visitors (81%) feel that refuges, compared to other public lands, provide a unique recreation experience (see Appendix B for visitor comments on “What Makes National Wildlife Refuges Unique?”); however, reasons for why visitors find refuges unique are varied and may not directly correspond to their understanding of the mission of the Refuge System.

More than half of visitors to Rachel Carson NWR had been to at least one *other* national wildlife refuge in the past year (54%), with an average of 4 visits to *other* refuges during the past 12 months.

Visiting This Refuge

Almost half of surveyed visitors (48%) had only been to Rachel Carson NWR once in the past 12 months, while slightly more than half had been multiple times (52%). These repeat visitors went to the refuge an average of 18 times during that same 12-month period. Visitors used the refuge during only one season (54%), during multiple seasons (29%), and year-round (17%).

Visitors first learned about the refuge from friends/relatives (36%), signs on the highway (33%), or people in the local community (22%; fig. 2). Key information sources used by visitors to find their way to this refuge include their own previous knowledge (60%), signs on the highways (29%), or a GPS navigation system (11%; fig. 3).

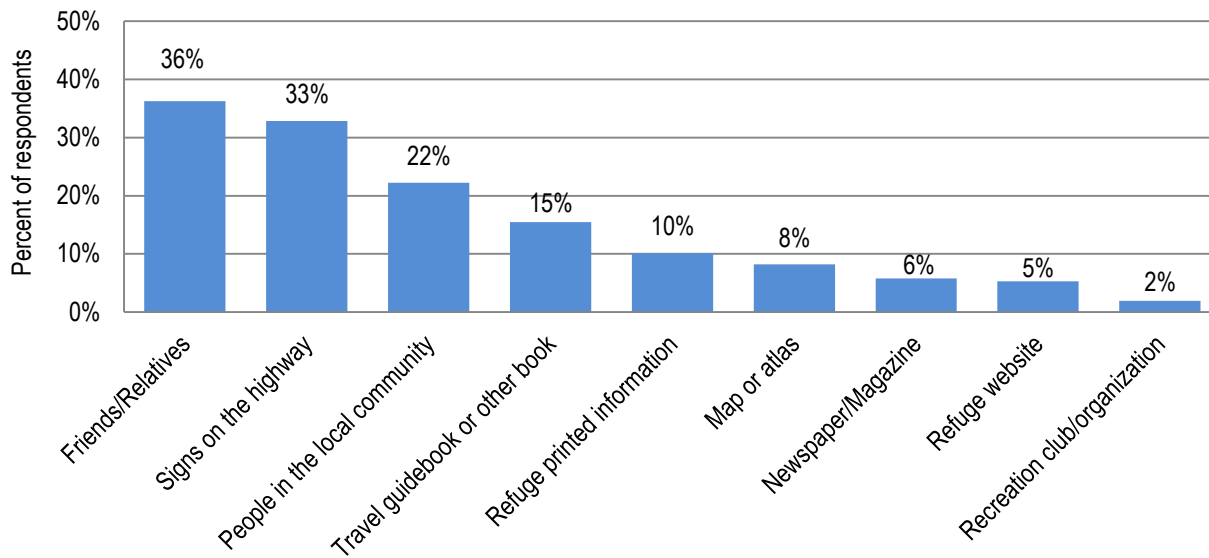


Figure 2. How visitors first learned or heard about Rachel Carson NWR (n = 207).

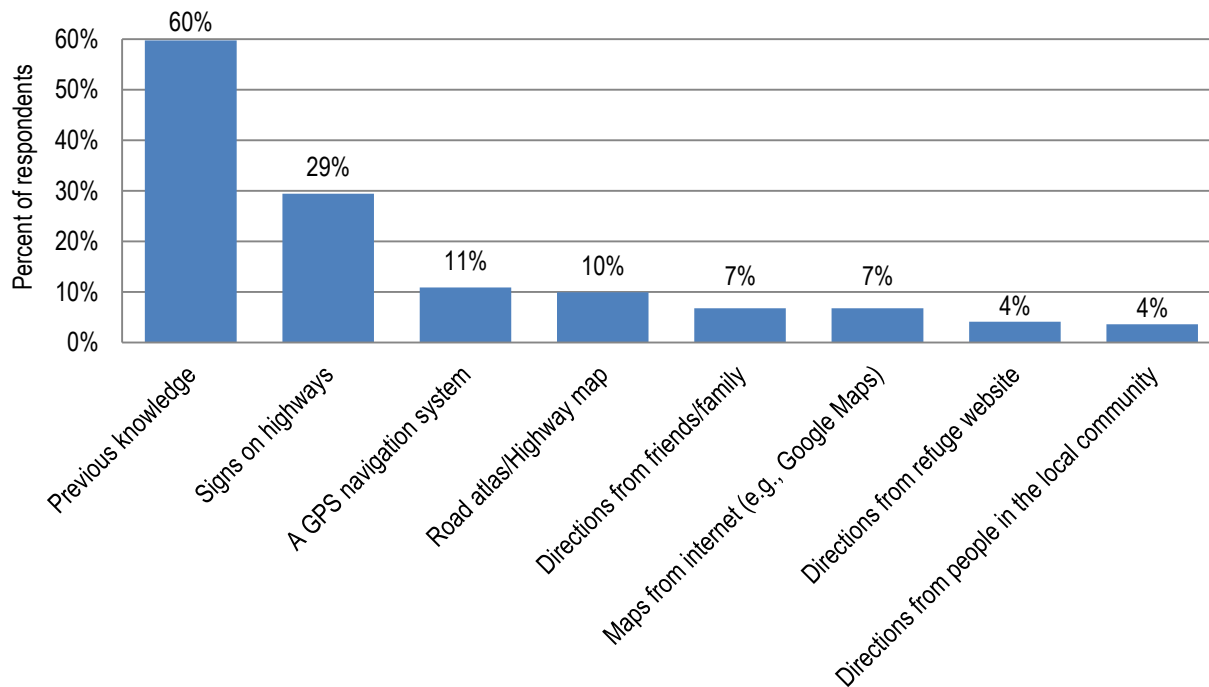


Figure 3. Resources used by visitors to find their way to Rachel Carson NWR during this visit (n = 221).

Over half of visitors (52%) lived in the local area (within 50 mi of the refuge), whereas 48% were nonlocal visitors. For most local visitors, Rachel Carson NWR was the primary purpose or sole destination of their trips (74%; table 3). For most nonlocal visitors, the refuge was one of many equally important reasons or destinations for their trips (49%) or an incidental stop taken on a trip for other purposes (46%).

Local visitors reported that they traveled an average of 8 mi to get to the refuge, while nonlocal visitors traveled an average of 526 mi. The average distance traveled for all visitors to this refuge was 200 mi, while the median was 15 mi. Figure 4 shows the residences of visitors traveling to this refuge. About 44% of visitors traveling to Rachel Carson NWR were from Maine.

Table 3. Influence of Rachel Carson NWR on visitors' decisions to take their trips.

Visitors	Visiting this refuge was...		
	the primary reason for trip	one of many equally important reasons for trip	an incidental stop
Nonlocal	6%	49%	46%
Local	74%	14%	12%
All visitors	41%	31%	28%

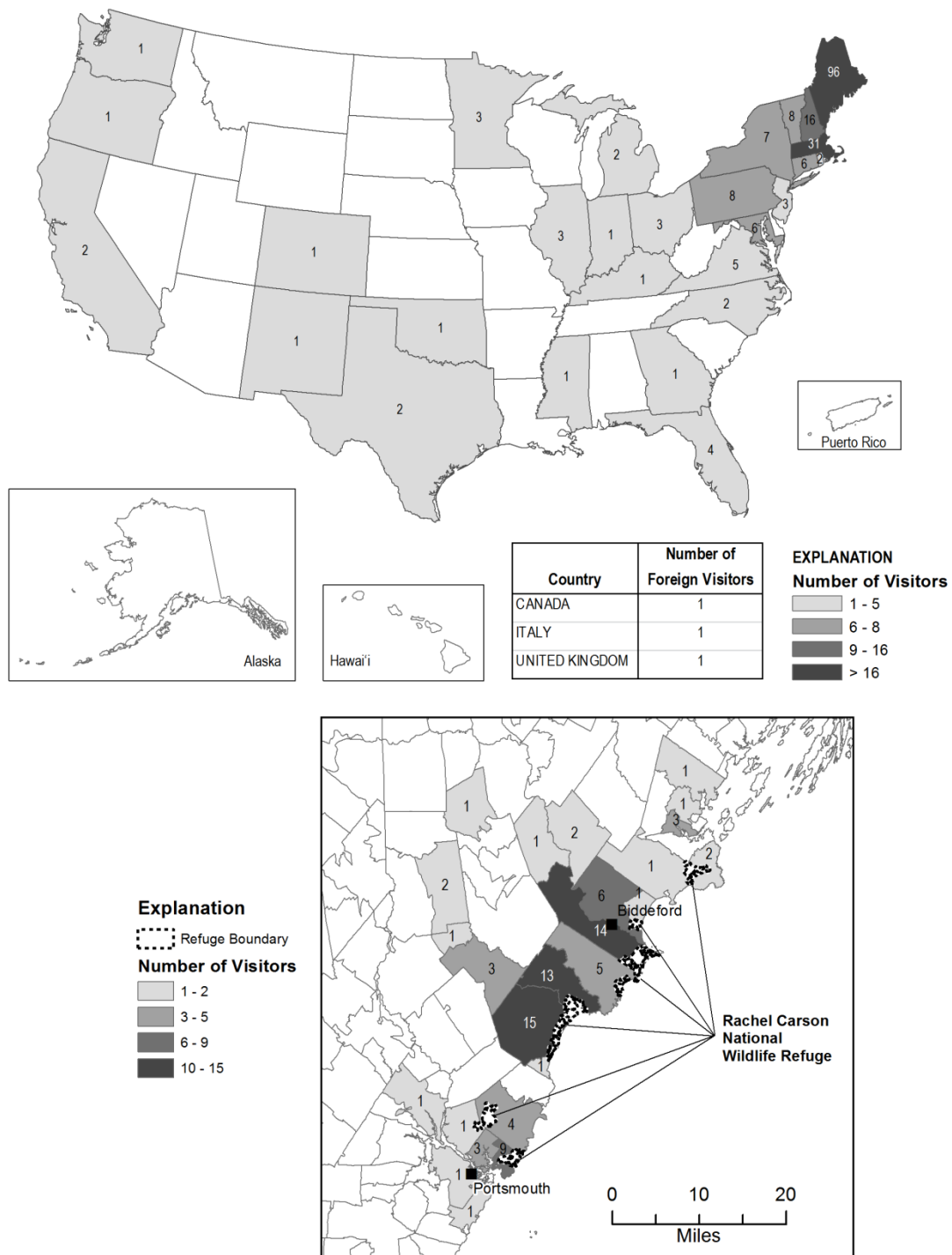


Figure 4. Number of visitors travelling to Rachel Carson NWR by place of residence. The top map shows visitors residence by state and the bottom map shows residence by zip codes near the refuge (n = 224).

Surveyed visitors reported that they spent an average of 2 hr at the refuge during one day there, while the most frequently reported length of a day visit (the modal response) was 1 hr (40%). Most visitors indicated they were part of a group on their visit to this refuge (83%). Of those people who indicated they traveled with a group, visitors primarily traveled with family/friends (table 4).

Table 4. Type and size of groups visiting Rachel Carson NWR (for those who indicated they were part of a group, n = 179).

Group type	Percent (of those traveling in a group)	Average group size		
		Number of adults	Number of children	Total group size
Family/Friends	97%	3	0	3
Commercial tour group	0%	0	0	0
Organized club/School group	3%	13	0	13
Other group type	1%	1	0	1

The key mode of transportation used by visitors to travel around the refuge was private vehicles (79%), while some visitors participated in walking/hiking (33%) or used bicycles (6%; fig. 5).

