



Visitor and Community Survey Results for Prime Hook National Wildlife Refuge: Completion Report

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Executive Summary

This study was commissioned by the Northeast Region of the U.S. Fish and Wildlife Service (USFWS) in support of the Comprehensive Conservation Planning at Prime Hook National Wildlife Refuge (Prime Hook NWR or Refuge). The National Wildlife Refuge Improvement Act of 1997 (Public Law 105-57, USC668dd) mandates a Comprehensive Conservation Plan (CCP) for every refuge in the system. A refuge CCP outlines goals, objectives, and management strategies for all refuge programs over the next 15 years, while providing opportunities for compatible, wildlife-dependent public uses. The plan evaluates refuge wildlife, habitat, land protection, and visitor service priorities during the planning process.

The National Environmental Policy Act (NEPA; Public Law 91-190:852-859.42, U.S.C. and as Amended (P.L. 94-52 and P.L. 94-83) 42 U.S.C. 4321-4347) mandates that the CCP for each refuge must contain an analysis of social and economic conditions (the affected environment) and evaluate social and economic results from likely management scenarios. In addition, public review and comment on alternatives for future management is required. To that end, this research was conducted by the Policy Analysis and Science Assistance Branch (PASA) of the U.S. Geological Survey/Fort Collins Science Center in order to determine how current and proposed CCP planning strategies for Prime Hook NWR could affect:

- Visitor use
- Visitor experiences
- Visitor spending
- Community residents' perceptions and opinions

Data for this study were collected using a survey administered to visitors to Prime Hook NWR and individuals living in the communities surrounding the Refuge. Surveys were randomly distributed to both consumptive and nonconsumptive use visitors over a one year period (September 2004 to September 2005) to account for seasonal variation in Refuge use. Three hundred thirty-two visitor surveys were returned for a response rate of 80 percent with a confidence interval of ± 5.4 . Surveys were also distributed to a stratified random sample of community members in adjacent and surrounding areas (Slaughter Beach, Broadkill Beach, Prime Hook Beach, Milton, Lewes, Milford, and surrounding communities). Four hundred ninety-one surveys from the overall community sample were returned for a response rate of 39 percent with a ± 4.4 confidence interval. Community member results were weighted by U.S. Census Bureau data to correct for age and gender bias, and for community proportionality.

Key Findings

Visitor and Community Resident Profile

Most Prime Hook NWR visitors were local to the area (72 percent). Of those local visitors, about half (56 percent) were considered consumptive users (participating in hunting, fishing, or crabbing), based on the reason for their most recent visit. About 21 percent of visitors were not

from Delaware, but from the surrounding states of Pennsylvania, Maryland, and Virginia. These visitors were classified as primarily nonconsumptive users. A small proportion of visitors were from other portions of the United States and one international visitor from Germany. There was a higher percentage of male visitors (67 percent) than female visitors (33 percent).

Residents in the Milton, Milford, and Lewes areas have lived in the area for nearly 20 years on average, and most live there year round. The average age of both visitor and community respondents was lower to mid-50's, and the average education level was four years of college or technical school with an average income of \$50,000-\$74,999.

Trips to Prime Hook National Wildlife Refuge

Most visitors and community residents are repeat visitors to the Refuge. This is particularly true for consumptive use visitors. Consumptive use visitors tend to visit with friends while nonconsumptive use visitors visit the Refuge with family. Visitors come to the Refuge about once a month, on average. Residents come even more often (16 times/year). Because most visitors are local, proximity is likely key to these repeated visits. They appear to use the Refuge equally on weekends and weekdays and stay from a quarter of a day to a half day. Over half of the community has attended both of the special events coordinated with the local community (Waterfowl Festival and Horseshoe Crab/Shorebird Festival).

Visitor and Community Resident Experience at the Refuge

Respondents were asked questions related to their experience at Prime Hook NWR that included participation in recreation activities at the Refuge, the importance of those activities, importance of and satisfaction with visitor services and features provided at the Refuge, attachment to the Refuge as a place, and describing experiences that would bring people back to Prime Hook NWR and enhance their experience.

