

The Economic Contributions of Recreational Visitation at Eastern Shore of Virginia National Wildlife Refuge

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Division of Economics
U.S. Fish & Wildlife Service

This paper establishes the economic contribution baseline for recreational visitation at Eastern Shore of Virginia National Wildlife Refuge (Refuge). The paper addresses the levels of Refuge recreational activities and the economic effects of Refuge recreational activities. The analysis is followed by a glossary of terms. For more information regarding the methodology, please refer to “Banking on Nature – The Economic Contributions to Local Communities of National Wildlife Refuge Visitation” at <https://www.fws.gov/economics/divisionpublications/divisionpublications.asp>.

From an economic perspective, Eastern Shore of Virginia National Wildlife Refuge provides a variety of environmental and natural resource goods and services used by people either directly or indirectly. The use of these goods and services may result in economic effects to both local and state economies. The various services the Refuge provides can be grouped into five broad categories: (1) maintenance and conservation of environmental resources, services and ecological processes; (2) protection of natural resources such as fish, wildlife, and plants; (3) protection of cultural and historical sites and objects; (4) provision of educational and research opportunities; and (5) outdoor and wildlife-related recreation. A comprehensive economic profile of the Refuge would address all applicable economic effects associated with the use of refuge-produced goods and services. However, some of the major contributions of the Refuge to the natural environment, such as watershed protection, maintenance and stabilization of ecological processes, and the enhancement of biodiversity are beyond the scope of this paper. Therefore, this paper focuses on economic effects associated with recreational visitation. As a result, benefits represent conservative estimates and do not represent the Refuge’s total social impacts.

Refuge Description

Lying at the tip of the Delmarva Peninsula, the Eastern Shore of Virginia National Wildlife Refuge serves as one of the country's most valuable stopovers for migratory birds. Nestled between the Atlantic Ocean and Chesapeake Bay, this 1,442-acre refuge was established in 1984 for migratory birds and endangered species management and for wildlife-dependent recreation including interpretation and education.

This area is one of the most important avian migration funnels in North America. Each fall, like colorful clockwork, the refuge is the scene of a spectacular drama as millions of songbirds and monarch butterflies and thousands of raptors converge at the tip of the peninsula on their voyage south.

Visitors can enjoy a bike/hike trail to the local State park as well as other walking trails, a deep-water boat ramp to access popular fishing spots and areas within the Refuge to hunt for white-tailed deer.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 99,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 85,000 visits with residents comprising 14 percent of Refuge visitation.

Table 1. Eastern Shore of Virginia NWR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	690	13,118	13,808
Auto Tour	205	3,890	4,095
Boat Trail/Launch	979	18,592	19,570
Bicycle	180	3,420	3,600
Photography	600	11,393	11,993
Interpretation	687	13,045	13,732
Other Recreation	-	-	-
Visitor Center	602	11,442	12,044
Hunting:			
Big Game	6	280	286
Small Game	-	-	-
Migratory Birds	-	-	-
Fishing:	9,785	9,785	19,570
Total Visitation	13,733	84,965	98,698

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is the two-county area of Northampton and Accomack Counties in Virginia. It is assumed that visitor expenditures occur primarily within these counties. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$4.3 million with non-residents accounting for \$3.9 million or 90 percent of total expenditures. Expenditures on non-consumptive activities accounted for 67 percent of all expenditures.

Spending in the local area generates and supports economic activity within the two county area (Table 3). The contribution of recreational spending in local communities was associated with about 58 jobs, \$1.5 million in employment income, \$427,000 in total tax revenue, and \$5.2 million in economic output.

Table 2. Eastern Shore of Virginia NWR: Visitor Recreation Expenditures (2017 \$,000)

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$25.9	\$2,884.6	\$2,910.5
Hunting	\$0.1	\$16.7	\$16.9
Fishing	\$413.4	\$971.9	\$1,385.3
Total Expenditures	\$439.4	\$3,873.2	\$4,312.7

Table 3. Eastern Shore of Virginia NWR: Local Economic Contributions Associated with Recreation Visits (2017 \$,000)

	Residents	Non-Residents	Total
Economic Output	\$495.1	\$4,657.6	\$5,152.7
Jobs	7	51	58
Job Income	\$146.7	\$1,346.9	\$1,493.6
State and Local Tax Revenue	\$40.3	\$387.0	\$427.3

Glossary

Economic Contribution: The economic activity generated in a region by residents and non-resident recreation spending.

Expenditures: The spending by recreational visitors when visiting refuges. Expenditure categories include food, lodging, transportation, and other. Expenditure information is based on the 2011 National Survey of Fishing, Hunting and Wildlife Associated Recreation (NSFHWR).

Economic Output: The total spending by final consumers on all goods. The amount reported in this study is the change in spending by final consumers in the region attributable to refuge visitation. Economic output includes spending by people who earn income from refuge visitors' activities as well as spending by refuge visitors themselves.

Impact: The new economic activity generated in a region as a refuge attracts non-residents to the area. This figure represents economic activity that would be lost if the refuge were not there.

IMPLAN: An economic modeling software package that applies input-output analysis techniques to regional economies.

Jobs: Full and part time jobs.

Job Income: Income to households from labor including wages and salaries.

Resident/Non-Resident: People living more than 50 miles from the refuges are considered non-residents for this study.

Tax Revenue: Local, county and state taxes: sales tax, property tax, and income tax

Visitors: A visitor is someone who comes to the refuge and participates in one or more of the activities available at the refuge.

Visits (visitation): A visit is not the same as a visitor. One visitor could be responsible for several visits on a refuge. For example, if a family of four went fishing in the morning and hiked a short nature trail in the afternoon, they would have contributed eight activity visits to the refuge; yet, they are only four visitors.

References

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