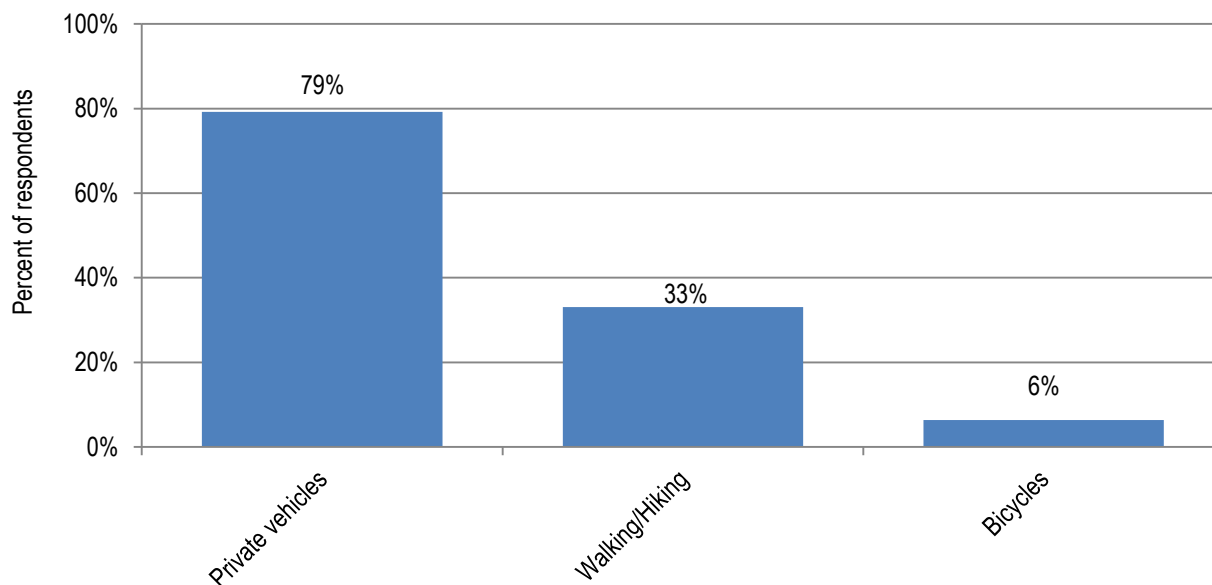


Figure 5. Modes of transportation used by visitors to Rachel Carson NWR during this visit (n = 221).

Surveyed visitors participated in a variety of refuge activities during the 12 months prior to completing the survey (fig. 6); the top three activities in which people reported participating were hiking (73%), wildlife observation (59%), and bird watching (56%). The primary reasons for visitors' most recent visits included hiking (58%), and, to a lesser degree, wildlife observation (12%) and bird watching (10%; fig. 7). Some visitors also used the Visitor Center during their trips (28%), mostly to view the exhibits (70%), ask information of staff or volunteers (45%), and stop to use the facilities (42%; fig. 8).

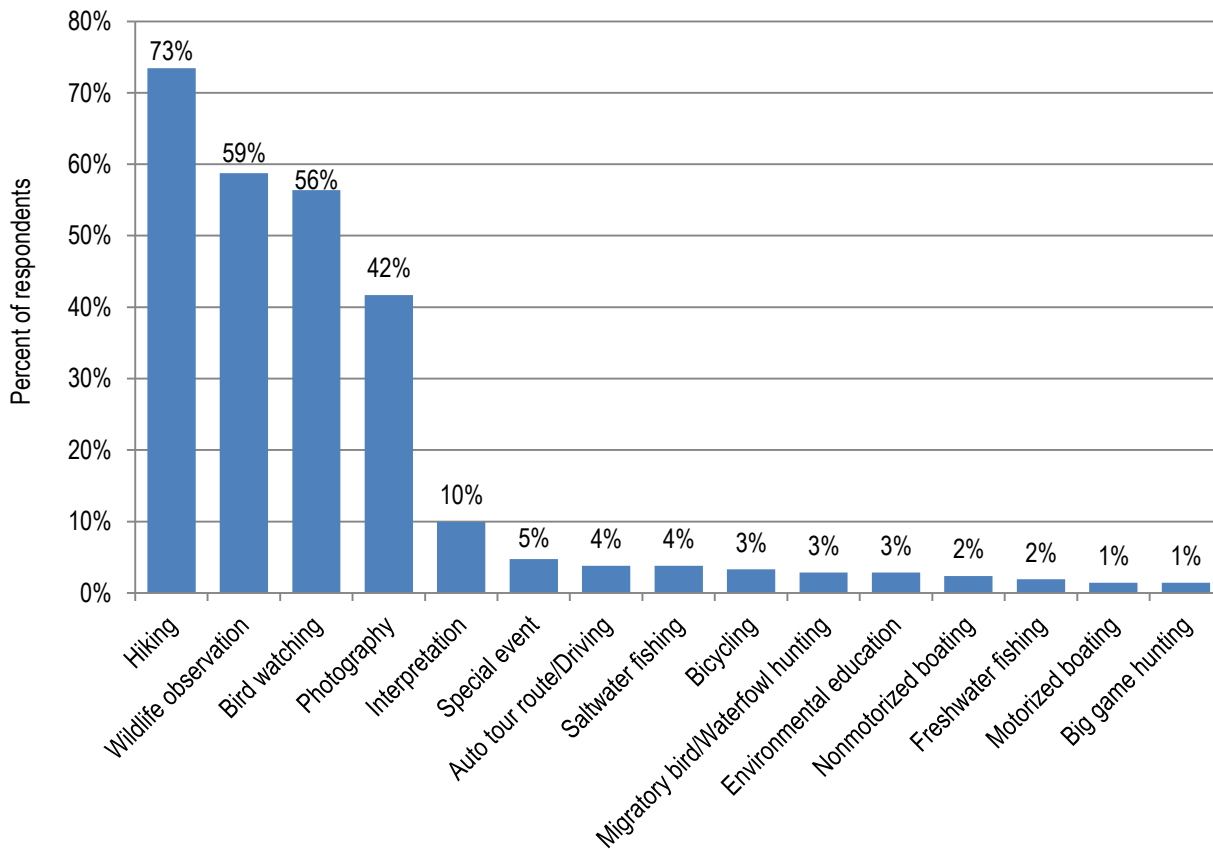


Figure 6. Activities in which visitors participated during the past 12 months at Rachel Carson NWR (n = 211). See Appendix B for a listing of “other” activities.

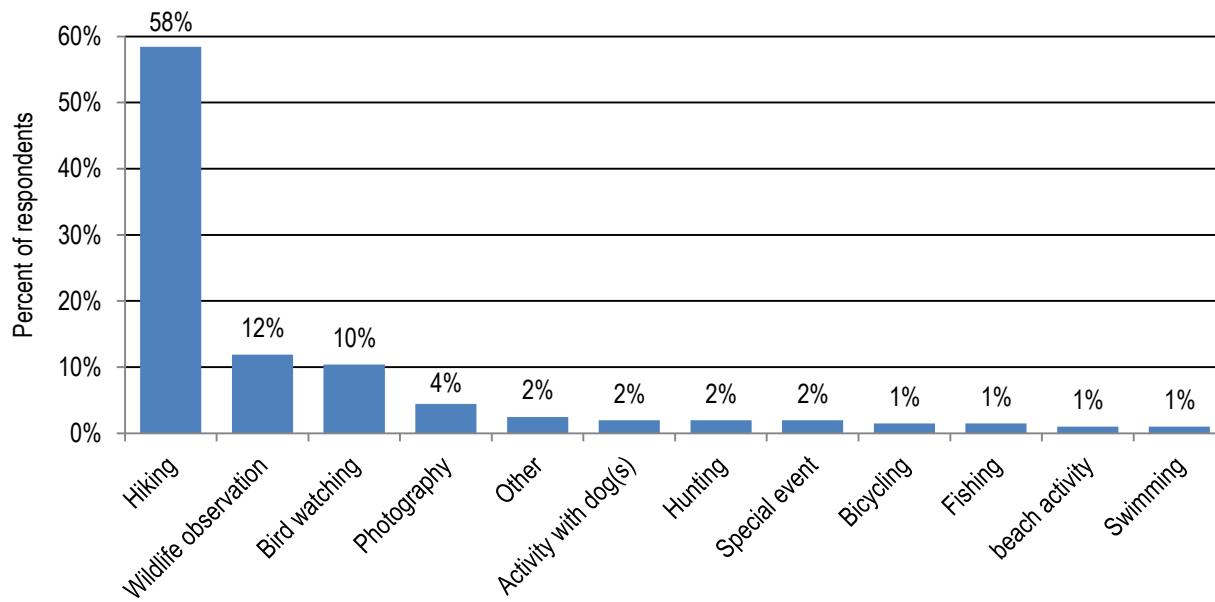


Figure 7. The **primary** activity in which visitors participated during this visit to Rachel Carson NWR (n = 202). See Appendix B for a listing of “other” activities.

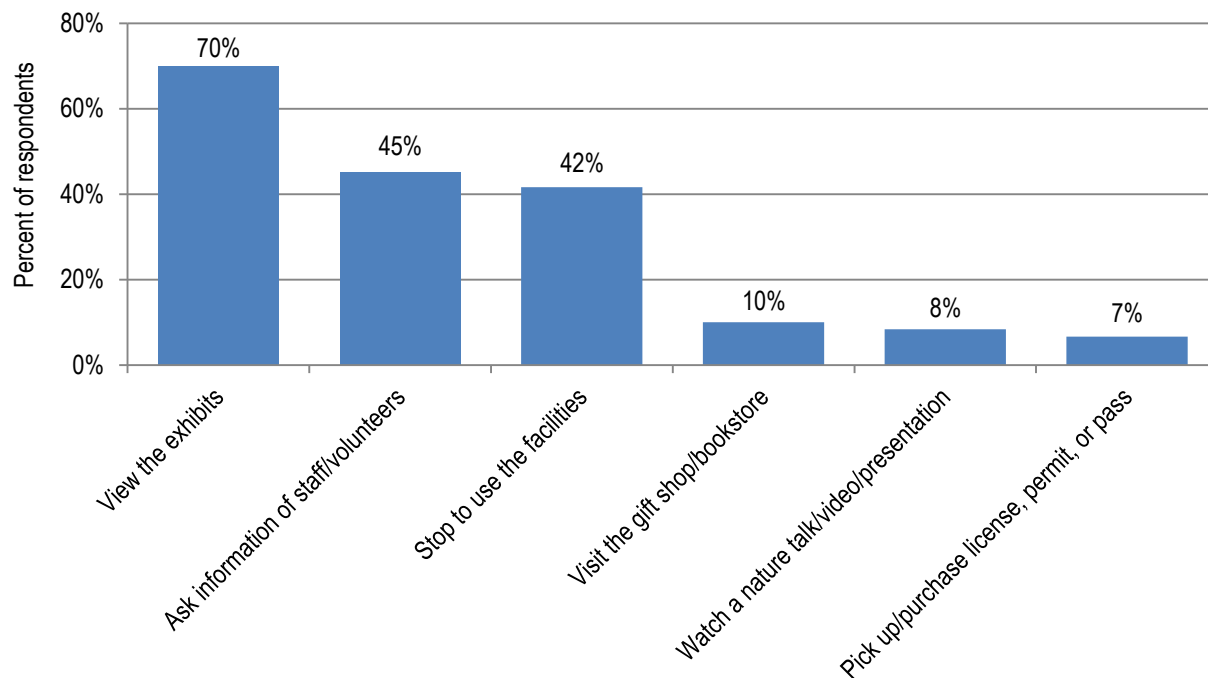


Figure 8. Visitor Center activities in which visitors participated at Rachel Carson NWR (n = 60).

Visitor Characteristics

Nearly all (99%) visitors who participated in the survey at Rachel Carson NWR indicated that they were citizens or permanent residents of the United States. These visitors were a mix of 34% male (with an average age of 55 years) and 66% female (with an average age of 54 years). Visitors, on average, reported they had 16 years of formal education (equivalent to four years of college or technical school). The median level of income was \$75,000-\$99,999. See Appendix A for more demographic information.

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

Visitor Spending in Local Communities

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

Visitors that live within the local 50-mi area of a refuge typically have different spending patterns than those that travel from longer distances. During the two sampling periods, 52% of surveyed visitors to Rachel Carson NWR indicated that they live within the local 50-mi area while nonlocal visitors (48%) stayed in the local area, on average, for 2 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 \$111 per person per day and local visitors spent an average of \$31 per person per day in the local area. Several factors should be considered when estimating the economic importance of refuge-visitor spending in the local communities. These factors include the amount of time spent at the refuge, influence of the refuge on the visitors' decision to take this trip, and the representativeness of primary activities of the sample of surveyed visitors compared to the general population. Controlling for these factors is beyond the scope of the summary statistics presented in this report.

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

Visitors	n ¹	Median	Mean	Standard deviation	Minimum	Maximum
Nonlocal	89	\$94	\$111	\$82	\$0	\$350
Local	69	\$8	\$31	\$49	\$0	\$223

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

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

Visitor Opinions about this Refuge

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

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

- 89% of visitors were satisfied with the recreational activities and opportunities,
- 76% of visitors were satisfied with the information and education about the refuge and its resources,
- 81% of visitors were satisfied with the services provided by employees or volunteers, and
- 91% of visitors were satisfied with the refuge's job of conserving fish, wildlife and their habitats.