Wildlife observation is the primary reason most visitor and community residents' visit the Refuge and is considered a very important activity to their visit. Being in a natural, undeveloped area and experiencing a serene environment are equally important to their Refuge experience as well as the trails that afford this opportunity. These are activities that are important to consumptive and nonconsumptive use visitors. As such, there are opportunities to engage both user groups, who visit the Refuge for quite different reasons. More visitors than community members have hunted in the last 12 months on the Refuge, and of those, more were local visitors. Visitors also tended rank each of the hunting activities at higher levels of importance. Community residents participated in driving for pleasure more than visitors.

Regarding quality of services that are offered at the Refuge, visitors and community residents say "keep up the good work!" Nearly all services are meeting their expectations. The only exception is that both groups would like to see more media coverage of the Refuge and its events.

Likely because of all of these attributes, residents and visitors are fairly emotionally attached to the Refuge as a place. They identify with the Refuge for what it symbolizes to them and they agree that it is an important place for family tradition and heritage. Visitors and community residents appear to recognize the importance of the experiences they have at the Refuge and those experiences bring them back time and again. They do not appear solely dependent upon the Refuge for the activities in which they participate. Though, consumptive use visitors are more dependent upon Prime Hook NWR as a place to hunt and fish. It is important to understand why people are attached to places such as this Refuge as these meanings are related to attitudes and preferences regarding its management.

Experiences that would bring visitors and community residents back to the Refuge reflected the importance of wildlife observation, a serene environment, and Prime Hook NWR programs and staff. Many people indicated that they would not change anything about the Refuge, but some comments did give indication that improved access, particularly for hunting, would enhance their experience.

Hunting and Angling Experience at the Refuge

About 35 percent of visitors indicated that they had hunted on the Refuge, with an average of 11 years spent hunting at Prime Hook NWR. Some indicated that they had been hunting in the area before the Refuge was established. Just over half of visitors rated hunting activities as moderately to very important. Hunters were asked about the desirability of changing some hunting services or regulations, but did not appear to be very interested in making changes. The most desirable of the suggested changes was the provision of areas where individuals could set up their own waterfowl blinds and more areas where portable deer stands could be used.

About 20 percent of visitors indicated that they had fished at Prime Hook NWR and had been doing so for an average of 11 years. Some anglers, like the hunters, stated that they had been fishing in the area before the establishment of the Refuge. Most visitors who engage in hunting and angling activities feel a quality experience is being provided by the Refuge.

Visitor Trip Spending

Spending associated with refuge recreational activities such as wildlife viewing and hunting can generate considerable tourism activity in the local Sussex County economy. On average non-consumptive visitors spent 2-3 days in the local area with approximately three people in their group sharing expenses. Most of the nonlocal deer hunters were from other counties in Delaware; about half spent the night locally while the other half drove home after hunting. The current level of nonconsumptive use and big game hunting nonlocal visitor days accounts for over \$983,500 of spending annually in the local communities near Prime Hook NWR. Direct and secondary effects generate over \$1.21 million in local output, \$447,700 in personal income and 19.4 jobs annually in Sussex County.

Preferences for Refuge Management

Visitors and community members were asked their preferences for future potential management options at Prime Hook NWR. These included opinions about how existing features and/or services should be managed, desire for potential new services, support for fees, and agreement with hypothetical management tradeoffs.

Visitor Services and Features

Both visitors and community residents appear satisfied with the level of services or features currently offered by the Refuge. There were, however, a number of respondents who would like to see increases or improvements in wildlife viewing opportunities, environmental education, interpretive exhibits, and hiking/nature trails. Residents, more than visitors, were interested in seeing an increase in hiking trails and brochures and publications about Refuge resources, activities and regulations.

Desire for more wildlife viewing opportunities is further evidenced by the support for an observation tower overlooking the marsh, additional walking trails around headquarters, and roadside pull-offs. Though likely for different reasons, these improvements were supported by both

consumptive and nonconsumptive use visitors. Many of these features were either being proposed or being built at the time of the survey. Since then, all features have been completed or are in progress of being implemented.

