

The Economic Contributions of Recreational Visitation at Wapack National Wildlife Refuge

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

Wapack National Wildlife Refuge, established in 1972 through a donation from Laurence and Lorna Marshall, was New Hampshire's first refuge. The 1,672-acre refuge is located about 20 miles west of Nashua, New Hampshire and encompasses the 2,278 ft. North Pack Monadnock Mountain. The Refuge is a popular hawk migration area and provides nesting habitat for numerous migratory songbirds such as the tree sparrow, Swainson's thrush, magnolia warbler, crossbills, pine grosbeaks and white-throated sparrow. The Refuge also supports a wide variety of upland wildlife including deer, bear, coyote, fisher, fox, mink and weasel.

Many people visit the Refuge to hike its four trails, including a four mile section of the 21-mile Wapack Trail, a spur of the Appalachian Trail. Wapack Trail passes over the top of North Pack Monadnock and offers outstanding opportunities for viewing migratory hawks and a beautiful view of the surrounding mountains.

Activity Levels

Table 1 shows the recreation visits for the Refuge. The Refuge had about 21,000 recreational visits in 2017 which contributed to the economic effect of the Refuge. Pedestrian recreation accounted for about 20,000 visits with residents comprising 95 percent of Refuge visitation.

Table 1. Wapack NWR: 2017 Recreation Visits

Activity	Residents	Non-Residents	Total
Non-Consumptive:			
Pedestrian	15,000	5,000	20,000
Auto Tour	-	-	-
Boat Trail/Launch	-	-	-
Bicycle	-	-	-
Photography	750	250	1,000
Interpretation	-	-	-
Other Recreation	38	13	50
Visitor Center	-	-	-
Hunting:			
Big Game	-	-	-
Small Game	-	-	-
Migratory Birds	-	-	-
Fishing:	-	-	-
Total Visitation	15,788	5,263	21,050

Source: Refuge Annual Performance Plan 2017 and Refuge Staff

Regional Economic Analysis

The economic area for the Refuge is Hillsborough County, New Hampshire. It is assumed that visitor expenditures occur primarily within this county. Visitor recreation expenditures for 2017 are shown in Table 2. Total expenditures were \$447,000 with non-residents accounting for \$296,000 or 66 percent of total expenditures. Expenditures on non-consumptive activities accounted for all expenditures.

Spending in the local area generates and supports economic activity within Hillsborough County (Table 3). The contribution of recreational spending in local communities was associated with about 6 jobs, \$249,000 in employment income, \$46,000 in total tax revenue, and \$701,000 in economic output.

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

Activity	Residents	Non-Residents	Total
Non-Consumptive	\$151.4	\$295.8	\$447.2
Hunting	-	-	-
Fishing	-	-	-
Total Expenditures	\$151.4	\$295.8	\$447.2

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

	Residents	Non-Residents	Total
Economic Output	\$242.2	\$458.4	\$700.7
Jobs	2	4	6
Job Income	\$90.8	\$157.8	\$248.5
State and Local Tax Revenue	\$11.8	\$34.0	\$45.8

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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