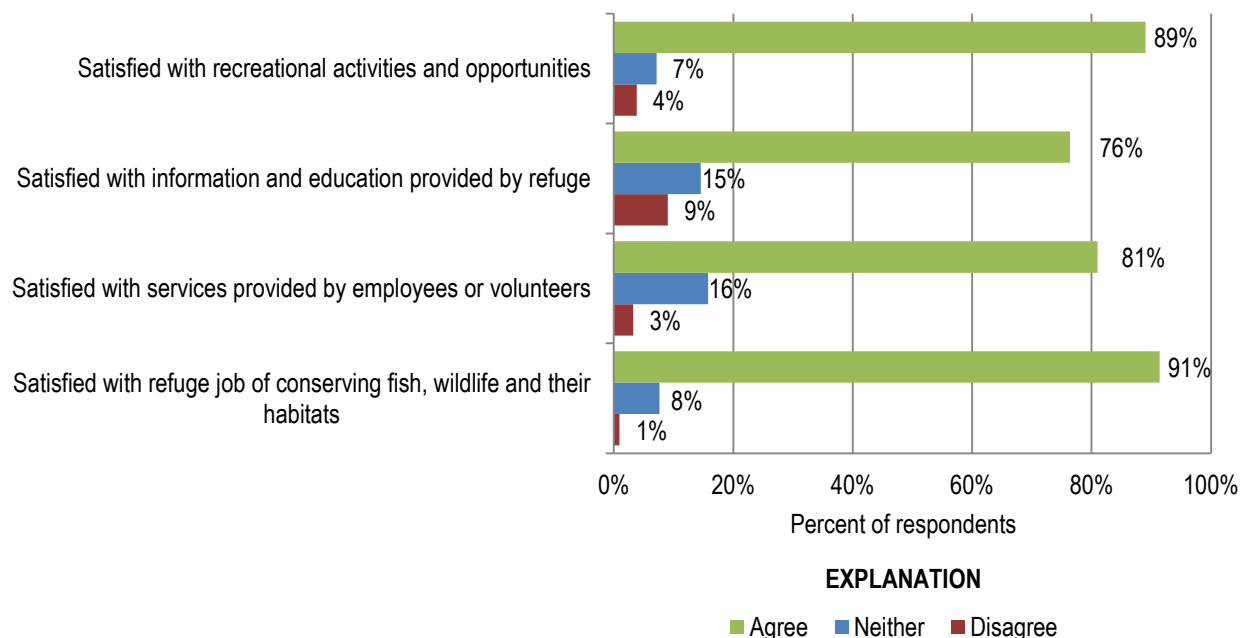


Figure 9. Overall satisfaction with Rachel Carson NWR during this visit (n ≥ 184).

Importance/Satisfaction Ratings

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

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

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

Figures 10–12 depict surveyed visitors' importance-satisfaction ratings for refuge services and facilities, recreational opportunities, and transportation-related features at Rachel Carson NWR. Results are summarized as follows:

- All refuge *services and facilities* fell in the "Keep Up the Good Work" quadrant (fig. 10).
- All refuge *recreational opportunities* fell in the "Keep Up the Good Work" quadrant except hunting, fishing, and volunteer opportunities, which fell into the "Look Closer" quadrant (fig. 11). The average importance of these activities is likely higher among visitors to Rachel Carson NWR who actually participated in the activities during the 12 months prior to taking the survey than the score reported here. For example, hunters, as part of the 2010-2011 national visitor survey, had an average

importance score of 4.6 for this recreational opportunity, while the average importance score of hunting activities across all visitors was lower

- All *transportation-related features* fell in the “Keep Up the Good Work” quadrant (fig. 12).

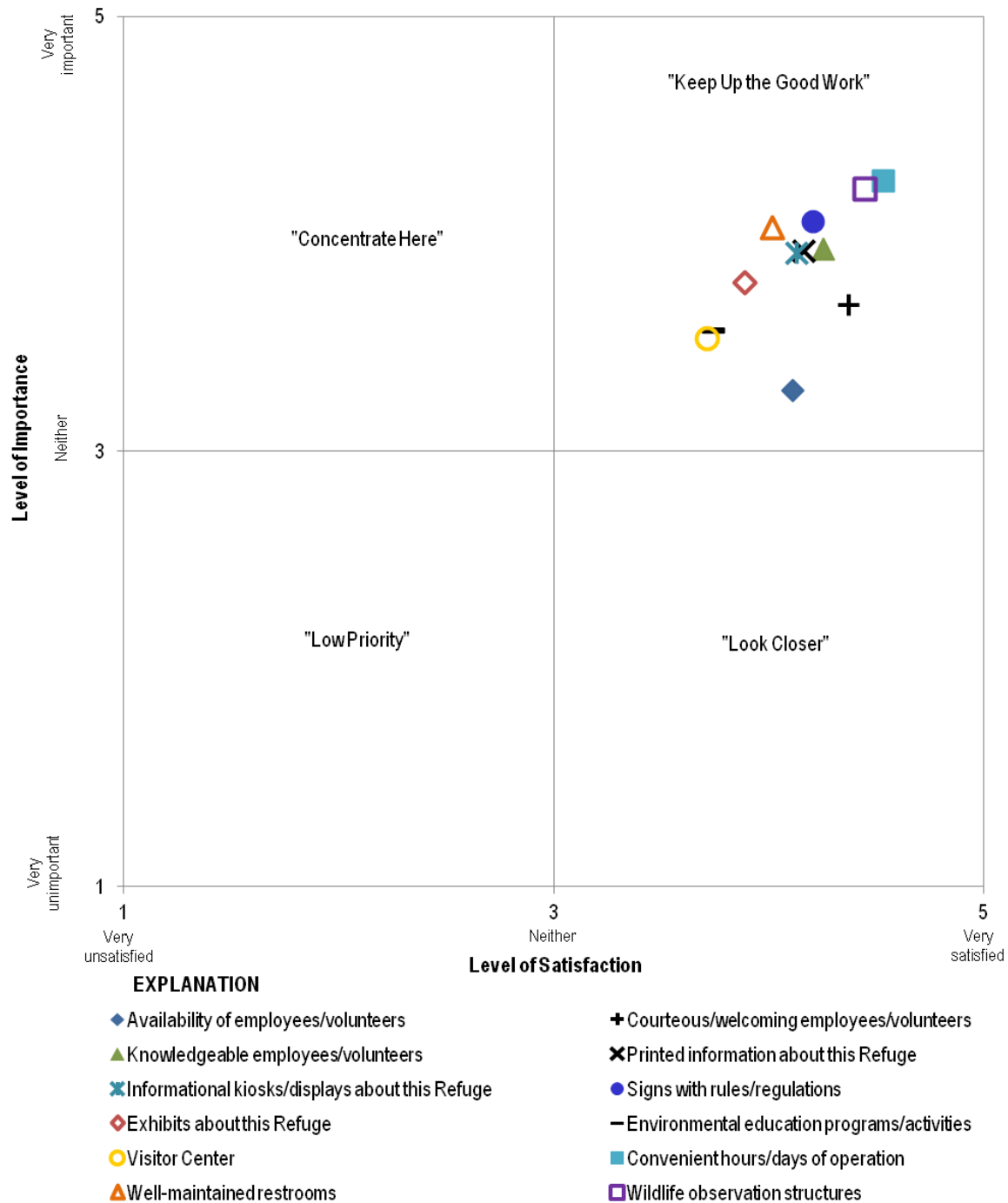


Figure 10. Importance-satisfaction ratings of services and facilities provided at Rachel Carson NWR.

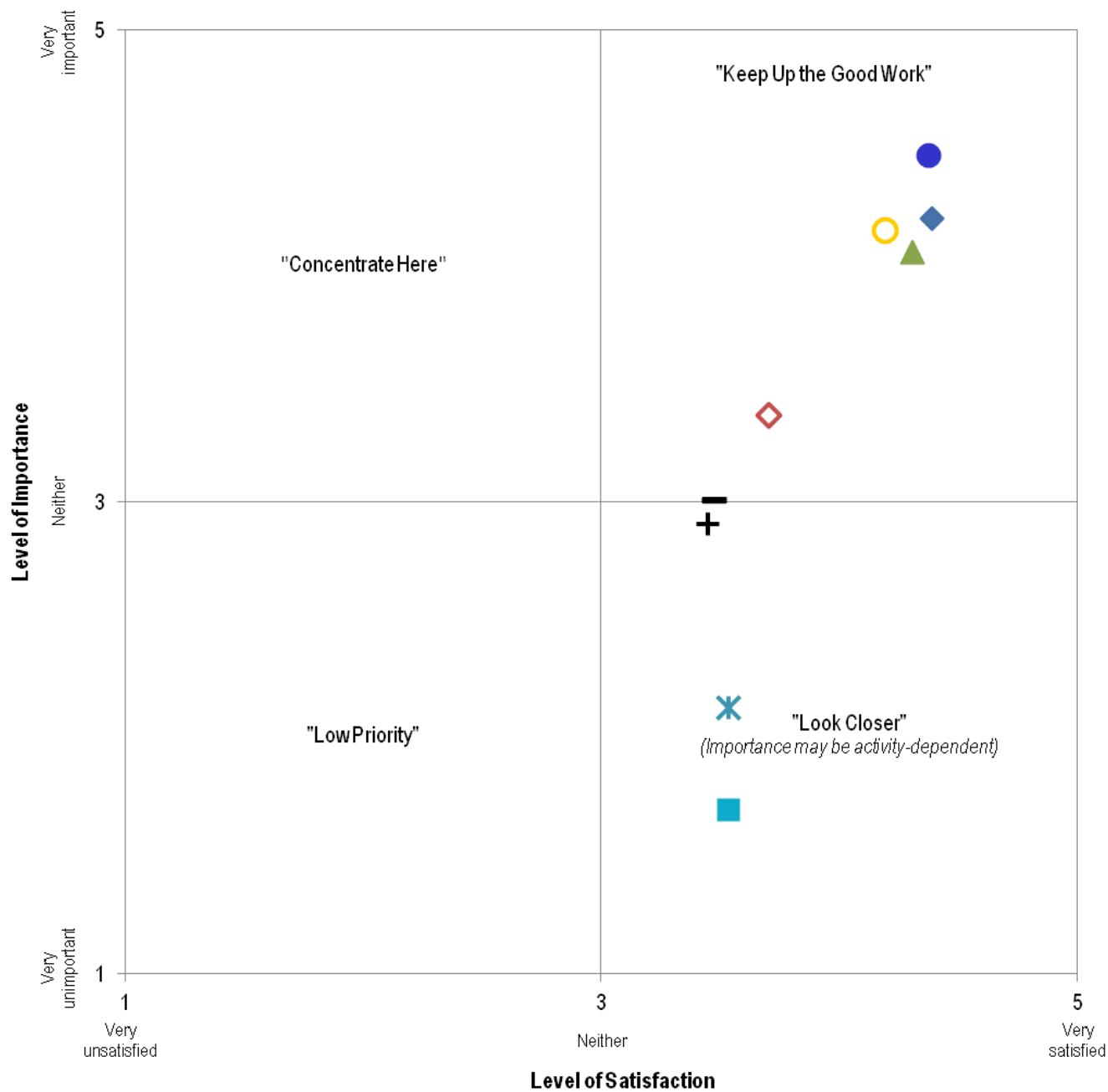


Figure 11. Importance-satisfaction ratings of recreational opportunities provided at Rachel Carson NWR.

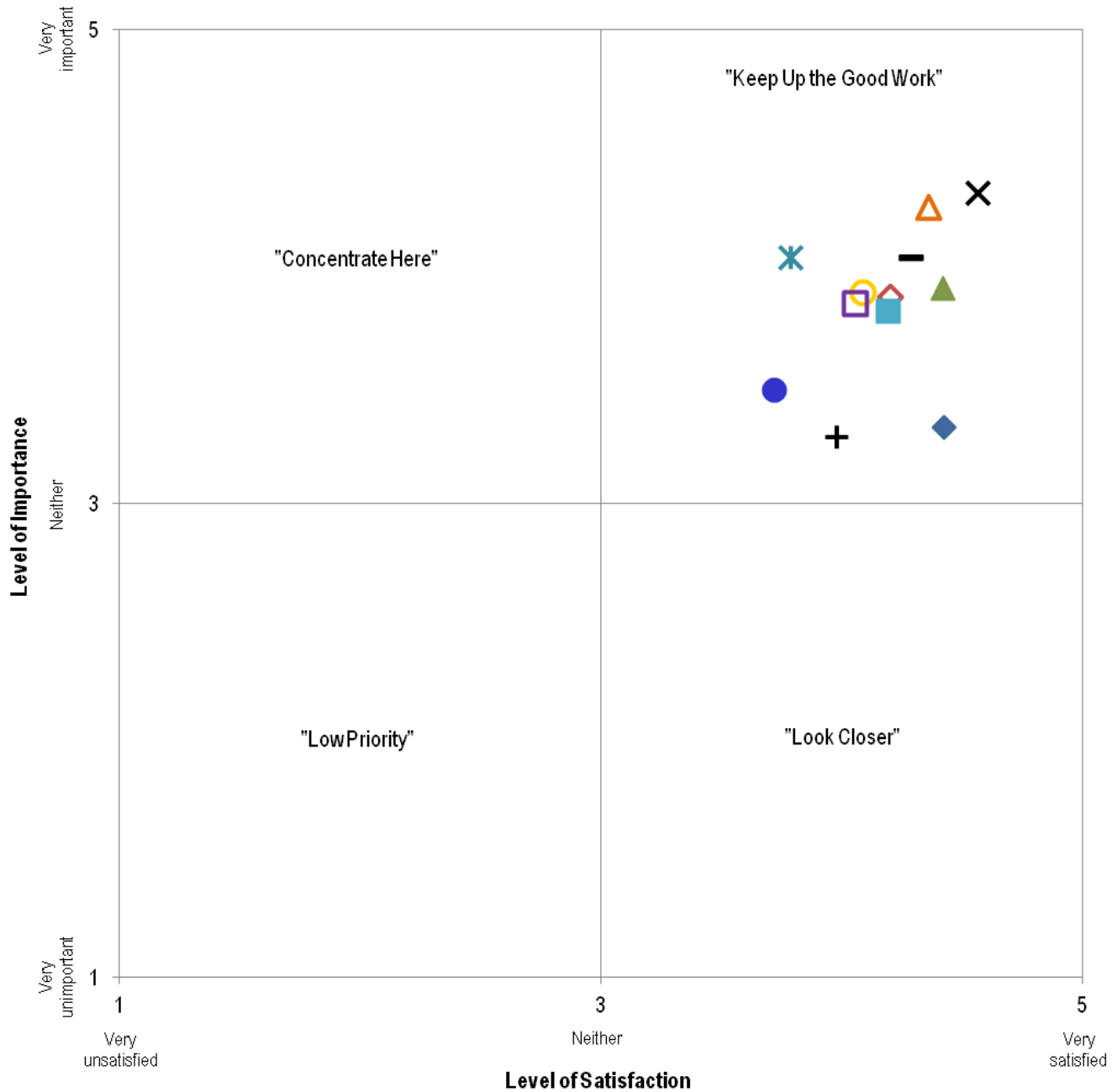


Figure 12. Importance-satisfaction ratings of transportation-related features at Rachel Carson NWR.