Support for Fees

Currently, there is no fee to visit Prime Hook NWR. Survey results indicate residents and visitors do not feel that they should have to nor would they be willing to pay to visit the Refuge. Responses were divided among agreement, disagreement and uncertainty regarding this issue, although visitors were more willing to pay a fee than community members. While opinions regarding fees sometimes change once implemented, more study would be needed if implementation of fees were to be considered at Prime Hook NWR in the future.

Land Management Tradeoffs

Respondents were asked about their agreement with three specific management tradeoffs identified by the Refuge as important in the CCP planning: general habitat management, land acquisition, and mosquito control. The potential for conflict associated with the tradeoffs was also determined by examining the difference across responses.

Habitat management options had high agreement and low potential for conflict. However, the idea of ceasing farming to restore drained or degraded areas to natural habitat did not receive high support overall (only around half of community members and less than half of visitors agreed with this) and has a high potential for conflict. Visitors were especially polarized on this issue, with nonconsumptive use visitors much more supportive than consumptive use visitors.

Regarding land acquisition, there appears to be high support (over 80 percent agreement on all statements from both groups) and little potential for conflict over the Refuge acquiring lands, either through conservation easements or purchasing from willing sellers. Similarly, there was little disagreement over the preservation of Refuge shoreline for horseshoe crabs and migratory shorebirds, which has acquisition implications.

Options for mosquito control and management received the least agreement and have the most potential for conflict. These options also had the most visitor and community resident respondents who simply were unsure of their opinions. It appears that controlling mosquitoes *only* during a declared public health emergency is highly polarized. The polarization for visitors appears linked to differences in opinion between consumptive and nonconsumptive use visitors, with nonconsumptive use visitors more likely to recognize mosquitoes as a natural part of a healthy wetland ecosystem and in favor of control only when numbers are excessively high or when a public health emergency has been declared.

As options are developed for the CCP, understanding the acceptability of different scenarios can be helpful in developing ecologically sound management options that are socio-politically balanced, when possible. Likewise, as alternatives are implemented, it will be important to recognize potential resistance. Because, even though the development of a CCP is a public process, it is unlikely that all stakeholders will be in agreement with all management actions.

Communication, Civic Engagement, and Trust

Respondents were asked about their participation in natural resource decision making (civic engagement) and ways in which they commonly obtain information on these topics, as well as their level of trust in both the Refuge and the U.S. Fish and Wildlife Service. Understanding individuals'

civic engagement and their trust in the managing organization to aid in public communication efforts.

Visitors to Prime Hook NWR rely heavily on friends and neighbors for news and information about the Refuge. Local residents rely mostly on newspapers followed by friends and neighbors for news and information about the Refuge. There appears to be some emerging use of the Internet for Refuge information by both visitors and community residents. These results support the importance of targeting communication strategies and outlets to different user groups of the Refuge to convey important messages.

Community residents and visitors to the Refuge have been quite engaged in natural resource decision making in the past five years, engaging in both passive activities, such as signing a petition, and active activities, such as joining a special interest group. On average, visitors and community residents have engaged in half of the activities listed in the survey. The most common activities include attending a public meeting (59 percent of visitors and half of community residents), signing a petition (59 percent of visitors and 45 percent of community residents), and joining a special interest group (about half of visitors and 41 percent of community residents).

Another factor important in public involvement in decision making is trust in the managing agency. Visitors and community residents appear to have moderate trust in Prime Hook NWR staff and the USFWS. However, nearly a quarter are unsure about their level of trust in the agency and the Refuge. A planning process such as development of the CCP is a opportunity to build relationships and improve trust not only with visitors and community residents with whom the Refuge has established relationships but also those who are less familiar with the Refuge or have not engaged in the process due to lack of trust in the agency or uncertainty of their role in the process.

Prime Hook NWR is an important place to both visitors and community members. Some of whom have been in the area and/or have been visiting the Refuge for a long time, and do so with some frequency. People are supportive of the habitat management practices suggested and of refuge land acquisition. They are unsure, however, of their level of trust in Prime Hook NWR and the USFWS. This is a community aware of and engaged in natural resources, and information is disseminated locally by print or by word of mouth. These factors lend themselves to opportunities for continued public involvement and relationship building between the Refuge and its stakeholders.