

The Economic Contributions of Recreational Visitation at Blackwater National Wildlife Refuge

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This paper establishes the economic contribution baseline for recreational visitation at Blackwater 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, Blackwater 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

Blackwater National Wildlife Refuge is home to an incredible amount of plant and animal diversity in its three major habitats – forest, marsh and shallow open water. The Refuge contains one-third of Maryland's tidal wetlands, which makes it an ecologically important area within the state. These wetlands also provide storm protection to lower Dorchester County, including the town of Cambridge. Blackwater NWR is recognized as a "Wetland of International Importance" by the Ramsar Convention and was named a priority wetland in the North American Waterfowl Management Plan. In addition, Blackwater NWR has been designated as an Internationally Important Bird Area.

Blackwater NWR is home to the largest natural population of formerly endangered Delmarva Peninsula fox squirrel and is also home to the largest breeding population of American bald eagles on the East Coast, north of Florida.

The Refuge has been referred to as the "Everglades of the North," and has been called one of the "Last Great Places" by the Nature Conservancy.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 223,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Non-consumptive recreation accounted for about 210,000 visits with residents comprising 17 percent of Refuge visitation. The Refuge is open for deer, turkey, and waterfowl hunting, and is most popular for its sika deer hunts.

Table 1. Blackwater NWR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	2,928	16,595	19,523
Auto Tour	13,614	77,148	90,762
Boat Trail/Launch	1,000	1,500	2,500
Bicycle	160	1,440	1,600
Photography	4,538	40,843	45,381
Interpretation	840	1,560	2,400
Other Recreation	-	-	-
Visitor Center	9,608	38,432	48,040
Hunting:			
Big Game	1,260	3,781	5,041
Small Game	-	-	-
Migratory Birds	23	23	45
Fishing:	3,750	3,750	7,500
Total Visitation	37,722	185,070	222,792

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is the two-county area of Dorchester and Wicomico Counties in Maryland. It is assumed that visitor expenditures occur primarily within these counties. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$5.8 million with non-residents accounting for \$5.6 million or 59 percent of total expenditures. Expenditures on non-consumptive activities accounted for 90 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 63 jobs, \$2.3 million in employment income, \$667,000 in total tax revenue, and \$7.8 million in economic output.

Table 2. Blackwater NWR: Visitor Recreation Expenditures (2017 \$,000)

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$152.7	\$5,132.5	\$5,285.2
Hunting	\$26.9	\$198.0	\$224.9
Fishing	\$99.0	\$232.8	\$331.8
Total Expenditures	\$278.6	\$5,563.3	\$5,841.9

Table 3. Blackwater NWR: Local Economic Contributions Associated with Recreation Visits (2017 \$,000)

	Residents	Non-Residents	Total
Economic Output	\$361.2	\$7,429.6	\$7,790.8
Jobs	3	60	63
Job Income	\$110.5	\$2,204.1	\$2,314.6
State and Local Tax Revenue	\$29.0	\$637.6	\$666.5

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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