Visitor Opinions about National Wildlife Refuge System Topics

One goal of this national visitor survey was to identify visitor trends across the Refuge System to more effectively manage refuges and provide visitor services. Two important issues to the Refuge System are transportation on refuges and communicating with visitors about climate change. The results of these questions will be evaluated in aggregate form (data from all participating refuges together) to better address national-level goals. Basic results for Rachel Carson NWR are reported here.

Alternative Transportation and the Refuge System

Visitors use various types of transportation to access and enjoy refuges. While many visitors arrive at the refuge in private vehicles, alternatives such as buses, trams, watercraft, and bicycles are increasingly becoming a part of the visitor experience. Previous research has identified a growing need for transportation alternatives within the Refuge System (Krechmer and others, 2001), and recent efforts are beginning to characterize the use of transit and non-motorized transportation modes for visitor access to refuges (Volpe Center, 2010). However, less is known about how visitors perceive these new transportation options. An understanding of visitors' likelihood of using certain alternative transportation options can help in future planning efforts. Visitors were asked their likelihood of using alternative transportation options at refuges in the future.

Of six alternative transportation options listed on the survey, a majority of Rachel Carson NWR visitors were likely to use an offsite parking lot that provides trail access and a boat that goes to different points on refuge waterways at refuges in the future (fig. 13). A majority of visitors indicated they were *not* likely to use a bus/tram that takes passengers to different points on the refuge.

When asked specifically about using alternative transportation at Rachel Carson NWR, some visitors thought alternative transportation would enhance their experience (16%) while others thought it would not (56%). An additional 28% of surveyed visitors indicated they were unsure whether alternative transportation would enhance their experiences.

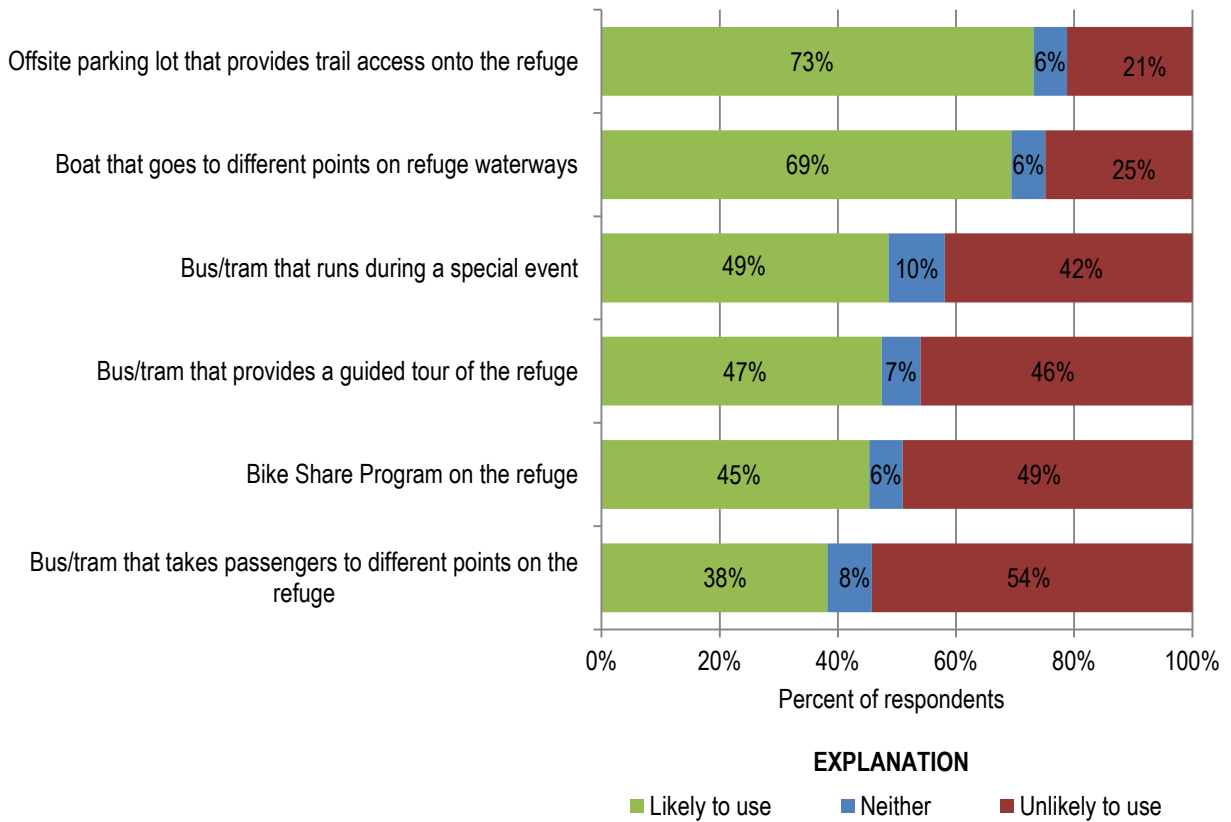


Figure 13. Visitors' likelihood of using alternative transportation options at refuges in the future (n ≥ 209).

Climate Change and the National Wildlife Refuge System

Climate change represents a growing concern for refuge management. The Service's climate-change strategy, titled "Rising to the Urgent Challenge," establishes a basic context for the agency to work within a larger conservation community to ensure wildlife, plant, and habitat sustainability (U.S. Fish and Wildlife Service, 2010). To support the guiding principles of the strategy, refuges will be exploring options for more effective engagement with visitors on the topic of climate change. Previous research suggests that human thought about climate change is influenced by individuals' levels of concern, levels of involvement, preferences for policies, and associated behaviors (Maibach and others, 2009). The results presented below provide baseline information on these factors in relation to the effects of climate change on fish, wildlife, and their habitats.

These results are most useful when coupled with responses to belief statements, because such beliefs may be used to develop message frames (or ways to communicate) about climate change with a broad coalition of visitors. Framing science-based findings does not alter the overall message, but rather places the issue in a context in which different audience groupings can relate (Nisbet, 2009). The need to mitigate impacts of climate change on refuges could be framed as a quality-of-life issue (for example, preserving the ability to enjoy fish, wildlife, plants, and their habitat) or an economic issue (for example, maintaining tourist revenues or supporting economic growth through new jobs/technology). Framing information in ways that resonate with visitors' beliefs may result in more engaged audiences who support strategies aimed at alleviating climate-change pressures. Data will be analyzed further at the national level to inform the development of a comprehensive climate change communication and engagement strategy.

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

The majority of visitors also agreed with the following *belief statements* regarding climate change effects on 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.

Results regarding such beliefs are important to consider when communicating with visitors about this topic, since the majority of visitors (56%) indicated their experiences would be enhanced if Rachel Carson NWR provided information about how visitors can help to address climate change impacts on fish, wildlife, and their habitats (fig. 14).

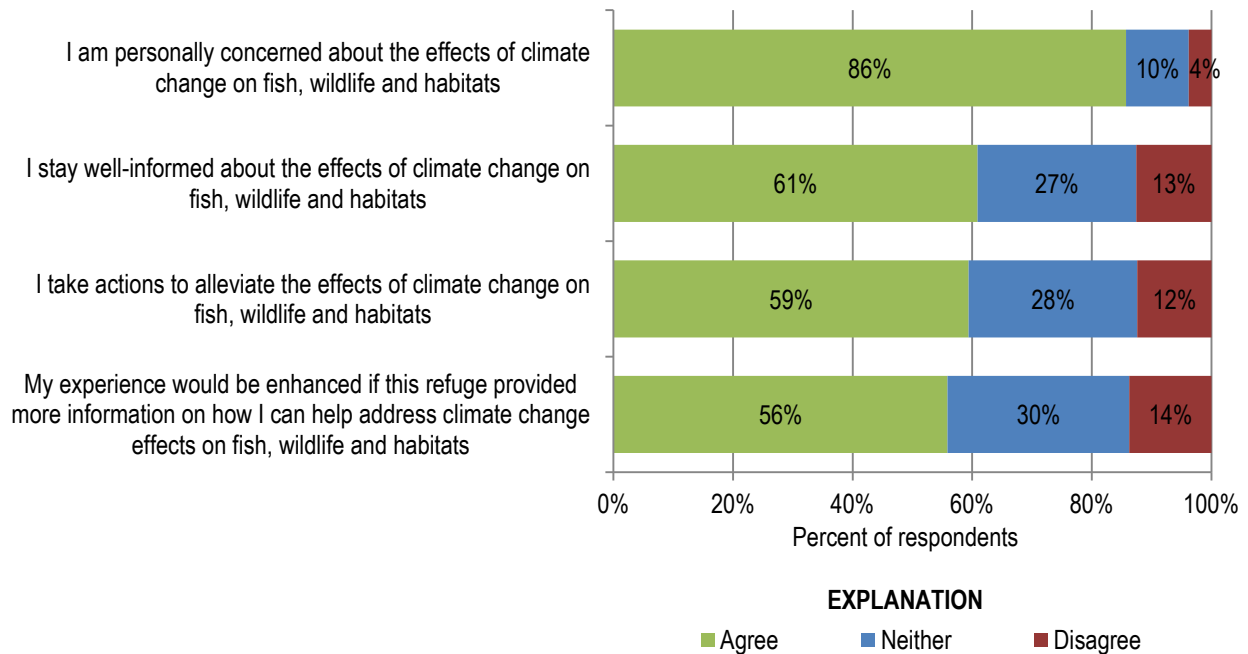


Figure 14. Visitors' personal involvement with climate change related to fish, wildlife and their habitats (n ≥ 202).

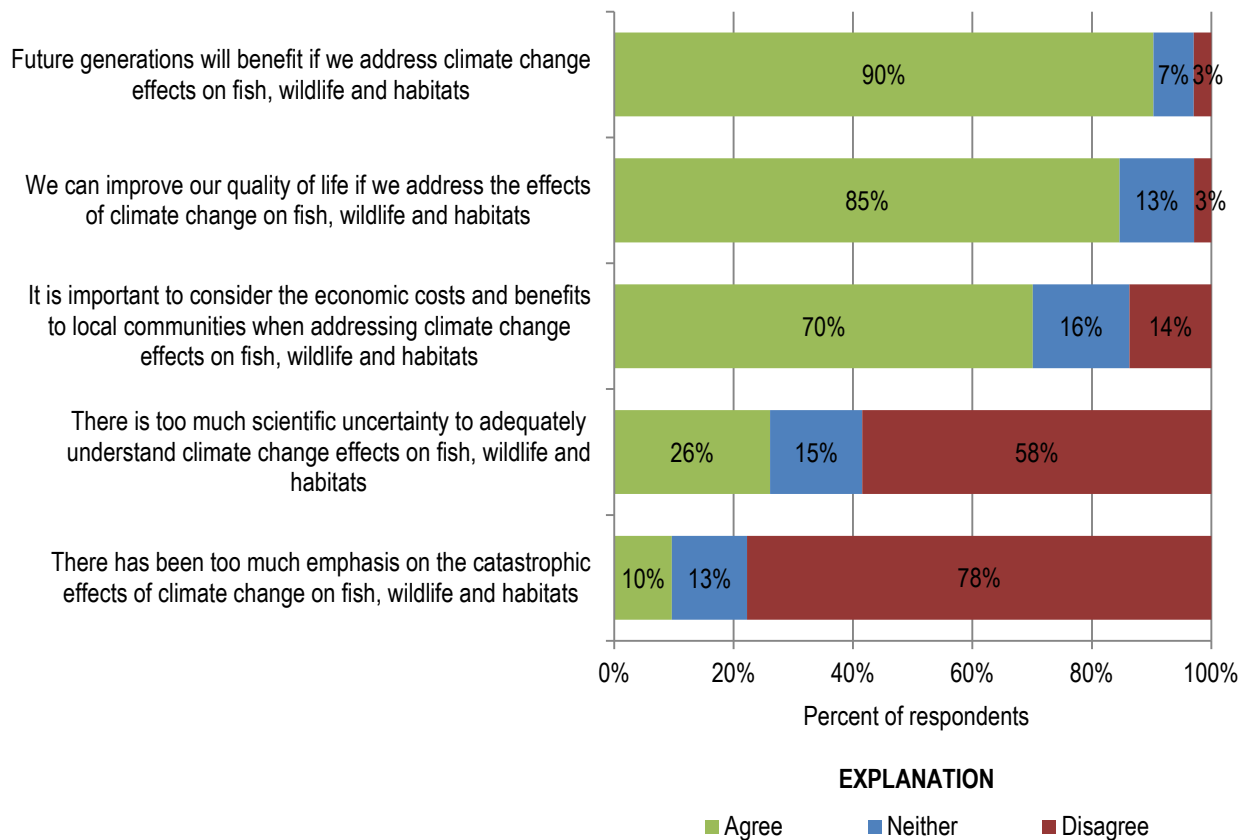


Figure 15. Visitors' beliefs about the effects of climate change on fish, wildlife and their habitats (n ≥ 204).

Conclusion

These individual refuge results provide a summary of trip characteristics and experiences of a sample of visitors to Rachel Carson NWR during 2012 and are intended to inform decision-making efforts related to visitor services and transportation at the refuge. Additionally, the results from this survey can be used to inform planning efforts, such as a refuge's Comprehensive Conservation Plan. With an understanding of visitors' trip and activity characteristics, visitor-satisfaction ratings with existing offerings, and opinions regarding fees, refuge managers are able to make informed decisions about possible modifications (whether reducing or enhancing) to visitor facilities, services, or recreational opportunities. This information can help managers gauge demand for refuge opportunities and inform both implementation and communication strategies. Similarly, an awareness of visitors' satisfaction ratings with refuge offerings can help determine if potential areas of concern need to be investigated further. As another example of the utility of these results, community relations may be improved or bolstered through an understanding of the value of the refuge to visitors, whether that value is attributed to an appreciation of the refuge's uniqueness, enjoyment of its recreational opportunities, or spending contributions of nonlocal visitors to the local economy. Such data about visitors and their experiences, in conjunction with an understanding of biophysical data on the refuge and its resources, can ensure that management decisions are consistent with the Refuge System mission while fostering a continued public interest in these special places.

Individual refuge results are available for downloading at <http://pubs.usgs.gov/ds/754/>. For additional information about this project, contact the USGS researchers at national_visitor_survey@usgs.gov or 970.226.9205.

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National Wildlife Refuge Visitor Survey



PLEASE READ THIS FIRST:

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

Even if you have recently visited more than one National Wildlife Refuge or made more than one visit to the same Refuge, please respond regarding only the Refuge and the visit when you were asked to participate in this survey for any question that uses the phrase “this Refuge.” Please reference the cover letter included with this survey if you are unsure of which refuge you visited.

SECTION 1. Your visit to this Refuge

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

<input type="checkbox"/> 1% Big game hunting	<input type="checkbox"/> 73% Hiking	<input type="checkbox"/> 3% Environmental education (for example, classrooms or labs)
<input type="checkbox"/> 1% Upland/Small game hunting	<input type="checkbox"/> 3% Bicycling	
<input type="checkbox"/> 3% Migratory bird/Waterfowl hunting	<input type="checkbox"/> 4% Auto tour route/Driving	<input type="checkbox"/> 10% Interpretation (for example, exhibits, kiosks, videos)
<input type="checkbox"/> 59% Wildlife observation	<input type="checkbox"/> 1% Motorized boating	
<input type="checkbox"/> 56% Bird watching	<input type="checkbox"/> 2% Nonmotorized boating (including canoes/kayaks)	<input type="checkbox"/> 5% Refuge special event (<i>please specify</i>) See Appendix B
<input type="checkbox"/> 12% Freshwater fishing		
<input type="checkbox"/> 4% Saltwater fishing	<input type="checkbox"/> 1% Volunteering	<input type="checkbox"/> 6% Other (<i>please specify</i>) See Appendix B
<input type="checkbox"/> 42% 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"/> 72% No	
<input type="checkbox"/> 28% Yes → If yes, what did you do there? (Please mark <u>all that apply</u> .)	
<input type="checkbox"/> 10% Visit the gift shop or bookstore	<input type="checkbox"/> 7% Pick up/purchase a license, permit, or pass
<input type="checkbox"/> 70% View the exhibits	<input type="checkbox"/> 42% Stop to use the facilities (for example, get water, use restroom)
<input type="checkbox"/> 45% Ask information of staff/volunteers	
<input type="checkbox"/> 8% Watch a nature talk/video/presentation	<input type="checkbox"/> 8% Other (<i>please specify</i>) See Appendix B

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

Nonlocal	Local	All visitors	
<input type="checkbox"/> 6%	<input type="checkbox"/> 74%	<input type="checkbox"/> 41%	It was the primary purpose or sole destination of my trip.
<input type="checkbox"/> 49%	<input type="checkbox"/> 14%	<input type="checkbox"/> 30%	It was one of many equally important reasons or destinations for my trip.
<input type="checkbox"/> 46%	<input type="checkbox"/> 12%	<input type="checkbox"/> 29%	It was just an incidental or spur-of-the-moment stop on a trip taken for other purposes or to other destinations.

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

Nonlocal	<u>9</u> Hours	<u>52</u> Minutes	and	<u>526</u> Miles
Local	<u>0</u> Hours	<u>21</u> Minutes	and	<u>8</u> Miles
All visitors	<u>3</u> Hours	<u>53</u> Minutes	and	<u>200</u> Miles

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

☐ 17% None, I visited this Refuge alone

(of those visiting with a group)

☐ 97% Family and/or friends

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

☐ 0% Commerical tour group

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

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

3 number 18 years and over

0 number 17 years and under

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

☐ 36% Family and/or friends

☐ 5% Refuge website

☐ 33% Signs on highway

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

☐ 2% Recreation club or organization

☐ 0% Television or radio

☐ 22% People in the local community

☐ 6% Newspaper or magazine

☐ 10% Refuge printed information (brochure, map)

☐ 15% Travel guidebook or other book

☐ 8% Map or atlas

☐ 4% Other (*please specify*) See Appendix B

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

☐ 38% Spring
(March-May)

☐ 69% Summer
(June-August)

☐ 69% Fall
(September-November)

☐ 21% Winter
(December-February)

10. How many times have you visited...

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

10 number of visits

...other National Wildlife Refuges in the last 12 months?

2 number of visits

SECTION 2. Transportation and access at this Refuge

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

<input type="checkbox"/> 79%	Private vehicle without a trailer	<input type="checkbox"/> 0%	Refuge shuttle bus or tram	<input type="checkbox"/> 6%	Bicycle
<input type="checkbox"/> 0%	Private vehicle with a trailer (for boat, camper or other)	<input type="checkbox"/> 0%	Motorcycle	<input type="checkbox"/> 33%	Walk/Hike
<input type="checkbox"/> 0%	Commercial tour bus	<input type="checkbox"/> 0%	ATV or off-road vehicle	<input type="checkbox"/> 0%	Other (<i>please specify below</i>)
<input type="checkbox"/> 0%	Recreational vehicle (RV)	<input type="checkbox"/> 0%	Boat	<u>See Appendix B</u>	
		<input type="checkbox"/> 0%	Wheelchair or other mobility aid		

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

<input type="checkbox"/> 60%	Previous knowledge/I have been to this Refuge before	<input type="checkbox"/> 7%	Maps from the Internet (for example, MapQuest or Google Maps)
<input type="checkbox"/> 29%	Signs on highways	<input type="checkbox"/> 4%	Directions from Refuge website
<input type="checkbox"/> 11%	A GPS navigation system	<input type="checkbox"/> 4%	Directions from people in community near this Refuge
<input type="checkbox"/> 10%	A road atlas or highway map	<input type="checkbox"/> 7%	Directions from friends or family
		<input type="checkbox"/> 2%	Other (<i>please specify</i>) <u>See Appendix B</u>

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

How likely would you be to use...	Very Unlikely	Somewhat Unlikely	Neither	Somewhat Likely	Very Likely
...a bus or tram that takes passengers to different points on the Refuge (such as the Visitor Center)?	<input type="checkbox"/> 40%	<input type="checkbox"/> 15%	<input type="checkbox"/> 8%	<input type="checkbox"/> 25%	<input type="checkbox"/> 13%
...a bike that was offered through a Bike Share Program for use while on the Refuge?	<input type="checkbox"/> 36%	<input type="checkbox"/> 13%	<input type="checkbox"/> 6%	<input type="checkbox"/> 28%	<input type="checkbox"/> 18%
...a bus or tram that provides a guided tour of the Refuge with information about the Refuge and its resources?	<input type="checkbox"/> 34%	<input type="checkbox"/> 12%	<input type="checkbox"/> 7%	<input type="checkbox"/> 31%	<input type="checkbox"/> 17%
...a boat that goes to different points on Refuge waterways?	<input type="checkbox"/> 18%	<input type="checkbox"/> 7%	<input type="checkbox"/> 6%	<input type="checkbox"/> 40%	<input type="checkbox"/> 29%
...a bus or tram that runs during a special event (such as an evening tour of wildlife or weekend festival)?	<input type="checkbox"/> 28%	<input type="checkbox"/> 14%	<input type="checkbox"/> 10%	<input type="checkbox"/> 29%	<input type="checkbox"/> 20%
...an offsite parking lot that provides trail access for walking/hiking onto the Refuge?	<input type="checkbox"/> 15%	<input type="checkbox"/> 6%	<input type="checkbox"/> 6%	<input type="checkbox"/> 32%	<input type="checkbox"/> 42%
...some other alternative transportation option? (<i>please specify</i>) <u>See Appendix B</u>	<input type="checkbox"/> 20%	<input type="checkbox"/> 10%	<input type="checkbox"/> 0%	<input type="checkbox"/> 20%	<input type="checkbox"/> 50%

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

☐ 16% Yes ☐ 56% No ☐ 28% Not Sure

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

Importance Circle one for each item.					Satisfaction Circle one for each item.						
Very Unimportant	Somewhat Unimportant	Neither	Somewhat Important	Very Important		Very Unsatisfied	Somewhat Unsatisfied	Neither	Somewhat Satisfied	Very Satisfied	Not Applicable
9%	18%	16%	44%	12%	Surface conditions of roads	4%	2%	10%	19%	66%	NA
11%	16%	16%	48%	9%	Surface conditions of parking areas	7%	7%	12%	26%	47%	NA
7%	6%	14%	37%	36%	Condition of bridges	2%	2%	17%	11%	68%	NA
5%	3%	3%	38%	52%	Condition of trails and boardwalks	4%	2%	5%	13%	77%	NA
4%	5%	6%	53%	32%	Number of places for parking	6%	18%	7%	31%	38%	NA
11%	5%	26%	41%	17%	Number of places to pull over along Refuge roads	3%	9%	33%	22%	33%	NA
8%	4%	19%	32%	37%	Safety of driving conditions on Refuge roads	3%	1%	22%	21%	53%	NA
7%	2%	10%	42%	39%	Safety of Refuge road entrances/exits	2%	5%	13%	23%	57%	NA
11%	3%	9%	42%	35%	Signs on highways directing you to the Refuge	4%	9%	12%	23%	52%	NA
7%	4%	17%	43%	28%	Signs directing you around the Refuge roads	2%	6%	16%	25%	52%	NA
5%	4%	7%	31%	53%	Signs directing you on trails	2%	4%	9%	26%	59%	NA
6%	6%	19%	34%	34%	Access for people with physical disabilities or who have difficulty walking	2%	6%	23%	22%	47%	NA

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

See Appendix B

SECTION 3. Your expenses related to your Refuge visit

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

☐ 52% Yes

☐ 48% No → How much time did you spend **in the local area** on this trip?

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

only If you spent less than one day in the local area, enter the number of hours: 5 hour(s)

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

If you spent one day or more at this Refuge, enter the number of days: 12 day(s)

If you spent less than one day at this Refuge, enter the number of hours: 2 hour(s)

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

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

See Report for Results

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

2 number of people sharing expenses

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

\$0	\$10	\$20	\$35	\$50	\$75	\$100	\$125	\$150	\$200	\$250
20%	21%	13%	2%	16%	3%	10%	2%	2%	3%	7%

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

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

Rachel Carson National Wildlife Refuge does not charge an entrance fee. This question does not apply.

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

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

Rachel Carson National Wildlife Refuge does not charge an entrance fee. This question does not apply.

SECTION 4. Your experience at this Refuge

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

	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree	Not Applicable
Overall, I am satisfied with the recreational activities and opportunities provided by this Refuge.	<input type="checkbox"/> 1%	<input type="checkbox"/> 2%	<input type="checkbox"/> 7%	<input type="checkbox"/> 36%	<input type="checkbox"/> 53%	NA
Overall, I am satisfied with the information and education provided by this Refuge about its resources.	<input type="checkbox"/> 2%	<input type="checkbox"/> 8%	<input type="checkbox"/> 15%	<input type="checkbox"/> 34%	<input type="checkbox"/> 42%	NA
Overall, I am satisfied with the services provided by employees or volunteers at this Refuge.	<input type="checkbox"/> 1%	<input type="checkbox"/> 2%	<input type="checkbox"/> 16%	<input type="checkbox"/> 35%	<input type="checkbox"/> 46%	NA
This Refuge does a good job of conserving fish, wildlife and their habitats.	<input type="checkbox"/> 1%	<input type="checkbox"/> 0%	<input type="checkbox"/> 8%	<input type="checkbox"/> 34%	<input type="checkbox"/> 57%	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
14%	12%	18%	45%	11%	Availability of employees or volunteers	3%	7%	18%	20%	52%	NA
12%	5%	12%	45%	25%	Courteous and welcoming employees or volunteers	1%	4%	15%	13%	66%	NA
9%	4%	9%	38%	39%	Knowledgeable employees or volunteers	2%	5%	18%	18%	58%	NA
8%	6%	5%	48%	33%	Printed information about this Refuge and its resources (for example, maps and brochures)	2%	8%	11%	29%	50%	NA
8%	3%	9%	49%	31%	Informational kiosks/displays about this Refuge and its resources	1%	8%	12%	35%	44%	NA
3%	5%	9%	48%	34%	Signs with rules/regulations for this Refuge	3%	3%	16%	25%	52%	NA
8%	4%	14%	51%	23%	Exhibits about this Refuge and its resources	2%	11%	20%	27%	39%	NA
9%	7%	24%	39%	21%	Environmental education programs or activities	1%	9%	37%	20%	33%	NA
11%	8%	18%	43%	20%	Visitor Center	3%	11%	29%	26%	32%	NA
5%	2%	6%	37%	50%	Convenient hours and days of operation	3%	2%	7%	15%	73%	NA
7%	2%	12%	37%	41%	Well-maintained restrooms	5%	5%	18%	26%	46%	NA
3%	3%	10%	36%	47%	Wildlife observation structures (decks, blinds)	2%	2%	12%	17%	66%	NA
4%	2%	10%	38%	46%	Bird-watching opportunities	2%	2%	11%	27%	59%	NA
3%	4%	9%	42%	42%	Opportunities to observe wildlife other than birds	2%	4%	13%	31%	49%	NA
5%	4%	12%	36%	43%	Opportunities to photograph wildlife and scenery	2%	2%	12%	28%	55%	NA
71%	5%	15%	3%	6%	Hunting opportunities	4%	2%	61%	4%	30%	NA
54%	9%	20%	7%	11%	Fishing opportunities	3%	2%	62%	6%	28%	NA
4%	2%	3%	24%	66%	Trail hiking opportunities	3%	4%	6%	25%	61%	NA
17%	6%	21%	36%	21%	Water trail opportunities for canoeing or kayaking	2%	11%	30%	26%	30%	NA
23%	8%	27%	26%	15%	Bicycling opportunities	4%	4%	52%	18%	21%	NA
19%	9%	44%	18%	10%	Volunteer opportunities	3%	3%	63%	11%	21%	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?

☐ 73% Yes

☐ 27% No

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

☐ 87% Yes

☐ 13% No

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

☐ 81% Yes

☐ 19% No

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

See Appendix B

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

Statements about climate change	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
I am personally concerned about the effects of climate change on fish, wildlife and their habitats.	2%	1%	10%	34%	51%
We can improve our quality of life if we address the effects of climate change on fish, wildlife and their habitats.	2%	0%	13%	32%	52%
There is too much scientific uncertainty to adequately understand how climate change will impact fish, wildlife and their habitats.	26%	32%	15%	19%	7%
I stay well-informed about the effects of climate change on fish, wildlife and their habitats.	2%	11%	27%	44%	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.	3%	11%	16%	56%	14%
I take actions to alleviate the effects of climate change on fish, wildlife and their habitats.	1%	11%	28%	39%	20%
There has been too much emphasis on the catastrophic effects of climate change on fish, wildlife and their habitats.	40%	38%	13%	7%	3%
Future generations will benefit if we address the effects of climate change on fish, wildlife and their habitats.	1%	1%	7%	32%	58%
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.	3%	10%	30%	38%	18%

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?

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

2. Are you? Male Female

3. In what year were you born? 1957 (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)				
					<input type="text" value="0%"/>			<input type="text" value="6%"/>				<input type="text" value="49%"/>				<input type="text" value="45%"/>				

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

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

<input type="text" value="2%"/> American Indian or Alaska Native	<input type="text" value="0%"/> Black or African American	<input type="text" value="99%"/> White
<input type="text" value="0%"/> Asian	<input type="text" value="0%"/> Native Hawaiian or Pacific Islander	

7. How many members are in your household? 2 persons

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

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

<input type="text" value="1%"/> Less than \$10,000	<input type="text" value="10%"/> \$35,000 - \$49,999	<input type="text" value="20%"/> \$100,000 - \$149,999
<input type="text" value="5%"/> \$10,000 - \$24,999	<input type="text" value="21%"/> \$50,000 - \$74,999	<input type="text" value="11%"/> \$150,000 - \$199,999
<input type="text" value="3%"/> \$25,000 - \$34,999	<input type="text" value="20%"/> \$75,000 - \$99,999	<input type="text" value="8%"/> \$200,000 or more

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

18 number of trips

Thank you for completing the survey.

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

Comments?

See Appendix B for Comments

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

Appendix B: Visitor Comments to Open-Ended Survey Questions for Rachel Carson 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
Rachel Carson's 50th Anniversary of 'Silent Spring'	9
Young actor dramatizing the life of Rachel Carson	1

Other Activity	Frequency
Beach walking	1
Dog walking	4
Identification of plants/flowers/trees and exercise	1
Jogging	1
Pamphlet for self-guided tours	1
Picnic	1
Swimming	1
Swimming, tanning, shell hunting	1
Use of parking lot	1
Vacation	1

Question 2: "Which of the activities above was the primary purpose of your visit to this Refuge?"

Primary activities are categorized in the main report; the table below lists the "other" miscellaneous primary activities listed by survey respondents.

Other Miscellaneous Primary Activities	Frequency
Environmental	1
Exercise	1
Leisure	1
Vacation	1
Visiting while on vacation	1

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

Other Visitor Center Activity	Frequency
Eat lunch and watch birds.	1
Pick up information, brochures.	1
Picked up a few pamphlets and talked with the young lady attendant.	1
Warm up	1

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

Other Group Type	Frequency
Just me and my dog!	1
Visited with my two dogs	1

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

Other Website	Frequency
Google maps	1
Harbor House Cottages website	1
Kennebunport Conservation Commission	1
maintrails.com	1
Noticed name on map and went to websites.	1

Other Ways Heard about This Refuge	Frequency
AAA	1
Helped to raise money to buy the land for this refuge.	1
Hotel	2
Local fund raising effort	1
Local hotel informational book in guest room	1
Maine Stay Inn	1
Roadside sign (not on highway)	1

Survey Section 2

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

Other Ways Found This Refuge	Frequency
AAA map	1
Hard to find; signage not good; several sites with the same name.	1
Hotel guide	1
Tourist map available in area.	1

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

Other Transportation Option Likely to Use	Frequency
Boat on the river	1
Canoe	1
Canoes or kayaks	2
Goal: ban cars from site.	1
Private vehicle	2
Segways	1
This would be dependent on the accessibility of the refuge - most of the ones we've visited are in remote areas most effectively accessed by car.	1
Walking	2

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 = 34)

Access on this trail especially important and well done.

Busy day that we went and had to park down a side street.

Having transportation at these refuges I think encourages and augments visiting comfort. Enjoyed the tour.

I first visited the area over fifty years ago when only a cart path crossed it. Fearing development, I enthusiastically welcome the Rachel Carson refuge. Soon I grew disillusioned when buildings were constructed and as many government vehicles were parked in refuge. I did not visit for twenty years. Returning despite the despoiling of the refuge by buildings and cars. I have walked the one mile trail four of five times in the past dozen to fifteen years.

I love this refuge just the way it is.

I would have liked a bicycle loan program but did not see one was available.

I would like to see a path to the estuaries and an opportunity to paddle around the salt marshes like the author/marine biologist the refuge is named in honor of.

It was wonderful having the benches to sit and just watch nature. We had a lovely time at this refuge and have recommended it to several people. I am a travel agent and very interested in finding these lovely spots for clients.

Legal parking is extremely limited. Risk of parking tickets for illegal parking is variable and uncertain, and may discourage some visitors.

Limited parking at this refuge may be an issue as it becomes more popular.

My condo association is surrounded by this refuge but all the trails look like they are blocked off. I am afraid to hike in the area (except along the road) because all I see are "warning" signs.

Nice job for such a short ownership of this property.

No problems observed.

Not enough parking.

Rachel Carson is small but very worthwhile because walking the boardwalk is the only way to travel it. Small boat excursions from the ocean up the narrow waterway might be interesting.

Rachel Carson Refuge is 'small' and well maintained.

Sign at entrance to road is brown and difficult to read-until you're very close to it.

The access to the viewing platform has crushed rock- very difficult for wheelchairs.

The driveway that leads from the entrance to parking area and out is frequently full of deep pot holes which are hazardous to my vehicle. It is gravel road so filling the pot holes should be done and is easily done. I would think being that the driveway is not very long, the holes should be watched and filled and smoothed regularly so they do not become so deep and treacherous.

The only part of the refuge I visited was at the end of my beach walk. I never realized it was a refuge, I just stumbled upon it.

The refuge is a one mile walking loop and does not have road access other than the parking lot. Some of the questions are not applicable.

The sign out at the road did not have an arrow directing traffic to turn into the refuge so we just drove on. We went several and then turned around.

The walking trail was very well maintained. More trails would be nice.

There are 3 sites marked on the state map with the name of Rachel Carson National Wildlife Refuge, so it was not clear where the headquarters were; only accidentally landed at the headquarters; signage is not great at marking entrance, but not great anywhere in Maine.

There was very little parking.

Tiny refuge. None really an issue.

This road is very narrow and many residents live within this area. It is unfortunate they must suffer the consequences of sharing this refuge. The road cannot be made wider nor handle too much traffic. As a cyclist, I would like the traffic kept at a minimum, a very selfish opinion.

Transportation is non-existent on/in refuge. Do not want that to change. As in every aspect of life, public transportation is optional if not always utilized.

We are looking forward to the new trails that are planned.

We are visitors from the United Kingdom. We stay in Kennebunkport for about 4 weeks a year and always walk around the Rachel Carson Refuge as often as the weather and the mosquitoes permit.

We love Rachel Carson. I wouldn't change anything, and keep up the good work.

Will be on foot to places I use.

Would have liked to walk through your refuge, however we got there late and I think you were about to close soon. We were all tired so we didn't even checkout much.

Survey Section 4

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

Comments on Services, Facilities, and Activities at This Refuge (n = 63)

A very enjoyable time and as we live close by- we go there often. It's a mile walk on well groomed trail with benches for us old folks to rest on.

A very nice facility.

As I mentioned before, I would have at least wanted to visit the trails. Would have been nice to walk.

As I mentioned earlier, I just stumbled upon a section of the refuge.

Enjoyed it very much. Could use more exhibits and educational materials.

Entrance is a little tricky because of cars speeding on Rt. 9.

Facility and activities are well regulated.

For its small but unique situation, I think this refuge provides an accessible walking site with minimal staff and service-very adequate.

Good basic walking trail, well maintained. The aspect of naturalness overdone. Many dead trees dangerously near trail. Should be removed. Still feel building and service vehicles are a little better than commercial development.

Great composting toilets! But at the time I was there, they were out of TP!

Great experience: helpful staff, clean bathrooms, groomed trails. Thank you very much.

I am opposed to hunting in this refuge; it creates an unsafe feeling which will keep my family away from it during hunting season.

I am pleased to see this area become a part of the USFWS and look forward to the development of the natural area for use as a quiet/natural area to enjoy nature.

I appreciate Rachel Carson refuge for its work educating the populace, while at the same time the refuge provides such a tranquil area to meditate on what the important issue in life is: to be caretakers of our wondrous ecological abundance and beauty around us.

I frequently visit a section of the RC NWR which does not have staff or Visitor Center but is very close to my Maine home.

I have a relative that lives down the street from this facility. I visit her often and each visit I will walk this refuge. It is a nice, peaceful, beautiful walking/hiking area. You have done a great job with it!!!

I was unsure whether the Visitor Center was open and it seemed very small.

I went hiking with my wife and boys and heard gun shots. Only after we left did we see a tiny sign that warned it was hunting season. Please put huge orange sign when it is hunting season!!

I would be interested in knowing which species are found in the area and how they live in their environment.

I would suggest promulgating the ease of traversing the boardwalk for those in wheelchairs. We are not handicapped but can see Rachel Carson for people who might not be aware of the feature.

I'm pleased that the slew of dog walkers through the refuge has been minimized.

It was a great day/event.

Lovely refuge. Keep up the good work!!

More educational information needs to be posted - 5th grade level.

More information about birds in refuge, migratory patterns, which have been seen recently would have been nice; a weekly list of animals/unusual birds seen is always fun!

Mosquitoes were really bad so we limited our time. No staff or volunteers anywhere!

My comments may appear to be somewhat negative, but my visit was intended to be short while I was passing through the area.

My primary purpose was to photograph wildflowers, plants found in salt marshes, and the scenery. I was very satisfied with these opportunities.

No staff is there.

Not enough parking. Could not stop the last time we visited.

Outstanding.

Overall this is a very beautiful, peaceful, well-maintained refuge and an excellent spot for birdwatching and walking. A dock for kayakers and canoers down by the estuary river boardwalk would be an asset. The driveway potholes really need filling and maintaining.

Overall, very satisfied.

Parking lot full of potholes as deep as 9".

Porta potties; obviously not a lot of money available for this refuge. Would love a hat or a badge to put on my backpack; very restricted for parking. Obviously, doing the best they can with limited resources.

Pretty place to visit (but a lot of trash on ground near bushes).

Restrooms should be installed. Seaweed should be combed off beach at least once a week. It is currently never done and makes the beach unusable due to bugs, smell and bacteria growth.

Sea Point Beach in Kittery Pt is very small. We walk in daily with our dogs and in the last four years we feel it is our job to also clean up the beach daily, that feels very good to my husband and me because we love it!

Small parking lot- which keeps the number of visitors low at any given time. We enjoy the lack of grounds- so we can experience the refuge at our own pace.

The beach seems very dirty this year and I wish there was a leash law for dogs on this beach. Dogs aren't allowed after 10:00am, but people just let them run loose and sometimes don't clean up after their dogs.

The brochure was good (re: map and importance of conservation and very basic natural history info). However, except for an interesting trail sign about bank slumpage, there was little to inform people that already know basic ecology. What's the history of the woods we walked through? Why so many dead/dying trees? (Not that CWD is a bad thing, just curious). What times of year / tides are best for bird watching?

The National Rachel Carson Refuge is near my home and a beautiful place to go for a walk. I appreciate being so close to such a peaceful and naturally wonderful place. I hope it doesn't change.

The no pet policy on hiking trails on actual refuge land means I don't use the actual refuge trails. Bad policy for my situation. No family. No kids. Only dog. I use the beach which is a local land trust and town beach. Recent improvement of restroom facility is great! Could be improved by keeping open in winter time. The NWR parcel that abuts Kittery Seapoint Beach needs a brochure that explains and identifies it as part of larger refuge.

The opportunity to cross a tidal bridge is unique, and the clocks available were very important and helpful. We look forward to visiting in the future as the refuge adds observation areas.

The staff was very knowledgeable and friendly. This was a change from my last visit several years ago. They were engaging and had great local knowledge they shared. Due to their enthusiasm I may be become a volunteer in the near future to help with maintaining the refuge.

This refuge has no amenities and that is just fine!

This is a new refuge with only one observation platform, a single trail, and a tide clock with a warning about visiting the island when the tide is coming in. Parking is very limited.

This particular refuge is very small but very important. New trails are being developed.

This refuge is still too new to offer many of the above services.

Trail was very wet-didn't walk most of it due to not having the right shoes on. It looked like a nice trail to have taken if we had had the right equipment.

Very clean!

Very low key natural area in keeping with Rachel Carson's views.

Very much enjoyed the trail, the ease of access, the beauty, the shrubs and flowers, and the views. But very disappointed that the Visitor Center and gift shop were very limited and completely unavailable, respectively.

We had a limited amount of time to visit and were essentially trying to determine the scope of activities available.

We have not visited a Visitor Center in several years - when we did it was uninspiring, but staff were helpful. The nearby estuarine center is very good and has both a living display and many nature trails. What Rachel Carson needs is occasional guided walks with a knowledgeable member of staff, to both point out areas of interest and answer questions.

We were pleased.

We were there for a special event so it was great. Otherwise, it's a somewhat boring refuge. More important for wildlife than me (as it should be).

We were very pleased with the construction condition of the walking trails. They were well surfaced with previous material for proper drainage, bordered to control/manage vegetation, not intrusive and level. The trail was well-marked, wide enough for 2 people to walk side by side. The overlooks were well located with important vantage points overlooking specific natural features. Each overlook provided a bench/benches for those who needed to rest. I think the walking trail was level enough to be wheel chair accessible- excellent. Restrooms not handicapped accessible.

While we do not yet need them there were groups that had older and younger folks that needed benches to rest at. No need for them at every stop but more would be an improvement. We have not been up to Maine for a couple of years, nice improvements to the trail beds and railings since that time.

Wonderful venue to walk with our dog on lead at all times of year!

Would have been great to be able to rent a kayak for a few hours. I don't think it was an option. More hiking trails would be good too.

Would like more information about what is being seen along the trails, i.e.: names of trees and flora, reason for tree bark missing etc.

Would like to see hunting areas during spring turkey season, currently unavailable.

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 = 142)

A place to enjoy natural beauty.

A place to unwind, enjoy nature, hear birds, and quiet environment.

A safe place to be.

Ability to see wildlife in natural habitat without amusement park themes.

Access to the area. Observation platforms. Brochures with information.

Accessibility coupled with education/enjoyment.

Accessible, quiet trails not overcrowded!

Allows access to hunters.

Attention to details and educated leaders.

Back to nature. Informative.

Beautiful.

Because it's well regulated by the staff.

Because the land/water body is protected from development and maintained as a place solely used for responsible recreation and enjoyment, it is ideally suited for nature lovers and presented in a way that facilitates non-intrusive (on wildlife habitats) and respectful, yet plentiful safe access to view and enjoy the natural beauty and wonders and variety of wildlife, trees, plants, etc. They are also educational in that they inform viewers as do the fascinating variety and function, ecology of the area and how to protect- how citizens can help preserve and protect the refuge as a community and individual.

Being able to walk along the ocean to observe nature year round. We walk daily at our favorite place. We help out each time we go taking our empty bags and filling them up with garbage that was left by the fishermen, humans, smokers, and sometimes a hidden poopie from a dog- but we thank the National Wildlife Refuge for taking care of our coast!

Bird watching of shorebirds, ducks, marsh birds, and other wildlife only found in environments that are estuarine and coastal.

Caring for nature and the connection with our planet.

Clean air, nice place to hike, freedom of conservation is nice.

Compared to National Forests and National Parks, refuges I'm familiar with are relatively small, dispersed, thus more likely to be nearby. And though I'm not 100% in support of the hunting recreation, refuges are often in wetland areas that attract a lot of migrating birds.

Conserves lands and make a valuable home for birds and wildlife.

Degree and quality of protection afforded to wilderness.

Education, birding, exercise, relaxation, all in the same experience. Very enjoyable!

Extremely clean, great trails!

Family friendly, low key, and inexpensive.

For us, the unique aspect of Rachel Carson Refuge was the opportunity it provided to see the wonderful salt marsh areas off the coast of Maine. In general, National Wildlife Refuges obviously provide vast conservation areas open to the public, which are educational, recreational, participatory, and increasingly important at a time when land is being developed, mined, and otherwise utilized so that these priceless expanses are fast disappearing.

Free and beautiful.

Fun place/great work.

Gives an opportunity to view and enjoy nature in an unspoiled way.

Great site, also saw Canadian geese and many birds. Lots of visitors go there.

Green space.

Hunting and conservation: education that you can have both. Preservation of wildlife with educational opportunities. Funded by duck stamps.

I am glad they have preserved this unique saltwater marsh area to protect birds and other wildlife.

I take my lunch and fins, a wonderful place to eat. Peaceful.

I think they are maintained better than public areas.

I thought the wood path was in great condition and enables people and certain handicaps access to nature. Great job.

I use this area as a walking/hiking trail that is within walking distance of my home. I was unaware that it was a National Wildlife Refuge, but I enjoy walking there and observing the flora and fauna and water birds along the river.

In the case of Rachel Carson National Wildlife Refuge, conservation of the unique estuarine habitat of the shoreline around Wells, Maine is what makes this refuge unique.

In the spirit of Rachel Carson's Silent Spring, this area of Maine offers a unique opportunity to view salt marshes, forestry, tidal changes, estuaries, erosion all rolled into one visit.

It allows visitors the opportunity to experience the natural habitats.

It gets me on the water easily.

It is becoming increasingly rare to find nature in its natural state. These public lands and refuges provide an escape from development and soothe the soul.

It is just a fabulous place to rest and observe wildlife.

It is only a one mile trail but goes through lovely fern filled woods and near the estuary. You can see the ocean in the distance at some points. Many kinds of plants and birds can be observed. The trail is well maintained and pleasant to walk.

It is so important to protect and nurture our environment which provides us our home. Should we lose the delicate balance which sustains all life forms there is truly nowhere else to go!

It is such a relaxing and quiet experience to see nature up close and so close to Boston, MA. Also, easy to take it all in. Lack of strenuous hiking is a wonderful feature for money.

It is unique to the region- Rachel Carson signage was the draw for us- retired, with limited walking abilities. Thank you.

It seems that these refuges are becoming an oasis in a growing developed area. It is wonderful to have such protected areas to allow nature to flourish.

It was educational and visually interesting.

It was not a commercialized area, unlike National Parks. Please keep this area natural and "low key" in keeping with Rachel Carson's vision. No food venues please!

It's a great, quiet, and scenic place to enjoy (especially in the off tourist season!). I love to walk the trails with my dogs when it is quiet. Rainy days are the best as nobody is there! It's a nice place to walk and relax. Great views and observation decks

It's a special place for animals.

It's different than a park in that it's just quieter here than at park beaches in the area.

It's more unique and personable. Bike and walking trails, concern for local wildlife.

It's really nice for a casual walk with small children.

It's unique because there is no other place like Timber Point in Southern Maine! But for the local people who have lived at Granite Point for years and years, we have not gotten a lot of information in regards to changes that have taken place. For example I had high hopes to be able to walk my dog on the trails and now I have been hearing that we won't be able to walk on the beach. I have heard that next year there will be bow hunting on Timber Point. This doesn't make sense to me. I can't walk my dog on a leash but hunters can walk all over the property, disrupting animal habitat.

Just beautiful.

The location.

Looks like people can fish and hunt which I do not do. Cannot disturb nature in most National Parks. Good that these extensive marshes are being preserved from the rampant over building of Perkins Cove, Kennebunkport, etc. Would like more boardwalks over marsh to get closer.

Love the peacefulness and beauty of the ocean. Need to control parking and unwanted visitors.

Lovely setting.

Management, but not development for exploration is a uniquely important property for wildlife and plant growth especially in this coastal area.

Many of our refuges are in wetlands where there is a variety of wildlife not found in the mountains.

More attuned to natural landscapes and wildlife than spectacular, theme-park like, crowded National Parks. Slower pace of visit. More chance to observe and be a part of nature.

My husband and I love the wildlife refuge. We are both avid fisherman and enjoy the striper fishing at the base of Goose Brook. We also enjoy the fact that the beach changes constantly. After stopping at the campground to unload the car the refuge is our next stop. We love to walk the beach to collect seaglass, fish, see the changing landscape, etc. I think this refuge is as close to heaven as you can get. We are looking to retire in Maine because of this refuge.

Natural!

No multi-use. Land dedicated primarily for wildlife.

No retail or food stands.

Non-commercial nature experience. Quality time.

Not crowded; very undisturbed by touristy stuff (food, souvenirs, etc). Very natural setting.

NWRs are not as crowded and overused as State Parks seem to be.

NWRs are unique in that they often preserve/conservate areas that would not ordinarily be thought of as important to people yet they are important as wildlife habitats, which is important to me!

Ocean.

Open to hunting.

Opportunity to visit areas in different locations that are preserved and protected from development.

Opportunity to watch birds and other wildlife.

Peaceful mother nature at her best.

Peaceful surroundings. No commercial.

Peaceful, scenic, relaxing.

Perhaps a better system of working with other area land-owners to ensure access and good management practices.

Preservation and availability of otherwise private inaccessible lands and beautiful places.

Preservation and public awareness of the importance of wildlife and natural ecosystems.

Preserving natural habitat and wildlife while still allowing public access.

Preserving wildlife for our future.

Protective and use of marsh.

Quiet, pleasant, and pretty.

Refuges help us see the vast natural treasures of our country.

The ability to hunt within the refuge is very beneficial to me.

The ability to observe birds/wildlife in their habitats at your own rate of speed without infringement from other visitors.

The beauty and cleanliness.

The beauty of the area without commerce. Natural.

The birds are nice to watch in the parking lot while eating a quiet meal.

The boardwalk and view stations.

The chance to hike in a natural environment and enjoy the outdoors while getting exercise.

The dedication to wildlife.

The effort made to preserve the habitats while allowing reasonably easy access to individuals for seeing and observing the area and inhabitants. The accessibility of educational information about the areas.

The excellent preservation and untouched wild.

The focus is conservation of the natural and biologically important habitat for the betterment of the ecosystems, not just the enjoyment of the people who might visit. Promotion of understanding of the ecosystems and their value.

The focus is not on the visitor, but on the wildlife. I like that.

The information especially for young children, the hands on activities too.

The land is unspoiled and it is a great place for wildlife to feel unthreatened.

The lands and ecosystems themselves are unique and are preserved despite heavy pressure to build more houses and more shopping centers. Thank you.

The opportunity to observe wildlife in their natural habitat.

The opportunity to observe wildlife in their natural habitats.

The opportunity to see wildlife in their own habitat. It is a wonderful experience to watch the ever changing activities of the fowl and wildlife during different parts of the day- thank you for the service provided by the NWR.

The quietness and all the wildlife.

The trails and viewing platforms are immaculate.

The trails are easy to use and the sites are beautiful. I enjoy going here to sit back and enjoy the beauty of the surroundings.

The walkways and observation areas.

Their attention to detail like viewing areas, trails, and roads close to wildlife areas, maintaining wildlife nesting areas.

Their focus on the well being of the plants and animals in the habitat.

Their unspoiled nature and the focus on preserving the habitat.

These are low infrastructure, natural habitats with a mission to preserve natural lands.

They appear to leave the land as close to natural as possible. They maintain trails for ease and safety of hiking while leaving as little impact to the environment as possible.

They are a very important part of our natural resource preservation; refuges are smaller, but equally important, jewels as our National Parks. Treasures of mother nature. They help to bring a balance to our materialistic, media centered society. For me, nature is a refuge from the stresses and artificiality of everyday life. Nature is humbling, so perfect in its original state. It concerns me, so I have passionately worked to preserve the natural resources that surround me at Highland Lake in Winchester, CT and fervently appreciate the refuges that others, with similar passion, have so wisely preserved in perpetuity.

They are less populated and more natural. You get more of the outdoor experience as it once was.

They are managed for the conservation of species and habitat primarily but also allow for many recreational uses such as hunting, fishing, and hiking.

They are more directly involved with resource management as opposed to people management. However, the refuges need more emphasis on non-game and birding opportunities as opposed to consumptive recreational uses like hunting and fishing.

They are quiet, protected, and peaceful places.

They are wonderful for birding. I have visited them all over the country.

They often have less development and provide a richer fishing and wildlife viewing opportunity.

They preserve the natural environment, provide non-invasive means to explore habitats, and educate visitors using printed material and well-defined trails and markers.

They preserve whatever wildlife there may be in the area and provide a pleasant, quiet and peaceful atmosphere for the hiker.

They protect the outdoors, yet provide opportunities for humans to experience it and learn to love it so that they will want to protect the outdoors as well.

They provide an opportunity to see undisturbed habitats and how they function.

They tend to be well run, informative, and true to their intended purpose.

They try to maintain some of the remaining wetlands for their rightful owners. Thank you.

Things kept in their natural environment with minimal intervention from humans.

This particular refuge allows an opportunity to see a beautiful piece of ocean/seaside land that otherwise would be difficult to explore (if privately owned).

To observe wildlife in their natural habitat adds a special treat to the hike. It's a special surprise. You have to be alert. It makes you take your time on your hike. You never know what you'll see.

Trails for hiking, opportunities to provide observation of the environment and wildlife.

Undeveloped, undisturbed environment. Opportunity for natural events to occur and proceed without excessive human intervention to control and manage the physical environment.

Usually well maintained. Nice walking paths. We always try to visit a refuge when traveling through the US.

Variety of wildlife and educational materials/displays.

Very clean. Staff very informative, well kept refuge.

We as a family enjoyed our experience!

We enjoy the raw nature. The surroundings are natural and not man made.

Well maintained, accessible.

Well maintained, feel safe walking alone, very scenic, dog-friendly!

Wetland vegetation is unique, and this one in particular with salt marshes. I have been to Montezuma in NY and Bosque del Apache in NM and I am thrilled with all of them with their vast photographic opportunities.

Wildlife refuges offer an opportunity to access tidal basins and salt flats to observe both marine aquatic life and sea birds.

With more and more properties being posted against hunting in our area I really appreciate the opportunity here presented.

With the animals' natural habitats shrinking coupled with global change and food sources disappearing, every acre that can be saved is precious!

Additional Comments (n = 42)

A good walkable trail has been built in a beautiful location. The human element in the form of refuge employees and structures is invasive. Nearly as much so as the commercial development I was concerned about half a century ago. It adheres to me that a more neutral area (across route 9) should have been chosen for structures and vehicle storage. The educational signage on the trail generally is well done and not as invasive as the rest of the human element. Dangerous dead trees near the trail should be removed. This will be much less obtrusive than any other human element in the refuge.

As I age it is important to me that short trails and easy walking be part of the refuge. Benches provided in Rachel Carson Refuge were welcome on overlooks.

Did not see any wildlife, but we were there in the early afternoon. I can't tell you how much I appreciated the lack of commercialization!!! Please do not spoil this beautiful place. I did think a boat would be nice, but a small boat-4 to 6 passengers- and no loud motors! Probably not cost effective.

Great job. It's a gem here in Maine. I like to walk my two dogs at the refuge. It's one mile around, and we go around 3 times! They like to watch the geese and ducks (they are bird hunting dogs).

I believe that rather than emphasize what I feel is a bogus, scientifically unfounded alarmist attitude concerning our wildlife and natural and/or protected lands/water, lakes etc. we should perhaps try to get people to care more about protecting our wildlife, forests, etc. In this way- we should instead invest money resources in maintaining, acquiring more protected areas (without infringing too much on private property rights) and educating people on the variety of species function and ecology, wonders and joys of our natural surroundings. Also facilitating access and volunteer opportunities for people of all ages, hands-on programs that are creative, such as photography contests, bird counts/banding, nature walks, treasure hunts, finding identifying species of animals and plants various festivals featuring exhibits, demonstrations, contests, crafts, hands-on activities, food and refreshments, raffles, art and music etc.

I enjoy seeing and learning about all wildlife, find it very interesting to learn new things like this.

I feel fortunate to live on waterfront property at Highland Lake in the town of Winchester, CT. I have been on the board of directors of the highland lake watershed association for 37 years. I've served as president of HLWA for 11 years and am presently chair of the water quality committee. In 1996 I initiated a water quality monitoring program whereby lake water is sampled (for professional lab analysis of P,K,PH) and using a secchi disk and hach meter we record secchi depth, dissolved O2, temp, conductivity. We've charted trends, hired a limnologist to analyze all data and prescribe best management practices. As a professional educator, I've written "Water Quality Updates" for all watershed property owners, chaired a committee for developing the Highland Lake management plan, wrote a property owner's manual and chair the town of Winchester Highland Lake Water Level Committee (we can draw the lake down 8 feet). I consider our country's natural resources as our most important treasure alongside of our human resources. I welcome participation in future preservation efforts including land acquisition and educational outreach.

I must apologize for myself and my group. We simply used the parking lot of the refuge as the rally point for a long bike ride through the surrounding communities, and we did not visit the refuge itself. We will not do this again, as we now see that this limits the parking available to guests visiting the refuge.

I saw a "life bird" at Rachel Carson- Lesser yellowlegs!

I walk through Rachel Carson almost daily whenever I am staying at my Maine house on Furbish Road (about 8 weeks throughout the year in 2012). Every time I walk through, I stop to watch birds or other wildlife. It really enhances my walk daily. I am not sure I should really call each walk a different trip--sometimes I do them 2-3 times a day and sometimes I just see the wildlife out my back window, as my property abuts a section of reserve. (So the # of trips is actually = to the approximate number of days I walked thru the reserve.)

I am the owner of land next to Rachel Carson NWR. Every year, I have to hike out to the hunters who feel it is public land and ask them to relocate. Due to the land in question, posted signs cannot be effectively erected. When hunting permits are issued for Rachel Carson lands, hunters should be provided with any information showing where private property begins and Rachel Carson lands end. This is especially important with irregular boundaries where hunters cross private property while passing to and from Rachel Carson NWR.

I don't expect activities to entertain me, but want viewing of wildlife and easy trails to walk.

I have chosen not to complete this survey, because, as a resident for 38 years, I am sad to see that Timber Point has not become a wildlife refuge (as we were led to believe) but an advertised location for profit establishments to transport their guests to "big vans," creating more traffic and exposing wildlife to more noise and people. Because of the changes, I, as a resident and nature artist, am no longer allowed to walk the beach for inspiration. I can no longer walk my dog, but hunting is to be allowed! Please take a moment to consider the impact on the residents here. We were misled. Let's keep it a "place to call home." Thank you.

I would hope that in the off seasons, fall and winter we would be able to walk our dogs on leash and pick up after them. I believe at this time of year we wouldn't be disrupting different animal habitats. I would hope that we will be able to continue walking the beach. I have lived here at Granite Pt. for over 45 years and I have only seen respect for the beach.

It was a worthwhile and pleasing experience.

Keep up the good work!!

Nice refuge, friendly people, and will visit again.

Our "trips" consist of walks at the refuge or to the beach or harbor, not vacation type trips.

Protecting our natural landscape, flora and fauna is essential. A fundamental necessity.

Rachel Carson was an inspiration to us all and we need to keep her name and mission alive or relevant. More needs to be done in the schools to educate our children to be better stewards of our earth than past generations. Please continue to do all you can to keep these refuges open. I wish you all well. We need all of you!

Salt marsh and wetlands are important habitat to preserve. Understanding the importance of our dependence on it helps people appreciate the need to preserve and protect it from development and degradation. We appreciate the work that goes into this endeavor. Thank you.

Seapoint Beach in Kittery is a beautiful place; it's too bad it's not kept clean.

Thank you - Keep up the good work. Tell Washington to appropriate monies to be effective. Conserve and preserve.

Thank you for giving me the opportunity to perhaps affect an increase in federal/state funding in behalf of funding for upkeep/purchasing lands for refuges in Maine.

Thank you for taking care of our refuge in Kittery Pt., Maine. I go there every day.

Thank you for your time and efforts! We truly appreciate the privilege of taking our dogs on enjoyable, lovely walks.

Thank you!

The only birds we saw were 2 white egrets.

The Rachel Carson NWR is not clear to me of how many parcels in the immediate area. I think the office area is north in Wells? Not sure, so a kiosk/map is needed I think. I would be interested in short bird conservation volunteer opportunities at this location too.

The Rachel Carson Wildlife Refuge is a favorite of ours whenever we travel through Maine. This year it rained a good deal prior to our visiting. Some of the pathways were flooded so we went back the next day and were able to walk the trail. We look forward to our visit again next year.

This refuge could provide a great learning experience due to its unique location. Both biological and ecological themes would attract visitors, especially if they could see for themselves at water's edge. While very good shore bird identification murals are present, underwater habitat guides may be just as interesting as small mammal posters. Not to mention the health of the whole system including microbial aquatic life and the effects of climate change/human impact. This unique refuge should send people away with a positive, interactive, educational experience and a happy memory.

This was not one of the better wildlife refuges that we have been to; maybe we hit an off day.

Thoroughly enjoyed it - keep up the good work. Thank you.

Too many trips to count since I trail ride in various locations around Vermont and drive a truck and trailer to them. My strongest interest is in finding state and national land approved for horseback riding.

Visit refuge daily.

We enjoyed the Rachel Carson anniversary celebration of 50 years since "Silent Spring" was written. The cake was an added enhancement of our visit in June of 2012. We are looking forward to our next visit.

We loved our visit at the Rachel Carson National Wildlife Refuge in Wells, Maine and were impressed with the staff that worked there.

We visited while staying at Hidden Pond, and we regularly visit Maine as a destination from our current home in Atlanta, GA. We plan to relocate to New England in the next 5-7 years.

We wish there was a Rachael Carson near us in England.

We're glad you're there for all of us. Thank you.

While visiting friends in NH for a week (we flew from Florida), we borrowed their car for a day trip to Maine. Seeing the refuge sign caused us to stop and investigate the Visitor Center. This refuge was quite different from the Merritt Island Wildlife Refuge and Canaveral National Seashore.

You are good people and you make a difference!

Your refuge is beautiful. I am so glad we went!
